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Soil Survey
Investigations
Report No. 39

Soil Survey Laboratory Data and Descriptions for Some Soils of Utah

Soil survey investigations reports already published:

SSIR No. 1 Soil Survey Laboratory Methods and Procedures for Collecting Soil Samples

Soil Survey Laboratory Data and Descriptions for Some Soils of:

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SSIR No. 3 Iowa
SSIR No. 4 Kansas
SSIR No. 5 Nebraska
SSIR No. 6 Arkansas, Louisiana, and Missouri
SSIR No. 7 Montana
SSIR No. 8 Wyoming
SSIR No. 9 Minnesota
SSIR No. 10 Colorado
SSIR No. 11 Oklahoma
SSIR No. 12 Puerto Rico and the Virgin Islands
SSIR No. 13 Mississippi
SSIR No. 14 Kentucky
SSIR No. 15 Tennessee
SSIR No. 16 North Carolina, South Carolina, and Georgia
SSIR No. 17 Wisconsin
SSIR No. 18 Indiana
SSIR No. 19 Illinois
SSIR No. 20 New England States
SSIR No. 21 A Toposequence of Soils in Tonalite Grus in the Southern California Peninsular Range

Soil Survey Laboratory Data and Descriptions for Some Soils of:

SSIR No. 22 Alabama and Florida
SSIR No. 23 Nevada
SSIR No. 24 California
SSIR No. 25 New York
SSIR No. 26 New Jersey
SSIR No. 27 Pennsylvania
SSIR No. 28 Arizona
SSIR No. 29 Hawaii
SSIR No. 30 Texas
SSIR No. 31 Iowa
SSIR No. 32 Wyoming
SSIR No. 33 Minnesota
SSIR No. 34 Wisconsin
SSIR No. 35 Louisiana
SSIR No. 36 Michigan
SSIR No. 37 Kansas
SSIR No. 38 Measuring Hydraulic Conductivity for Use in Soil Survey

January 1982

PREFACE

The Soil Survey Investigations Report (SSIR) series was established to preserve and make available technical information resulting from soil survey investigations. This report contains data from soil survey investigations in Utah. These investigations have been going on since 1958 but most of the data have been accumulated since 1967. Some of the data and descriptions have appeared in technical journals, in regional bulletins, in USDA technical bulletins, and in the text of published soil surveys. But most have been distributed in unpublished form to those immediately concerned and were not available to all who might use them.

This report contains all the data from the soil survey laboratories that form reasonably complete characterization of soils in Utah. While these data were being accumulated there were some changes in laboratory methods. Consequently, laboratory data for different soils cannot always be directly compared without allowance for the method. The methods used to obtain the CHARACTERIZATION DATA are identified by symbol in the column headings of the data tables. The codes are identified briefly on the opposite page. The column headings on the computer printed data sheet are necessarily short. An example of a CHARACTERIZATION DATA sheet follows on which more complete descriptions of column headings are given. The columns are numbered and an accompanying list gives further detail of the meaning of the data columns.

SUPPLEMENTARY CHARACTERIZATION DATA on samples collected since the beginning of 1967 are included in the appendix of this report. Where available, these facilitate placement of the pedons into engineering classes, soil taxa, and agronomic use classes. They are particularly useful for making soil survey interpretations. The methods used to derive SUPPLEMENTARY CHARACTERIZATION DATA and some applications are discussed briefly in the paragraphs that follow. Since the column headings on the computer-printed data sheet are necessarily short, an example of a SUPPLEMENTARY CHARACTERIZATION DATA sheet follows which gives a more complete description of column headings. The columns are numbered and an accompanying list gives further detail of the meaning of the data columns.

The first tier of the SUPPLEMENTARY CHARACTERIZATION DATA includes the USDA particle size data recalculated for engineering particle size limits, the cumulative sand fractions, and the CU and CC ratios. The engineering particle size limits are based on the material passing the 3-inch sieve. In interpolating between sieves, we usually assumed a linear relationship between size fractions on the cumulative particle size curve. However, for the .074 mm fraction (No. 200 sieve) we fitted a short curve to three points just above and below .074 mm if the amount of vfs exceeded 15 percent. Previous studies had shown that this procedure gives a slightly better prediction than the assumed linear relationship. The USDA particle size data were also used to calculate the cumulative sand fractions. Again these data are based on the material passing the 3-inch sieve. The 60, 50, and 10 percent points of the cumulative particle size curve are listed next to the right of the cumulative sand fractions. The 50 percent point is the geometric mean particle size. CU and CC are the C_u and C_c of the Unified soils engineering system (the computer can't print subscripts).

The second tier lists the multiple linear regression equations for the variables, CEC, 15 bar water, and organic carbon. In these equations the dependent variable Y is given as a function of two independent variables. The variables used are listed under Y, X1, and X2. The regression coefficients for each of the equations are listed under A and B, and the constant under C. R is the multiple correlation coefficient and N is the number of horizons used in the analyses. The general formula is $Y = AX_1 + BX_2 + C$ (the asterisk on the print-out is the symbol for multiplication used in computer languages). The first equation is CEC as a function of clay content and organic matter content (CEC = A x pct. clay + B x pct. O.C. + C). The second is 15 bar as a function of clay content and organic matter content and the third is organic carbon as a function of clay content and depth (inches). Negative values for A or B are obviously nonsense values.

The third tier includes some ratios useful for evaluating soils data and some for placing soils in taxa, the residuals from the regression equations of the second tier, the volume composition of the soils, and the particle size data calculated on a nonclay basis. The ratio of CEC to clay supplements x-ray diffraction and the linear extensibility for placing pedons in mineralogy families. The 15 bar to clay ratio provides a measure of the completeness of the dispersion treatment for particle size distribution analysis. Samples with ratios of 0.6 or more do not disperse well. For these the clay is estimated as 2.5 x 15 bar water for family texture placement.

The ratios of dithionite-citrate extractable Fe to clay, pyrophosphate extractable Fe + Al to clay, and pyrophosphate Fe + Al to dithionite-citrate extractable Fe + Al are part of the criteria for spodic horizons.

The residuals from the regression equations of the second tier are the differences between the values for CEC, 15 bar water, and organic carbon calculated from the regression equations and the measured values. A negative value means that the measured value is larger than the calculated value.

The volume composition gives the percentages of the total volume of a horizon that is occupied by certain soil components. A density of 2.65 g/cc for mineral particles (solids) is assumed. The volume percentage of cobbles (250 to 75 mm minimum diameter) and gravel is used to differentiate between skeletal and nonskeletal soil families. Capillary pores are those filled with water after desorption of saturated soil at a tension of 1/3 bar and noncapillary pores are those drained at that moisture tension. The amount of noncapillary pores should be related to the permeability of the soil.

The particle size data calculated on a nonclay basis helps one establish the presence of lithologic discontinuities in soils where considerable amounts of clay have moved. The value for clay was obtained by multiplying percent clay by the same factor that had been used to get the sand and silt fractions to add up to 100. Although this value has no real meaning, it may reflect the amount of clay accumulation in an argillic horizon more realistically than the conventional way of expressing particle size distribution.

The fourth tier contains calculated amounts of organic matter, plant nutrients, lime requirement, carbonate, and water per unit depth of soil. Most of these values are self explanatory except for lime requirement. This value is the difference between CEC (NH_4OAc) and the sum of bases expressed in pounds of calcium per acre. In other words, it is the pounds of calcium needed to neutralize the soils (pounds of Ca/acre x 1.25/1000 = tons of $CaCO_3$/acre). The last two columns are given to aid in calculating depth of wetting and days a soil is dry in most years. If no water retention values are available 0 is entered.

The data in the fifth tier are the same as those of the fourth tier except that they are here recalculated in cumulative amounts with depth beginning with the top of the A horizon. Data are reported in 5-inch increments. If one wishes to know, for example, how much water the soil will hold at 1/3 bar to a depth of 40 inches one finds this value in the 37-42 inch increment line. Since we don't always have values for all horizons certain assumptions have been necessary in these calculations. If we do not have the necessary data for the surface horizon, the computer searches underlying horizons until it finds a horizon with a value and then uses this value for all overlying horizons. If a value is missing for a subsoil horizon the computer searches overlying horizons and uses the first value it finds (the value of the lowest horizon). Unfortunately this procedure may give greatly erroneous values if, for example, a very coarse textured gravelly horizon for which no water retention data are available underlies a horizon of high water holding capacity.

The sixth tier contains data for the soil control section and for the 0-40 cm section used in the definition of the mollic subgroup of Aridisols. The data reported are averages of the data for several horizons. The averages are not reported if data are not available for one of the horizons. Silt (plus vfs) and sand (minus vfs) are calculated on a less than 2 mm soil basis. For soils with high amounts of silt, coarse fragments up to 7.5 cm need to be included with sands coarser than vfs in order to place the pedon in the correct family. The greater than 2 mm content reported in this tier of data may include some 7.5 to 25 cm cobbles, hence should not be used in the calculations made to check placement of silty and loamy soils. The calculation should be made as follows.

100 - gravel percent (value obtained by summing the 2-5, 5-20, and 20-75 mm gravels reported in the characterization data sheet) = silt + sand + clay, whole soil basis. Sand (minus vfs), whole soil basis $= \frac{(100 - \text{gravel})}{100} \times$ sand (minus vfs). Sand (minus vfs), whole soil basis, + gravel is less than 15 percent in silty families.

Ways of describing soils have changed while these data were being accumulated. The soil descriptions published here were prepared as working documents. The soil scientist who wrote them had no idea they would be published. Editing has been limited for the most part to that necessary for conformance to the "Soil Survey Manual" USDA Handbook No. 18. The classes of effervescence used in describing pedons in Beaver and Millard Counties which were sampled in 1966 and in 1968 and pedons in Garfield and Kane Counties which were sampled in 1968 follow those described in the "Soil Survey Manual" USDA Handbook 18. The other pedons uniformly use the following terms.

Slightly calcareous	=	1-3 percent $CaCO_3$ equivalent
Moderately calcareous	=	3-15 percent $CaCO_3$ equivalent
Strongly calcareous	=	15-40 percent $CaCO_3$ equivalent
Very strongly calcareous	=	> 40 percent $CaCO_3$ equivalent

Many pedons are no longer representative of the soil series with which they were identified at the time of sampling. Hence, during the winter of 1973-1974 all pedons for Utah were classified in existing series and in families and higher categories. Taxonomic criteria were applied rigorously, and a pedon was considered outside a given series if it failed to meet the limits of this series as defined now by a few tenths of 1 percent. If the departures are small, the pedon is listed as taxadjunct to the series it resembles most closely. If it differs significantly from any series as defined now, it is classified at the family but not at the series level.

METHODS CODE SYMBOLS

1. SAMPLE COLLECTION AND PREPARATION
   - A. Field sampling
     - 1. Site selection
     - 2. Soil sampling
       - a. Stony soils
       - b. Marsh and swamp soils
   - B. Laboratory preparation
     - 1. Standard (airdry)
       - a. Square-hole 2-mm sieve
       - b. Round-hole 2-mm sieve
     - 2. Field moist
     - 3. Carbonate-containing material
     - 4. Carbonate-indurated material
2. CONVENTIONS
   - A. Size-fraction base for reporting
     - 1. < 2-mm
     - 2. < size specified
   - B. Data sheet symbols
     - tr: trace, not measurable by quantitative procedure used or less than reportable amount
     - - : analysis run but not detected
     - blank: analysis not run
     - nd: analysis not run
     - < : less than reported amount or none present
3. PARTICLE-SIZE ANALYSES
   - A. Particles < 2-mm (pipet method)
     - 1. Airdry samples
       - a. Carbonate and noncarbonate clay
       - b. Fine clay
       - c. Water-dispersible clay
     - 2. Moist samples
       - a. Carbonate and noncarbonate clay
       - b. Fine clay
       - c. Water-dispersible clay
   - B. Particles > 2-mm
     - 1. Weight estimates
       - a. By field and laboratory weights
       - b. From volume and weight estimates
     - 2. Volume estimates
4. FABRIC-RELATED ANALYSES
   - A. Bulk density
     - 1. Saran-coated clods
       - a. Field state
       - b. Airdry
       - c. 30-cm absorption
       - f. 1/3-bar desorption III
       - g. 1/10-bar desorption
       - h. Ovendry
     - 3. Cores
       - a. Field moist
   - B. Water retention
     - 1. Pressure-plate extraction (1/3 or 1/10 bar)
       - a. Sieved samples
       - b. Soil pieces
       - c. Natural clods
       - d. Cores

4. FABRIC-Related Analyses--Continued
   - 2. Pressure-membrane extraction (15 bars)
     - a. Field-moist samples
   - 4. Field state
   - 5. Airdry
   - C. Water-retention difference
     - 1. 1/3 bar to 15 bars
     - 2. 1/10 bar to 15 bars
   - D. Linear extensibility
     - 1. Dry to moist
   - F. Plasticity index
     - 1. Liquid limit
     - 2. Plastic limit
5. ION-EXCHANGE ANALYSES
   - A. Cation-exchange capacity
     - 1. NH_4OAc, pH 7.0
       - a. Direct distillation
     - 2. NaOAc, pH 8.2
       - a. Centrifuge method
     - 3. Sum of cations
       - a. Acidity by $BaCl_2$-TEA, pH 8.2; bases by NH_4OAc, pH 7.0
       - b. Sum of bases plus Al
     - 6. NH_4OAc, pH 7.0 leaching tube
       - a. Direct distillation
   - B. Extractable bases
     - 1. NH_4OAc extraction
       - a. Uncorrected
       - b. Corrected (exchangeable)
       - c. See 5B4
     - 3. KCl-TEA, pH 8.2 (revised)
       - a. Uncorrected
       - b. Corrected (exchangeable)
     - 4. NH_4OAc, pH 7.0 (modified)
       - a. Uncorrected
       - b. Corrected (exchangeable)
   - C. Base saturation
     - 1. NH_4OAc, pH 7.0
     - 2. NaOAc, pH 8.2
     - 3. Sum of cations
   - D. Sodium saturation (exchangeable Na pct.)
     - 1. NaOAc, pH 8.2
     - 2. NH_4OAc, pH 7.0
   - E. Sodium-adsorption ratio
   - F. Calcium saturation
     - 1. NH_4OAc, pH 7.0
6. CHEMICAL ANALYSES
   - A. Organic carbon
     - 1. Acid-dichromate digestion
       - a. $FeSO_4$ titration
       - b. CO_2 evolution, gravimetric
   - B. Nitrogen
     - 1. Kjeldahl digestion
       - a. Ammonia distillation
   - C. Iron
     - 1. Dithionite extraction
       - a. Dichromate titration
       - b. EDTA titration
     - 2. Dithionite-citrate extraction
       - a. Orthophenanthroline colorimetry
       - b. Atomic absorption

6. CHEMICAL ANALYSES--Continued
    5. Sodium-pyrophosphate extraction
        a. Atomic absorption
    6. Ammonium oxalate extraction
        a. Atomic absorption
E. Calcium carbonate
    1. HCl treatment
        b. Manometric
    3. H_2SO_4 treatment
        a. Weight gain
F. Gypsum
    1. Water extract
        a. Precipitation in acetone
        b. Indirect estimate
G. Aluminum
    1. KCl extraction I, 30 min.
        d. Fluoride titration
        e. Atomic absorption
    5. Sodium pyrophosphate extraction
        a. Atomic absorption
    6. Ammonium oxalate extraction
        a. Atomic absorption
    7. Dithionite-citrate extraction
        a. Atomic absorption
H. Extractable acidity
    2. $BaCl_2$-triethanolamine II
        a. Back-titration with HCl
I. Carbonate
    1. Saturation extract
        a. Acid titration
J. Bicarbonate
    1. Saturation extract
        a. Acid titration
K. Chloride
    1. Saturation extract
        a. Mohr titration
        b. Potentiometric titration
L. Sulfate
    1. Saturation extract
        a. Gravimetric, $BaSO_4$
        b. EDTA titration
M. Nitrate
    1. Saturation extract
        a. PDS acid colorimetry
        b. Diphenylamine
N. Calcium
    1. Saturation extract
        a. EDTA titration
        b. Atomic absorption
    2. NH_4OAc extraction
        a. EDTA-alcohol separation
        b. Oxalate-permanganate I
        c. Oxalate-permanganate II
           Fe, Al, and Mn removed
        d. Oxalate-citrate
        e. Atomic absorption
    4. KCl-TEA extraction
        b. EDTA titration
O. Magnesium
    1. Saturation extract
        a. EDTA titration
        b. Atomic absorption
    2. NH_4OAc extraction
        a. EDTA-alcohol separation
        c. Gravimetric, $Mg_2P_2O_7$
        d. Atomic absorption

6. CHEMICAL ANALYSES--Continued
    3. NH_4Cl-EtOH extraction
        a. EDTA titration
    4. KCl-TEA extraction
        b. EDTA titration
P. Sodium
    1. Saturation extract
        a. Flame photometry
    2. NH_4OAc extraction
        a. Flame photometry
Q. Potassium
    1. Saturation extract
        a. Flame photometry
    2. NH_4OAc extraction
        a. Flame photometry

7. MINERAOLOGY
A. Instrumental analysis
    1. Preparation
        a. Carbonate removal
        b. Organic-matter removal
        c. Iron removal
        d. Particle-size fractionation
        e. PSDA pretreatment
    2. X-ray diffraction
        a. Thin film on glass, solution*
        b. Thin film on glass, resin*
        e. Thin film on tile, resin*
        g. Powder mount, diffractometer recording
    3. Differential thermal analysis
B. Optical analysis
    1. Grain studies
    2. Electron microscopy
C. Total analysis
    1. Chemical
    2. X-ray emission spectrography
D. Surface area
    1. Gylcerol retention

8. MISCELLANEOUS
A. Saturated paste, mixed
    1. Saturation extract
        a. Conductivity
        b. Conductivity, quick test
    2. Conductivity, saturated paste
B. Saturated paste, capillary rise
    1. Saturation extract
        a. Conductivity
C. pH
    1. Soil suspensions
        a. Water dilution
        b. Saturated paste
        c. KCl
        d. NaF
        e. $CaCl_2$
D. Ratios and estimates
    1. To total clay
    2. To noncarbonate clay
    3. Ca to Mg (extractable)
    4. Estimated clay percentage
    5. Estimated total salt
E. Soil resistivity
    1. Saturated paste

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* "Solution" or "resin" pretreatment

CONSECUTIVE PEDON NUMBER C 71 34 C H A R A C T E R I Z A T I O N D A T A MAY 3,1976

EXAMPLE

SOIL SERIES KEIGLEY SOIL NO. S71 UTAH. 20- 1 SAMPLE NO. 1 218-1 222 SANPETE AREA

SOIL FAMILY: CUMULIC HAPLOXEROLL,FINE-SILTY,MIXED,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 1A2A

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2-.05	SILT .05-.002	CLAY LT .002	SANDS VCS 2-1	CS 1-.5	MS .5-.25	FS .25-.10	VFS .1-.05	SILTS CSI .05-.02	FSI .02-.002	CLAYS CO. 2-.2U	FINE LT .2U	CARBONATE 3A1A	INT. II .2-.02	COARSE FRAGMENTS PCT. I CF 75- WHOLE 20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														SOIL PCT. OF LT 75		

Sample No.	Depth (cm)	Horizon	Total: Sand (2-0.05)	Total: Silt (0.05-0.002)	Total: Clay (<.002)	Sand: Very Coarse (2-1)	Sand: Coarse (1-0.5)	Sand: Medium (0.5-0.25)	Sand: Fine (0.25-0.1)	Sand: Very Fine (0.1-0.05)	Silt: Coarse (0.05-0.02)	Silt: Int. III (0.02-0.002)	Clays: Coarse (.002-.0002)	Clays: Fine <.0002	Clays: Carbonate	Int. II .2-.02	Coarse Fragments Weight: Pct. Whole Soil	75-20	20-5	5-2
			Pct of < 2 mm															Pct < 75 mm		
COLUMN 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES DI-CIT EXT FE 6C2B	AL 6G7A	PYROP EXT FE 6C5A	AL 6G5A	ATTERBERG L I LL 4F1	M I T PL 4F2	EST. 1/3 BAR 4A1F	BULK DENSITY 1/3 BAR 4A1F	CM DRY 4A1H	3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		-PERCENT-		-PERCENT-		PERCENT				PCT.NO.40 GRAMS PER CC						-PERCENT-			-PERCENT-	

Sample No.	Depth (cm)	Organic Matter: Carbon	Organic Matter: Nitrogen	Carbonate as $CaCO_3$ <2mm	Carbonate as $CaCO_3$ 2-20 mm	Ext. Sesquioxides: Dithionite Citrate Fe	Dithionite Citrate Al	Pyrophosphate Fe	Pyrophosphate Al	Atterberg: Liquid limit	Atterberg: Plastic index	Bulk Density 1/3 bar: Estimated	Bulk Density 1/3 bar: Measured	Bulk Density: Oven Dry	Volume <2mm in whole soil	Water Content 1/10 Bar	Water Content 1/3 Bar	Water Content 15 Bar	Linear Extensibility: Fabric <2mm	Linear Extensibility: Fabric <250mm
		Pct < 2mm								Pct < .42mm		g/cc			Pct	Pct < 2mm			Pct	
COLUMN 22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A	MG 5B4A	NA 5B4A	K 5B4A	SUM	EXT. ACI- DITY 6H2A	KCL EXT. AL 6G1E	SUM CAC 5A3A	C E C NH4- OAC 5A6A	BASE SUM+ ACI- DITY	SATURATION SUM+ AL	NH4- OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA-CL2 8C1E
		MEQ/100G									PERCENT					

Sample No.	Depth (cm)	NH_4OAc Extractable Bases: Ca	Mg	Na	K	Extractable Acidity at pH8.2	Al by KCl	Cation Exchange Capacity: Sum of cations	NH_4-OAc	Base Saturation: Sum + Acidity	Sum + Al	NH_4-OAc	Soil Reaction: pH in NaF after 2 min.	pH in 1/1 H_2O	pH in $CaCl_2$
		meq/100g								Pct					
COLUMN 43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59

CLAY MINERALOGY

SAMPLE NO	DEPTH CM.	LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 PERCENT	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III
1 218	0- 15	MT 2	MI 2	KK 2				MT 3	MI 3	
1 219	15- 40									
1 220	40- 64									
1 221	64-103	MT 2	MI 2	KK 2				MT 4	MI 2	
1 222	103-152									

MINERAL CODE	RELATIVE AMOUNT
MT MONTMORT	1 TRACE
MI MICA	2 SMALL
KK KAOLINIT	3 MODERATE
	4 ABUNDANT
	5 DOMINANT
	6 INDETER.

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.

CONSECUTIVE PEDON NUMBER C 67 16 — C H A R A C T E R I Z A T I O N D A T A — APR28,1976

EXAMPLE

SOIL SERIES EPHRAIM — SOIL NO. S67 UTAH. 20- 5 SAMPLE NO. 7 325-7 333 — SANPETE CO. — AREA

SOIL FAMILY: AQUIC XEROFLUVENT,FINE-SILTY,CARBONATIC,MESIC — RIVERSIDE SOIL SURVEY LABORATORY

SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 — 1A2A

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2-.05	SILT .05-.002	CLAY LT .002	SANDS VCS 2-1	CS 1-.5	MS .5-.25	FS .25-.10	VFS .1-.05	SILTS CSI .05-.02	FSI .02-.002	CLAYS CO. 2-.20	FINE LT .20	CARBO NATE 3A1A	INT. II .2-.02	COARSE FRAGMENTS PCT. OF WHOLE SOIL I 75-20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														SOIL PCT. OF LT 75		

Sample No.	Depth (cm)	Horizon	Total: Sand (2-0.05)	Total: Silt (0.05-0.002)	Total: Clay (<.002)	Sand: Very Coarse (2-1)	Sand: Coarse (1-0.5)	Sand: Medium (0.5-0.25)	Sand: Fine (0.25-0.1)	Sand: Very Fine (0.1-0.05)	Silt: Coarse (0.05-0.02)	Silt: Int. III (0.02-0.002)	Clays: Coarse (.002-.0002)	Clays: Fine <.0002	Clays: Carbonate	Int. II .2-.02	Coarse Fragments Weight: Pct. Whole Soil	75-20	20-5	5-2
			Pct of < 2 mm														Pct < 75 mm			
COLUMN																				
60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80

SAMPLE NO.	DEPTH CM.	ORG. MATTER CARBON 6A1A	ORG. MATTER NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	CARBONATE AS CACO3 19-2 6E1B	EXT. IRON FE 6C2B	ATTERBERG LIMIT LL 4F1	ATTERBERG LIMIT PL 4F2	BULK DENSITY EST 1/3 BAR 4A1F	BULK DENSITY 1/3 BAR 4A1F	BULK DENSITY DRY 4A1H	CM 362	WATER CONTENT 1/10 BAR 481C	WATER CONTENT 1/3 BAR 481C	WATER CONTENT 15 BAR 482	EXTENSBLTY LEF 4D1	EXTENSBLTY LE 4D1	PH H2O 8C1A	PH H2O 1/1 1/10 8C1A	PH CACL2 8C1E
		-PERCENT--		-PERCENT-		PCT.	PCT.NO.40		GRAMS PER CC				----PERCENT---			-PERCENT--				

Sample No.	Depth (cm)	Organic Matter: Carbon	Organic Matter: Nitrogen	Carbonate as $CaCO_3$: <2mm	Carbonate as $CaCO_3$: 2-20 Pct <20mm	D-C Extractable Fe Pct <2mm	Atterberg: Liquid limit	Atterberg: Plastic index	Bulk Density 1/3 bar: Estimated	Bulk Density 1/3 bar: Measured	Bulk Density Oven Dry	Volume <2mm in whole soil	Water Content 1/10-Bar	Water Content 1/3-Bar	Water Content 15-Bar	Linear Extensibility: Fabric <2mm	Linear Extensibility: Fabric <250mm	Soil Reaction: pH 1/1 H_2O	Soil Reaction: pH 1/10 H_2O	Soil Reaction: pH in $CaCl_2$
		Pct < 2mm					Pct <.42mm		g/cc			Pct	Pct < 2mm			Pct				
COLUMN																				
81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B3A 6N4C	MG 5B3A 6O4C	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT.	C E C NA-CAC 5A2A	NH4-CAC 5A6A	EC 8A1A	WATER EXTRACT FROM SATURATED PASTE 8A1 CA 6N1B	MG 6O1B	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1A	B 6T1A	PH SAT. PASTE 8C1B
		MEQ/100G					PCT.	-MEQ/100G		MMHO	MEQ/1000 ML								PPM	

Sample No.	Depth (cm)	NH_4OAc Extractable Bases: Ca	Mg	Na	K	Σ	NH_4OAc Base Saturation	Cation Exchange Capacity: NaoAc	NH_4OAc	Electrical Conductivity	Water Extract From Saturated Paste: Ca	Mg	Na	K	CO_3	HCO_3	Cl	SO_4	B	Soil Reaction Sat. Paste
		meq/100g					Pct	meq/100g		mmhO	Meq/l									
COLUMN																				
102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGBLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1A PCT.	GYPSUM REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM I	II	III	IV	DTA PCT.	L.T. .0002 MM I	II	III
								MI 4	MT 3	KK 2					
								MT 4	MI 3	KK 2					
								MT 4	MI 3	KK 2					
								MT 4	MI 2	KK 2					

Sample No.	Depth (cm)	Water at Saturation Pct	Exchangeable Sodium meq/l	Exchangeable Sodium Pct	Sodium Adsorption Ratio	Gypsum Amt. Pct	Gypsum Requirement meq/100g
COLUMN							
123	124	125	126	127	128	129	130

MINERAL CODE	RELATIVE AMOUNT
MI MICA	1 TRACE
MT MONTMORT	2 SMALL
KK KAOLINIT	3 MODERATE
	4 ABUNDANT
	5 DOMINANT
	6 INDETER.

CONSECUTIVE PEDON NUMBER C 71 34 — S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A — MAY 3, 1976

EXAMPLE

SOIL SERIES KEIGLEY — SOIL NO. S71 UTAH. 20- 1 SAMPLE NO. 1 218-1 222 — SANPETE AREA

SOIL FAMILY: CUMULIC HAPLOXEROLL, FINE-SILTY, MIXED, MESIC — RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	E N G I N E E R I N G M E C H A N I C A L A N A L Y S I S — P E R C E N T A G E P A S S I N G S I E V E — 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS THAN .02	.005	.002	MM 1.0	CUMULATIVE SAND FRACTION LESS THAN MM .5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU CC RATIO
COLUMN	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155 156

Sample No.	Depth (in.)	Horizon	Engineering Mechanical Analysis — Percentage < particle diameter (sieve and pipette analyses): 3 In.	2 In.	3/2 In.	1 In.	3/4 In.	3/8 In.	4.76 mm	2.00 mm	0.42 mm	.074 mm	.020 mm	.005 mm	.002 mm	Cumulative Sand Fraction: <1.0 mm	<.5 mm	<.25 mm	<.1 mm	<.05 mm	Diameters (mm) @ Points on Cumulative Curve Corresponding to: 60 Pct	50 Pct	10 Pct	C_u D60/D10	C_c (D30)²/D60xD10
COLUMN	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155 156

Y	X1	X2	A	B	C	R	N
CEC MEQ	CLAY PC	OC PC	-0.196	-0.564	28.668	0.769	5
15BR PC	CLAY PC	OC PC	-0.005	-3.215	16.242	0.934	5
OC PC	CLAY PC	DPTHIN	-0.093	-0.010	4.067	0.941	5

CEC	Clay Pct.	O.C. Pct.					
15 Bar Water	Clay Pct.	O.C. Pct.					
Organic C	Clay Pct.	Depth In.					
COLUMN 157	158	159	160	161	162	163	164

R A T I O S A N D R E S I D U A L S

HORIZON	Ratios: CEC/Clay	15 Bar/Clay	Di-Ci Fe/Clay	Pyrophosphate FE+Al/Clay	Pyro Phosphate to Dithionite Citrate Fe+Al	Residuals from Regression Equation: CEC meq	15 Bar Pct	O.C. Pct	Volume Composition — Pct (vol) of soil volume — Solids, Size in mm: 250-75	75-20	20-2	2-.05	.05-.002	<.002	Pores: Capillary	Non-Capillary	PSD on Clay Free Basis — Sands: Very Coarse	Coarse	Medium	Fine	Very Fine	Silts: Coarse	Fine	Clay Pct of sand + silt
COLUMN	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188 189

HORIZON — MEAN DEPTH INCH — ORGANIC MATTER KG/SQM. TONS/ACRE — TOTAL N TONS/ACRE — PLANT NUTRIENTS (ELEMENTAL) CA MG NA K — LIME REQUIREMENT CA EQUIV. — CARBONATE AS CACO3 <2MM 2-20MM — WATER CONTENT FIELD CAPACITY TO A. D. 15 BAR INCH/INCH

W E I G H T S P E R U N I T D E P T H (CM OR INCH)

Horizon	Mean Depth Inch	Organic Matter: Kg/M²	Tons/Acre	Total N Tons/Acre	Plant Nutrients (Elemental): Ca	Mg	Na	K	Acidity in Ca Equivalents	Carbonate as $CaCO_3$: < 2mm	2-20mm	Water Content Field Capacity to: A.D.	15 Bar
		Weights per Unit Depth (cm or inch)			Pounds per Acre					Tons/Acre		Inch/Inch	
COLUMN	190	191	192	193	194	195	196	197	198	199	200	201	202 203

C U M U L A T I V E W E I G H T S I N 5 I N C H I N C R E M E N T S (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/SQM.	TONS/ACRE	TOTAL N TONS/ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
		POUNDS PER ACRE							TONS/ACRE				

Increment	Depth (In.)	Cumulative Weights in 5 Inch Increments (per square meter or acre): Organic Matter: Kg/M²	Tons/Acre	Total N Tons/Acre	Elemental: Ca	Mg	Na	K	Acidity in Ca Equivalents	Carbonate as $CaCO_3$: <2mm	2-20mm	Water Content Field Capacity to: A.D.	15 Bar
		Pounds per Acre								Tons/acre		Inches	
COLUMN	204	205	206	207	208	209	210	211	212	213	214	215	216 217

AVERAGE OF CONTROL SECTION
SAND (MINUS VFS) = 3.9 PERCENT, 25- 100 CMS. (10- 39 IN.) SAND = 9.6 PERCENT, 2-250MM= 0.0 PERCENT, SILT (PLUS VFS) = 66.0 PERCENT, CLAY = 30.1 PERCENT,
CARBONATE CLAY = 4.3 PERCENT, 15 BAR = 14.2 PERCENT, CACO3 EQUIVALENT= 19.3 PERCENT.

AVERAGE OF 0-40 CM. SECTION.... SAND/CLAY RATIO 0.8
ORGANIC CARBON 1.79 PERCENT.

COLUMN HEADINGS FOR COMPUTER
PRINTED DATA SHEETS

Column	Acid and Neutral Soils
1	Sample number, first digit on the left is year sampled (between 1967 and 1972)
2	Depth
3	Horizon
	Columns 4 through 17 - percentage of total weight of particles 2 millimeters or less in size
4	Total sand (particles range from .05 to 2 millimeters)
5	Total silt (particles range from .002 to .05 millimeters)
6	Total clay (particles smaller than .002 millimeters)
7	Very coarse sand (particles range from 1 to 2 millimeters)
8	Coarse sand (particles range from 0.5 to 1.0 millimeters)
9	Medium sand (particles range from 0.25 to 0.5 millimeters)
10	Fine sand (particles range from 0.1 to 0.25 millimeters)
11	Very fine sand (particles range from 0.05 to 0.1 millimeters)
12	Coarse silt (particles range from 0.02 to 0.05 millimeters)
13	Fine silt, International III, (particles range from 0.002 to 0.02 millimeters)
14	Coarse clay (particles range from 0.0002 to 0.002 millimeters)
15	Fine clay (particles are less than 0.0002 millimeters)
16	Carbonate clay (particles are less than 0.002 millimeters)
17	International II (particles range from 0.02 to 0.2 millimeters)
18	Coarse fragments between 2- and 250-millimeter diameter, calculated on a whole-soil, weight basis
19	Coarse fragments between 20- and 75-millimeter diameter, calculated on a < 75-millimeter soil weight basis
20	Coarse fragments between 5 and 20 millimeters calculated on a < 75-millimeter soil weight basis
21	Coarse fragments between 2 and 5 millimeters calculated on a < 75-millimeter soil weight basis
22	Sample number
23	Depth of sample
24	Organic carbon in percent of < 2-millimeter soil
25	Nitrogen in percent of < 2-millimeter soil
26	Carbonate < 2 millimeters as $CaCO_3$ in percent of < 2-millimeter soil
27	Carbonate in 2- to 20-millimeter fraction as CaCO in percent of < 20-millimeter soil
28	Dithionite-citrate extractable Fe as percent of < 2-millimeter soil
29	Dithionite-citrate extractable Al as percent of < 2-millimeter soil
30	Pyrophosphate extractable Fe as percent of < 2-millimeter soil
31	Pyrophosphate extractable Al as percent of < 2-millimeter soil
32	Liquid limit of < 0.42-millimeter soil (sieve size 40)
33	Plastic index of < 0.42-millimeter soil (sieve size 40)
34	1/3 bar bulk density, estimated value, g/cc
35	1/3 bar bulk density, measured value, g/cc
36	Oven dry bulk density, g/cc
37	Volume percent of fine earth in whole soil (< 250-millimeter coarse fragments and fine earth)
38	Water content of < 2-millimeter soil fabric at 1/10 bar
39	Water content of < 2-millimeter soil fabric at 1/3 bar
40	Water content of < 2-millimeter soil at 15 bar
41	Linear extensibility of the fine earth fabric in percent
42	Linear extensibility of the whole soil fabric in percent
43	Sample number
44	Depth
45	NH_4OAc extractable Ca given in milliequivalents per 100 grams of soil
46	NH_4OAc extractable magnesium given in milliequivalents per 100 grams of soil
47	NH_4OAc extractable sodium given in milliequivalents per 100 grams of soil
48	NH_4OAc extractable potassium given in milliequivalents per 100 grams of soil
49	Sum of NH_4OAc extractable cations given in milliequivalents per 100 grams of soil
50	Extractable acidity measured with barium chloride triethanolamine given in milliequivalents per 100 grams of soil
51	Extractable aluminum measured by KCL extraction in milliequivalents per 100 grams of soil
52	Cation exchange capacity as measured by the sum of cations in milliequivalents per 100 grams of soil
53	Cation exchange capacity as measured by the ammonium acetate method in milliequivalents per 100 grams of soil
54	Base saturation as measured by the sum of cations plus acidity in percent
55	Base saturation as measured by sum of cations plus aluminum in percent
56	Base saturation of ammonium acetate in percent
57	Soil reaction, or pH, in sodium floride after 2 minutes
58	Soil reaction, or pH, in 1 to 1 water
59	Soil reaction, or pH, in calcium chloride

Column	Saline Soils
60	Sample
61	Depth
62	Horizon
	Columns 63 through 76 percentage of total weight of particles 2 millimeters or less in size
63	Sand .05 to 2.0 millimeters in diameter
64	Total silt .002 to .05 millimeters in diameter
65	Total clay < .002 millimeters
66	Very coarse sand 1.0 to 2.0 millimeter in diameter
67	Coarse sand .5 to 1.0 millimeters
68	Medium sand .25 to .5 millimeters
69	Fine sand .1 to .25 millimeters
70	Very fine sand .05 to .1 millimeters
71	Coarse silt .02 to .05 millimeters
72	International III, .002 through .02 millimeters
73	Coarse clay .0002 through .002 millimeters
74	Fine clay < .0002 millimeters
75	Carbonate clay < .002 millimeters
76	International II, .02 through .2 millimeters
77	Coarse fragments by weight percent of the whole soil < 250 millimeters in diameter
78	Coarse fragments as percent < 75-millimeter fraction by weight
79	Percent of 5 to 20 millimeters as percent < 75 millimeters by weight
80	Coarse fragments 2 to 5 millimeters in diameter as percent of < 75 millimeters by weight
81	Sample number
82	Depth in centimeters
83	Percent of organic carbon
84	Percent of total nitrogen in < 2-millimeter soil
85	Percent of carbonates in < 2-millimeter soil
86	Percent of carbonate as calcium carbonate in 2- to 20-millimeter fraction as a percent of < 20-millimeter soil
87	Dithionite-citrate extractable iron as a percent of < 2-millimeter soil
88	Liquid limit as percent of < .42-millimeter soil
89	Plastic index as a percent of <.42-millimeter soil
90	Estimated bulk density, 1/3 bar tension, g/cc
91	Measured 1/3 bar bulk density, g/cc
92	Oven dry bulk density, g/cc
93	Volume of < 2-millimeter soil as a percent of whole soil
94	1/10 bar water retention as a percent of < 2-millimeter soil
95	Percent 1/3 bar water retention as a percent of < 2-millimeter soil
96	15 bar water retention as a percent of < 2-millimeter soil
97	Linear extensibility of < 2-millimeter soil fabric
98	Linear extensibility of < 250-millimeter soil fabric
99	Soil reaction, pH of a 1 to 1 soil water ratio
100	Soil reaction, pH of a 1 to 10 soil water ratio
101	Soil reaction, pH in calcium chloride
102	Sample number
103	Depth
104	Ammonium acetate extractable calcium in milliequivalents per 100 grams of soil
105	Ammonium acetate extractable magnesium in milliequivalents per 100 grams of soil
106	Ammonium acetate extractable sodium in milliequivalents per 100 grams of soil
107	Ammonium acetate extractable potassium in milliequivalents per 100 grams of soil
108	Sum of ammonium acetate extractable bases in milliequivalents per 100 grams of soil
109	Ammonium acetate base saturation as percent
110	Sodium acetate cation exchange capacity in milliequivalents per 100 grams of soil
111	Ammonium acetate cation exchange capacity in milliequivalents per 100 grams of soil
112	Electrical conductivity in mmhos in the water extract from saturated paste
113	Calcium in saturation extract in milliequivalents per liter
114	Magnesium in saturation extract in milliequivalents per liter
115	Sodium in saturation extract in milliequivalents per liter
116	Potassium in saturation extract in milliequivalents per liter
117	Carbonate in saturation extract in milliequivalents per liter
118	Bicarbonate in saturation extract in milliequivalents per liter
119	Chloride in saturation extract in milliequivalents per liter
120	Sulfate in saturation extract in milliequivalents per liter
121	Boron in saturation extract in milliequivalents per liter
122	Soil reaction pH of saturation paste
123	Sample number
124	Depth in centimeters
125	Water at saturation as a percent
126	Exchangeable sodium in milliequivalents per liter
127	Exchangeable sodium percentage
128	Sodium absorption ratio

129 Amount of gypsum in percent of < 2-millimeter soil
130 Gypsum requirement in milliequivalents per 100 grams of < 2-millimeter soil

Supplementary Characterization Data

131 Sample number
132 Depth in inches
133 Horizon
Columns 134 through 146 give the engineering mechanical analysis
134 Gives the percent passing 3-inch sieve
135 Gives the percent passing 2-inch sieve
136 Gives the percent passing 1½-inch sieve
137 Gives the percent passing 1-inch sieve
138 Gives the percentage passing 3/4-inch sieve
139 Gives the percent passing 3/8-inch sieve
140 Gives the percent passing a 4.76-millimeter sieve
141 Gives the percent passing a 2-millimeter sieve
142 Gives the percent passing a .42-millimeter sieve
143 Gives the percent passing a .074-millimeter sieve
144 Gives the percent < .020 millimeter
145 Gives the percent < .005 millimeter
146 Gives the percent < .002 millimeter
Columns 147 through 151 give the cumulative sand fraction as a percent of < 3-inch material
147 Percent < 1 millimeter
148 Percent < .5 millimeter
149 Percent < .25 millimeter
150 Percent < 1/10 millimeter
151 Percent < .05 millimeter
Columns 152 through 154 give the diameters in millimeters at selected points on the cumulative curve.
152 Diameter at 60 percent
153 Geometric mean particle size at 50 percent
154 Diameter at 10 percent
Columns 155 and 156 give some ratios used in the Unified soils engineering system
155 C_u - ratio of diameter particles at 60 percent divided by the diameter of particles at 10 percent. These are percents from the cumulative curve shown on the columns at the left.
156 C_c - ratio of diameter particles up to 30 percent squared divided by the diameter of particles at 60 percent times the diameter of particles at 10 percent.
The next tier of data lists the multiple linear regression equations for the variables--cation exchange capacity, 15 bar water, and organic carbon.
157 Lists these three properties, that is, CEC in milliequivalents, 15 bar water in percent, and organic carbon in percent. These are listed under Y as dependent variables. The independent variables are listed under X1 and X2.
158 Clay percent is listed as the independent variable.
159 Independent variables are organic carbon in percent and depth in inches.
160 The regression coefficients are listed under A and B in columns 160 and 161.
162 Lists the intercept for the equations
163 Multiple correlation coefficient for the regression equations
164 Gives the number of samples used in study
165 Gives the horizon
166 Ratio of cation exchange capacity to clay
167 Ratio of 15 bar water to clay
168 Ratio of dithionite-citrate extractable iron to clay
169 Ratio of pyrophosphate extractable iron plus aluminum to clay
170 Pyrophosphate to dithionite-citrate extractable iron plus aluminum
Columns 171 through 173 give the residuals from the regression equations.
171 Residuals for CEC in milliequivalents
172 Residuals in 15 bar water in percent
173 Residuals, organic carbon in percent
Columns 174 through 181 give the volume composition of the soil as a percent of the total soil volume.
174 Gives the solids between 75 and 250 millimeters in size in percent
175 Gives the solids in the 20- to 75-millimeter fraction in percent
176 Gives the solids in the 2-to 20-millimeter size in percent
177 Gives the solids in the .05-through 2-millimeter size in percent
178 Gives the solids between .002-and .05-millimeter size diameter in percent
179 Percent < .002 millimeter
180 Capillary pores in percent
181 Gives the noncapillary pores in percent

Column	
	Columns 182 through 189 give the particle size distribution analysis based on clay-free < 2-millimeter soil.
182	Gives the very coarse sand as a percent of the sand plus silt
183	Gives the coarse sand as a percent of the total sand plus silt
184	Gives the medium sand as a percent of the total sand plus silt
185	Gives the fine sand as a percent of the total sand plus silt
186	Gives the very fine sand as a percent of the total sand plus silt
187	Coarse silt as a percent of total sand plus silt
188	Gives the fine silt as a percent of total sand plus silt
189	Gives the clay as a percent of the total sand plus silt
190	Horizon
191	Mean depth in inches
	Columns 192 through 203 give the weights per unit depth in centimeters or inches.
192	Organic matter in killograms per square meter
193	Organic matter in tons per acre
194	Total nitrogen in tons per acre
195	Calcium in elemental form in pounds per acre
196	Magnesium in elemental form in pounds per acre
197	Sodium in elemental form in pounds per acre
198	Potassium in elemental form in pounds per acre
199	Acidity in terms of calcium equivalents in pounds per acre.
200	Carbonate as calcium carbonate in < 2-millimeter soil in tons per acre
201	Carbonate as calcium carbonate in 2- through 20-millimeter soil in tons per acre
202	Water content between field capacity and air dryness of whole soil
203	Water content between field capacity and 15 bar water retention of whole soil
204	Increment
205	Median depth in inches
	Columns 206 through 217 give the cumulative weights in 5-inch increments per square meter or acre.
206	Organic matter in killograms per square meter
207	Organic matter, tons per acre
208	Total nitrogen in tons per acre
209	Calcium in pounds per acre
210	Magnesium in pounds per acre
211	Sodium in pounds per acre
212	Potassium in pounds per acre
213	Acidity in terms of calcium equivalents in pounds per acre
214	Carbonate as calcium carbonate in < 2-millimeter soil in tons per acre
215	Carbonate as calcium carbonate 2- through 20-millimeter size in tons per acre
216	Water content between field capacity and air dryness in inches
217	Water content between field capacity and 15 bar tension in inches

CLASSIFICATION INDEX

Page

ALFISOLS

BORALFS

CRYOBORALFS

Glossic Cryoboralfs
Fine, kaolinitic
Sielo 3
Sielo 5

Mollic Cryoboralfs
Fine, montmorillonitic
Herd 7
Herd 9

PALEBORALFS

Typic Paleboralfs
Loamy-skeletal, mixed
Mortenson, taxadjunct 11
Mortenson, taxadjunct 13
Mortenson, taxadjunct 15

USTALFS

HAPLUSTALFS

Aridic Haplustalfs
Fine-loamy, mixed, mesic
Dagflat, taxadjunct 17
Dagflat, taxadjunct 19

Psammentic Haplustalfs
Coarse-loamy, mixed, mesic
Caval, taxadjunct 21

XERALFS

HAPLOXERALFS

Mollic Haploxeralfs
Fine-loamy, mixed, frigid
Guilder, taxadjunct 23
Kilfoil 25
Kilfoil 27

Fine, mixed, frigid
Guilder 29

ARIDISOLS

ARGIDS

HAPLARGIDS

Typic Haplargids
Coarse-loamy, mixed, mesic
Patna 31
Patna 33

Lithic Ustollic Haplargids
Loamy, mixed, mesic
Bond 35
Bond 37

Ustalfic Haplargids
Coarse-loamy, mixed, mesic
Palma, taxadjunct 39
Palma, taxadjunct 41

Fine-loamy, mixed, mesic
Clovis, taxadjunct 43

Page

NATRARGIDS

Typic Natrargids
Fine, mixed, mesic
Uvada, taxadjunct 45
Uvada, taxadjunct 47

Xerollic Natrargids
Fine-loamy, mixed, mesic
Mellor, taxadjunct 49
Mellor, taxadjunct 51
Mellor, taxadjunct 53

PALEARGIDS

Petrocalcic Paleargids
Clayey-skeletal, montmorillonitic, mesic, shallow
Veyo, taxadjunct 55

ORTHIDS

CALCIORTHIDS

Typic Calciorthids
Loamy-skeletal, carbonatic, mesic
Dera 57

Coarse-loamy, carbonatic, mesic
Hiko Springs variant 59
Hiko Springs variant 61
Hiko Springs variant 63

Coarse-loamy, mixed, mesic
Hiko Springs 65
Hiko Springs 67
Hiko Springs 69

Xerollic Calciorthids
Loamy, carbonatic, mesic, shallow
Atepic 71
Atepic 73

Coarse-loamy, carbonatic, mesic
Lisade 75
Lisade 77
Lisade 79
Lisade 81

Coarse-loamy, mixed, mesic
Escalante 83
Escalante 85

CAMBORTHIDS

Typic Camborthids
Loamy-skeletal, carbonatic, mesic
Sardo 87

Sandy-skeletal, carbonatic, mesic
Sardo, taxadjunct 89

DURORTHIDS

Typic Durorthids
Coarse-loamy, mixed, mesic
Unnamed 91

Page

ARIDISOLS, cont'd.

ORTHIDS, cont'd.

PALEORTHIDS

Typic Paleorthids
Loamy-skeletal, mixed, thermic, shallow
Winkel 93
Winkel 95

Loamy, mixed, mesic, shallow
Pastura, taxadjunct 97

Loamy, mixed, thermic, shallow
Cave 99

Coarse-loamy, mixed, thermic
Harrisburg 101
Harrisburg 103

Ustollic Paleorthids
Loamy, mixed, mesic, shallow
Pastura 105

SALORTHIDS

Typic Salorthids
Fine-silty, mixed, mesic
Saltair 107

Aquollic Salorthids
Fine-silty, mixed, mesic 109

ENTISOLS

AQUENTS

FLUVAQUENTS

Vertic Fluvaquents
Fine, montmorillonitic (calcareous), mesic
Abbott 111
Abbott 113
Abbott 115

FLUVENTS

TORRIFLUVENTS

Typic Torrifluvents
Coarse-loamy, mixed (calcareous), mesic
Glenton 117
Glenton 119

Coarse-loamy, mixed (calcareous), thermic
Tobler 121
Tobler 123

Coarse-silty, mixed (calcareous), mesic
Penoyer, taxadjunct 125

Coarse-silty, mixed (calcareous), thermic
St. George 127
St. George 129

Ustic Torrifluvents
Coarse-silty, mixed (calcareous), mesic
Naplene, taxadjunct 131

Fine-silty, mixed (calcareous), mesic
Naplene 133

Page

Xeric Torrifluvents
Coarse-loamy, carbonatic, mesic
Mayfield, taxadjunct 135

Coarse-silty, mixed (calcareous), mesic
Linoyer 137
Linoyer 139
Linoyer 141

Fine-loamy, mixed (calcareous), mesic
Ravola variant 143
Wales 145

Fine-silty, carbonatic, mesic
Quaker 147
Quaker 149

Fine-silty, mixed (calcareous), mesic
Woodrow 151
Ravola variant 153

XEROFLUVENTS

Aquic Xerofluvents
Coarse-silty, mixed (calcareous), mesic
Abraham 155
Abraham 157

Fine-silty, carbonatic, mesic
Ephraim 159
Ephraim 161
Ephraim 163
Ephraim 165

Fine-silty, mixed (calcareous), mesic
Anco 167
Anco 169

INCEPTISOLS

OCHREPTS

USTOCHREPTS

Typic Ustochrepts
Loamy-skeletal, carbonatic, frigid, shallow
Vanet 171
Vanet 173

XEROCHREPTS

Calcixerollic Xerochrepts
Fine-silty, mixed, mesic
Bluffdale, taxadjunct 175
Bluffdale, taxadjunct 177

Page

MOLLISOLS

AQUOLLS

CALCIAQUOLLS

Typic Calciaquolls
Fine-silty, mesic
Chipman 179

Fine, mesic
Magna 181

BOROLLS

ARGIBOROLLS

Typic Argiborolls
Loamy-skeletal, mixed
Showalter 183
Showalter 185

Fine-loamy, mixed
Kolob, taxadjunct 187

Pachic Argiborolls
Loamy-skeletal, mixed
Dalcan, taxadjunct 189

Clayey-skeletal, montmorillonitic
Dalcan 191

Fine-loamy, mixed
Detra 193

CALCIBOROLLS

Typic Calciborolls
Loamy-skeletal, mixed
Guben 195
Guben 197

CRYOBOROLLS

Typic Cryoborolls
Loamy-skeletal, carbonatic, shallow
Pahreah 199
Pahreah 201

Argic Cryoborolls
Fine-loamy, mixed
Tingey 203

Boralfic Cryoborolls
Loamy-skeletal, mixed
Callings 205
Callings 207

Pachic Cryoborolls
Loamy-skeletal, mixed
Poleline 209
Poleline 211

HAPLOBOROLLS

Entic Haploborolls
Loamy-skeletal, carbonatic
Syrett 213
Syrett 215

PALEBOROLLS

Abruptic Cryic Paleborolls
Loamy-skeletal, mixed
Lucky Star, taxadjunct 217

Fine, montmorillonitic
Roundy 219

Cryic Paleborolls
Loamy-skeletal, mixed
Lucky Star 221

Fine-loamy, mixed
Baird Hollow, taxadjunct 223

Cryic Pachic Paleborolls
Loamy-skeletal, mixed
Charcol 225
Charcol 227
Charcol 229
Flygare 231

Fine-loamy, mixed
Skylick 233
Skylick 235

Pachic Paleborolls
Loamy-skeletal, mixed
Elzinga 237

Fine, mixed
Kinesava 239

USTOLLS

HAPLUSTOLLS

Typic Haplustolls
Sandy, mixed, mesic
Caval, taxadjunct 241

XEROLLS

ARGIXEROLLS

Typic Argixerolls
Loamy-skeletal, montmorillonitic, frigid
Yeates Hollow, taxadjunct 243

Fine, montmorillonitic, frigid
Ostler 245

Boralfic Argixerolls
Loamy-skeletal, mixed, frigid
Gappmayer 247

Calcic Argixerolls
Loamy-skeletal, mixed, frigid
Mountainville, taxadjunct 249

Loamy-skeletal, mixed, mesic
Bingham, taxadjunct 251
Bingham, taxadjunct 253

Fine, montmorillonitic, mesic
Dry Creek, taxadjunct 255

Pachic Argixerolls
Fine, montmorillonitic, frigid
Ostler, taxadjunct 257

Page

MOLLISOLS, cont'd.

XEROLLS, cont'd.

CALCIXEROLLS

Typic Calcixerolls
Loamy-skeletal, carbonatic, frigid
Lizzant 259

Fine-loamy, carbonatic, frigid
Mower 261
Mower 263

Aridic Calcixerolls
Loamy-skeletal, carbonatic, frigid
Fontreen 265
Fontreen 267
Fontreen 269

HAPLOXEROLLS

Typic Haploxerolls
Loamy-skeletal, mixed, frigid
Bradshaw 271

Fine-loamy, mixed, frigid
Bradshaw, taxadjunct 273

Cumulic Haploxerolls
Fine-silty, mixed, mesic
Keigley 275

Pachic Ultic Haploxerolls
Loamy-skeletal, mixed, frigid
Lamondi 277
Moweba 279
Moweba 281

Page

MOLLISOLS, cont'd.

XEROLLS, cont'd.

HAPLOXEROLLS

Coarse-loamy, mixed, frigid
Moweba, taxadjunct 283

Fine-loamy, mixed, frigid
Kahler 285

NATRIXEROLLS

Typic Natrixerolls
Fine, mixed, mesic
Trenton 287

PALEXEROLLS

Typic Palexerolls
Clayey-skeletal, montmorillonitic, frigid
Durfee 289

Fine, montmorillonitic, frigid
Harkers 291

Very-fine, montmorillonitic, frigid
Harkers, taxadjunct 293

Aridic Petrocalcic Palexerolls
Loamy-skeletal, carbonatic, mesic, shallow
Borvant 295
Borvant 297

GEOGRAPHICAL INDEX

Classification		Page
BEAVER COUNTY		
Aridisols		
Argids		
Haplargids	Patna	31
	Patna	33
Orthids		
Calciorthids	Hiko Springs	67
	Hiko Springs	69
Durorthids	Unnamed	91
Entisols		
Fluvents		
Torrifluvents	Glenton	117
	Penoyer, taxadjunct	125
CACHE COUNTY		
Mollisols		
Borolls		
Paleborolls	Elzinga	237
	Lucky Star, taxadjunct	217
	Lucky Star	221
DAVIS COUNTY		
Aridisols		
Orthids		
Salorthids	Saltair	107
	Saltair, taxadjunct	109
GARFIELD COUNTY		
Inceptisols		
Ochrepts		
Ustochrepts	Vanet	171
	Vanet	173
Mollisols		
Borolls		
Argiborolls	Showalter	183
	Showalter	185
Calciborolls	Guben	195
	Guben	197
Cryoborolls	Callings	205
	Callings	207
Haploborolls	Syrett	213
	Syrett	215
KANE COUNTY		
Alfisols		
Boralfs		
Cryoboralfs	Sielo	3
	Sielo	5
Mollisols		
Borolls		
Cryoborolls	Pahreah	199
	Pahreah	201

Classification		Page
MILLARD COUNTY		
Aridisols		
Argids		
Natrargids	Mellor, taxadjunct	51
	Mellor, taxadjunct	53
	Uvada, taxadjunct	45
	Uvada, taxadjunct	47
Orthids		
Calciorthids	Dera	57
	Escalante	83
	Escalante	85
	Hiko Springs	65
	Hiko Springs variant	59
	Hiko Springs variant	61
	Hiko Springs variant	63
Camborthids	Sardo	87
	Sardo, taxadjunct	89
Entisols		
Aquents		
Fluvaquents	Abbott	111
	Abbott	113
	Abbott	115
Fluvents		
Torrifluvents	Glenton	119
Xerofluvents	Abraham	155
	Abraham	157
	Anco	167
	Anco	169
MORGAN COUNTY		
Alfisols		
Boralfs		
Cryoboralfs	Herd	7
Xeralfs		
Haploxeralfs	Guilder, taxadjunct	23
	Guilder	29
	Kilfoil	25
	Kilfoil	27
Mollisols		
Borolls		
Paleborolls	Charcol	225
	Charcol	227
Xerolls		
Argixerolls	Ostler	245
Haploxerolls	Moweba	279
	Moweba	281
	Moweba, taxadjunct	283

Classification		Page
SALT LAKE COUNTY		
Inceptisols		
Ochrepts		
Xerochrepts	Bluffdale, taxadjunct	175
	Bluffdale, taxadjunct	177
Mollisols		
Aquolls		
Calciaquolls	Chipman	179
	Magna	181
Xerolls		
Argixerolls	Bingham, taxadjunct	251
	Bingham, taxadjunct	253
	Dry Creek, taxadjunct	255
	Gappmayer	247
Haploxerolls	Bradshaw	271
	Bradshaw, taxadjunct	273
Natrixerolls	Trenton	287
Palexerolls	Harkers	291
	Harkers, taxadjunct	293
SANPETE COUNTY		
Alfisols		
Boralfs		
Paleboralfs	Mortenson, taxadjunct	11
	Mortenson, taxadjunct	13
	Mortenson, taxadjunct	15
Aridisols		
Argids		
Natrargids	Mellor, taxadjunct	49
Orthids		
Calciorthids	Atepic	71
	Atepic	73
	Lisade	75
	Lisade	77
	Lisade	79
	Lisade	81
Entisols		
Fluvents		
Torrifluvents	Linoyer	137
	Linoyer	139
	Linoyer	141
	Mayfield, taxadjunct	135
	Quaker	147
	Quaker	149
	Ravola variant	143
	Ravola variant	153
	Wales	145
	Woodrow	151
Xerofluvents	Ephraim	159
	Ephraim	161
	Ephraim	163
	Ephraim	165
Mollisols		
Borolls		
Cryoborolls	Tingey	203
Paleborolls	Skylick	233
	Skylick	235
Xerolls		
Argixerolls	Mountainville, taxadjunct	249
Calcixerolls	Fontreen	265
	Fontreen	267
	Fontreen	269
	Lizzant	259
	Mower	261
	Mower	263
Haploxerolls	Keigley	275
Palexerolls	Borvant	295
	Borvant	297
WASATCH COUNTY		
Mollisols		
Borolls		
Paleborolls	Baird Hollow, taxadjunct	223
	Flygare	231
	Roundy	219
WASHINGTON COUNTY		
Alfisols		
Ustalfs		
Haplustalfs	Caval, taxadjunct	21
	Dagflat, taxadjunct	17
	Dagflat, taxadjunct	19
Aridisols		
Argids		
Haplargids	Bond	35
	Bond	37
	Clovis, taxadjunct	43
	Palma, taxadjunct	39
	Palma, taxadjunct	41
Paleargids	Veyo, taxadjunct	55
Orthids		
Paleorthids	Cave	99
	Harrisburg	101
	Harrisburg	103
	Pastura, taxadjunct	97
	Pastura	105
	Winkel	93
	Winkel	95
Entisols		
Fluvents		
Torrifluvents	Naplene, taxadjunct	131
	Naplene	133
	St. George	127
	St. George	129
	Tobler	121
	Tobler	123
Mollisols		
Borolls		
Argiborolls	Dalcan, taxadjunct	189
	Dalcan	191
	Detra	193
	Kolob, taxadjunct	187
Paleborolls	Kinesava	239
Ustolls		
Haplustolls	Caval, taxadjunct	241

Classification		Page
WEBER COUNTY		
Alfisols		
Boralfs		
Cryoboralfs	Herd	9
Mollisols		
Borolls		
Cryoborolls	Poleline	209
	Poleline	211
Paleborolls	Charcol	229
Xerolls		
Argixerolls	Ostler, taxadjunct	257
	Yeates Hollow, taxadjunct	243
Haploxerolls	Kahler	285
	Lamondi	277
Palexerolls	Durfee	289

SOIL SERIES INDEX

Series	Soil No.[1/]	Classification	Page
Abbott	S68Utah-14-1	Fluvaquent	111
Abbott	S68Utah-14-9	Fluvaquent	113
Abbott	S68Utah-14-61	Fluvaquent	115
Abraham	S68Utah-14-24	Xerofluvent	155
Abraham	S68Utah-14-63(161)	Xerofluvent	157
Anco	S68Utah-14-25	Xerofluvent	167
Anco	S68Utah-14-62(162)	Xerofluvent	169
Atepic	S70Utah-20-3	Calciorthid	71
Atepic	S70Utah-20-10	Calciorthid	73
Baird Hollow, taxadjunct	S68Utah-26-3	Paleboroll	223
Bingham, taxadjunct	S67Utah-18-5	Argixeroll	251
Bingham, taxadjunct	S67Utah-18-6	Argixeroll	253
Bluffdale, taxadjunct	S67Utah-18-2	Xerochrept	175
Bluffdale, taxadjunct	S67Utah-18-3	Xerochrept	177
Bond	S69Utah-27-7	Haplargid	35
Bond	S69Utah-27-8	Haplargid	37
Borvant	S70Utah-20-1	Palexeroll	295
Borvant	S70Utah-20-6	Palexeroll	297
Bradshaw, taxadjunct	S67Utah-18-1	Haploxeroll	273
Bradshaw	S67Utah-18-10	Haploxeroll	271
Callings	S68Utah-9-7	Cryoboroll	205
Callings	S68Utah-9-8	Cryoboroll	207
Caval, taxadjunct	S70Utah-27-8	Haplustoll	241
Caval, taxadjunct	S70Utah-27-9	Haplustalf	21
Cave	S70Utah-27-15	Paleorthid	99
Charcol	S71Utah-15-7	Paleboroll	225
Charcol	S72Utah-15-3	Paleboroll	227
Charcol	S72Utah-29-4	Paleboroll	229
Chipman	S67Utah-18-4	Calciaquoll	179
Clovis, taxadjunct	S69Utah-27-5	Haplargid	43
Dagflat, taxadjunct	S70Utah-27-5	Haplustalf	17
Dagflat, taxadjunct	S70Utah-27-6	Haplustalf	19
Dalcan	S69Utah-27-10	Argiboroll	191
Dalcan, taxadjunct	S69Utah-27-11	Argiboroll	189
Dera	S68Utah-14-5	Calciorthid	57
Detra	S69Utah-27-12	Argiboroll	193
Dry Creek, taxadjunct	S67Utah-18-8	Argixeroll	255
Durfee	S72Utah-29-1	Palexeroll	289
Elzinga	S68Utah-3-3	Paleboroll	237
Ephraim	S67Utah-20-3	Xerofluvent	159
Ephraim	S67Utah-20-4	Xerofluvent	161
Ephraim	S67Utah-20-5	Xerofluvent	163
Ephraim	S67Utah-20-6	Xerofluvent	165
Escalante	S68Utah-14-59(159)	Calciorthid	83
Escalante	S68Utah-14-60(159b)	Calciorthid	85
Flygare	S68Utah-26-2	Paleboroll	231
Fontreen	S67Utah-20-1	Calcixeroll	265
Fontreen	S67Utah-20-2	Calcixeroll	267
Fontreen	S71Utah-20-8	Calcixeroll	269
Gappmayer	S67Utah-18-13	Arigxeroll	247
Glenton	S68Utah-1-9	Torrifluvent	117
Glenton	S68Utah-14-6	Torrifluvent	119
Guben	S68Utah-9-1	Calciboroll	195
Guben	S68Utah-9-2	Calciboroll	197
Guilder	S71Utah-15-2	Haploxeralf	29
Guilder, taxadjunct	S71Utah-15-3	Haploxeralf	23
Harkers, taxadjunct	S67Utah-18-9	Palexeroll	293
Harkers	S67Utah-18-11	Palexeroll	291
Harrisburg	S69Utah-27-3	Paleorthid	101
Harrisburg	S69Utah-27-9	Paleorthid	103
Herd	S71Utah-15-5	Cryoboralf	7
Herd	S71Utah-29-3	Cryoboralf	9
Hiko Springs	S66Utah-14-1	Calciorthid	65
Hiko Springs variant	S66Utah-14-2	Calciorthid	59
Hiko Springs variant	S66Utah-14-3	Calciorthid	61
Hiko Springs variant	S66Utah-14-4	Calciorthid	63
Hiko Springs	S68Utah-1-5	Calciorthid	67
Hiko Springs	S68Utah-1-6	Calciorthid	69
Kahler	S71Utah-29-1	Haploxeroll	285
Keigley	S71Utah-20-1	Haploxeroll	275
Kilfoil	S72Utah-15-2	Haploxeralf	25
Kilfoil	S72Utah-15-4	Haploxeralf	27
Kinesava	S69Utah-27-13	Paleboroll	239
Kolob, taxadjunct	S70Utah-27-10	Argiboroll	187
Lamondi	S71Utah-29-2	Haploxeroll	277
Linoyer	S67Utah-20-7	Torrifluvent	137
Linoyer	S67Utah-20-10	Torrifluvent	139
Linoyer	S71Utah-20-6	Torrifluvent	141
Lisade	S67Utah-20-11	Calciorthid	75
Lisade	S67Utah-20-12	Calciorthid	77
Lisade	S67Utah-20-17	Calciorthid	79
Lisade	S67Utah-20-18	Calciorthid	81
Lizzant	S71Utah-20-3	Calcixeroll	259
Lucky Star	S68Utah-3-1	Paleboroll	221
Lucky Star, taxadjunct	S68Utah-3-2	Paleboroll	217
Magna	S67Utah-18-12	Calciaquoll	181
Mayfield, taxadjunct	S67Utah-20-15	Torrifluvent	135
Mellor, taxadjunct	S68Utah-14-44(144)	Natrargid	49
Mellor, taxadjunct	S68Utah-14-45(144b)	Natrargid	51
Mellor, taxadjunct	S69Utah-20-311-7	Natrargid	53
Mortenson, taxadjunct	S70Utah-20-4	Paleboralf	11
Mortenson, taxadjunct	S70Utah-20-5	Paleboralf	13
Mortenson, taxadjunct	S71Utah-20-4	Paleboralf	15
Mountainville, taxadjunct	S71Utah-20-2	Argixeroll	249
Moweba	S71Utah-15-1	Haploxeroll	279
Moweba, taxadjunct	S71Utah-15-4	Haploxeroll	283
Moweba	S71Utah-15-6	Haploxeroll	281
Mower	S70Utah-20-2	Calcixeroll	261
Mower	S70Utah-20-9	Calcixeroll	263
Naplene, taxadjunct	S70Utah-27-13	Torrifluvent	131
Naplene	S70Utah-27-14	Torrifluvent	133
Ostler	S72Utah-15-1	Argixeroll	245
Ostler, taxadjunct	S72Utah-29-2	Argixeroll	257
Pahreah	S68Utah-13-3	Cryoboroll	199
Pahreah	S68Utah-13-4	Cryoboroll	201
Palma, taxadjunct	S69Utah-27-4	Haplargid	39
Palma, taxadjunct	S69Utah-27-6	Haplargid	41

Series	Soil No.1/	Classification	Page
Pastura	S70Utah-27-3	Paleorthid	105
Pastura, taxadjunct	S70Utah-27-4	Paleorthid	97
Patna	S66Utah-1-6	Haplargid	31
Patna	S66Utah-1-7	Haplargid	33
Penoyer, taxadjunct	S68Utah-1-7	Torrifluvent	125
Poleline	S72Utah-29-5	Cryoboroll	209
Poleline	S72Utah-29-6	Cryoboroll	211
Quaker	S67Utah-20-8	Torrifluvent	147
Quaker	S67Utah-20-16	Torrifluvent	149
Ravola variant	S67Utah-20-13	Torrifluvent	143
Ravola variant	S67Utah-20-14	Torrifluvent	153
Roundy	S68Utah-26-1	Paleboroll	219
Saltair, taxadjunct	S58Utah-6-1	Salorthid	109
Saltair	S58Utah-6-2	Salorthid	107
Sardo	S66Utah-14-5	Camborthid	87
Sardo, taxadjunct	S66Utah-14-8	Camborthid	89
Showalter	S68Utah-9-9	Argiboroll	183
Showalter	S68Utah-9-10	Argiboroll	185
Sielo	S68Utah-13-1	Cryoboralf	3
Sielo	S68Utah-13-2	Cryoboralf	5
Skylick	S70Utah-20-7	Paleboroll	233
Skylick	S70Utah-20-8	Paleboroll	235
St. George	S70Utah-27-11	Torrifluvent	127
St. George	S70Utah-27-12	Torrifluvent	129
Syrett	S68Utah-9-5	Haploboroll	213
Syrett	S68Utah-9-6	Haploboroll	215
Tingey	S71Utah-20-5	Cryoboroll	203
Tobler	S69Utah-27-1	Torrifluvent	121
Tobler	S69Utah-27-2	Torrifluvent	123
Trenton	S67Utah-18-7	Natrixeroll	287
Unnamed	S68Utah-1-8	Durorthid	91
Uvada, taxadjunct	S68Utah-14-56	Natrargid	45
Uvada, taxadjunct	S68Utah-14-66	Natrargid	47
Vanet	S68Utah-9-3	Ustochrept	171
Vanet	S68Utah-9-4	Ustochrept	173
Veyo, taxadjunct	S70Utah-27-7	Paleargid	55
Wales	S71Utah-20-7	Torrifluvent	145
Winkel	S70Utah-27-1	Paleorthid	93
Winkel	S70Utah-27-2	Paleorthid	95
Woodrow	S67Utah-20-9	Torrifluvent	151
Yeates Hollow, taxadjunct	S72Utah-29-3	Argixeroll	243

1/ County numbers (the numbers following "Utah" in the Soil No.) are as follows:

1. Beaver
3. Cache
6. Davis
9. Garfield
13. Kane
14. Millard
15. Morgan
18. Salt Lake
20. Sanpete
26. Wasatch
27. Washington
29. Weber

CONSECUTIVE PEDON NUMBER C 68 41 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES SIELO VERY FINE SANDY LOAM SOIL NO. S68 UTAH. 13- I SAMPLE NO. 8 232-8 240 PAUNSAUGUNT AREA

SOIL FAMILY: GLOSSIC CRYOBORALF, FINE, KAOLINITIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBONATE 3A1A	INT. II .2- .02	1A2A COARSE FRAGMENTS PCT. OF WHOLE SOIL I 75- 20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75		
8 232	5- 0	01+02															--A --	--	--
8 233	0- 13	A2	52.2	38.2	9.6	0.2	1.0	4.5	20.2	26.3	20.2	18.0	7.9	1.7		60.1	--A --	--	--
8 234	13- 23	A+B	46.0	33.4	20.6	0.1	1.0	4.5	18.3	22.1	15.2	18.2	14.4	6.2		48.9	--A --	--	--
8 235	23- 46	B21T	27.7	25.7	46.6	--	0.7	4.0	13.8	9.2	8.1	17.6	27.7	18.9		23.8	--A --	--	--
8 236	46- 58	B22T	17.7	34.1	48.2	0.3	1.3	2.4	10.2	3.5	4.6	29.5	33.3	14.9	2	12.4	--A --	--	--
8 237	58- 91	B23T	17.2	33.6	49.2	3.0	3.5	2.2	6.7	1.8	3.9	29.7			1	8.5	20X --	20Z	TR
8 238	91-117	B31T	20.2	32.7	47.1	2.6	3.5	2.3	7.1	4.7	4.8	27.9			21	13.0	30X --	30Z	TR
8 239	117-152	B32T	17.1	34.9	48.0	1.2	2.2	2.0	8.0	3.7	4.8	30.1			10	12.0	17X --	17Z	TR
8 240	152-188	C	73.6	14.8	11.6	23.5	20.1	10.5	13.5	6.0	6.1	8.7			10	18.5	--G --G	--G	--G

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES DI-CIT FE 6C2B	EXT AL 6G7A	PYROP FE 6C5A	EXT AL 6G5A	ATTERBERG LIMIT LL 4F1	PL 4F2	1/3 BAR 4A1F	BULK DENSITY EST. 1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		-PERCENT-		-PERCENT-		------PERCENT------				PCT.NO.40 GRAMS PER CC						----PERCENT----			-PERCENT-	
8 232	5- 0											0.40			1.00			29.0		
8 233	0- 13	0.73	0.040			0.7				NP	NP		1.46	1.49	1.00		15.4	3.3	0.7	0.7
8 234	13- 23	0.49	0.028			1.0							1.68	1.75	1.00		14.3	6.0	1.4	1.4
8 235	23- 46	0.58	0.040			2.4				35	18		1.60	1.76	1.00		19.4	13.9	3.2	3.2
8 236	46- 58	0.31		14		2.7							1.64	1.79	1.00		20.9	16.9	3.0	3.0
8 237	58- 91	0.25		25		2.6				38	23		1.72	1.86	1.00		19.7	14.6	2.6	2.6
8 238	91-117			52		1.7							1.97	2.01	1.00		14.0	15.4	0.7	0.7
8 239	117-152			33		2.2				32	19		1.81	1.93	1.00		17.6	15.4	2.2	2.2
8 240	152-188			100+		0.2				NP	NP	1.77			1.00					

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6Q2D	NA 5B4A 6P2A	K 6Q2A	SUM	EXT. ACIDITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4-OAC 5A6A	BASE SATURATION SUM+ ACIDITY	SUM+ AL	NH4-OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CACL2 8C1E
		MEQ/100G									----PERCENT----					
8 232	5- 0															
8 233	0- 13	7.3	1.6	0.1	0.4	9.4			9.4	6.6			100+		6.3	5.6
8 234	13- 23	5.6	1.8	0.5	0.6	8.5			8.5	8.6			99		6.4	5.8
8 235	23- 46	12.1	5.7	0.7	0.6	19.1			19.1	17.7			100+		6.4	6.3
8 236	46- 58	11.2	7.6	0.6	0.6	20.0			20.0	12.3			100+		7.8	7.4
8 237	58- 91	13.2	9.4	0.6	0.4	23.6			23.6	12.4			100+		7.9	7.6
8 238	91-117	9.3	5.6	0.6	0.3	15.8			15.8	13.2			100+		8.2	7.6
8 239	117-152	14.9	7.3	0.7	0.2	23.1			23.1	10.0			100+		8.2	7.7
8 240	152-188	6.9	5.1	0.6	0.1	12.7			12.7	1.1			100+		9.1	8.3

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I 7A2E	II 7A2E	III 7A2E	IV 7A2E	DTA -PERCENT- 7A3	7A3	L.T. 0.0002 MM X RAY I 7A2E	II 7A2E	III 7A2E	MINERAL CODE		RELATIVE AMOUNT
8 232	5- 0												1 TRACE
8 233	0- 13	KK 4	MT 2	MI 2				AM 6			KK	KAOLINIT	2 SMALL
8 234	13- 23							AM 6			MT	MONTMORT	3 MODERATE
8 235	23- 46	KK 5	MT 2	MI 2				MT 3	MI 3	KK 2	MI	MICA	4 ABUNDANT
8 236	46- 58							MI 3	KK 2	MT 1	AM	AMORPHOS	5 DOMINANT
8 237	58- 91												6 INDETER.
8 238	91-117	KK 5	MT 2	MI 2									
8 239	117-152	KK 4	MI 3	MI 2									
8 240	152-188	KK 4	MI 2	MT 1									

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
X=POROUS GRAVEL. 1/3 BAR, DB, LE, AND CM NOT CORRECTED FOR GRAVEL.
Z=NOT ALL FRACTIONS SEPERATED. ADJACENT FRACTIONS INCLUDED HERE.
G=GROUND WHOLE. HORIZON INDURATED OR GRAVEL TOO SOFT TO BE SEPARATED. ALL DATA FOR WHOLE SOIL.

SIELO VERY FINE SANDY LOAM

S68Utah-13-1

Location: Paunsaugunt Soil Survey Area, Utah, SE 1/4 of Sec. 12, T. 39 S., R. 5 W. Kane County, UT; Dry Fork. Date of sampling: June 11, 1968.

Description by: R. Mitchell. Collectors: A. Erickson, R. Mitchell, D Nettleton, A. Southard, L. Stott.

Classification: Glossic Cryoboralf, fine, kaolinitic.

Vegetation: Douglas-fir, white fir, ponderosa pine, aspen, creeping juniper, Oregon-grape, manzanita, Kentucky bluegrass, brome grasses, and sedges. Use: Timber, rangeland and wildlife. Climate: Precipitation, 20 to 25 inches. Mean annual soil temperature is less than 47°F, and the mean summer soil temperature at 20 inches is less than 59°F. Parent material: Limestone colluvium or shale. Topography: Gently sloping benches and mesa tops. Slope 3 percent. Elevation: 8,800 feet. Drainage: Well drained. Runoff is medium. Permeability is very slow. Soil moisture: Moist.

HORIZON	DESCRIPTIONS
	(5-0 cm)
01&02	2 inches to 0, partially to well-decomposed litter.
RSL	
68232	(0-13 cm)
A2	0 to 5 inches, very pale brown (10YR 7/3) very fine sandy loam, brown
RSL	(7.5YR 5/4) when moist; weak medium platy structure that parts to weak fine
68233	granular; slightly hard, firm, nonsticky and nonplastic; common fine and medium roots; common fine interstitial and vesicular pores; noneffervescent; medium acid (pH 6.0); clear smooth boundary.
A&B	5 to 9 inches, mixed A2 and B2t horizons with about 80 percent A2 and 20
RSL	percent B2t; the A2 portion is very pale brown (10YR 7/3) heavy very fine
79234	sandy loam, brown (7.5YR 4/4) when moist; weak medium platy structure that
(13-23 cm)	parts to weak fine granular; slightly hard, friable, nonsticky and nonplastic; common fine and medium roots; common fine interstitial and vesicular pores; noneffervescent; medium acid (pH 6.0); the B2t portion is as described below in the B21t; abrupt irregular to broken boundary.
B21t	9 to 18 inches, red (2.5YR 5/6) clay, red (2.5YR 4/6) when moist; strong
RSL	medium prismatic structure that breaks to strong medium angular blocky;
68235	very hard, firm, sticky and plastic; few fine and coarse roots; few fine
(23-46 cm)	interstitial and tubular pores; continuous moderately thick clay films on ped faces; organic staining on ped faces; 10 percent gravel-channery; few fine distinct pink (5YR 8/3) soft carbonate segregations, pink (5YR 7/3) when moist; noneffervescent and violently effervescent in spots, slightly acid (pH 6.5) and mildly alkaline (pH 7.5); gradual wavy boundary.
B22t	18 to 23 inches, red (2.5YR 5/6) light clay, red (2.5YR 4/6) when moist;
RSL	strong medium prismatic structure that breaks to strong medium angular blocky;
68236	very hard, very firm, sticky and plastic; few fine and coarse roots; few
(46-58 cm)	fine interstitial and tubular pores; many moderately thick clay films on ped faces; 10 percent gravel-channery; few fine distinct pink (5YR 8/3) soft carbonate segregations, pink (5YR 7/3) when moist; noneffervescent and violently effervescent in spots; slightly acid (pH 6.5) and mildly alkaline (pH 7.5); gradual wavy boundary.
B23t	23 to 36 inches, red (2.5YR 5/6) silty clay, red (2.5YR 4/6) when moist;
RSL	strong coarse prismatic structure that breaks to strong medium angular blocky;
68237	extremely hard, extremely firm, sticky and plastic; few clay films in pores;
(58-91 cm)	very slightly effervescent; moderately alkaline (pH 8.0); clear wavy boundary.
B31t	36 to 46 inches, pink (5YR 7/4) heavy silty clay loam, light red (2.5YR
RSL	6/6) when moist; moderate fine and medium subangular blocky structure; very
68238	hard, firm, sticky and plastic; few fine roots; common moderately thick
(91-117 cm)	clay films on ped faces; very slightly effervescent; moderately alkaline (pH 8.0); gradual irregular boundary.
B32t	46 to 60 inches, light red (2.5YR 6/6) silty clay, dark red (10R 3/8) when
RSL	moist; moderate medium subangular blocky structure; very hard, very firm,
68239	sticky and plastic; few fine roots; few thin clay films on pores; very slightly
(117-152 cm)	effervescent; moderately alkaline (pH 8.0); abrupt irregular boundary.
C	60 to 74 inches, pink (5YR 8/4) moderately weathered shale material that
RSL	breaks to clay loam, reddish yellow (5YR 7/6) when moist; weak coarse platy
68240	structure; very hard, very firm, slightly sticky and slightly plastic;
(152-188 cm)	slightly to strongly effervescent; moderately alkaline.

CONSECUTIVE PEDON NUMBER C 68 42 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES SIELO LOAM SOIL NO. 568 UTAH. 13- 2 SAMPLE NO. 8 241-8 248 PAUNSAUGUNT AREA

SOIL FAMILY: GLOSSIC CRYOBORALF, FINE,KAOLINITIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBO NATE 3A1A	INT. II .2- .02	1A2A COARSE FRAGMENTS PCT. OF WHOLE 20 I 75- II 20-5 III 5-2
			PERCENT OF LESS THAN 2MM														SOIL PCT. OF LT 75
8 241	3- 0	01+02															--A -- -- --
8 242	0- 15	A2	42.7	46.9	10.4	0.1	0.7	3.7	19.5	18.7	23.1	23.8			54.7		--A -- -- --
8 243	15- 36	A+B	48.0	38.2	13.8	0.1	0.8	4.1	21.2	21.8	17.1	21.1			53.4		--A -- -- --
8 244	36- 46	B21T	47.5	29.0	23.5	--	0.6	4.1	22.0	20.8	14.3	14.7			49.9		--A -- -- --
8 245	46- 61	B22T	36.1	19.1	44.8	--	0.8	4.6	18.5	12.2	7.8	11.3			31.3		--A -- -- --
8 246	61- 71	B23T	47.0	18.5	34.5	4.2	6.7	8.0	19.2	8.9	6.5	12.0		2	25.8		35X -- 35Z TR
8 247	71-107	B31T	26.5	40.0	33.5	2.3	4.7	3.9	9.3	6.3	6.8	33.2		16	18.5		14X -- 14Z TR
8 248	107-137	B32T	33.1	38.0	28.9	3.3	5.3	4.9	11.9	7.7	7.7	30.3		15	22.2		20X -- 20Z TR

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR- BON 6A1A	NITRO GEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES DI-CIT FE 6C2B	EXT AL 6G7A	PYROP FE 6C5A	EXT AL 6G5A	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST. 1/3 BAR 4A1F	1/3 BAR 4A1H	DRY 3B2	CM	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		-PERCENT-		-PERCENT-		PERCENT				PCT.NO.40		GRAMS PER CC				PERCENT			-PERCENT-	
8 241	3- 0											0.40		1.00				23.7		
8 242	0- 15	1.00	0.060			1.0				21	21		1.36 1.39	1.00		17.8		4.8	0.7	0.7
8 243	15- 36	0.37	0.027			1.1						1.40		1.00				4.9		
8 244	36- 46	0.32	0.028			1.6				22	16	1.40		1.00				8.0		
8 245	46- 61	0.50		TR		3.1							1.47 1.65	1.00		30.5		15.5	3.9	3.9
8 246	61- 71	0.61		26		2.1				35	18	1.40		1.00				12.0		
8 247	71-107	0.18		60		1.5						1.45		1.00				10.0		
8 248	107-137			62		1.2						1.45		1.00				7.3		

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6Q2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI- DITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4- OAC 5A6A	BASE SATURATION SUM+ ACI- DITY	SUP+ AL	NH4- OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA- CL2 8C1E
		MEQ/100G									PERCENT					
8 241	3- 0														6.5	6.2
8 242	0- 15	7.4	0.9	0.7	0.3	9.3			9.3	10.3			90		6.3	5.8
8 243	15- 36	4.3	1.0	0.5	0.2	6.0			6.0	7.5			80		5.8	5.2
8 244	36- 46	6.9	1.6	0.7	0.2	9.4			9.4	10.6			89		5.8	5.3
8 245	46- 61	17.3	2.5	0.7	0.4	20.9			20.9	21.7			96		5.8	5.5
8 246	61- 71	25.9	1.8	0.5	0.3	28.5			28.5	17.1			100+		7.7	7.3
8 247	71-107	11.9	2.4	0.6	0.1	15.0			15.0	4.9			100+		8.2	7.7
8 248	107-137	13.5	2.3	0.5	0.1	16.4			16.4	6.7			100+		8.2	7.7

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
8 241	3- 0											1 TRACE
8 242	0- 15										KK KAOLINIT	2 SMALL
8 243	15- 36										MT MONTMORT	3 MODERATE
8 244	36- 46	KK 5	MT 2	MI 2							MI MICA	4 ABUNDANT
8 245	46- 61	KK 5	MT 2	MI 2								5 DOMINANT
8 246	61- 71	KK 5	MT 2	MI 2								6 INDETER.
8 247	71-107											
8 248	107-137											

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
X=POROUS GRAVEL. 1/3 BAR,DB,LE, AND CM NOT CORRECTED FOR GRAVEL.
Z=NOT ALL FRACTIONS SEPERATED. ADJACENT FRACTIONS INCLUDED HERE.

SIELO LOAM

S68Utah-13-2

Location: Paunsaugunt Soil Survey Area, Utah, 500 feet N. and 100 feet E. of center of Sec. 2, T. 39 S., R. 5 W. Kane County. Date of sampling: June 11, 1968.
Described by: R. Mitchell. Collectors: A. Erickson, R. Mitchell, D. Nettleton, A Southard, L. Stott.
Classification: Glossic Cryoboralf, fine, kaolinitic.
Vegetation: White fir, Douglas-fir, aspen, manzanita, Oregon-grape, prostrate juniper, snowberry and Kentucky bluegrass. Use: Timber, range and wildlife. Climate: Precipitation, 20 to 25 inches. Mean annual soil temperature is less than 47°F, and the mean summer soil temperature at 20 inches is less than 59°F. Parent material: Limestone and shale. Topography: Undulating mesa top. Slope 5 percent, south facing. Elevation: 9,000 feet. Drainage: Well drained. Runoff is medium. Permeability is very slow. Soil moisture: Moist.

HORIZON	DESCRIPTION
	(3-0 cm)
01&02	1 to 0 inches, discontinuous slightly to well decomposed litter.
RSL 68241	(0-15 cm)
A2 RSL 68242	0 to 6 inches brown (7.5YR 5/2) light loam, reddish brown (5YR 3/4) when moist; weak medium platy structure that parts to weak fine granular; soft, friable, nonsticky and slightly plastic; common fine and few medium roots; common fine interstitial pores; noneffervescent; medium acid (pH 6.0); clear smooth boundary.
A&B RSL 68243 (15-36 cm)	6 to 14 inches, mixed A2 and B2t horizons with about 80 percent A2 and 20 percent B2t. The A2 portion is light brown (7.5YR 6/4) loam, reddish brown (5YR 4/4) when moist crushed; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common fine and a few medium roots; few fine tubular pores; few thin clay films in pores; noneffervescent; medium acid (pH 6.0). The B2t portion is like that described below for the B21t; clear irregular boundary.
B21t RSL 68244 (36-46 cm)	14 to 18 inches, red (2.5YR 5/6) light clay, dark red (2.5YR 3/6) ped faces and red (2.5YR 4/6) moist crushed; weak coarse prismatic structure that part to moderate medium subangular blocky; hard, firm, sticky and plastic; common fine, medium and coarse roots; along ped faces; few fine tubular pores; many moderately thick clay films on ped faces; organic staining on some ped faces; A2 tonguing into B2 along a few vertical ped faces; noneffervescent; slightly acid (pH 6.5); clear wavy boundary.
B22t RSL 68245 (46-61 cm)	18 to 24 inches, red (2.5YR 5/6) clay, dark red (2.5YR 3/6) ped faces and red (2.5YR 4/6) moist crushed; moderate coarse prismatic structure that parts to strong angular blocky; very hard, firm, very sticky and very plastic; few fine and medium roots; few fine pores; many moderately thick clay films on ped faces and in pores; organic staining on ped faces; 5 percent fine gravel; noneffervescent; neutral (pH 7.0); clear wavy boundary.
B23t RSL 68246 (61-71 cm)	24 to 28 inches, red (2.5YR 5/6) gravelly light clay, red (2.5YR 4/6) when moist crushed; weak fine subangular blocky structure; slightly hard, friable to firm, sticky and plastic; very few very fine roots; common fine interstitial pores; few thin clay films on some ped faces; organic staining on some ped faces; very slightly effervescent; mildly alkaline (pH 7.5); clear wavy boundary.
B31t RSL 68247 (71-107 cm)	28 to 42 inches, red (2.5YR 5/6) gravelly heavy clay loam, red (2.5YR 4/6) when moist; few fine distinct reddish yellow (5YR 6/6) moist mottles; weak medium platy structure that breaks to weak fine subangular blocky, hard, firm, sticky and plastic; very few very fine roots; few thin clay films on some ped faces; organic staining on ped faces; 20 percent gravel; disseminated carbonates; strongly effervescent; moderately alkaline (pH 8.0); gradual wavy boundary.
B32t RSL 68248 (107-137 cm)	42 to 54 inches, light red (2.5YR 6/8), gravelly heavy clay loam, red (2.5YR 5/8) when moist; weak medium platy structure that breaks to weak medium subangular blocky; very hard, firm, sticky and plastic; few thin clay films on some ped faces; 25 percent gravel; disseminated carbonates; strongly effervescent; moderately alkaline (pH 8.2).

CONSECUTIVE PEDCN NUMBER C 71 30 C H A R A C T E R I Z A T I C N D A T A

SOIL SERIES HERD COBBLY LOAM SOIL NC. S71 UTAH. 15- 5 SAMPLE NO. 1 189-1 197 MORGAN-SUMMIT AREA

SOIL FAMILY: MOLLIC CRYOBORALF,FINE,MONTMORILLONITIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION SANDS 2- .05	SILT .05- .002	CLAY LT .002	VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBONATE 3A1A	1A2A INT. 11 .2- .02	COARSE FRAGMENTS PCT. OF WHOLE SOIL 20	I 75- 20 PCT. OF LT 75	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM																	
1 189	0- 8	A11	28.2	44.5	27.3	2.6	3.4	3.3	8.8	10.1	22.4	22.1				37.3	55*	18V	2	2
1 190	8- 25	A12	27.1	45.8	27.1	2.2	3.1	3.3	7.7	10.8	24.3	21.5				39.5	49*	15V	3	1
1 191	25- 51	A13	27.9	44.6	27.5	1.8	3.2	3.5	8.3	11.1	22.5	22.1				38.2	42*	12V	2	1
1 192	51- 61	B21T	23.5	25.1	51.4	0.7	2.0	2.7	7.6	10.5	13.2	11.9				28.3	A			
1 193	61- 74	B22T	23.5	24.6	51.9	0.7	2.7	2.9	7.1	10.1	12.8	11.8				27.1	A			
1 194	74- 91	B23T	29.2	27.7	43.1	0.4	2.4	3.5	10.0	12.9	14.0	13.7				32.7	A			
1 195	91-109	B31T	39.5	30.8	29.7	0.3	2.5	4.5	12.6	19.6	16.0	14.8				42.7	G			
1 196	109-127	B32T	39.0	33.8	27.2	0.2	1.8	5.1	13.8	18.1	16.7	17.1				42.6	G			
1 197	127-178	C	47.9	32.5	19.6	0.1	2.0	9.1	22.7	14.0	12.8	19.7				38.7	G			

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES DI-CIT EXT FE 6C2B	AL 6G7A	PYROP EXT FE 6C5A	AL 6G5A	ATTERBERG LL 4F1	PL 4F2	BULK DENSITY EST. 1/3 BAR 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		PERCENT		PERCENT		PERCENT				PCT.NO.40		GRAMS PER CC				PERCENT			PERCENT	
1 189	0- 8	5.75	0.398			1.1	0.2						0.76	0.91	0.74	49.5	46.2	17.2	6.2	4.4
1 190	8- 25	1.83	0.184			1.2	0.2					1.00			0.73			12.3		
1 191	25- 51	1.26	0.123			1.2	0.2						1.29	1.39	0.74	28.6	23.1	11.8	2.5	1.8
1 192	51- 61	0.56	0.040			1.0	0.3						1.27	1.73	1.00	39.2	34.4	23.8	10.9	10.9
1 193	61- 74	0.66				1.1	0.3					1.35			1.00			22.7		
1 194	74- 91	0.43				1.0	0.2						1.45	1.80	1.00	29.1	25.4	17.8	7.5	7.5
1 195	91-109	0.23				1.1	0.2						1.55	1.75	1.00	25.8	21.9	11.5	4.1	4.1
1 196	109-127					1.4	0.2					1.65			1.00			10.3		
1 197	127-178					1.8	0.1						1.75	1.89	1.00	16.7	15.1	7.4	2.6	2.6

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6Q2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI-DITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4-OAC 5A6A	BASE SATURATION SUM+ ACI-DITY	SUM+ AL	NH4-OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA-CL2 8C1E
		MEQ/100G									PERCENT					
1 189	0- 8	19.1	4.7	0.3	1.0	25.1	12.9	0.1	38.0	31.7	66	100+	79		6.0	6.1
1 190	8- 25	11.4	2.4	0.3	0.3	14.4	11.6	0.5	26.0	22.4	55	97	64		5.3	5.6
1 191	25- 51	9.6	2.0	0.3	0.3	12.2	10.8	1.2	23.0	20.6	53	91	59		5.2	5.4
1 192	51- 61	23.5	4.8	0.5	0.5	29.3	15.4	9.5	44.7	44.9	66	76	65		4.8	5.2
1 193	61- 74	22.5	4.9	0.4	0.4	28.2	19.2	8.5	47.4	43.6	59	77	65		5.8	5.2
1 194	74- 91	17.4	3.6	0.4	0.4	21.8	15.2	8.8	37.0	35.7	59	71	61		5.3	5.1
1 195	91-109	10.7	2.1	0.3	0.2	13.3	12.5	7.0	25.8	23.2	52	66	57		5.7	5.0
1 196	109-127	7.4	1.3	0.3	0.2	9.2	11.0	6.2	20.2	20.3	46	60	45		5.7	5.0
1 197	127-178	4.6	0.7	0.2	0.1	5.6	6.3	3.1	11.9	10.7	47	64	52		5.6	5.1

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III
1 189	0- 8	MT 3	KK 3							
1 190	8- 25									
1 191	25- 51	KK 3	MT 2							
1 192	51- 61	MT 4	KK 3	VR 2						
1 193	61- 74									
1 194	74- 91	MT 4	KK 3	VR 2						
1 195	91-109									
1 196	109-127									
1 197	127-178	KK 3	MT 2							

CODE	MINERAL	RELATIVE AMOUNT
MT	MONTMORT	1 TRACE
KK	KAOLINIT	2 SMALL
		3 MODERATE
VR	VERMICLT	4 ABUNDANT
		5 DOMINANT
		6 INDETER.

SAMPLE PREPARATION CODES
*=THE 75-250MM FRACTION IS INCLUDED.
V=NOT WEIGHED. VALUE CALCULATED FROM A VOLUME ESTIMATE.
A=STANDARD PREPARATION.
G=GROUND WHOLE. HORIZON INDURATED OR GRAVEL TOO SOFT TO BE SEPARATED. ALL DATA FOR WHOLE SOIL.

HERD COBBLY LOAM
S71Utah-15-5

Location: Morgan County, UT; Herd Mountain about 240 feet south, 2,000 feet west of the northeast corner of Sec. 25, T. 6 N., R. 3 E. Date of Sampling: June 23, 1971.
Description by: E. Jensen, J. Carley. Collectors: D. Nettleton, J. Carley, E. Jensen, L. Campbell.
Classification: Mollic Cryoboralf, fine, montmorillonitic.
Vegetation: Muleseardock, slender wheatgrass, yarrow, native bluegrass. Climate: Average annual precipitation is 24 to 35 inches. Mean annual temperature is 39° to 42° F. Mean summer temperature is 54° to 56° F. Frost- free period is 55 to 60 days. Parent materials: Glacial till and residuum from sandstone and quartzite conglomerate over residuum from sandstone. Topography: Mountain top, 2 percent slope, southeast aspect. Elevation: 8,190. Drainage: Moderately well drained. Soil moisture: Usually moist.

HORIZON	DESCRIPTION
A11 RSL No. 71189	0-8 cm (0-3 inches), dark yellowish brown (10YR 4/4) cobbly loam, very dark brown (10YR 2/2) moist; moderate fine granular structure; soft, very friable, nonsticky, slightly plastic; many fine and very fine roots; 10 percent gravel; and 20 percent cobble; slightly acid (pH 6.2); abrupt smooth boundary.
A12 RSL No. 71190	8-25 cm (3-10 inches), brown (7.5YR 5/4) loam, brown (7.5YR 4/2) moist; weak medium and coarse subangular blocky structure; hard, friable, slightly sticky, slightly plastic; common fine and very fine roots; few very fine pores; 20 percent cobble and 10 percent gravel; slightly acid (pH 6.2); clear smooth boundary.
A13 RSL No. 71191	25-51 cm (10-20 inches), brown (7.5YR 5/4) cobbly heavy loam, brown (7.5YR 4/4) moist; weak fine and medium subangular blocky structure; slightly hard, friable, slightly sticky, slightly plastic; common fine and few coarse roots; few, very fine pores; 20 percent cobble and 10 percent gravel; medium acid (pH 5.6); clear irregular boundary.
B21t RSL No. 71192	51-61 cm (20-24 inches), light brown (7.5YR 6/4) clay, yellowish red (5YR 4/6) moist; faces of peds are brown (7.5YR 4/2) and light yellowish brown (10YR 6/4) dry; weak medium prismatic structure that parts to moderate medium and coarse subangular blocky; very hard, very firm, sticky, very plastic; few fine and medium roots; common very fine and few fine pores; common moderately thick clay films on faces of peds; common slickensides; medium acid (pH 5.6); clear smooth boundary.
B22t RSL No. 71193	61-74 cm (24-29 inches), yellowish red (5YR 5/6) clay, red (5YR 4/6) moist; weak medium prismatic structure that parts to moderate medium and coarse subangular blocky; extremely hard, very firm, sticky, very plastic; few fine and medium roots; common very fine and few fine pores; common moderately thick clay films on faces of peds; common slickensides; strongly acid (pH 5.4); clear smooth boundary.
B23t RSL No. 71194	74-91 cm (29-36 inches), yellowish red (5YR 5/6) clay, yellowish red (5YR 4/8) moist; faces of peds are red (2.5YR 4/8) and light brown (7.5YR 6/4) dry, and red (2.5YR 4/6) and brown (7.5YR 5/4) moist; weak medium prismatic structure that parts to moderate medium and coarse subangular blocky; extremely hard, very firm, sticky, very plastic; few fine and medium roots; common very fine and fine pores; common moderately thick clay films on faces of peds; common slickensides; strongly acid (pH 5.4); clear smooth boundary.
B31t RSL No. 71195	91-109 cm (36-43 inches), red (2.5YR 5/6) clay loam, red (2.5YR 4/6) moist, faces of peds are red (2.5YR 5/8) and light brown (7.5YR 6/4) dry, and red (2.5YR 4/8) and brown (7.5YR 5/4) moist; weak medium prismatic structure that parts to moderate medium angular blocky; extremely hard, very firm, sticky, very plastic; few fine and medium roots; common very fine and fine pores; continuous, moderately thick clay films on faces of peds and in pores; 5 percent soft gravel; strongly acid (pH 5.4); clear smooth boundary.
B32t RSL No. 71196	109-127 cm (43-50 inches), red (2.5YR 4/6) light clay loam, red (2.5YR 4/8) moist, faces of peds are red (2.5YR 5/8) and light brown (7.5YR 6/4) dry, and red (2.5YR 4/8) and light brown (7.5YR 6/4) moist; moderate medium and coarse angular blocky structure; extremely hard, very firm, slightly sticky, plastic; few fine roots; few very fine pores; continuous moderately thick clay films on faces of peds and in pores; 20 percent soft sandstone fragments; strongly acid (pH 5.4); clear smooth boundary.
C RSL No. 71197	127-178 cm (50-70 inches), red (2.5YR 5/6) loam, red (10R 4/6) moist, faces of peds are red (2.5YR 4/8) dry and red (10R 4/6) moist; moderate medium and coarse subangular blocky structure; very hard, firm, slightly sticky, plastic; few very fine roots; 40 percent soft sandstone fragments; strongly acid (pH 5.2).

CONSECUTIVE PEDON NUMBER C 71 29 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES HERD COBBLY LOAM SOIL NO. S71 UTAH. 29- 3 SAMPLE NO. 1 181-1 188 MORGAN-SUMMIT AREA

SOIL FAMILY: MCLLIC CRYOBORALF,FINE,MONTMORILLONITIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION SAND 2-.05	SILT .05-.002	CLAY LT .002	SANDS VCS 2-1	CS 1-.5	MS .5-.25	FS .25-.10	VFS .1-.05	SILTS CSI .05-.02	FSI .02-.002	CLAYS CO. 2-.20	FINE LT .20	CARBONATE 3A1A	1A2A INT. .2-.02 WHOLE SOIL	COARSE FRAGMENTS PCT. OF 20	I 75-20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM													PCT. OF LT 75				
1 181	0- 20	A11	39.1	33.7	27.2	5.7	8.5	6.0	9.6	9.3	15.6	18.1	12.9	14.3		30.5	38*	9	11	5
1 182	20- 33	A12	35.9	32.9	31.2	4.0	7.0	5.7	8.9	10.3	15.9	17.0	13.5	17.7		31.3	43*	21	7	4
1 183	33- 53	B21T	36.7	27.7	35.6	3.7	6.2	5.5	10.0	11.3	12.7	15.0				29.9	35*	16	5	3
1 184	53- 81	B22T	38.7	19.8	41.5	2.6	5.7	6.3	10.8	13.3	8.5	11.3	14.3	27.2		28.2	13*	4	3	2
1 185	81-112	B23T	22.1	20.3	57.6	0.5	2.4	3.2	6.5	9.5	8.8	11.5				22.3	6*	--	--	--
1 186	112-163	B24T	27.9	28.1	44.0	0.6	2.8	2.9	7.1	14.5	13.3	14.8	19.0	25.0		32.5	6*	--	--	--
1 187	163-244	B25T	27.1	30.7	42.2	0.4	1.4	2.0	7.2	16.1	15.0	15.7				36.2	4*	--	--	--
1 188	244-290	B3 T	31.1	24.0	44.9	1.2	2.6	4.0	10.5	12.8	11.5	12.5	23.2	21.7		30.8				

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES DI-CIT FE 6C2B	EXT AL 6G7A	PYROP FE 6C5A	EXT AL 6G5A	ATTERBERG LL 4F1	PL 4F2	LIMIT 1/3 4A1F	BULK DENSITY EST. 1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		PERCENT		PERCENT		PERCENT				PCT.NO.40		GRAMS PER CC				PERCENT			PERCENT	
1 181	0- 20	2.65	0.233			1.2	0.2						1.16	1.26	0.79	29.9	24.8	12.1	2.8	2.2
1 182	20- 33	1.50	0.159			1.2	0.2						1.26	1.38	0.73	29.6	24.9	13.4	3.1	2.2
1 183	33- 53	1.08	0.110			1.3	0.2					1.40			0.78			16.5		
1 184	53- 81	0.55	0.046			1.5	0.2						1.42	1.71	0.93	30.6	26.6	18.2	6.4	5.9
1 185	81-112	0.34				0.9	0.1					1.38			0.97			28.5		
1 186	112-163	0.09				0.8	0.1						1.35	1.87	0.97	35.9	32.0	20.5	11.5	11.0
1 187	163-244	0.05		1		0.8	0.1						1.40	1.77	0.98	32.8	29.3	21.0	8.1	7.9
1 188	244-290			1		1.0	0.1					1.40			1.00			21.6		

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI-DITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4-OAC 5A6A	BASE SATURATION SUM+ ACI-DITY	SUM+ AL	NH4-OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA-CL2 8C1E
		MEQ/100G									PERCENT					
1 181	0- 20	11.4	2.4	0.2	0.9	14.9	12.0	0.2	26.9	21.6	55	99	69		5.5	5.7
1 182	20- 33	11.5	2.6	0.2	0.6	14.9	10.9	0.9	25.8	21.8	58	94	68		5.3	5.5
1 183	33- 53	15.7	3.8	0.3	0.4	20.2	12.3	2.1	32.5	26.3	62	91	77		5.2	5.4
1 184	53- 81	18.7	3.8	0.3	0.4	23.2	11.4	4.0	34.6	29.4	67	85	79		5.0	5.2
1 185	81-112	45.2	7.1	0.4	0.6	53.3	10.7	2.7	64.0	56.6	83	95	94		4.3	5.2
1 186	112-163	38.8	5.8	0.4	0.6	45.6	4.1	0.2	49.7	43.4	92	100+	100+		5.7	6.0
1 187	163-244	43.7	4.7	0.4	0.6	49.4			49.4	40.6			100+		7.4	7.1
1 188	244-290	40.7	3.6	0.3	0.8	45.4			45.4	38.6			100+		7.7	7.2

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I 7A2E	II 7A2E	III 7A2E	IV 7A2E	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY I 7A2E	II 7A2E	III 7A2E	MINERAL CODE	RELATIVE AMOUNT
1 181	0- 20	MT 3	KK 3					MT 4	MI 3	KK 3	MT MONTMORT	1 TRACE
1 182	20- 33	MT 3	KK 3					MT 5	KK 2		KK KAOLINIT	2 SMALL
1 183	33- 53											3 MODERATE
1 184	53- 81	MT 4	KK 4					MT 5	KK 2		MI MICA	4 ABUNDANT
1 185	81-112											5 DOMINANT
1 186	112-163	MT 5	KK 2					MT 5	KK 1			6 INDETER.
1 187	163-244											
1 188	244-290	MT 5	KK 2					MT 5	KK 1			

SAMPLE PREPARATION CODES
*=THE 75-250MM FRACTION IS INCLUDED.

HERD COBBLY LOAM
S71Utah-29-3

Location: Weber County, UT; Wolf Creek drainage, 800 feet north of South 1/4 corner, Sec. 5, T. 7 N., R. 2 E. Date of sampling: June 25, 1971.
Description by: L. Campbell and J. Carley. Collectors: D. Nettleton, J. Carley, E. Jensen, L. Campbell.
Classification: Mollic Cryoboralf, fine, montmorillonitic.
Vegetation: Muleseardock, geranium, and mountain brome. Climate: Average annual precipitation is 30 to 35 inches. Mean annual temperature is 39° to 40° F. Mean summer temperature is 54° to 55° F. Frost-free period is 55 to 60 days. Parent materials: Glacial till and residuum from sandstone and quartzite. Topography: Mountain Plateau, 12 percent slopes, southeast aspect. Elevation: 8,800 feet. Drainage: Well drained. Soil moisture: Usually moist.

HORIZON	DESCRIPTION
A11 RSL No. 71181	0-20 cm (0-8 inches), brown (7.5YR 5/3) cobbly loam, dark brown (7.5YR 3/3) moist; weak coarse subangular blocky structure that parts to moderate fine and medium granular; slightly hard, friable, sticky, plastic; common fine and medium, and few coarse roots; 15 percent cobble and 10 percent gravel; medium acid (pH 5.6); clear wavy boundary.
A12 RSL No. 71182	20-33 cm (8-13 inches), strong brown (7.5YR 5/6) gravelly light clay loam, brown (7.5YR 4/4) moist; weak medium subangular blocky structure; very hard, firm, sticky, plastic; common fine and very fine, and few medium and coarse roots; common fine and very fine pores; 20 percent gravel, and 10 percent cobble; strongly acid (pH 5.2); clear smooth boundary.
B21t RSL No. 71183	33-53 cm (13-21 inches), strong brown (7.5YR 5/6) cobbly heavy clay loam, yellowish red (5YR 4/6) moist; faces of peds are yellowish red (5YR 4/6) (70 percent) and reddish brown (5YR 4/3) (30 percent) moist; moderate medium and coarse subangular blocky structure; extremely hard, very firm, sticky, very plastic; few fine medium and coarse roots; common very fine and fine pores; common thin clay films on faces of peds and in pores; 15 percent gravel and 10 percent cobble; strongly acid (pH 5.2); clear smooth boundary.
B22t RSL No. 71184	53-81 cm (21-32 inches), yellowish red (5YR 5/6) clay, red (2.5YR 4/6) moist; faces of peds are yellowish red (5YR 4/6) moist, with many patches of red (2.5YR 4/6); moderate medium and coarse prismatic structure that parts to moderate medium subangular blocky; very hard, firm, sticky, very plastic; few fine and medium roots; many very fine pores; continuous thin clay films on faces of peds and in pores; strongly acid (pH 5.2); gradual irregular boundary.
B23t RSL No. 71185	81-112 cm (32-44 inches), light brown (7.5YR 6/4) clay, brown (7.5YR 5/4) moist; faces of peds are yellowish red (5YR 5/6) moist, with common fine distinct brown (10YR 4/3) mottles; weak coarse prismatic structure that parts to moderate medium and coarse subangular blocky; extremely hard, very firm, very sticky, very plastic; few fine and medium roots; few very fine pores; many thin clay films and some slickensides on faces of peds; strongly acid (pH 5.2); gradual wavy boundary.
B24t RSL No. 71186	112-163 cm (44-64 inches), brown (7.5YR 5/4) clay, brown (7.5YR 5/4) moist, with common medium distinct yellowish red (5YR 4/6) and few medium distinct light gray (10YR 6/1) mottles; moderate coarse subangular blocky structure; extremely hard, very firm, very sticky, very plastic; few very fine pores; many thin clay films on faces of peds; strongly acid (pH 5.2); clear smooth boundary.
B25t RSL No. 71187	163-244 cm (64-96 inches), red (2.5YR 5/6) clay, brown (7.5YR 5/4) moist; faces of peds are pale brown (10YR 6/3) and red (2.5YR 4/6) weak medium and coarse subangular blocky structure; extremely hard, very firm, sticky, very plastic; few very fine and fine pores; few thin clay films, manganese shot; slightly calcareous, lime in small pockets; strongly acid (pH 5.2); gradual irregular boundary.
B3t RSL No. 71188	244-290 cm (96-114 inches), reddish brown (5YR 5/4) clay, red (2.5YR 4/6) moist; with many coarse prominent light gray (10YR 6/1) and few medium distinct yellowish red (5YR 5/8) mottles on faces of peds; extremely hard, very firm, sticky, very plastic; slightly calcareous, lime occurs in small pockets; strongly acid (pH 5.2).

CONSECUTIVE PEDON NUMBER C 70 27 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES MORTENSON (TAXADJUNCT) SILT LOAM SOIL NO. S70 UTAH. 20- 4 SAMPLE NO. 0 171-0 177 SANPETE AREA

SOIL FAMILY: TYPIC PALEBORALF,LOAMY-SKELETAL,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBO NATE 3A1A	INT. II .2-.02	1A2A COARSE FRAGMENTS PCT. OF WHOLE SOIL I 75- 20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75		
0 171	0- 13	A21	47.5	40.3	12.2	0.5	1.3	5.3	21.2	19.2	19.2	21.1	7.5	4.7		50.6	13A 8	3	1
0 172	13- 34	A22	39.8	45.9	14.3	0.2	1.1	3.9	16.5	18.1	22.5	23.4				50.6	34* 3	2	1
0 173	34- 53	A23	39.3	45.5	15.2	0.1	0.9	3.4	15.0	19.9	20.7	24.8				49.7	58* 15	1	1
0 174	53- 68	A+B	36.8	40.6	22.6	0.1	0.7	3.7	14.0	18.3	20.2	20.4				47.1	58* 17	2	1
0 175	68- 92	B21T	35.7	35.7	28.6	0.1	0.2	1.1	8.7	25.6	18.2	17.5	24.8	3.8		50.7	57* 18	1	1
0 176	92-114	B22T	26.1	45.1	28.8	0.1	0.2	0.3	4.0	21.5	19.4	25.7				44.3	57* 11	--	--
0 177	114-144	B23T	18.2	46.5	35.3	0.9	0.5	0.4	4.5	11.9	10.7	35.8				26.5	72* 24	--	--

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES DI-CIT FE 6C2B	EXT AL 6G7A	PYROP EXT FE 6C5A	AL 6G5A	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST. 1/3 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		PERCENT		PERCENT		PERCENT				PCT.NO.40		GRAMS PER CC				PERCENT			PERCENT	
0 171	0- 13	2.69	0.130			0.6	0.1						1.12	1.16	0.94	25.2	20.3	8.0	1.2	1.1
0 172	13- 34	1.92	0.101			0.6	0.1						1.05	1.10	0.83	26.0	21.0	7.4	1.6	1.3
0 173	34- 53	0.90	0.053			0.7	0.1						1.32	1.35	0.59	20.2	16.4	6.5	0.8	0.4
0 174	53- 68	0.67				1.0	0.1						1.42	1.48	0.57	19.3	15.8	9.0	1.4	0.8
0 175	68- 92	0.52				0.9	0.1						1.56	1.68	0.57	22.5	18.9	10.8	2.5	1.4
0 176	92-114	0.49				1.1	0.1						1.61	1.83	0.56	21.5	19.2	11.2	4.4	2.3
0 177	114-144	0.48		1		2.1	0.2						1.39	1.67	0.43	30.0	27.3	14.4	6.3	2.5

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6Q2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACIDITY 6H2A	KCL EXT. AL 6G1E	CEC SUM 5A3A	CEC NH4-OAC 5A6A	BASE SATURATION SUM+ ACIDITY	SUM+ AL	NH4-OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CACL2 8C1E
		MEQ/100G									PERCENT					
0 171	0- 13	9.9	1.2	0.1	0.5	11.7	8.8		20.5	16.3	57		72		5.9	6.3
0 172	13- 34	9.1	1.1	0.1	0.4	10.7	8.4		19.1	16.0	56		67		5.6	5.4
0 173	34- 53	8.8	1.3	0.1	0.3	10.5	5.3		15.8	13.9	66		76		6.0	5.3
0 174	53- 68	13.2	2.2	0.1	0.3	15.8	3.1		18.9	17.2	84		92		6.7	6.0
0 175	68- 92	16.3	3.2	0.1	0.3	19.9			19.9	20.6			97		7.3	6.6
0 176	92-114	16.7	3.1	0.1	0.3	20.2			20.2	21.1			96		7.5	7.0
0 177	114-144	24.7	3.8	0.1	0.4	29.0			29.0	24.5			100+		7.7	7.4

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
0 171	0- 13	VM 3	KK 2								VM VM/MICA	1 TRACE
0 172	13- 34										KK KAOLINIT	2 SMALL
0 173	34- 53	VM 4	KK 2									3 MODERATE
0 174	53- 68											4 ABUNDANT
0 175	68- 92	VM 3	KK 2									5 DOMINANT
0 176	92-114											6 INDETER.
0 177	114-144	VM 3	KK 2									

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
*=THE 75-250MM FRACTION IS INCLUDED.

MORTENSON SILT LOAM (taxadjunct) 1/
S70Utah-20-4

Location: Sanpete County, UT. South Twin Creek - about 1/4 mile from the end of the road and about 400 feet south of the road. About 1,600 feet west and 1,600 feet north of the southeast corner of Sec. 34, T. 15 S., R. 5 E. Date of sampling: August 12, 1970.
Description by: B. Brasher, D. Nettleton, M. Olsen, J. Swenson, R. Tew, D. Beckstrand, C. McKinlay. Collectors. B. Brasher, D. Nettleton, M. Olsen, J. Swenson, R. Tew, D. Beckstrand, C. McKinlay.
Classification: Typic Paleboralf, loamy-skeletal, mixed.
Vegetation: Alpine fir, spruce, and aspen. Climate: Mean annual temperature, about 45°F. Mean summer temperature, about 58°F. Average annual precipitation, about 25 inches; frost-free period is 60 to 90 days. Parent materials: Colluvium and residuum from sandstone. Topography: Hillside slopes, north-facing, 60 percent slope. Elevation: 9,000 feet. Drainage: Well drained. Soil moisture: Usually moist.

HORIZON	DESCRIPTION
A21 RSL No. 70171	0-13 cm (0-5 inches), pale brown (10YR 6/3) silt loam, dark brown (10YR 3/3) moist; weak fine granular structure; soft, friable, nonsticky, slightly plastic; few fine, few very fine, few medium roots; few medium, few fine pores; slightly acid (pH 6.2); clear smooth boundary.
A22 RSL No. 70172	13-34 cm, (5-13 inches), pale brown (10YR 6/3) silt loam, dark brown (10YR 3/3) moist; weak medium subangular blocky structure; soft, friable, slightly sticky, slightly plastic; few coarse few medium and few fine roots; few fine pores; few charcoal bits; 15 percent stone; slightly acid (pH 6.2); gradual smooth boundary.
A23 RSL No. 70173	34-53 cm (13-21 inches), pale brown (10YR 6/3) light silty clay loam, brown (10YR 4/3) moist; weak medium subangular structure; slightly hard, friable, slightly sticky, slightly plastic; few coarse and common medium roots; few fine and medium pores; 35 percent cobble and stone larger than 3 inches; medium acid (pH 6.0); clear smooth boundary.
A&B RSL No. 70174	53-68 cm (21-27 inches), 60 percent A2 horizon and 40 percent B2t horizon; the A2 portion is pale brown (10YR 6/3) stony silt loam; brown (10YR 5/3) moist; massive; slightly hard, friable, slightly sticky, plastic; few coarse and few medium roots; common very fine pores; medium acid (pH 6.0); the B2t portion is as described in the B21t horizon below; gradual wavy boundary.
B21t RSL No. 70175	68-92 cm (27-36 inches), light yellowish brown (10YR 6/4) stony silty clay loam; yellowish brown (10YR 5/4) moist; strong medium angular blocky structure; very hard, very firm, very sticky, very plastic; few medium, few fine roots; continuous moderate thick clay films; 40 percent gravel, cobble and stones - 35 percent is larger than 3 inches; medium acid (pH 6.0); gradual smooth boundary.
B22t RSL No. 70176	92-114 cm (36-46 inches), pale brown (10YR 6/3) very stony heavy clay loam, yellowish brown (10YR 5/4) moist; moderate medium angular blocky structure very hard, very firm, very sticky, very plastic; few medium, few fine roots; common moderately thick clay films; 50 percent rock fragments - 40 percent is larger than 3 inches; medium acid (pH 6.0); gradual smooth boundary.
B23t RSL No. 70177	114-144 cm (46-58 inches), pale brown (10YR 6/3) very stony heavy clay loam; yellowish brown (10YR 5/6) moist; moderate medium angular blocky structure; very hard, very firm, very sticky, very plastic; few fine roots; many thin clay films; 70 percent rock fragments and 50 percent is larger than 3 inches; slightly acid (pH 6.1).

1/ The Mortenson series is in a clayey-skeletal, mixed family of Typic Paleboralfs. This pedon has an argillic horizon with less than 35 percent clay.

CONSECUTIVE PEDON NUMBER C 70 28 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES MORTENSON SILT LOAM (TAXADJUNCT) SOIL NO. S70 UTAH. 20- 5 SAMPLE NO. 0 178-0 184 SANPETE AREA

SOIL FAMILY: TYPIC PALEBORALF,LOAMY-SKELETAL,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBO NATE 3A1A	1A2A INT. II .2-.02	COARSE FRAGMENTS PCT. OF WHOLE SOIL	I 75- 20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75			
0 178	0- 10	A21	39.0	48.5	12.5	0.8	0.5	0.8	12.2	24.7	24.1	24.4				58.9	12A	8	3	1
0 179	10- 31	A22	37.8	50.3	11.9	0.2	0.3	0.7	11.4	25.2	24.7	25.6				59.4	21*	9	3	1
0 180	31- 70	A23	55.6	33.8	10.6	0.2	0.6	1.1	29.3	24.4	17.7	16.1				65.2	75*	41	3	1
0 181	70- 86	A+B	37.1	34.9	28.0	0.2	0.2	0.4	10.8	25.5	17.0	17.9				51.9	69*	24	4	1
0 182	86-106	B21T	32.2	38.9	28.9	0.1	0.2	0.4	8.2	23.3	17.9	21.0				48.5	60*	8	--	--
0 183	106-123	B22T	33.6	37.3	29.1	0.1	0.4	0.7	8.6	23.8	17.9	19.4				48.8	57*	10	--	--
0 184	123-146	B23T	33.1	42.2	24.7	0.2	0.5	0.6	5.8	26.0	22.6	19.6				53.3	67*	17	1	1

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES DI-CIT FE 6C2B	EXT AL 6G7A	PYROP EXT FE 6C5A	AL 6G5A	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST. 1/3 BAR 4A1F	DRY 4A1F	CM 4A1H	3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		-PERCENT-		-PERCENT-		-----PERCENT------				PCT.NO.40		GRAMS PER CC				----PERCENT---			-PERCENT-	
0 178	0- 10	2.78	0.143			0.6	0.1					1.09	1.14	0.95		20.9	17.8	24.0	1.5	1.4
0 179	10- 31	0.88	0.052			0.6	0.1					1.38	1.41	0.88		19.2	15.0	4.8	0.7	0.6
0 180	31- 70	0.42				0.6	0.1					1.40	1.43	0.39		15.5	12.1	4.6	0.7	0.3
0 181	70- 86	0.47				1.1	0.1					1.52	1.61	0.44		18.0	15.5	10.1	1.9	0.8
0 182	86-106	0.29				1.0	0.1					1.61	1.80	0.52		20.1	17.7	10.1	3.8	1.9
0 183	106-123	0.27				1.0	0.1					1.58	1.75	0.56		21.3	18.4	10.1	3.5	1.9
0 184	123-146	0.27		1		0.9	0.1					1.63	1.86	0.44		19.6	17.7	9.5	4.5	1.9

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6Q2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI-DITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4-OAC 5A6A	BASE SATURATION SUM+ ACI-DITY	SUM+ AL	NH4-OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA-CL2 8C1E
		MEQ/100G									PERCENT					
0 178	0- 10	9.2	1.2	0.1	0.7	11.2	7.8		19.0	16.8	59		67		5.9	5.2
0 179	10- 31	4.4	0.7	0.1	0.4	5.6	5.8		11.4	10.7	49		52			
0 180	31- 70	4.2	0.5	0.1	0.4	5.2	3.7		8.9	7.7	58		68		5.7	4.9
0 181	70- 86	14.6	1.5	0.1	0.5	16.7			16.7	17.0			98		6.5	5.7
0 182	86-106	15.4	1.5	0.1	0.4	17.4			17.4	18.6			94		6.6	6.0
0 183	106-123	15.6	1.4	0.1	0.4	17.5			17.5	19.1			92		6.5	5.8
0 184	123-146	20.2	1.0	0.1	0.3	21.6			21.6	18.5			100+		7.6	7.1

SAMPLE NO.	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
0 178	0- 10	VM 3	KK 2								VM VM/MICA	1 TRACE
0 179	10- 31										KK KAOLINIT	2 SMALL
0 180	31- 70	VM 3	KK 2									3 MODERATE
0 181	70- 86										MT MONTMORT	4 ABUNDANT
0 182	86-106	MT 3	VM 3	KK 2								5 DOMINANT
0 183	106-123											6 INDETER.
0 184	123-146	VM 3	KK 2									

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
*=THE 75-250MM FRACTION IS INCLUDED.

MORTENSON SILT LOAM (taxadjunct) 1/
S70Utah-20-5

Location: Sanpete County, UT. About 1,200 feet NW of hairpin turn in jeep road below Skyline Drive; 2,200 feet north and 400 feet west of the southeast corner of Sec. 15, T. 15 S., R. 5 E. Date of sampling: August 12, 1970.
Description by: B. Brasher, D. Nettleton, M. Olsen, J. Swenson, R. Tew, D. Beckstrand, C. McKinlay. Collectors: B. Brasher, D. Nettleton, M. Olsen, J. Swenson, R. Tew, D. Beckstrand, C. McKinlay.
Classification: Typic Paleboralf, loamy-skeletal, mixed.
Vegetation: Alpine fir, aspen, spruce. Climate: Mean annual temperature, about 45°F.; mean summer temperature, about 58°F. Average annual precipitation, 25 to 30 inches; frost-free period, 60 to 90 days. Parent materials: colluvium and residuum from sandstone. Topography: Hillside slopes, north-facing, 45 percent slopes. Elevation: 9,400 feet. Drainage: Well drained. Soil moisture: Usually moist.

HORIZON	DESCRIPTION
A21 RSL No. 70178	0-10 cm (0-4 inches), light brownish gray (10YR 5/2) silt loam, dark grayish brown (10YR 4/2) moist; moderate thin platy structure; soft, friable, nonsticky, slightly plastic; few fine, common medium roots; few very fine, few fine pores; slightly acid (pH 6.1); clear smooth boundary.
A22 RSL No. 70179	10-31 cm (4-12 inches), pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; massive; soft, friable, slightly sticky, slightly plastic; few fine and common medium roots; common very fine pores; few charcoal bits, 15 percent gravel and 5 percent cobble; slightly acid (pH 6.1); gradual smooth boundary.
A23 RSL No. 70180	31-70 cm (12-28 inches), very pale brown (10YR 7/3) very stony silt loam, brown (10YR 5/3) moist; slightly hard, friable, nonsticky slightly plastic; few very fine, common medium, few coarse roots; common very fine pores; 60 percent rock fragments, 45 percent is larger than 3 inches; medium acid (pH 6.0); gradual wavy boundary.
A&B RSL No. 70181	70-86 cm (28-34 inches), 60 percent A2 horizon and 40 percent B2t horizon; the A2 portion is very pale brown (10YR 7/3) very stony silt loam, brown (10YR 5/3) moist; massive; slightly hard, friable, nonsticky and slightly plastic; few medium, few fine roots; common very fine pores; slightly acid (pH 6.1); the B2t portion is as described in the B21t horizon; gradual wavy boundary.
B21t RSL No. 70182	86-106 cm (34-42 inches), pale brown (10YR 6/3) very stony clay, yellowish brown (10YR 5/4) moist; strong medium angular blocky structure; very hard, very firm, very sticky, very plastic, few fine, few medium roots; common very fine pores; many moderately thick clay films; 60 percent rock fragments, 45 percent is larger than 3 inches; slightly acid (pH 6.1); clear smooth boundary.
B22t RSL No. 70183	106-123 cm (42-49 inches), pale brown (10YR 6/3) very stony heavy clay loam light yellowish brown (10YR 5/4) moist; strong medium angular blocky structure; very hard, very firm, very sticky, very plastic; few medium, few fine roots; common very fine pores; common moderately thick clay films; 55 percent rock fragments, 40 percent is larger than 3 inches; slightly acid (pH 6.1); gradual smooth boundary.
B23t RSL No. 70184	123-146 cm (49-58 inches), pale brown (10YR 6/3) very stony heavy clay loam, pale brown (10YR 6/3) moist; strong medium angular blocky structure; very hard, very firm, very sticky, very plastic; few very fine roots; few fine and common very fine pores; many thin clay films; 60 percent rock fragments, 50 percent is larger than 3 inches; slightly acid (pH 6.1).

1/ The Mortenson series is in a clayey-skeletal, mixed family of Typic Paleboralf. This pedon has an argillic horizon with less than 35 percent clay.

CONSECUTIVE PEDON NUMBER C 71 37 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES MORTENSON GRAVELLY SILT LOAM (TAXADJUNCT) SOIL NO. S71 UTAH. 20- 4 SAMPLE NO. 1 236-1 241 SANPETE AREA

SOIL FAMILY: TYPIC PALEBORALF,LOAMY-SKELETAL,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBO NATE 3A1A.02	INT. II .2-	1A2A COARSE FRAGMENTS PCT. OF WHOLE SOIL	I 75- 20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75			
1 236	0- 15	A21	34.9	55.4	9.7	1.8	1.4	2.0	9.9	19.8	29.9	25.5	7.4	2.3		56.4	33*	14	9	5
1 237	15- 25	A22	35.6	54.1	10.3	1.7	1.4	1.7	9.8	21.0	28.4	25.7				56.4	50*	33	8	4
1 238	25- 50	A+B	35.5	52.0	12.5	1.0	1.3	1.2	8.2	23.8	28.9	23.1	9.4	3.1		59.1	59*	39	9	5
1 239	50- 80	B21T	25.3	40.8	33.9	0.5	0.7	0.6	4.7	18.8	21.3	19.5				43.9	51*	30	5	3
1 240	80-105	B22T	52.3	24.9	22.8	0.5	0.9	1.6	25.0	24.3	14.6	10.3	9.9	12.9		59.6	49*	28	2	6
1 241	105-140	B3	42.5	34.4	23.1	0.4	1.1	1.4	19.3	20.3	18.1	16.3				53.1	46*	24	5	3

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A -PERCENT-	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B -PERCENT-	2-20 6E1B	SESQUIOXIDES DI-CIT FE 6C2B	EXT AL 6G7A	PYROP FE 6C5A	EXT AL 6G5A	ATTERBERG LIMIT LL 4F1	PL 4F2	EST. 1/3 BAR 4A1F	BULK DENSITY 1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
						PERCENT				PCT.NO.40		GRAMS PER CC				PERCENT			PERCENT	
1 236	0- 15	2.58	0.140	TR		0.8	0.2						0.92	0.96	0.85	20.2	18.8	7.6	1.4	1.2
1 237	15- 25	1.00	0.065			0.8	0.1						1.01	1.04	0.73	14.6	13.3	4.7	1.0	0.7
1 238	25- 50	0.38	0.032			1.0	0.1						1.52	1.54	0.55	15.5	13.5	3.8	0.4	0.2
1 239	50- 80	0.76				1.4	0.1						1.54	1.69	0.63	20.4	19.1	11.2	3.1	1.9
1 240	80-105	0.42				0.9	0.1						1.56	1.66	0.64	20.4	18.4	8.1	2.1	1.3
1 241	105-140	0.50		1		0.7	TR						1.48	1.57	0.68	24.7	21.0	7.2	2.0	1.3

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI-DITY 6H2A	KCL EXT. AL 6G1E	C E C SUM	NH4-OAC 5A6A	BASE SATURATION SUM+ ACI-DITY	SUM+ AL	NH4-OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA-CL2 8C1E
		MEQ/100G									PERCENT					
1 236	0- 15	17.4	3.3	0.2	1.4	22.3	4.5		26.8	18.3	83		100+		7.0	6.6
1 237	15- 25	6.3	1.7	0.2	0.8	9.0	3.5		12.5	9.9	72		91		6.5	5.8
1 238	25- 50	4.5	0.8	0.1	0.3	5.7	0.7		6.4	5.4	89		100+		7.0	6.4
1 239	50- 80	13.4	2.6	0.2	0.5	16.7	1.7		18.4	14.8	91		100+		6.8	6.1
1 240	80-105	8.3	2.2	0.2	0.4	11.1			11.1	11.2			99		6.8	6.2
1 241	105-140	11.0	2.4	0.2	0.2	13.8			13.8	8.9			100+		7.3	7.1

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
1 236	0- 15	KK 3	MI 2	MT 1							KK KAOLINIT	1 TRACE
1 237	15- 25										MI MICA	2 SMALL
1 238	25- 50	KK 4	MI 3	MT 1				MT 3	MI 3	KK 3	MT MONTMORT	3 MODERATE
1 239	50- 80											4 ABUNDANT
1 240	80-105	KK 5	MI 3	VR 1				MI 4	MT 3	KK 2	VR VERMICLT	5 DOMINANT
1 241	105-140											6 INDETER.

SAMPLE PREPARATION CODES
*=THE 75-250MM FRACTION IS INCLUDED.

MORTENSON GRAVELLY SILT LOAM (taxadjunct) 1/
S71Utah-20-4

Location: Sanpete County, UT. Pleasant Creek Canyon, southwest 1/4 of Sec. 10, T. 15 S., R. 5 E. Date of sampling: June 11, 1971.
Description by: J. Swenson. Collectors: D. Nettleton, J. Swenson, M. Olsen.
Classification: Typic Paleboralf, loamy-skeletal, mixed.
Vegetation: Ninebark, conifer, aspen, snowberry. Climate: Mean annual temperature is about 44° F. Mean summer temperature is about 56° F. Average annual precipitation is about 25 inches; frost-free period is about 75 days. Parent materials: Residuum and colluvium from sandstone. Topography: Mountain slope, north-facing, 40 percent slope. Elevation: 7,600 feet. Drainage: Well drained. Soil moisture: Usually moist.

HORIZON	DESCRIPTION
A21 RSL No. 71236	0-15 cm (0-6 inches), brown (10YR 5/3) gravelly silt loam, dark brown (10YR 3/3) moist; weak medium granular structure; soft, friable, slightly sticky, slightly plastic; few fine and medium roots; common fine pores; 20 percent gravel and cobble; neutral (pH 6.6); clear smooth boundary.
A22 RSL No. 71237	15-25 cm (6-10 inches), pale brown (10YR 6/3) gravelly silt loam, dark brown (10YR 4/3) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky, slightly plastic; many fine, and few coarse and medium roots; common fine pores; 35 percent gravel and cobble; neutral (pH 6.6); clear smooth boundary.
A&B RSL No. 71238	25-50 cm (10-20 inches), very pale brown (10YR 7/3) stony silt loam, brown (10YR 5/3) moist; weak medium subangular blocky structure; hard, friable, slightly sticky, nonplastic; common fine and few coarse and medium roots; few fine pores; 20 percent stones and 20 percent gravel; slightly acid (pH 6.5); gradual wavy boundary.
B21t RSL No. 71239	50-80 cm (20-31½ inches), light yellowish brown (2.5Y 6/4) stony heavy clay loam, light olive brown (2.5Y 5/4) moist; moderate medium angular blocky structure; very hard, very firm, sticky, plastic; few fine, medium and coarse roots; few fine pores; many moderately thick clay films; 40 percent stones, cobble, and gravel; slightly acid (pH 6.2); gradual wavy boundary.
B22t RSL No. 71240	80-105 cm (31½-41 inches), light yellowish brown (2.5Y 6/4) stony sandy clay loam, light olive brown (2.5Y 5/4) moist; strong medium angular blocky structure; very hard, firm, sticky, plastic; few fine, medium and coarse roots; few fine pores; many moderately thick clay films; 45 percent rock fragments mainly stone and gravel; slightly acid (pH 6.4); gradual wavy boundary.
B3 RSL No. 71241	105-140 cm (41-55 inches), light yellowish brown (2.5Y 6/4) stony loam, light olive brown (2.5Y 5/4) moist; massive; very hard, firm, sticky, plastic; few fine and medium roots; 45 percent rock fragments mainly stone and gravel; neutral (pH 6.6).

1/ The Mortenson series is in a clayey, montmorillonitic family of Typic Paleboralfs. This pedon has an argillic horizon with less than 35 percent clay and has summer soil temperatures of less than 59° F.

CONSECUTIVE PEDCN NUMBER C 70 50 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES DAGFLAT VERY COBBLY SANDY LOAM (TAXADJUNCT) SOIL NO. S70 UTAH. 27- 5 SAMPLE NO. 0 294-0 300 WASHINGTON CO. AREA

SOIL FAMILY: ARIDIC HAPLUSTALF,FINE-LOAMY,MIXED,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION 2- .05	SANC .05- .002	SILT .002 LT	CLAY	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBO NATE 3A1A	INT. .2- .02	1A2A COARSE FRAGMENTS PCT. OF WHOLE SOIL	I 20 75- 20-5	II PCT. OF LT 75	III 5-2
			PERCENT OF LESS THAN 2MM																		
0 294	0- 5	A11	70.7	19.0	10.3		9.4	18.8	13.0	19.9	9.6	8.7	10.3	5.6	4.7		27.9	28A	19	3	6
0 295	5- 15	A12	65.8	19.5	14.7		8.5	19.3	11.6	17.1	9.3	7.8	11.7				25.5	8A	--	2	6
0 296	15- 23	B1 T	72.4	11.9	15.7		29.7	21.3	7.7	9.4	4.3	3.9	8.0	6.6	9.1		12.5	12A	--	--	12
0 297	23- 43	B21T	60.0	13.6	26.4		7.4	17.5	11.4	16.3	7.4	4.8	8.8	10.5	15.9		20.3	13W	--	--	13
0 298	43- 66	B22T	73.2	12.5	14.3		16.5	25.8	11.2	14.2	5.5	5.0	7.5				17.2	19W	--	--	19
0 299	66- 76	C	79.9	11.0	9.1		14.8	26.9	14.0	17.6	6.6	4.4	6.6				19.0	35W	--	--	35
0 300	76- 0	R																--	--	--	--

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR-BON 6A1A	NITRO-GEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES DI-CIT FE 6C2B	EXT AL 6G7A	PYROP EXT FE 6C5A	AL 6G5A	ATTERBERG LL 4F1	L I M I T PL 4F2	EST. 1/3 BAR 4A1F	BULK DENSITY 1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		PERCENT		PERCENT		PERCENT				PCT.NO.40		GRAMS PER CC				PERCENT			PERCENT	
0 294	0- 5	1.24	0.056			1.3	0.1					1.25		0.84				6.9		
0 295	5- 15	1.08	0.091			1.3	0.1						1.31 1.38	0.96		14.4	11.7	8.3	1.8	1.7
0 296	15- 23	0.48	0.069			1.5	0.1						1.33 1.53	0.94		29.3	26.2	11.7	4.8	4.5
0 297	23- 43	0.52				1.3	0.1						1.40 1.60	0.93		27.7	24.7	15.4	4.6	4.2
0 298	43- 66	0.21				1.3	0.1					1.40		0.89				10.6		
0 299	66- 76					1.2	TR						1.62 1.71	0.75		18.7	17.2	9.0	1.8	1.4
0 300	76- 0																			

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6Q2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI-DITY 6H2A	KCL EXT. AL 6G1E	CEC SUM 5A3A	NH4-OAC 5A6A	BASE SATURATION SUM+ ACI-DITY	SUM+ AL	NH4-OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA-CL2 8C1E
		MEQ/100G									PERCENT					
0 294	0- 5	11.4	3.3	0.6	1.1	16.4			16.4	14.5			100+		7.5	6.4
0 295	5- 15	13.1	3.8	0.6	1.0	18.5			18.5	17.0			100+		7.2	6.4
0 296	15- 23	17.0	4.7	0.5	0.9	23.1			23.1	22.4			100+		6.9	6.6
0 297	23- 43	21.3	5.9	0.5	0.7	28.4			28.4	27.4			100+		7.0	6.6
0 298	43- 66	17.0	4.9	0.4	0.4	22.7			22.7	22.0			100+		6.6	6.3
0 299	66- 76	15.8	4.3	0.4	0.3	20.8			20.8	19.7			100+		6.9	6.4
0 300	76- 0															

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
0 294	0- 5	MI 4	MT 3	KK 1			MT 4	MI 3	KK 1	MI MICA	1 TRACE
0 295	5- 15	MT 3	MI 3	KK 1						MT MONTMORT	2 SMALL
0 296	15- 23	MT 4	MI 3	KK 1			MT 5			KK KACLINIT	3 MODERATE
0 297	23- 43	MT 3	MI 3				MT 5				4 ABUNDANT
0 298	43- 66	MT 4	MI 3								5 DOMINANT
0 299	66- 76	MT 3	MI 2								6 INDETER.
0 300	76- 0										

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
W=DATA DETERMINED ON WHOLE SOIL AND RECALCULATED TO 2 MM BASIS. GRAVEL FROM SLAKED SUBSAMPLE.

DAGFLAT VERY COBBLY SANDY LOAM (taxadjunct) 1/
S70Utah-27-5

Location: Washington County, UT. East fork of Beaver Dam Wash, near Hamburg Peak, near the southwest corner of Sec. 14, T. 39 S., R. 18 W. Date of sampling: September 17, 1970.
Description by: Vear L. Mortensen. Collectors: D. Nettleton, V. Mortensen, T. B. Hutchings, and party.
Classification: Aridic Haplustalf, fine-loamy, mixed, mesic.
Vegetation: Sagebrush, yellowbrush, serviceberry, tall native bluegrass. Climate: Mean annual temperature 52° to 55°F.; mean summer temperature 70 to 72°F.; average annual precipitation is about 14 inches; frost-free period is 120-140 days. Parent material: Colluvium and residuum from dacite. Topography: Very steep mountain slopes, about 40 percent west-facing slopes. Elevation: 5,840 feet. Drainage: Well drained. Soil moisture: Usually dry.

HORIZON	DESCRIPTION
A11 RSL No. 70294	0-5 cm (0-2 inches), dark reddish gray (5YR 4/2) coarse sandy loam, dark reddish brown (5YR 2/2) moist; moderate fine granular structure; soft, friable, slightly sticky, slightly plastic; many fine roots, about 60 percent of surface is covered with cobble and stone; slightly acid (pH 6.4); clear smooth boundary.
A12 RSL No. 70295	5-15 cm (2-6 inches), dark reddish gray (5YR 4/2) coarse sandy loam; dark reddish brown (5YR 2/2) moist; moderate fine and medium granular structure; slightly hard, friable, sticky, plastic; many fine roots; slightly acid (pH 6.2) clear wavy boundary.
B1t RSL No. 70296	15-23 cm (6-9 inches), reddish brown (5YR 5/3) coarse sandy loam; dark reddish brown (5YR 3/3) moist; moderate medium subangular blocky structure; very hard, firm, sticky, plastic; few fine, medium and coarse roots; common fine pores; slightly acid (pH 6.2); gradual wavy boundary.
B21t RSL No. 70297	23-43 cm (9-17 inches), reddish brown (5YR 5/3) coarse sandy clay loam, dark reddish brown (5YR 3/3) moist; strong coarse subangular blocky structure; very hard, firm, sticky, plastic; few fine and medium roots; common fine pores; common, thin clay films on ped faces and in pores; slightly acid (pH 6.2); gradual wavy boundary.
B22t RSL No. 70298	43-66 cm (17-26 inches) reddish brown (5YR 5/3) coarse sandy clay; reddish brown (5YR 4/3) moist; strong coarse subangular blocky structure; very hard firm, sticky, plastic; few fine and medium roots; common fine pores; common, thin clay films on faces of peds and in pores; slightly acid (pH 6.2); gradual wavy boundary.
C RSL No. 70299	66-76 cm (26-30 inches), light brown (7.5YR 6/4) coarse loamy sand, brown (7.5YR 4/2) moist; massive, very hard, weathered dacite bedrock that can be cut with a spade.
R RSL No. 70300	76 cm (30 inches), dacite bedrock (consolidated).

1/ The Dagflat series is in a fine-loamy, mixed, mesic family of Aridic Argiustolls. This pedon fails to have enough organic carbon to be a Mollisol.

CONSECUTIVE PEDON NUMBER C 70 51 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES DAGFLAT VERY COBBLY SANDY LOAM (TAXADJUNCT) SOIL NO. S70 UTAH. 27- 6 SAMPLE NO. 0 301-0 310 WASHINGTON CO. AREA

SOIL FAMILY: ARIDIC HAPLUSTALF, FINE-LOAMY, MIXED, MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBONATE 3A1A.02	INT. II .2-	1A2A COARSE FRAGMENTS PCT. OF WHOLE 20 SOIL	I 75-	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75			
0 301	0- 7	A1	59.2	19.1	21.7	18.0	14.5	7.8	12.5	6.4	7.2	11.9	12.5	9.2		19.8	26A	1	6	19
0 302	7- 16	B1 T	56.5	16.8	26.7	18.6	14.3	7.2	10.4	6.0	6.5	10.3				18.1	29A	19	2	8
0 303	16- 33	B21T	54.8	16.6	28.6	13.9	14.3	8.4	11.9	6.3	8.3	8.3	12.9	15.7		20.8	23A	13	3	7
0 304	33- 56	B22T	47.7	15.8	36.5	13.4	11.5	6.0	10.7	6.1	5.7	10.1				17.6	2A	--	--	2
0 305	56- 73	B23T	64.4	12.1	23.5	30.0	12.6	6.9	10.1	4.8	4.3	7.8				14.3	31W	--	--	31
0 306	73- 88	B3	68.5	14.8	16.7	31.4	14.7	6.4	10.6	5.4	4.8	10.0				15.9	14W	--	--	14
0 307	88-102	C	77.4	12.3	10.3	40.7	14.6	7.2	10.2	4.7	4.1	8.2				14.1	18W	--	--	18
0 308	102- 0	R															--	--	--	--
0 309	102- 0	R														--	--	--	--	--
0 310	102- 0	R															--	--	--	--

SAMPLE NO.	DEPTH CM.	ORG. MATTER CARBON 6A1A -PERCENT-	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B -PERCENT-	SESQUIOXIDES DI-CIT FE 6C2B	EXT AL 6G7A	PYROP FE 6C5A	EXT AL 6G5A	ATTERBERG LIMIT EST. LL 4F1	PL 4F2	1/3 BAR 4A1F	DRY 4A1F	1/3 BAR 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
						PERCENT				PCT. NO. 40		GRAMS PER CC				PERCENT			PERCENT	
0 301	0- 7	4.13	0.326			1.4	0.1					1.25			0.86			17.7		
0 302	7- 16	0.84	0.074										1.41	1.56	0.82	26.8	25.1	12.9	3.4	2.8
0 303	16- 33	0.52	0.064			1.5	0.1					1.30			0.87			13.5		
0 304	33- 56	0.34											1.26	1.49	0.99	35.3	32.0	16.3	5.7	5.7
0 305	56- 73	0.34				1.6	0.1					1.35			0.81			11.5		
0 306	73- 88	0.21											1.37	1.53	0.92	22.8	22.6	11.4	3.8	3.4
0 307	88-102					1.3	TR						1.58	1.67	0.88	18.1	16.5	8.3	1.9	1.6
0 308	102- 0																			
0 309	102- 0																			
0 310	102- 0																			

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACIDITY 6H2A	KCL EXT. AL 6G1E	CEC SUM 5A3A	CEC NH4-OAC 5A6A	BASE SATURATION SUM+ ACIDITY	SUM+ AL	NH4-OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CACL2 8C1E
		MEQ/100G									PERCENT					
0 301	0- 7	23.7	4.7	0.4	1.4	30.2			30.2	28.4			100+		7.0	6.7
0 302	7- 16	20.6	4.8	0.4	0.6	26.4			26.4	26.6			99		7.0	6.6
0 303	16- 33	20.4	5.0	0.6	0.5	26.5			26.5	27.4			97		6.7	6.3
0 304	33- 56	24.0	6.4	0.5	0.4	31.3			31.3	33.4			94		6.5	6.0
0 305	56- 73	15.3	4.7	0.5	0.3	20.8			20.8	21.9			95		6.3	5.8
0 306	73- 88	20.4	5.7	0.7	0.2	27.0			27.0	28.7			94		6.2	5.8
0 307	88-102	13.3	4.4	0.4	0.2	18.3			18.3	18.3			100+		6.4	6.1
0 308	102- 0															
0 309	102- 0															
0 310	102- 0															

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
0 301	0- 7	MT 4	MI 3	KK 1				MT 4	MI 2	KK 1	MT MONTMORT	1 TRACE
0 302	7- 16	MT 4	MI 3	KK 1							MI MICA	2 SMALL
0 303	16- 33	MT 4	MI 3	KK 1				MT 5			KK KAOLINIT	3 MODERATE
0 304	33- 56											4 ABUNDANT
0 305	56- 73	MT 4	MI 3	KK 1								5 DOMINANT
0 306	73- 88											6 INDETER.
0 307	88-102	MT 4	MI 3	KK 1								
0 308	102- 0											
0 309	102- 0											
0 310	102- 0											

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
W=DATA DETERMINED ON WHOLE SOIL AND RECALCULATED TO 2 MM BASIS. GRAVEL FROM SLAKED SUBSAMPLE.

DAGFLAT VERY COBBLY SANDY LOAM (taxadjunct) 1/
S70Utah-27-6

Location: Washington County, UT. 1/2 mile west of Dagget Flat. Approximately 1,600 feet north and 2,400 feet west of the SE corner of Sec. 1, T. 39 S., R. 19 W.
Date of sampling: September 15, 1970.
Description by: Vear L. Mortensen. Collectors: D. Nettleton, V. Mortensen, T. B. Hutchings and party.
Classification: Aridic Haplustalf, fine-loamy, mixed, mesic.
Vegetation: Big sagebrush, serviceberry, live oak, tall native bluegrass. Climate: Mean annual temperature, 52° to 55°F.; mean summer temperature, 70 to 72°F.; average annual precipitation, 14 to 15 inches; frost-free period, 120 to 160 days. Parent materials: Colluvium and residuum from dacite. Topography: Very steep mountain slopes, about 40 percent slopes. Elevation: 5,660 feet. Drainage: Well drained. Soil moisture: Usually dry.

HORIZON	DESCRIPTION
A1 RSL No. 70301	0-7 cm (0-3 inches), dark reddish brown (5YR 3/2) coarse sandy loam, dark reddish brown (5YR 2/2) moist; moderate medium granular structure; slightly hard, firm, sticky, plastic; common fine and medium roots; few fine pores; 50 percent of the surface is covered with cobbles; slightly acid (pH 6.4); abrupt smooth boundary.
B1t RSL No. 70302	7-16 cm (3-7 inches), dark reddish brown (5YR 3/2) coarse sandy clay loam, dark reddish brown (5YR 3/2) moist; moderate medium prismatic structure; very hard, firm, sticky, plastic; common fine and medium roots; few fine pores; 10 percent cobble; slightly acid (ph 6.2); clear smooth boundary.
B21t RSL No. 70303	16-33 cm (7-13 inches), dark reddish gray (5YR 4/2) coarse sandy clay loam, dark reddish brown (5YR 3/3) moist; strong medium prismatic structure; extremely hard, very firm, sticky, plastic; few fine, medium and coarse roots; few fine pores; common moderately thick clay films on faces of peds and in pores; 10 percent cobble; slightly acid (pH 6.2); gradual wavy boundary.
B22t RSL No. 70304	33-56 cm (13-22 inches), reddish brown (5YR 4/3) coarse sandy clay, dark reddish brown (5YR 3/4) moist; strong coarse prismatic structure; extremely hard, very firm, sticky, plastic; few fine, medium and coarse roots; few fine pores; common moderately thick clay films on faces of peds and in pores; 10 percent cobble; slightly acid (pH 6.2); abrupt wavy boundary.
B23t RSL No. 70305	56-73 cm (22-29 inches), reddish brown (5YR 4/3) coarse sandy clay loam; dark reddish brown (5YR 3/4) moist; strong coarse prismatic structure; extremely hard, very firm, sticky plastic; few medium roots; few fine pores; few moderately thick clay films in pores; 10 percent cobble; slightly acid (pH 6.2); gradual wavy boundary.
B3 RSL No. 70306	73-88 cm (29-34 inches), brown (7.5YR 5/3) coarse sandy loam, dark brown (7.5YR 4/3) moist; weak medium prismatic structure; very hard, firm, sticky, plastic; few medium roots; few fine pores; 10 percent cobble; slightly acid (pH 6.2); gradual wavy boundary.
C RSL No. 70307	88-102 cm (34-40 inches), pinkish gray (7.5YR 6/2) coarse sandy loam, brown (10YR 4/3) moist; massive; partially weathered dacite rock that can be cut with a spade.
R RSL No. 70308	102 cm (40 inches), bedrock (consolidated).

1/ The Dagflat series is in a fine-loamy, mixed, mesic family of Aridic Argiustolls. This pedon fails to have enough organic carbon to be a Mollisol.

CONSECUTIVE PEDON NUMBER C 70 54 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES CAVAL FINE SANDY LOAM (TAXADJUNCT) SOIL NO. 570 UTAH. 27- 9 SAMPLE NO. 0 323-0 329 WASHINGTON CO. AREA

SOIL FAMILY: PSAMMENTIC HAPLUSTALF,COARSE-LOAMY,MIXED,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBONATE 3A1A	1A2A INT. II .2- .02	COARSE FRAGMENTS PCT. OF WHOLE SOIL	I 75- 20 PCT. OF LT 75	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM																	
0 323	0- 23	A11	68.3	24.5	7.2	0.1	0.1	1.6	35.8	30.7	14.7	9.8				74.1	--A	--	--	--
0 324	23- 42	A12	63.2	27.5	9.3	0.1	0.1	1.2	32.2	29.6	18.0	9.5				73.6	--A	--	--	--
0 325	42- 58	A13	63.7	23.2	13.1	--	0.1	1.2	32.0	30.4	17.1	6.1				73.6	--A	--	--	--
0 326	58- 83	C 1	62.1	27.4	10.5	--	0.1	1.1	30.7	30.2	16.8	10.6				72.2	--A	--	--	--
0 327	83-105	C 2	63.1	27.5	9.4	--	--	1.1	31.0	31.0	16.1	11.4				72.9	--A	--	--	--
0 328	105-130	B1 B	63.5	27.0	9.5	--	--	1.1	30.3	32.1	16.3	10.7				73.3	--A	--	--	--
0 329	130-150	B2 TB	61.5	21.8	16.7	--	--	1.2	31.4	28.9	13.1	8.7				67.8	--A	--	--	--

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A -PERCENT-	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B -PERCENT-	2-20 6E1B	SESQUIOXIDES DI-CIT EXT FE 6C2B	AL 6G7A	PYROP EXT FE 6C5A	AL 6G5A	ATTERBERG L I M I T LL 4F1	PL 4F2	EST. 1/3 4A1F	BULK DENSITY 1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
						PERCENT				PCT.NO.40		GRAMS PER CC				PERCENT			PERCENT	
0 323	0- 23	0.62	0.055			0.5	TR						1.54	1.56	1.00	16.8	11.5	6.0	0.4	0.4
0 324	23- 42	0.33	0.036			0.6	TR					1.50			1.00			3.0		
0 325	42- 58	0.26				0.6	TR						1.48	1.50	1.00	12.1	8.6	3.2	0.4	0.4
0 326	58- 83	0.22				0.6	0.1					1.50			1.00			3.2		
0 327	83-105	0.21				0.6	TR						1.53	1.56	1.00	13.6	9.8	3.6	0.6	0.6
0 328	105-130					0.6	TR					1.60			1.00			3.6		
0 329	130-150					0.9	0.1						1.69	1.76	1.00	17.9	14.9	3.5	1.4	1.4

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6Q2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI-DITY 6H2A	KCL EXT. AL 6G1E	CEC SUM 5A3A	NH4-OAC 5A6A	BASE SATURATION SUM+ ACI-DITY	SUM+ AL	NH4-OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA-CL2 8C1E
		MEQ/100G									PERCENT					
0 323	0- 23	7.9	0.8	0.4	0.7	9.8			9.8	6.1			100+		7.8	7.2
0 324	23- 42	7.6	0.7	0.4	0.4	9.1			9.1	5.9			100+		7.9	7.2
0 325	42- 58	6.3	0.9	0.4	0.3	7.9			7.9	5.8			100+		8.0	7.3
0 326	58- 83	8.1	1.1	0.3	0.2	9.7			9.7	6.7			100+		8.1	7.4
0 327	83-105	7.3	0.9	0.1	0.2	8.5			8.5	6.1			100+		8.1	7.2
0 328	105-130	7.2	1.1	0.3	0.2	8.8			8.8	6.5			100+		8.1	7.3
0 329	130-150	8.1	2.7	0.3	0.3	11.4			11.4	10.8			100+		7.9	7.0

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I 7A2E	II 7A2E	III 7A2E	IV 7A2E	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY I 7A2E	II 7A2E	III 7A2E
0 323	0- 23	MI 4	KK 3							
0 324	23- 42									
0 325	42- 58	MI 4	KK 3							
0 326	58- 83									
0 327	83-105	MI 4	KK 3							
0 328	105-130									
0 329	130-150	MI 4	KK 3							

MINERAL CODE	RELATIVE AMOUNT
MI MICA	1 TRACE
KK KAOLINIT	2 SMALL
	3 MODERATE
	4 ABUNDANT
	5 DOMINANT
	6 INDETER.

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION

CAVAL FINE SANDY LOAM (taxadjunct) 1/
S70Utah-27-9

Location: Washington County, UT. Lee Valley, approximately 660 feet east and 330 feet south of the NW corner of Sec. 15, T. 40 S., R. 11 W. Date of sampling: September 17, 1970.
Description by: Vear L. Mortensen. Collectors: D. Nettleton, V. Mortensen, T. B. Hutchings and party.
Classification: Psammentic Haplustalf, coarse-loamy, mixed, mesic.
Vegetation: Nonirrigated cropland, idle. Climate: Mean annual temperature, 48° to 51°F.; mean summer temperature, 68° to 72°F.; average annual precipitation, 14 to 15 inches; frost-free season, 120 to 150 days. Parent material: Wind deposited material weathered from sandstone, over old basalt flow. Topography: Mountain valley. Slopes are about 3 percent. Elevation: 5,800 feet. Drainage: Well drained. Soil moisture: Usually moist.

HORIZON	DESCRIPTION
A11 RSL No. 70323	0-23 cm (0-9 inches), brown (7.5YR 5/3) fine sandy loam, dark brown (7.5YR 3/3) moist; weak medium subangular blocky structure; slightly hard, very friable, nonsticky, nonplastic; few fine roots; common very fine tubular and many micro interstitial pores; neutral (pH 6.8); clear smooth boundary.
A12 RSL No. 70324	23-42 cm (9-16 inches), brown (7.5YR 5/4) fine sandy loam, dark brown (7.5YR 3/3) moist; weak medium subangular blocky structure; slightly hard, very friable, nonsticky, nonplastic; few fine roots; common fine and very fine tubular and many micro interstitial pores; neutral (pH 6.8); gradual smooth boundary.
A13 RSL No. 70325	42-58 cm (16-23 inches), brown (7.5YR 5/4) fine sandy loam; dark brown (7.5YR 3/3) moist; weak medium subangular blocky structure; hard, very friable, nonsticky, nonplastic; few fine roots; common fine and very fine tubular and many micro interstitial pores; neutral (pH 6.8); gradual smooth boundary.
C1 RSL No. 70326	58-83 cm (23-33 inches), brown (7.5YR 5/4) fine sandy loam, dark brown (7.5YR 3/4) fine sandy loam; dark brown (7.5YR 3/4) moist; weak coarse subangular blocky structure; hard, very friable, nonsticky, nonplastic; few fine roots; common fine and very fine and many micro tubular and many micro interstial pores; neutral (pH 6.9); clear smooth boundary.
C2 RSL No. 70327	83-105 cm (33-41 inches), brown (7.5YR 5/4) fine sandy loam, dark brown (7.5YR 3/4) moist; weak coarse subangular blocky structure; hard, very friable, nonsticky, nonplastic; few fine roots; few fine and common very fine tubular and many micro interstitial pores; neutral (pH 6.8); clear wavy boundary.
B1b RSL No. 70328	105-130 cm (41-51 inches), brown (7.5YR 5/4) fine sandy loam, dark brown (7.5YR 3/4) moist; moderate medium subangular blocky structure; hard, very friable, nonsticky, nonplastic; few fine roots; common fine, many very fine, and micro tubular and many micro intersitial pores; neutral (pH 6.8); clear wavy boundary.
B2tb RSL No. 70329	130-150 cm (51-59 inches), reddish brown (5YR 5/4) sandy loam, dark reddish brown (5YR 3/4) moist; moderate medium subangular blocky structure; very hard, friable, slightly sticky, slightly plastic; few fine roots; few fine, common very fine and micro tubular pores; many moderately thick clay films on faces of peds and in pores; neutral (pH 6.7).

1/ The Caval series is in a coarse-loamy, mixed, mesic family of Typic Haplustolls. This pedon lacks enough organic carbon for a mollic epipedon and has an argillic horizon.

CONSECUTIVE PEDCN NUMBER C 71 32 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES GUILDER LOAM (TAXADJUNCT) SOIL NO. S71 UTAH. 15- 3 SAMPLE NC. 1 206-1 212 MORGAN-SUMMIT AREA

SOIL FAMILY: MCLLIC HAPLOXERALF,FINE-LOAMY,MIXED,FRIGID RIVERSIDE SOIL SURVEY LABCRATORY

SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SANC 2- .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CC. 2- .2U	FINE LT .2U	CARBO NATE 3A1A.02	INT. II .2-	1A2A PCT. OF WHOLE SOIL	COARSE FRAGMENTS I 75- 20 PCT. OF LT 75	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM																	
1 206	0- 10	A1	30.3	47.6	22.1	1.1	2.0	3.2	12.9	11.1	20.5	27.1				39.3	15A	12V	2	1
1 207	10- 28	A3	26.9	44.2	28.9	0.7	1.5	2.5	10.7	11.5	14.2	30.0				32.5	13A	10V	2	1
1 208	28- 49	B21T	21.8	44.3	33.9	0.3	1.0	2.0	9.4	9.1	12.2	32.1				27.1	10A	8V	1	1
1 209	49- 71	B22TCA	16.8	54.4	28.8	1.7	1.4	1.6	6.1	6.0	15.3	39.1			1	24.6	9A	8V	--	1
1 210	71-107	B31TCA	19.7	57.7	22.6	1.4	1.6	1.5	6.4	8.8	18.1	39.6			3	31.3	11A	8V	1	1
1 211	107-130	B32TCA	49.6	40.3	10.1	3.8	5.3	4.0	13.7	22.8	21.0	19.3			1	53.1	G			
1 212	130-145	C	55.3	36.5	8.2	10.3	7.2	5.0	13.1	19.7	19.3	17.2			1	47.1	G			

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR- BON 6A1A	NITRO GEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES DI-CIT FE 6C2B	EXT AL 6G7A	PYROP FE 6C5A	EXT AL 6G5A	ATTERBERG L I M I T LL 4F1	PL 4F2	BULK DENSITY EST. 1/3 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		PERCENT		PERCENT		PERCENT				PCT.NO.40		GRAMS PER CC				PERCENT			PERCENT	
1 206	0- 10	4.47	0.363			1.6	0.1						1.00	1.07	0.94	31.7	24.1	12.7	2.3	2.1
1 207	10- 28	2.43	0.247			1.6	0.1					1.25			0.94			10.5		
1 208	28- 49	1.12	0.129			2.3	0.1						1.52	1.61	0.94	20.6	18.4	10.5	1.9	1.8
1 209	49- 71	0.60	0.096		18	1.8	0.1					1.50			0.94			8.6		
1 210	71-107	0.52			26	0.4	0.1						1.49	1.52	0.94	24.5	19.5	7.8	0.7	0.6
1 211	107-130	0.24			23	0.4	0.1					1.60			1.00			4.7		
1 212	130-145				25	1.1	TR						2.20	2.20	1.00	6.2	5.9	4.1		

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI- DITY 6F2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4- OAC 5A6A	BASE SATURATION SUM+ ACI- DITY	SUM+ AL	NH4- OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA- CL2 8C1E
		MEQ/100G									PERCENT					
1 206	0- 10	24.3	2.0	0.1	1.6	28.0	3.9		31.9	22.5	88		100+		6.9	6.8
1 207	10- 28	22.9	1.0	0.1	1.1	25.1	1.7		26.8	18.2	94		100+		7.3	7.0
1 208	28- 49	17.4	0.8	0.1	0.6	18.9			18.9	12.8			100+		7.4	7.1
1 209	49- 71	21.9	0.7	0.2	0.2	23.0			23.0	8.1			100+		7.7	7.3
1 210	71-107	93.1	0.7	0.2	0.1	94.1			94.1	7.1			100+		7.8	7.3
1 211	107-130	13.7	0.5	0.2	0.1	14.5			14.5	3.6			100+		7.8	7.4
1 212	130-145	15.8	0.5	0.2	0.1	16.6			16.6	2.7			100+		7.7	7.3

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
1 206	0- 10	MI 3	KK 3								MI MICA	1 TRACE
1 207	10- 28										KK KAOLINIT	2 SMALL
1 208	28- 49	KK 4	MI 3									3 MODERATE
1 209	49- 71										AM AMORPHOS	4 ABUNDANT
1 210	71-107	KK 4	MI 3									5 DCMINANT
1 211	107-130											6 INDETER.
1 212	130-145	AM 6	MI 1	KK 1								

SAMPLE PREPARATICN CODES
A=STANDARD PREPARATION.
V=NCT WEIGHED. VALUE CALCULATED FROM A VOLUME ESTIMATE.
G=GROUND WHCLE. HORIZCN INDURATED OR GRAVEL TOO SOFT TO BE SEPARATED. ALL DATA FOR WHOLE SOIL.

GUILDER LOAM (Taxadjunct) 1/
S71Utah-15-3

Location: Morgan County, UT, head of Squaw Creek drainage into Lost Creek; 1,200 feet east and 1,600 feet north of southwest corner Sec. 16, T. 6 N., R. 6 E. Date of sampling: June 22, 1971.
Description by: J. Carley and E. Jensen. Collectors: D. Nettleton, J. Carley, E. Jensen, L. Campbell.
Classification: Mollic Haploxeralf, fine-loamy, mixed, frigid.
Vegetation: Big sagebrush, snakeweed, Idaho fescue, snowberry. Climate: Average annual precipitation is 18 to 20 inches. Mean annual temperature is 39° to 41° F. Mean summer temperature is 58° to 60° F. Frost-free period is 65 to 70 days. Parent materials: Local alluvium and residuum from sandstone. Topography: Mountain slope, 20 percent slope, northwest aspect, slightly concave. Elevation: 7,300 feet. Drainage: Well drained. Soil moisture: Usually moist.

HORIZON	DESCRIPTION
01	2 cm- 0, (1-0 inches),decaying leaves and twigs.
A1 RSL No. 71206	0-10 cm (0-4 inches), dark brown (7.5YR 4/4) loam, dark reddish brown (5YR 3/3) moist; weak medium subangular blocky structure that parts to weak fine granular; soft, friable, slightly sticky, plastic; many very fine and fine and few medium roots; 5 percent gravel; neutral (pH 6.8); clear smooth boundary.
A3 RSL No. 71207	10-28 cm (4-11 inches), dark brown (7.5YR 4/4) clay loam, dark reddish brown (5YR 3/4) moist; weak medium subangular blocky structure that parts to weak fine granular; soft, friable, slightly sticky, plastic; common very fine and fine and few medium roots; common very fine and fine pores; 5 percent gravel; neutral (pH 6.8); clear smooth boundary.
B21t RSL No. 71208	28-49 cm (11-19 inches), yellowish red (5YR 5/6) clay loam, yellowish red (5YR 4/6) moist; moderate fine and medium subangular blocky structure; hard, firm, sticky, plastic; common very fine and fine, and few medium roots; common very fine and fine and few medium pores; many thin clay films in pores and on faces of peds; 5 percent gravel; neutral (pH 6.8); abrupt wavy boundary.
B22tca RSL No. 71209	49-71 cm (19-28 inches), red (2.5YR 5/6) clay loam, red (2.5YR 4/6) moist; moderate fine and medium subangular blocky structure; hard, firm, sticky, plastic; few very fine, fine and medium roots; common very fine pores; common thin clay films in pores and on faces of peds; 5 percent gravel; strongly calcareous; moderately alkaline (pH 8.2); clear smooth boundary.
B31tca RSL No. 71210	71-107 cm (28-42 inches), red (2.5YR 5/6) silt loam, red (2.5YR 4/6) moist; weak fine and medium subangular blocky structure; slightly hard, friable, slightly sticky, plastic; few very fine, fine,and medium roots; many very fine and fine and few medium pores; few thin clay films in pores and on faces of peds; 5 percent gravel; strongly calcareous; moderately alkaline (pH 8.2); clear, smooth boundary.
B32tca RSL No. 71211	107-130 cm (42-52 inches, red (2.5YR 4/6) light loam, yellowish red (5YR 4/6 moist; weak fine and medium subangular blocky structure; slightly hard, friable, slightly sticky, slightly plastic; few fine roots; few very fine pores; 60 percent soft sandstone gravel; strongly calcareous; moderately alkaline (pH 8.4); clear smooth boundary.
C RSL No. 71212	130-145 cm (52-58 inches), yellowish red (5YR 5/6) sandy loam, red (2.5YR 4/6) moist; moderate thick platy structure; very hard, friable, slightly sticky, slightly plastic; 90 percent soft sandstone fragments; strongly calcareous; moderately alkaline (pH 8.4).

1/ The Guilder series is in a fine, mixed, frigid family of Mollic Haploxeralfs. This pedon has slightly less than 35 percent clay.

CONSECUTIVE PEDON NUMBER C 72 84 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES KILFOIL LOAM SOIL NO. S72 UTAH. 15- 2 SAMPLE NO. 2 514-2 519 MORGAN&E.WEBER AREA

SOIL FAMILY: MOLLIC HAPLOXERALF,FINE-LOAMY,MIXED,FRIGID RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION 2- .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBONATE 3A1A	INT. II .2- .02	1A2A COARSE FRAGMENTS I 75- 20 PCT. OF WHOLE SOIL	II 20-5 PCT. OF LT 75	III 5-2
			PERCENT OF LESS THAN 2MM																
2 514	0- 3	A11	48.7	30.9	20.4	6.5	12.5	9.4	12.2	8.1	11.0	19.9				25.4	7A	4	2	1
2 515	3- 15	A12	44.2	32.3	23.5	4.3	10.5	9.1	12.1	8.2	12.8	19.5	16.6	6.9		27.5	9A	4V	1	3
2 516	15- 23	B21T	37.8	31.9	30.3	1.9	5.1	6.2	13.5	11.1	14.0	17.9				33.0	7A	3V	TR	4
2 517	23- 41	B22T	41.6	35.4	23.0	1.4	2.6	3.2	15.3	19.1	18.3	17.1	14.9	8.1		48.7	10A	8V	TR	2
2 518	41- 66	B3 CA	41.3	39.7	19.0	2.0	2.7	2.0	10.2	24.4	20.0	19.7			1	52.7	19A	18V	--	1
2 519	66- 89	R	58.2	33.3	8.5	1.3	2.6	6.1	34.2	14.0	17.3	16.0	6.4	2.1	1	53.2	G			

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A -PERCENT--	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	19-2 6E1B -PERCENT-	EXT. IRON FE 6C2B PCT.	ATTERBERG LIMIT LL 4F1	PL 4F2 PCT.NO.40	BULK DENSITY EST 1/3 BAR 4A1F	1/3 BAR 4A1F GRAMS PER CC	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C -----PERCENT---	1/3 BAR 4B1C	15 BAR 4B2	EXTENSBLTY LEF 4D1 -PERCENT--	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
2 514	0- 3	2.30	0.209	2		1.2			1.15			0.97			8.8			7.7	7.8	7.0
2 515	3- 15	2.16	0.201	2		1.2				1.18	1.28	0.96	24.1	22.6	8.7	2.7	2.6	7.8	8.1	7.1
2 516	15- 23	1.16	0.127	4		1.3			1.59			0.95			10.9			7.9	8.3	7.2
2 517	23- 41	0.54	0.080	9		1.1				1.59	1.67	0.94	16.6	15.4	9.1	1.6	1.5	8.0	8.7	7.0
2 518	41- 66	0.45	0.074	16		0.6			1.65			0.87			8.7			8.1		7.2
2 519	66- 89	0.08	0.030	12		1.7				2.05	2.05	1.00	10.5	9.6	2.7			8.2		7.0

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT. PCT.	C E C NA- OAC 5A2A -MEQ/100G	NH4- OAC 5A6A	EC 8A1A MMHO	WATER EXTRACT FROM SATURATED PASTE CA 6N1A	MG 6O1A	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1B	B 6T1A PPM	PH SAT. PASTE 8C1B
		MEQ/100G						MEQ/100G			MEQ/1000 ML									
2 514	0- 3	19.9	2.0	0.7	1.0	23.6	100+		13.5	0.85	6.2	1.4	0.4	1.0		4.5	0.6	0.3		7.5
2 515	3- 15	21.1	2.3	0.6	1.2	25.2	100+		14.4	0.79	5.2	1.8	0.2	1.5		5.9	0.7			7.7
2 516	15- 23	21.6	1.9	0.6	1.0	25.1	100+		11.5	0.61	4.1	1.0	0.2	1.1		5.8				7.6
2 517	23- 41	17.4	1.4	0.5	0.6	19.9	100+		9.0	0.47	3.1	0.4	0.2	0.7		4.4	0.2			7.6
2 518	41- 66	16.1	1.2	0.7	0.4	18.4	100+		6.0											
2 519	66- 89	14.5	0.8	0.5	0.1	15.9	100+		2.7											

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGEABLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1B PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I 7A2E	II 7A2E	III 7A2E	IV 7A2E	DTA 7A3 PCT.	L.T. .0002 MM X RAY I 7A2E	II 7A2E	III 7A2E	MINERAL CODE	RELATIVE AMOUNT
2 514	0- 3	44.0	0.7	5	TR												1 TRACE
2 515	3- 15	42.0	0.6	4	TR			MI	3	KK	3		MI	3	KK	3	MI MICA 2 SMALL
2 516	15- 23	42.8	0.6	5	TR												KK KAOLINIT 3 MODERATE
2 517	23- 41	40.8	0.5	5	TR			MI	3	KK	3		MI	3	KK	3	4 ABUNDANT
2 518	41- 66		0.7	12													5 DOMINANT
2 519	66- 89		0.5	19				MI	2	KK	2		MI	3	KK	2	6 INDETER.

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
V=NOT WEIGHED. VALUE CALCULATED FROM A VOLUME ESTIMATE.
G=GROUND WHOLE. HORIZON INDURATED OR GRAVEL TOO SOFT TO BE SEPARATED. ALL DATA FOR WHOLE SOIL.

KILFOIL LOAM
S72Utah-15-2

Location: Morgan County, UT; Kilfoil Canyon; about 3 1/2 miles north of Lost Creek Dam, 1,250 feet east and 1,400 feet south of northwest corner of Sec. 27, T. 6 N., R. 5 E.
Date of sampling: July 13, 1972.
Description by: E. Jensen, J. Carley. Collectors: D. Nettleton, A. Erickson, J. Carley, Earl Jensen, R. Fish.
Classification: Mollic Haploxeralf, fine-loamy, mixed, frigid.
Vegetation: Big sagebrush, bluebunch wheatgrass, Great basin wildrye, bitterbrush, snowberry, native bluegrass, chokecherry, Oregon-grape. Climate: Average annual precipitation is 18 to 20 inches. Mean annual temperature is 42° to 46° F. Mean summer temperature is 59° to 61° F. Frost-free period is 70 to 80 days. Parent material: Colluvium and residuum from calcareous sandstone. Topography: Mountain slope, 60 percent, south aspect, slightly convex. Elevation: 6,600 feet. Drainage: Well drained. Soil moisture: Usually moist.

HORIZON	DESCRIPTION
A11 RSL No. 72514	0-3 cm (0-1 inch), brown (10YR 5/3) loam, very dark grayish brown (10YR 3/2) moist; weak medium platy structure that parts to moderate fine granular; soft, very friable, slightly sticky, slightly plastic; common very fine and medium roots; many fine pores; 5 percent angular gravel; mildly alkaline (pH 7.4); abrupt smooth boundary.
A12 RSL No. 72515	3-15 cm (1-6 inches), brown (10YR 5/3) loam, very dark grayish brown (10YR 3/2) moist; moderate medium granular structure; soft, friable, slightly sticky, slightly plastic; common very fine and medium roots; 5 percent angular gravel: slightly calcareous, lime is disseminated; mildly alkaline (pH 7.4); abrupt smooth boundary.
B21t RSL No. 72516	15-23 cm (6-9 inches), light yellowish brown (10YR 6/4) clay loam, dark brown (10YR 4/3) moist; weak coarse subangular blocky structure that parts to moderate very fine subangular blocky; hard, firm, slightly sticky, plastic; common very fine, fine, and medium roots; many thin clay films on faces of peds; 5 percent angular gravel; moderately calcareous, lime is disseminated; mildly alkaline (pH 7.8); abrupt smooth boundary.
B22t RSL No. 72517	23-41 cm (9-16 inches), very pale brown (10YR 7/3), loam, brown (10YR 5/3) moist; moderate coarse and medium subangular blocky structure; very hard, very firm, sticky, plastic; few very fine and fine roots; common very fine pores; common thin clay films on faces of peds; 10 percent soft angular gravel; moderately calcareous, lime is disseminated; moderately alkaline (pH 8.4); abrupt irregular boundary.
B3ca RSL No. 72518	41-66 cm (16-26 inches), very pale brown (10YR 7/3) gravelly loam, brown (10YR 5/3) moist; very hard, very firm, sticky, plastic; few very fine and fine roots; common very fine pores; few thin clay films on faces of peds; 20 percent soft angular gravel; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.6).
R RSL No. 72519	66-89 cm (26-35 inches), calcareous sandstone bedrock.

CONSECUTIVE PEDCN NUMBER C 72 85 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES KILFUIL LOAM SOIL NO. S72 UTAH. 15- 4 SAMPLE NO. 2 520-2 525 MORGANGE.WEBER AREA

SOIL FAMILY: MOLLIC HAPLOXERALF,FINE-LOAMY,MIXED,FRIGID RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBO NATE 3A1A	1A2A INT. II .2- .02	-COARSE FRAGMENTS- PCT. OF WHOLE SOIL I 75- 20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75		
2 520	0- 3	A11	39.8	40.0	20.2	5.7	6.8	6.0	11.6	9.7	15.4	24.6				31.6	4A —	1	2
2 521	3- 10	A12	39.9	37.0	23.1	5.0	7.4	6.6	11.7	9.2	13.5	23.5	16.4	6.7		29.1	10A TR	5	4
2 522	10- 18	B1 T	32.3	38.8	28.9	2.5	6.8	6.0	9.7	7.3	13.8	25.0				26.5	13A 2	6	4
2 523	18- 33	B21T	33.2	37.8	29.0	4.5	6.9	5.5	8.8	7.5	12.5	25.3	20.4	8.6		24.7	12A 2	5	5
2 524	33- 53	B22T	32.5	38.1	29.4	4.4	6.4	5.3	9.4	7.0	13.1	25.0				24.9	11A 1	5	5
2 525	53- 76	B3 CA	41.2	34.8	24.0	3.9	10.5	8.2	11.5	7.1	11.8	23.0	17.0	7.0	2	24.7	36A 31	3	3

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	19-2 6E1B	EXT. IRON FE 6C2B	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST 1/3 BAR 4A1F	4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTENSBLTY LEF 4D1	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
		-PERCENT--		-PERCENT-		PCT.	PCT.	NO.40	GRAMS PER CC				----PERCENT---			-PERCENT--				
2 520	0- 3	2.77	0.244	2					1.20			0.98			8.8			7.8	8.0	7.1
2 521	3- 10	2.18	0.206	1						1.23	1.31	0.95	16.7	15.1	9.0	2.1	2.0	8.0	8.1	7.2
2 522	10- 18	1.30	0.152	4					1.30			0.93			10.4			8.1	8.5	7.4
2 523	18- 33	1.01	0.110	5						1.41	1.50	0.93	19.2	17.8	9.9	2.1	1.9	8.2	8.6	7.3
2 524	33- 53	0.82	0.099	5					1.40			0.94			10.2			8.2	8.6	7.4
2 525	53- 76	0.88	0.106	11					1.50			0.76			9.1			8.2	8.6	7.5

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6A2E	MG 5B4A 6D2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT.	C E C NA- DAC 5A2A	NH4- CAC 5A6A	EC 8A1A	WATER EXTRACT FROM SATURATED PASTE 8A1 CA 6N1A	MG 6O1A	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1B	B 6T1A	PH SAT. PASTE 8C1B
		--------MEQ/100G--------					PCT.	-MEQ/100G		MMHO	----------MEQ/1000 ML----------								PPM	
2 520	0- 3	22.2	1.8	0.5	1.4	25.9	100+		13.4	0.96	6.3	1.4	0.9	1.8		5.4	1.3	0.4		7.6
2 521	3- 10	25.6	2.0	0.6	1.2	29.4	100+		14.6	0.82	5.4	1.2	0.7	1.5		5.3	1.0			7.7
2 522	10- 18	23.6	1.6	0.7	0.7	26.6	100+		12.0	0.47	3.8	0.7	0.2	0.4		4.1	0.3			7.8
2 523	18- 33	25.6	1.6	0.7	0.5	28.4	100+		11.1	0.44	3.8	0.9	0.3	0.2		4.0	0.2			7.8
2 524	33- 53	23.6	1.8	0.6	0.3	26.3	100+		11.7	0.41	3.3	0.3	0.3	0.1		3.4	0.1			7.9
2 525	53- 76	23.3	2.5	0.6	0.2	26.6	100+		9.3	0.40	2.1	1.2	0.4	0.1		3.2	0.3			7.9

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGBLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1B PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY DTA 7A2E I	7A2E II	7A2E III	7A2E IV	7A3 PCT.	L.T. .0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
2 520	0- 3	46.6	0.5	3	TR												1 TRACE
2 521	3- 10	48.0	0.6	4	TR			MI 3	KK 3				MI 3	KK 2		MI MICA	2 SMALL
2 522	10- 18	46.6	0.7	6	TR											KK KAOLINIT	3 MODERATE
2 523	18- 33	43.2	0.7	6	TR			MI 3	KK 3				MI 3	KK 3			4 ABUNDANT
2 524	33- 53	44.8	0.6	5	TR												5 DOMINANT
2 525	53- 76	45.1	0.6	6	TR			MI 3	KK 3				MI 3	KK 3			6 INDETER.

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.

KILFOIL LOAM
72Utah-15-4

Location: Morgan County, UT; 4 1/2 miles east and 7 miles north of Croyden; about 850 feet west and 2,500 feet south of northeast corner, Sec. 13, T. 5 N., R. 4 E.
Date of sampling: July 14, 1972.
Description by: E. Jensen, J. Carley. Collectors: D. Nettleton, A. Erickson, J. Carley, E. Jensen.
Classification: Mollic Haploxeralf, fine-loamy, mixed, frigid.
Vegetation: Big sagebrush, bluebunch wheatgrass, snakeweed, snowberry, bitterbrush, native bluegrass, balsamroot, yarrow, Indian paintbrush, lupine. Climate: Average annual precipitation is 18 to 20 inches. Mean annual temperature is 39° to 41° F. Mean summer temperature is 59° to 61° F. Frost-free period is 70 to 80 days. Parent material: Alluvium and residuum from calcareous sandstone. Topography: Mountain slopes, 50 percent slope, south aspect, convex. Elevation: 6,600 feet. Drainage: Well drained. Soil moisture: Usually moist.

HORIZON	DESCRIPTION
A11 RSL No. 72520	0-3 cm (0-1 inch), brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; weak medium platy structure that parts to moderate fine granular; soft, very friable, slightly sticky, slightly plastic; common very fine, fine, and medium roots; many fine pores; mildly alkaline (pH 7.6); abrupt smooth boundary.
A12 RSL No. 72521	3-10 cm (1-4 inches), brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; moderate very fine granular structure; soft, very friable, slightly sticky, slightly plastic; common very fine, fine, and medium roots; few very fine pores; 10 percent soft angular gravel; slightly calcareous; mildly alkaline (pH 7.8); abrupt smooth boundary.
B1t RSL No. 72522	10-18 cm (4-7 inches), pale brown (10YR 6/3) clay loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure that parts to moderate medium granular; slightly hard, firm, sticky, slightly plastic; common very fine, fine and medium roots; few fine pores; common thin clay films on faces of peds; 10 percent soft angular gravel; slightly calcareous; moderately alkaline (pH 8.0); clear smooth boundary.
B21t RSL No. 72523	18-33 cm (7-13 inches), light yellowish brown (10YR 6/4) clay loam, dark brown (10YR 4/3) moist; weak coarse subangular blocky structure that parts to moderate medium subangular blocky; hard, firm, sticky, slightly plastic; few very fine, fine and medium roots; common fine, few coarse pores; common thin clay films on faces of peds; 15 percent soft angular gravel; moderately calcareous, lime is disseminated; moderately alkaline (pH 8.4); clear smooth boundary.
B22t RSL No. 72524	33-53 cm (13-21 inches), light yellowish brown (10YR 6/4) clay loam, dark brown (10YR 4/3) moist; weak coarse subangular blocky structure that parts to moderate fine and medium subangular blocky; hard, firm, sticky, slightly plastic; few very fine, fine and medium roots; common fine and few coarse pores; common thin clay films on faces of peds; 15 percent soft angular gravel, moderately calcareous, lime is disseminated; strongly alkaline (pH 8.6); abrupt irregular boundary.
B3ca RSL No. 72525	53-76 cm (21-30 inches), very pale brown (10YR 7/3) cobbly loam, yellowish brown (10YR 5/4) moist; weak medium subangular blocky structure that parts to weak medium granular; soft, friable; slightly sticky, slightly plastic; few very fine and medium roots; common fine and few coarse pores; 30 percent soft angular cobble; 15 percent soft angular gravel; moderately calcareous; lime is disseminated and in veins; strongly alkaline (pH 8.6); clear smooth boundary.
R Not Sampled	76-100 cm (30-39 1/2 inches), fractured sandstone bedrock.

CONSECUTIVE PEDON NUMBER C 71 31 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES GUILDER LOAM SOIL NO. S71 UTAH. 15- 2 SAMPLE NO. 1 198-1 205 MORGAN-SUMMIT AREA

SOIL FAMILY: MOLLIC HAPLOXERALF,FINE,MIXED,FRIGID RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION SANC 2- .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CC. 2- .2U	FINE LT .2U	CARBO NATE 3A1A.02	INT. II .2-	1A2A COARSE FRAGMENTS PCT. OF WHOLE 20	I 75- 20-5	II	III 5-2
			PERCENT OF LESS THAN 2MM														SOIL PCT. OF LT 75			
1 198	0- 13	A1	28.0	44.4	27.6	0.7	1.1	2.1	11.0	13.1	18.2	26.2	18.3	9.3		38.3	A			
1 199	13- 30	A3	28.4	42.0	29.6	0.2	0.6	1.7	10.3	15.6	17.2	24.8				39.7	A			
1 200	30- 56	B21T	21.7	42.4	35.9	0.1	0.6	1.1	5.5	14.4	18.3	24.1	21.7	14.2		36.7	A			
1 201	56- 79	B22TCA	19.0	41.5	39.5	0.7	2.3	2.5	6.1	7.4	12.3	29.2			TR	23.4	4A	1	1	2
1 202	79-107	B23TCA	17.6	48.6	33.8	0.4	0.9	1.2	5.9	9.2	14.3	34.3	22.5	11.3	TR	27.6	2A	TR	1	2
1 203	107-132	B24TCA	23.4	49.2	27.4	0.3	0.6	1.4	9.4	11.7	15.7	33.5			TR	33.9	2A	TR	TR	2
1 204	132-165	B3 T	30.9	44.6	24.5	0.6	2.1	3.0	12.5	12.7	14.2	30.4	16.5	8.0	1	34.7	9G	9V		
1 205	165-196	C	58.2	31.2	10.6	1.3	3.5	5.8	25.3	22.3	15.7	15.5	7.0	3.6		52.9	9G	9V		

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR- BON 6A1A -PERCENT-	NITRO GEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B -PERCENT-	2-20 6E1B	SESQUIOXIDES CI-CIT EXT FE 6C2B	PYROP EXT AL 6G7A	FE 6C5A	AL 6G5A	ATTERBERG L I M I T LL 4F1	PL 4F2	EST. 1/3 4A1F	BULK DENSITY 1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		-PERCENT-		-PERCENT-		PERCENT				PCT.NO.40		GRAMS PER CC				PERCENT			-PERCENT-	
1 198	0- 13	4.40	0.363			1.7	0.1						1.02	1.12	1.00		31.4	12.9	3.2	3.2
1 199	13- 30	1.98	0.192			1.8	0.1					1.30			1.00			10.4		
1 200	30- 56	0.95	0.102	TR		2.4	0.1						1.46	1.56	1.00	19.8	17.7	11.5	2.2	2.2
1 201	56- 79	0.73	0.094	12		2.2	0.1					1.70			0.97			11.1		
1 202	79-107	0.40		13		2.1	0.1						1.74	1.85	0.98	15.0	13.6	9.4	2.1	2.0
1 203	107-132	0.39		12		2.2	0.1					1.80			0.99			8.6		
1 204	132-165	0.39		18		1.7	0.1						1.87	1.94	1.00	14.1	12.6	8.5	1.2	1.2
1 205	165-196	0.18		19		0.9	TR						1.98	1.99	1.00	10.7	8.7	4.4	0.2	0.2

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6Q2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI- DITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4- OAC 5A6A	BASE SATURATION SUM+ ACI- DITY	AL	NH4- OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA- CL2 8C1E
		MEQ/100G									PERCENT					
1 198	0- 13	17.2	2.5	0.2	1.2	21.1	4.5		25.6	21.1	82		100+		6.8	6.6
1 199	13- 30	15.1	1.9	0.2	0.7	17.9	2.5		20.4	15.8	88		100+		7.0	6.7
1 200	30- 56	13.6	1.5	0.1	0.4	15.6	2.1		17.7	12.8	88		100+		7.0	6.9
1 201	56- 79	22.8	1.6	0.1	0.3	24.8			24.8	12.0			100+		7.5	7.2
1 202	79-107	20.5	1.3	0.1	0.2	22.1			22.1	9.6			100+		7.7	7.4
1 203	107-132	20.5	1.3	0.2	0.2	22.2			22.2	8.6			100+		7.8	7.3
1 204	132-165	21.7	1.7	0.2	0.1	23.7			23.7	7.3			100+		7.8	7.4
1 205	165-196	12.9	0.6	0.1	0.1	13.7			13.7	2.9			100+		7.9	7.3

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
1 198	0- 13	MI 3	KK 3					MI 3			MI MICA	1 TRACE
1 199	13- 30										KK KAOLINIT	2 SMALL
1 200	30- 56	MI 3	KK 3					MI 4	KK 2			3 MODERATE
1 201	56- 79											4 ABUNDANT
1 202	79-107	MI 3	KK 3					MI 4	KK 2			5 DOMINANT
1 203	107-132											6 INDETER.
1 204	132-165	MI 3	KK 3					MI 3	KK 1			
1 205	165-196	MI 3	KK 3					MI 3	KK 1			

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
G=GROUND WHOLE. HORIZON INDURATED OR GRAVEL TOO SOFT TO BE SEPARATED. ALL DATA FOR WHOLE SOIL.
V=NOT WEIGHED. VALUE CALCULATED FROM A VOLUME ESTIMATE.

GUILDER LOAM
S71Utah-15-2

Location: Morgan County, UT; head of Beaver Creek drainage in Lost Creek, about 2,800 feet east and 2,000 feet south of northwest corner of Sec. 19, T. 7 N., R. 6 E.
Date of sampling: June 22, 1971.
Description by: J. Carley and E. Jensen. Collectors: D. Nettleton, J. Carley, E. Jensen, L. Campbell.
Classification: Mollic Haploxeralf, fine, mixed, frigid.
Vegetation: Big sagebrush, yellowbrush geranium, yarrow, mountain-laurel, gooseberry, mountain brome, senecio. Climate: Average annual precipitation is 18 to 20 inches; mean annual temperature is 39 to 41° F. Mean summer temperature is 58° to 60° F. Frost-free period is 65 to 70 days. Parent materials: Local alluvium and residuum from sandstone. Topography: Mountain slopes, 17 percent slope, northwest aspect. Elevation: 7,720 feet. Drainage: Well drained. Soil moisture: Usually moist.

HORIZON	DESCRIPTION
01	2 1/2 cm -0, (1-0 inches), decaying leaves and twigs.
A1 RSL No. 71198	0-13 cm (0-5 inches), reddish brown (5YR 4/4) loam, dark reddish brown (5YR 3/3) moist; moderate fine granular structure; slightly hard, very friable, slightly sticky, slightly plastic; many very fine and fine and few medium roots; neutral (pH 6.8); clear smooth boundary.
A3 RSL No. 71199	13-30 cm (5-12 inches), yellowish red (5YR 4/6) clay loam, dark reddish brown (2.5YR 3/4) moist; weak medium subangular blocky structure that parts to moderate fine granular; hard, friable, slightly sticky, slightly plastic; common very fine and fine, few medium roots; common very fine and fine pores; neutral (pH 6.8); clear smooth boundary.
B21t RSL No. 71200	30-56 cm (12-22 inches), red (2.5YR 4/6) heavy clay loam, dark red (2.5YR 3/6) moist; weak medium prismatic structure that parts to moderate fine subangular blocky; very hard, firm, sticky, plastic; few very fine and fine roots; common very fine and fine pores; many thin and moderately thick clay films on faces of peds and in pores; neutral (pH 6.8); abrupt smooth boundary.
B22tca RSL No. 71201	56-79 cm (22-31 inches), red (2.5YR 4/6) heavy clay loam, reddish brown (2.5YR 4/4) moist; weak medium prismatic structure that parts to moderate fine subangular blocky; very hard, very firm, sticky, very plastic; few very fine and fine roots; common very fine pores; common thin clay films in pores and on faces of peds; moderately calcareous; mildly alkaline (pH 7.8); clear smooth boundary.
B23tca RSL No. 71202	79-107 cm (31-42 inches), yellowish red (5YR 5/6) clay loam, dark red (2.5YR 3/6) moist; weak coarse subangular blocky structure that parts to moderate fine and medium subangular blocky; very hard, very firm, sticky, plastic; few very fine and fine roots; common very fine pores; many thin and common moderately thick clay films in pores; and on faces of peds; 25 percent soft sandstone gravel; moderately calcareous; moderately alkaline (pH 8.2); clear smooth boundary.
B24tca RSL No. 71203	107-132 cm (42-52 inches), yellowish red (5YR 5/8) heavy loam, dark red (2.5YR 3/6) moist; moderate medium subangular blocky structure; hard, firm, slightly sticky, plastic; few very fine and fine roots; common very fine and fine pores; common thin clay films in pores and on faces of peds; 20 percent soft sandstone gravel; moderately calcareous; moderately alkaline (pH 8.2); clear smooth boundary.
B3t RSL No. 71204	132-165 cm (52-65 inches), yellowish red (5YR 5/8) loam, red (2.5YR 4/6) moist; weak fine subangular blocky structure; hard, firm, slightly sticky and plastic; few very fine and fine roots; common very fine and fine pores; few thin clay films in pores and on faces of peds; 20 percent soft sandstone gravel; strongly calcareous; moderately alkaline (pH 8.2); clear smooth boundary.
C RSL No. 71205	165-196 cm (65-77 inches), red (2.5YR 4/6) fine sandy loam, dark red (2.5YR 3/6) moist; moderate thick platy structure; very hard, very firm, nonsticky and nonplastic; few very fine roots; 40 percent soft weathered sandstone fragments; strongly calcareous; strongly alkaline (pH 8.6).

SCS-420
10-

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL FAMILY: Typic Haplargid, coarse-loamy, mixed, mesic

SOIL Patna sandy loam SOIL Nos. S66Utah-1-6 LOCATION Beaver County, Utah

SOIL SURVEY LABORATORY Riverside, California LAB. Nos. 66188 - 66194

Depth (in.)	Horizon	1B1b Total: Sand (2-0.05)	Silt (0.05-0.002)	Clay (< 0.002)	Sand: Very coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-0.1)	Very fine (0.1-0.05)	Silt: (0.05-0.02)	Int. III (0.02-0.002)	Int. II (0.2-0.02)	(2-0.1)	3A1a Carbonate clay	3A1a Non-carbonate clay	1/ Coarse fragments 1A2a > 2 Pct	2 - 19 (Pct of < 76 mm)	19-76 (Pct of < 76 mm)
		Pct of < 2 mm																
0-2	A11	61.7	30.7	7.6	10.1	12.5	7.7	14.2	17.2	19.9	10.8	45.1	44.5	0	3	16	16	0
2-5	A12	54.4	35.5	10.1	10.5	12.1	7.5	12.4	11.9	18.3	17.2	36.6	42.5	0	10	16	16	0
5-14	B2t	45.5	38.5	16.0	9.2	11.0	6.6	10.2	8.5	19.5	19.0	33.2	37.0	0	16	17	17	0
14-28	B3	53.8	33.1	13.1	11.5	14.0	8.5	11.7	7.1	14.6	18.5	27.6	46.7	0	13	28	21	7
28-43	IIC1	72.3	8.4	19.3	16.4	19.4	12.7	17.9	6.9	8.1	0.3	23.5	66.4	0	18	35	32	3
43-54	IIC2	75.4	11.1	13.5	19.0	23.2	12.7	14.7	5.2	6.3	4.8	17.9	70.2	5	9	43	39	4
54-72	IIIC3	63.1	27.4	9.5	8.1	14.1	9.2	17.4	14.3	13.1	14.3	37.1	48.8	2	8	13	13	0

Depth (in.)	6A1a Organic carbon Pct.	6B1a Nitrogen Pct	C/N	6C2a Ext. Iron as Fe Pct.	6E1b Carbonate as $CaCO_3$ Pct	Carbonate as $CaCO_3$ (whole soil) 6E1b Pct.	Bulk density 4A1f 1/3 bar g/cc	4A1h Oven dry g/cc	g/cc	3B2 Cm	Water content Pct.	4B1c 1/3 bar Pct.	4B2 15 bar Pct.	4D1 Extensibility COLEF in./in.	4D1 Extensibility COLE in./in.	pH 8C1b Saturated Paste	8C1a H_2O 1:1	8C1a H_2O 1:10
0-2	0.69	0.057	12		3		1.46	1.47		0.90		12.7	5.8	0.002	0.002	8.2	8.8	9.2
2-5	0.39	0.038	10		5		1.61	1.62		0.90		11.7	6.1	0.001	0.001	8.2	8.8	9.3
5-14	0.36				4		1.43	1.44		0.90		11.6	8.0	0.001	0.001	8.1	8.6	9.3
14-28	0.32				6		1.44	1.46		0.83		18.2	7.6	0.004	0.004	7.6	8.5	9.5
28-43	0.26				2		1.58	1.59		0.76		14.3	7.4	0.002	0.002	7.6	7.9	8.7
43-54	0.16				13	10	1.49	1.50		0.70		15.4	7.2	0.002	0.002	7.6	7.9	8.5
54-72	0.19				19	18	1.46	1.46		0.92		19.4	8.6	0.000	0.000	7.6	7.7	8.2

Depth (in.)	Extractable bases 6N4c Ca 5B3a	6O4c Mg 5B3a	6P2a Na 5B1a	6Q2a K 5B1a	* Sum of bases	6H2a Ext. Acidity	Cation Exch. Capacity 5A2a NaOAc	5A1a NH_4OAc	Water extract from saturated paste 8A1 6N1a Ca	6O1a Mg	6P1a Na	6Q1a K		6I1a CO_3	6J1a HCO_3	6K1a Cl	SO_4	8A1a Electrical conductivity
	meq/100 g								meq/liter									mmho/cm
0-2	8.1	2.3	0.6	3.8	14.5			13.0	4.7	1.7	5.0	3.1		-	4.0	2.2	1.6	1.26
2-5	10.1	2.6	0.4	4.7	17.6			14.8	4.2	0.9	2.0	2.7		-	4.4	1.2		0.82
5-14	10.9	3.5	1.2	4.0	18.9			17.5	1.7	0.6	5.1	1.3		-	4.7	1.4		0.81
14-28	10.3	2.9	5.9	1.4	18.3			17.2	10.0	3.0	61.8	0.4		-	11.1	65.0		7.3
28-43	11.8	3.5	8.6	0.3	16.9			15.5	77.4	31.6	154	0.2		-	6.2	210	39.2	18.6
43-54	12.7	3.0	7.5	0.2	13.7			12.8	79.1	29.8	135	0.1		-	2.6	192	39.9	20.6
54-72	26.0	3.8	8.3	0.2	17.3			15.3	94.3	33.5	138	0.2		-	2.4	212	38.4	21.3

Depth (in.)	8A Water at Saturation Pct	Exch. bases 5B3b* Ca	5B3b* Mg	5B1b Na	5D2 Exchangeable Na Pct.	SAR	6F1a Gypsum Pct.	Clay mineralogy (<0.002 mm) 7A Mont.	Verm.	Mica	Kaolin.	
		meq /100 g						X-ray				
0-2	25.2	8.0	2.3	0.4	3	3						
2-5	21.6	10.0	2.6	0.3	2	1						
5-14	27.7	10.9	3.5	0.5	3	5						
14-28	28.5	10.0	2.8	4.1	24	24						
28-43	27.7	9.7	2.6	4.3	28	21	tr					
43-54	30.3	8.0	2.1	3.4	27	18	0.2					
54-72	35.0	11.1	2.6	3.4	22	17	1.0					

1/ From characterization sample (5 kg).

* Ca++ and Mg++ corrected for Ca++ and Mg++ in the saturation extract and as gypsum.

PATNA SANDY LOAM

S66Utah-1-6

Location: Beaver County, UT; Wah Wah Valley exclosure, 320 feet west and 20 feet south of the southeast corner of the exclosure: SW 1/4 Sec. 25, T. 27 S., R. 14 W. (SLC PM). (UT 9-66B). Date of sampling: May 4, 1966.

Description by: Vern K. Hugie and Klaus W. Flach. Collectors: Klaus W. Flach and Vern K. Hugie

Classification: Typic Haplargid, coarse-loamy, mixed, mesic.

Vegetation: Winterfat (Eurotia lanata) 98 percent and galleta (Hilaria jamesii) 2 percent. Climate: Mean annual temperature is approximately 48° to 50°F. Average annual precipitation is about 6 inches. Parent material: Alluvium and lacustrine from a mixture of sedimentary and igneous rocks (sandstone, limestone, quartzite, rhyolite, tuff, etc.). Topography: Valley bottom where the bajadas from the Frisco Mountains on the east and the Wah Wah Mountains on the west coalesce. This study site occupies a nearly level area with 1 percent, north-facing slopes. Elevation: 5,400 feet. Drainage: Well drained. Soil moisture: At time of sampling the A and B21 horizons were moist and the remainder of the profile dry. The control section is dry more than 75 percent of the time that the soil temperature is above 41°F.

Remarks: The Wah Wah Valley exclosure is located on an old shoreline of Lake Bonneville. More recent alluvium from the Frisco and Wah Wah Mountains have covered this old shoreline. Its presence, however, is reflected in the clean sand and gravel in the deeper section of the pedons studied in this area. In Vern Hugie's report, this soil was called Crestline like. This soil appears to be mainly within the range of characteristics for the Patna series.

HORIZON	DESCRIPTION
A11 RSL No. 66188	0-2 inches (0-5 cm), light brownish gray (10YR 6/2) sandy loam, dark grayish brown (10YR 4/2) moist; weak medium platy structure; soft, very friable, nonsticky, nonplastic; few roots; common coarse vesicular and many medium and fine interstitial pores; 10 percent gravel; weak effervescence; moderately alkaline (pH 8.0); clear smooth boundary.
A12 RSL No. 66189	2-5 inches (5-13 cm), pale brown (10YR 6/3) sandy loam, brown (10YR 4/3) moist; moderate fine platy structure; soft, very friable, nonsticky, slightly plastic; common fine roots; common medium interstitial and tubular pores; 10 percent gravel; weak effervescence; moderately alkaline (pH 8.4); clear smooth boundary.
B2t RSL No. 66190	5-14 inches (13-36 cm), pale brown (10YR 6/3) loam, brown (10YR 4/3) moist; weak medium and fine subangular blocky structure; soft, very friable, slightly sticky, slightly plastic; common fine roots; common fine tubular pores; 10 percent gravel; weak effervescence; thin secondary carbonate coating on underside of pebbles; moderately alkaline (pH 8.2); gradual smooth boundary.
B3 RSL No. 66191	14-28 inches (36-71 cm), very pale brown (10YR 7/3) sandy loam, brown (10YR 5/3) moist; weak very coarse prismatic structure; soft, very friable, slightly sticky, slightly plastic; common fine roots; common medium and fine tubular pores; common krotovina; 15 percent gravel; strong effervescence; secondary carbonate coatings on underside of pebbles; moderately alkaline (pH 8.4); gradual wavy boundary.
IIC1 RSL No. 66192	28-43 inches (71-109 cm), light brown (7.5YR 6/4) gravelly light sandy loam, brown (7.5YR 4/4) moist; massive; slightly hard, friable, nonsticky, nonplastic; few fine roots; common fine and very fine tubular pores; 20 percent gravel; weak effervescence; secondary carbonates coating and pendents on underside of pebbles and as thin veins; common krotovina; moderately alkaline (pH 8.3); gradual smooth boundary.
IIC2 RSL No. 66193	43-54 inches (109-137 cm), light brown (7.5YR 6/4) stratified sand and gravel, dark brown (7.5YR 4/4) moist; massive; soft, very friable, nonsticky, nonplastic; few fine roots; many interstitial pores; 25 percent gravel; weak effervescence; secondary carbonate pendents on underside of pebbles; mildly alkaline (pH 7.4); clear wavy boundary.
IIIC3 RSL No. 66194	54-72 inches (137-183 cm), very pale brown (10YR 8/3) sandy loam, pale brown (10YR 6/3) moist; massive; slightly hard, friable, nonsticky, nonplastic; few fine roots; many fine tubular pores; violent effervescence; moderately alkaline (pH 8.0).

SCS-420
10-64

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL FAMILY: Typic Haplargid, coarse-loamy, mixed, mesic

SOIL: Patna sandy loam SOIL Nos. S66Utah-1-7 LOCATION: Beaver County, Utah

SOIL SURVEY LABORATORY: Riverside, California LAB. Nos. 66181 - 66187

Depth (in.)	Horizon	1B1b Total Sand (2-0.05)	Total Silt (0.05-0.002)	Total Clay (< 0.002)	Sand: Very coarse (2-1)	Sand: Coarse (1-0.5)	Sand: Medium (0.5-0.25)	Sand: Fine (0.25-0.1)	Sand: Very fine (0.1-0.05)	Silt: 0.05-0.02	Silt: Int III (0.02-0.002)	Int II (0.2-0.02)	(2-0.1)	3A1a Carbonate clay	3A1a Non-carbonate clay	1/ Coarse fragments 1A2a > 2	2 - 19	19 - 76
		Size class and particle diameter (mm) 3A1																
		Pct of < 2 mm														Pct	Pct. of < 76 mm	
0-3	A1	69.7	21.4	8.9	13.8	20.9	13.5	15.9	5.6	11.3	10.1	24.6	64.1	0	9	14	13	1
3-10	B21t	67.3	22.0	10.7	10.0	17.7	13.7	19.1	6.8	12.0	10.0	28.2	60.5	0	11	20	18	2
10-17	B22t	67.5	15.8	16.6	11.6	16.4	13.2	19.3	7.1	8.4	7.2	25.4	60.7	0	17	29	17	12
17-28	C1ca	67.4	15.8	16.8	13.6	20.1	12.0	15.0	6.7	8.3	7.5	22.5	60.7	6	11	20	18	2
28-46	C2ca	79.5	10.1	10.4	23.3	26.6	12.9	12.7	4.0	5.4	4.7	15.3	75.5	1	9	26	25	1
46-62+	IIC3	89.3	5.6	5.1	17.2	31.7	19.6	17.4	3.4	4.2	1.4	14.8	85.9	0	5	27	22	5
22-28	C1ca																	

Depth (in.)	6A1a Organic carbon Pct.	6B1a Nitrogen Pct.	C/N	6C2a Ext. Iron as Fe Pct.	6E1b Carbonate as $CaCO_3$ Pct	Carbonate as $CaCO_3$ (whole soil) 6E1b Pct.	Bulk density 4A1f 1/3 bar g/cc	Bulk density 4A1h Oven dry g/cc	Bulk density g/cc	3B2 Cm	Water content Pct.	Water content 4B1c 1/3 bar Pct.	Water content 4B2 15 bar Pct.	4D1 Extensibility COLEF in./in.	4D1 Extensibility COLE in./in.	pH 8C1b Saturated Paste	pH 8C1a H_2O 1:1	pH 8C1a H_2O 1:10
0-3	0.35	0.035	10		1		1.65	1.66		0.91		10.2	5.7	0.002	0.002	8.0	8.5	9.1
3-10	0.29				1		1.58	1.59		0.87		9.1	5.9	0.001	0.001	8.1	8.5	9.1
10-17	0.33				4	3	1.42	1.47		0.82		14.2	8.1	0.011	0.011	7.9	8.4	9.0
17-28	0.30				16	17	1.47	1.51		0.88		15.9	9.8	0.008	0.007	7.6	8.0	8.8
28-46	0.14				8	8							5.8			7.7	8.0	8.8
46-62+	0.08				2								4.3			7.9	8.3	9.2
22-28						20												

Depth (in.)	Extractable bases 6N4c Ca 5B3a	6O4c Mg 5B3a	6P2a Na 5B1a	6Q2a K 5B1a	* Sum of bases	6H2a Ext. Acidity	Cation Exch. Capacity 5A2a NaOAc	5A1a NH_4OAc	Water extract from saturated paste 8A1 6N1a Ca	6O1a Mg	6P1a Na	6Q1a K		6I1a CO_3	6J1a HCO_3	6K1a Cl	SO_4	8A1a Electrical conductivity
	meq/100 g								meq/liter									mmho/cm
0-3	8.3	2.4	0.2	3.7	14.5			12.3	5.4	2.0	1.6	4.1		-	4.3	1.7		1.20
3-10	9.2	2.3	0.2	3.3	14.9			12.5	4.0	0.8	1.1	1.8		-	2.5	0.6		0.60
10-17	10.6	3.1	0.8	1.4	15.4			14.0	4.7	1.7	6.1	0.7		-	3.4	8.4		1.34
17-28	10.5	3.9	3.1	0.6	14.5			11.9	27.3	14.5	48.0	0.5		-	3.6	77.4	4.0	8.9
28-46	9.3	3.6	3.9	0.4	12.6			10.3	48.3	28.4	80.5	0.5		-	4.4	105	39.4	12.1
46-62+	7.3	2.8	3.5	0.3	11.2			9.9	21.4	13.2	68.5	0.3		-	2.6	71.2	23.5	9.2
22-28																		

Depth (in.)	8A Water at Saturation Pct	Exch. bases 5B3b* Ca	5B3b* Mg	5B1b Na	5D2 Exchangeable Na Pct.	SAR	6F1a Gypsum Pct.	Clay mineralogy (<0.002 mm) 7A Mont.	Verm.	Mica	Kaolin.	Illite
		meq /100 g						X-ray				
0-3	19.1	8.2	2.4	0.2	2	0.8		x			tr	x
3-10	20.7	9.1	2.3	0.2	2	0.7						
10-17	33.7	10.4	3.0	0.6	1	3		xxx			x	xx
17-28	39.0	9.4	3.3	1.2	10	10						
28-46	29.9	7.9	2.8	1.5	15	13	tr					
46-62+	26.0	6.7	2.5	1.7	17	17	-	xxx			x	x
22-28												

1/ From characterization sample (5 kg).

* Ca++ and Mg++ corrected for Ca++ and Mg++ in the saturation extract and as gypsum.

- = looked for but not found
tr = trace
x = small
xx = moderate
xxx = abundant
xxxx = dominant

PATNA SANDY LOAM
S66Utah-1-7

Location: Beaver County, UT, Pine Valley exclosure, 170 feet south and 20 feet east of the northeast corner of the exclosure: SE 1/4, Sec. 1, T. 27 S., R. 17 W. (SLC PM). (UT 8-66A). Date of sampling: May 4, 1966.
Description by: Vern K. Hugie and Klaus W. Flach. Collectors: Klaus W. Flach and Vern K. Hugie.
Classification: Typic Haplargid, coarse-loamy, mixed, mesic.
Vegetation: Winterfat, sand dropseed, Indian ricegrass, and hoary aster. Climate: Mean annual temperature is about 48° to 50°F. Average annual precipitation is about 6 inches. Parent material: Alluvium from sedimentary and igneous rocks (limestone, sandstone, quartzite, rhyolite, tuff, etc). Topography: Valley bottom with nearly level, less than 1 percent, north-facing slope. Elevation: 5,280 feet. Drainage: Well drained. Soil moisture: At time of sampling the A and B21 horizons were moist and the remainder of the profile dry. The control section is dry more than 75 percent of the time when the soil temperature is above 41°F.
Remarks: This soil was called Crestline (like) in Vern Hugie's report, but is most like the Patna series.

HORIZON	DESCRIPTION
A1 RSL No. 66181	0-3 inches (0-8 cm), light brownish gray (10YR 6/2) loamy coarse sand, dark grayish brown (10YR 4/2) moist; moderate medium platy structure; soft, very friable, nonsticky, nonplastic; few fine roots; many medium and fine interstitial and few coarse vesicular pores; weak effervescence; moderately alkaline (pH 8.0); clear wavy boundary.
B21t RSL No. 66182	3-10 inches (8-25 cm), pale brown (10YR 6/3) coarse sandy loam, brown (10YR 4/3) moist; weak coarse prismatic structure; soft, very friable, nonsticky, nonplastic; common fine roots; few medium and coarse tubular pores; 10 percent gravel; strong effervescence; thin secondary carbonate coating on underside of pebbles; moderately alkaline (pH 8.0); gradual smooth boundary.
B22t RSL No. 66183	10-17 inches (25-43 cm), pale brown (10YR 6/3) gravelly coarse sandy loam, brown (10YR 4/3) moist; weak coarse prismatic structure; hard, friable, nonsticky, slightly plastic; common fine roots; common medium and fine tubular pores; 20 percent gravel; weak effervescence; some secondary carbonate coating on underside of pebbles; moderately alkaline (pH 8.2); common krotovina; clear wavy boundary.
C1ca RSL No. 66184	17-28 inches (43-71 cm), variegated (50-50) white (10YR 8/2) and light yellowish brown (10YR 6/4) coarse sandy loam, light yellowish brown (10YR 6/4) and dark yellowish-brown (10YR 4/4) moist; massive; hard, friable, nonsticky, nonplastic; few fine roots; common medium and fine tubular pores; 15 percent gravel; violent effervescence; secondary carbonate coating pebbles and as pendents on underside; moderately alkaline (pH 8.0); many krotovina; diffuse smooth boundary.
C2ca RSL No. 66185	28-46 inches (71-117 cm), variegated (70-30) light yellowish brown (10YR 6/4) and white (10YR 8/2) coarse sandy loam; dark yellowish brown (10YR 4/4) and light yellowish brown (10YR 6/4) moist; massive; hard, friable, nonsticky, nonplastic; few fine roots; common medium and fine tubular pores; 15 percent gravel; violent effervescence; secondary carbonate coating on pebbles; moderately alkaline (pH 8.0); clear wavy boundary.
IIC3 RSL No. 66186	46-62 inches (117-157 cm), Stratified gravel and sand; massive; loose; secondary carbonate as pendents on underside of pebbles; moderately alkaline (pH 8.0).
C1ca RSL No. 66187	Subsample.

CONSECUTIVE PEDCN NUMBER C 69183 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES BOND SANDY LOAM SOIL NO. S69 UTAH. 27- 7 SAMPLE NO. 9 940-9 942 WASHINGTON CO AREA

SOIL FAMILY: LITHIC USTOLLIC HAPLARGID,LOAMY,MIXED,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SANC 2- .05	SILT .05- .002	CLAY LT .002	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B.3A1 SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBONATE 3A1A.02	INT. II .2- WHOLE 20	1A2A COARSE FRAGMENTS PCT. OF SOIL I 75-	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75		
9 940	0- 5	A1	65.7	28.6	5.7	12.4	21.3	5.7	11.5	14.8	17.7	10.9				39.5	23A 5	13	5
9 941	5- 10	B1 T	61.4	25.4	13.2	13.5	17.9	5.9	11.2	12.9	14.9	10.5				34.9	10A —	5	5
9 942	10- 40	B2 T	67.3	16.8	15.9	14.0	26.9	7.4	9.9	9.1	9.9	6.9				24.9	19A 4	9	6

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR-BON 6A1A	NITRO-GEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES DI-CIT FE 6C2B	EXT AL 6G7A	PYROP FE 6C5A	EXT AL 6G5A	ATTERBERG LIMIT LL 4F1	PL 4F2	PI 4A1F	BULK DENSITY EST. 1/3 BAR 4A1F	1/3 BAR 4A1H	DRY 3B2	CM WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		PERCENT		PERCENT		PERCENT				PCT.NO.40			GRAMS PER CC			PERCENT			PERCENT	
9 940	0- 5	1.29	0.094			0.7	0.1						1.67	1.71	0.84	10.5	6.9	3.6	0.8	0.7
9 941	5- 10	0.49	0.042			0.9	0.1						1.62	1.68	0.94		9.5	3.8	1.2	1.1
9 942	10- 40	0.51				1.1	0.1						1.61	1.71	0.87	12.4	11.1	5.6	2.0	1.8

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6Q2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI-DITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4-OAC 5A6A	BASE SATURATION SUM+ ACI-DITY	SUM+ AL	NH4-OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA-CL2 8C1E
		MEQ/100G									PERCENT					
9 940	0- 5	5.1	1.0	0.1	0.4	6.6			6.6	7.4			89		6.5	5.8
9 941	5- 10	5.5	1.6	TR	0.4	7.5			7.5	8.0			94		7.0	6.4
9 942	10- 40	8.1	2.6	0.1	0.3	11.1			11.1	10.9			100+		6.6	6.2

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
		PERCENT										
9 940	0- 5	MI 3	KK 3	MT 1							MI MICA	1 TRACE
9 941	5- 10										KK KAOLINIT	2 SMALL
9 942	10- 40	MI 4	KK 4								MT MONTMORT	3 MODERATE
												4 ABUNDANT
												5 DOMINANT
												6 INDETER.

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.

BOND SANDY LOAM
S69 Utah 27-7

Location: Washington County, UT. Gooseberry Mountain 600 feet south and 600 feet west of the east 1/4 corner of Sec. 18, T. 42 S., R. 11 W. Date of sampling: Oct. 1969.
Description by : Vear Mortensen. Collected by: K. Flach, M. Olsen, V. Mortensen, and party.
Classification: Lithic Ustollic Haplargid, loamy, mixed, mesic.
Vegetation: Pinyon, juniper, big sagebrush, cactus, annual grasses. Climate: Mean annual air temperature, 55°F.; mean summer temperature, 69°F.; average annual precipitation, 9 to 13 inches; frost-free period, 165 days. Parent materials: Conglomerate. Topography: Mountain Mesa. Elevation: 5,000 feet. Drainage: Well drained, slow permeability, rapid runoff.

HORIZON	DESCRIPTION
A1 0-5 cm RSL No. 69940	0 to 2 inches, reddish brown (5YR 4/4) sandy loam, dark reddish brown (5YR 3/4) moist; weak medium granular structure; loose, very friable, nonsticky and nonplastic; many fine and medium roots; mildly alkaline (pH 7.4); abrupt smooth boundary.
B1t 5-10 cm RSL No. 69941	2 to 4 inches, reddish brown (5YR 5/4) gravelly light sandy clay loam; reddish brown (5YR 4/4) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common fine and medium roots; common fine vesicular pores; few clay films in some pores; about 20 percent gravel; mildly alkaline (pH 7.8); clear smooth boundary.
B2t 10-40 cm RSL No. 69942	4 to 16 inches, yellowish red (5YR 4/6) gravelly sandy clay loam, yellowish red (5YR 3/6) moist; moderate medium subangular blocky structure; hard, firm, sticky and slightly plastic; common fine and medium and few large roots; common fine and very fine vesicular pores; few thin clay films in pores and as bridges on sand grains: 25 percent gravel; moderately alkaline (pH 8.0); abrupt smooth boundary.
R 40 cm	16 inches, conglomerate bedrock.

CONSECUTIVE PEDON NUMBER C 69184 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES BOND SANDY LOAM SOIL NO. S69 UTAH. 27- 8 SAMPLE NO. 9 943-9 946 WASHINGTON CO AREA

SOIL FAMILY: LITHIC USTCLLIC HAPLARGID,LOAMY,MIXED,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 181B,3A1 TOTAL FRACTION SAND 2-.05	SILT .05-.002	CLAY LT .002	SANDS VCS 2-1	CS 1-.5	MS .5-.25	FS .25-.10	VFS .1-.05	SILTS CSI .05-.02	FSI .02-.002	CLAYS CO. 2-.2U	FINE LT .2U	CARBONATE 3A1A.02	INT. II .2-.02 WHOLE 20	1A2A COARSE FRAGMENTS PCT. OF I 75-20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM													SOIL PCT. OF LT 75			
9 943	0- 8	A1	83.6	11.2	5.2	1.7	18.3	25.6	25.1	12.9	6.9	4.3				32.4	--A	--	--	--
9 944	8- 15	B1 T	83.8	8.4	7.8	1.7	24.7	31.4	19.5	6.5	3.0	5.4				18.2	--A	--	--	--
9 945	15- 37	B2 T	64.0	8.2	27.8	1.7	20.5	22.0	14.7	5.1	2.9	5.3				14.8	--A	--	--	--
9 946	37- 42	R	72.7	14.4	12.9	6.2	36.2	18.6	9.0	2.7	3.2	11.2				10.2	--A	--	--	--

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES DI-CIT FE 6C2B	EXT AL 6G7A	PYROP FE 6C5A	EXT AL 6G5A	ATTERBERG LL 4F1	PL 4F2	BULK DENSITY 1/3 BAR 4A1F	1/3 BAR 4A1F	ORY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		PERCENT		PERCENT		PERCENT				PCT.NO.40		GRAMS PER CC				PERCENT			PERCENT	
9 943	0- 8	1.26	0.096									1.54	1.57	1.00		3.1	2.5	3.9	0.6	0.6
9 944	8- 15	0.61	0.055									1.63	1.66	1.00		5.8	4.9	3.0	0.6	0.6
9 945	15- 37	0.60										1.57	1.72	1.00		15.7	13.9	8.1	3.1	3.1
9 946	37- 42	0.07										2.02	2.06	1.00		8.9	7.3	3.2	0.7	0.7

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI-DITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4-OAC 5A6A	BASE SATURATION SUM+ ACI-DITY	SUM+ AL	NH4-OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA-CL2 8C1E
		MEQ/100G									PERCENT					
9 943	0- 8	8.1	1.0	0.1	0.3	9.5			9.5	6.9			100+		7.9	7.2
9 944	8- 15	5.9	1.2	TR	0.3	7.4			7.4	6.3			100+		8.0	7.3
9 945	15- 37	12.2	3.4	0.1	0.4	16.1			16.1	15.1			100+		7.5	7.1
9 946	37- 42	3.2	1.0	0.1	0.1	4.4			4.4	3.9			100+		7.9	7.2

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
9 943	0- 8	KK 4	MI 3	MM 2							KK KAOLINIT	1 TRACE
9 944	8- 15										MI MICA	2 SMALL
9 945	15- 37	KK 4	MI 3	MM 1							MM MT/MICA	3 MODERATE
9 946	37- 42	KK 5	MI 3	MM 1								4 ABUNDANT
												5 DOMINANT
												6 INDETER.

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.

BOND SANDY LOAM
S69 Utah-27-8

Location: Washington County, UT, one-fourth mile north of north end of Hurricane Mesa facility track; about 300 feet north and 500 feet east of the southwest corner of Sec. 33, T. 40 S., R. 12 W. Date of sampling: October 20-23, 1969
Description by: Vear Mortensen. Collected by: K. Flach, M. Olsen, V. Mortensen and party.
Classification: Lithic Ustollic Haplargid, loamy, mixed, mesic.
Vegetation: Pinyon, juniper, big sagebrush, pricklypear, yellowbrush, cheatgrass and other forbs and grasses. Climate: Mean annual air temperature, 50° to 57°F; mean summer temperature, 68° to 74°F; average annual precipitation, 10 to 13 inches; frost-free period, 160 to 170 days. Parent materials: Conglomerate. Topography: Mesa top. Elevation: 4,990 feet. Drainage: Well drained, moderately rapid permeability, medium runoff.

HORIZON	DESCRIPTION
A1 0-8 cm RSL No. 69943	0 to 3 inches, brown (7.5YR 5/4) coarse sandy loam; dark brown (7.5YR 3/3) moist; weak medium platy structure that parts to weak medium granular; soft, very friable, nonsticky and nonplastic; common fine and few medium roots; many fine and very fine vesicular pores; neutral (pH 7.0); abrupt smooth boundary.
B1t 8-15 cm RSL No. 69944	3 to 6 inches, reddish brown (5YR 4/4) sandy clay loam, dark reddish brown (5YR 3/4) moist; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common fine and few medium roots; few fine and very fine tubular pores; neutral (pH 6.8); clear smooth boundary.
B2t 15-37 cm RSL No. 69945	6 to 14½ inches, yellowish red (5 YR 4/6) light clay; yellowish red (5YR 4/6) moist; moderate medium prismatic structure that parts to moderate medium subangular blocky; hard, firm, sticky and plastic; few fine roots; few fine and very fine tubular pores; common thin clay films on sand grains and in pores; lower part has 25 percent gravel and cobble; neutral (pH 6.8); abrupt wavy boundary.
R 37-42 cm + RSL No. 69946	14½ to 16½ inches +, conglomerate bedrock.

CONSECUTIVE PEDCN NUMBER C 69180 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES PALMA FINE SANDY LOAM (TAXADJUNCT) SOIL NO. S69 UTAH. 27- 4 SAMPLE NO. 9 922-9 928 WASHINGTON CO AREA

SOIL FAMILY: USTALFIC HAPLARGID,COARSE-LOAMY,MIXED,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBONATE 3A1A.02	1A2A INT. II .2-	COARSE FRAGMENTS PCT. OF WHOLE 20	I 75- 20-5	II 5-2	III
			PERCENT OF LESS THAN 2MM														SOIL	PCT. OF LT 75		
9 922	0- 15	AP	69.9	20.0	10.1	0.1	1.1	5.8	38.0	24.9	12.8	7.2				62.6	--A	--	--	--
9 923	15- 23	A+B	67.0	21.6	11.4	--	0.5	3.5	34.2	28.8	13.6	8.0				67.6	--A	--	--	--
9 924	23- 38	B2 T	63.0	18.9	18.1	--	0.6	4.1	35.8	22.5	11.3	7.6				59.0	--A	--	--	--
9 925	38- 64	B3 T	72.7	16.7	10.6	--	0.5	5.0	44.6	22.6	9.6	7.1				62.5	--A	--	--	--
9 926	64- 81	C 1	72.1	18.6	9.3	--	0.2	2.7	41.9	27.3	11.8	6.8			1	69.4	--A	--	--	--
9 927	81-150	C 2	65.3	26.1	8.6	--	0.1	0.9	28.3	36.0	17.2	8.9			TR	76.0	--A	--	--	--
9 928	C- 0																--A	--	--	--

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR-BON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES DI-CIT FE 6C2B	EXT AL 6G7A	PYROP FE 6C5A	EXT AL 6G5A	ATTERBERG LIMIT EST. LL 4F1	PL 4F2	1/3 BAR 4A1F	BULK DENSITY 1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		-PERCENT-		-PERCENT-		-PERCENT-				PCT.NO.40		GRAMS PER CC				-PERCENT-			-PERCENT-	
9 922	0- 15	0.32	0.037	1		0.4	TR						1.48	1.53	1.00	9.8	6.1	3.9	1.1	1.1
9 923	15- 23	0.23	0.029	TR		0.5	TR						1.73	1.79	1.00	14.2	8.7	4.1	1.1	1.1
9 924	23- 38	0.20		1		0.5	0.1						1.50	1.62	1.00	19.1	14.4	6.5	2.6	2.6
9 925	38- 64			7		0.4	TR						1.52	1.57	1.00	12.8	7.5	4.0	1.1	1.1
9 926	64- 81			8		0.3	TR						1.54	1.57	1.00	14.7	7.5	3.6	0.6	0.6
9 927	81-150			9		0.4	TR						1.54	1.58	1.00	19.8	9.6	3.7	0.9	0.9
9 928	C- 0			1								1.48			1.00			5.3		

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI-DITY 6H2A	KCL EXT. AL 6G1E	CEC SUM 5A3A	NH4-OAC 5A6A	BASE SATURATION SUM+ ACI-DITY	SUM+ AL	NH4-OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA-CL2 8C1E
		MEQ/100G									PERCENT					
9 922	0- 15	13.3	2.1	TR	1.0	16.4			16.4	9.1			100+		8.2	7.8
9 923	15- 23	6.3	2.2	0.1	1.0	9.6			9.6	7.8			100+		8.1	7.7
9 924	23- 38	18.9	3.8	0.1	1.1	23.9			23.9	10.6			100+		8.2	7.7
9 925	38- 64	20.5	2.3	0.1	0.4	23.3			23.3	6.0			100+		8.5	7.8
9 926	64- 81	19.1	2.5	TR	0.4	22.0			22.0	5.2			100+		8.7	7.9
9 927	81-150	19.7	3.8	0.1	0.4	24.0			24.0	6.3			100+		8.7	7.9
9 928	0- 0	16.9	2.8	TR	1.2	20.9			20.9	8.7			100+		8.3	7.7

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
9 922	0- 15	MI 5	KK 3								MI MICA	1 TRACE
9 923	15- 23	MI 3	KK 2								KK KAOLINIT	2 SMALL
9 924	23- 38	MI 3	KK 1									3 MODERATE
9 925	38- 64											4 ABUNDANT
9 926	64- 81											5 DOMINANT
9 927	81-150											6 INDETER.
9 928	0- 0											

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.

PALMA FINE SANDY LOAM (taxadjunct) 1/

S69 Utah 27-4

Location: Washington County, UT, Big Plains, 400 feet north and 400 feet west of the center of Sec. 30, T. 42 S., R. 12 W. Date of sampling: October 20-23, 1969. Description by: Vear Mortensen. Collected by: K. Flach, M. Olsen, V. Mortensen and party.
Classification: Ustalfic Haplargid, coarse-loamy, mixed, mesic.
Vegetation: Wheat-fallow. Climate: Mean annual air temperature 57°F; mean summer temperature, 69°F.; average annual precipitation, 13 inches; frost free-period, 170 days. Parent materials: Mixed alluvium from sandstone and shale. Topography: Alluvial valley. Elevation: 4,750 feet. Drainage: Well drained, moderate permeability, slow runoff.

HORIZON	DESCRIPTION
Ap 0-15 cm RSL No. 69922	0 to 6 inches, reddish brown (5YR 4/4) fine sandy loam; dark reddish brown (5YR 3/4) moist; weak fine granular and weak subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common fine and very fine roots; few fine vesicular pores; noncalcareous; moderately a alkaline (pH 8.0) abrupt smooth boundary.
A&B 15-23 cm RSL No. 69923	6 to 9 inches, reddish brown (5YR 4/4) heavy fine sandy loam; dark reddish brown (5YR 3/4) moist; weak subangular blocky structure; slightly hard, very friable, slightly sticky and nonplastic; common fine and very fine roots; few fine vesicular pores; slightly calcareous; moderately alkaline (pH 8.0); clear smooth boundary.
B2t 23-38 cm RSL No. 69924	9 to 15 inches, red (2.5YR 4/6) light fine sandy clay loam; dark red (2.5Y 3/6) moist; weak medium prismatic structure that parts to moderate medium subangular blocky; hard, friable, sticky and slightly plastic; common fine and very fine roots; common fine and very fine vesicular pores; clay films in pores and as bridging on sand grains; moderately calcareous, lime is disseminated; moderately alkaline (pH 8.4); clear wavy boundary.
B3t 38-64 cm RSL No. 69925	15 to 25 inches, yellowish red (5YR 5/6) heavy fine sandy loam; reddish brown (2.5YR 4/5) moist; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and nonplastic; few fine and very fine roots; common fine and very fine vesicular pores; strongly calcareous, lime is disseminated; moderately alkaline (pH 8.4); clear wavy boundary.
C 64-150 cm RSL No. 69926 & 69927	25 to 59 inches, yellowish red (5YR 5/6) fine sandy loam; red (2.5YR 4/6) moist; massive; soft, very friable, nonsticky and nonplastic; few fine roots; few fine vesicular pores; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.6). (This horizon broken at 32 inches for sampling)

1/ The Palma series is in a coarse-loamy, mixed, mesic family of Ustollic Haplargids. This pedon has too little organic carbon for the subgroup.

CONSECUTIVE PEDCN NUMBER C 69182 C H A R A C T E R I Z A T I C N D A T A

SOIL SERIES PALMA FINE SANDY LOAM (TAXADJUNCT) SOIL NO. S69 UTAH. 27- 6 SAMPLE NO. 9 935-9 939 WASHINGTON CO AREA

SOIL FAMILY: USTALFIC HAPLARGIC,COARSE-LOAMY,MIXED,MESIC RIVERSIDE SOIL SURVEY LABCRATCRY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B.3A1 TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBO NATE 3A1A.02	1A2A INT. II .2- .02	COARSE FRAGMENTS PCT. OF WHOLE SOIL I 75- 20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM													PCT. OF LT 75			
9 935	C- 28	AP	74.3	14.1	11.6	--	C.8	6.1	39.3	28.1	9.5	4.6				64.0	--A	—	--	--
9 936	28- 48	B21T	57.7	24.8	17.5	--	0.8	5.1	28.1	23.7	14.9	9.9				58.4	--A	—	--	--
9 937	48- 71	B22TCA	59.5	24.8	15.7	0.1	1.5	9.8	29.1	19.0	12.6	12.2			I	49.4	--A	--	--	--
9 938	71-115	C 1	86.4	8.5	5.1	--	1.8	18.7	54.7	11.2	5.3	3.2				42.4	--A	--	--	--
9 939	115-150	C 2	91.4	4.7	3.9	0.3	8.8	41.5	34.7	6.1	2.9	1.8				21.4	--A	—	--	--

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR- BCN 6A1A -PERCENT-	NITRO GEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B -PERCENT-	2-20 6E1B	SESCUIOXIDES DI-CIT FE 6C2B	EXT AL 6G7A	PYROP FE 6C5A	EXT AL 6G5A	ATTERBERG L I M I T LL 4F1	PL 4F2	EST. 1/3 PCT.NO.40 4A1F	BULK DENSITY 1/3 BAR 4A1F	ORY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
						------PERCENT-------						GRAMS PER CC				----PERCENT---			-PERCENT-	
9 935	0- 28	0.25	0.031										1.69	1.77	1.00	19.7	9.5	4.5	1.6	1.6
9 936	28- 48	0.21	0.027	3									1.52	1.66	1.00	19.6	14.3	6.6	3.0	3.0
9 937	48- 71	0.17		8								1.52			1.00			5.7		
9 938	71-115	0.04		5									1.67	1.69	1.00	7.6	5.2	1.6	0.4	0.4
9 939	115-150			3								1.67			1.00			1.1		

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 6Q2A	SUM	EXT. ACI- DITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4- OAC 5A6A	BASE SATURATION SUM+ ACI- CITY	SUM+ AL	NH4- OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA- CL2 8C1E
		MEQ/100G									PERCENT					
9 935	0- 28	6.3	2.4	0.1	0.9	9.7			9.7	7.9			100+		8.1	7.6
9 936	28- 48	22.7	4.1	0.1	0.7	27.6			27.6	11.2			100+		8.1	7.6
9 937	48- 71	23.1	3.9	0.1	0.3	27.4			27.4	9.8			100+		8.4	7.9
9 938	71-115	15.7	1.8	TR	0.1	17.6			17.6	3.3			100+		8.8	8.0
9 939	115-150	15.4	1.5	TR	0.1	17.0			17.0	2.3			100+		8.9	8.1

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III
9 935	C- 28	MI 3 KK 1								
9 936	28- 48	MI 4 MT 3 KK 1								
9 937	48- 71									
9 938	71-115									
9 939	115-150	MI 3 MT 1 KK 1								

MINERAL CODE	RELATIVE AMOUNT
MI MICA	1 TRACE
KK KAOLINIT	2 SMALL
MT MONTMORT	3 MCDERATE
	4 ABUNDANT
	5 DCMINANT
	6 INDETER.

SAMPLE PREPARATICN CODES
A=STANDARD PREPARATION.

PALMA FINE SANDY LOAM (taxadjunct) 1/
S69 Utah-27-6

Location: Washington County, UT; about 1/8 mile north of stock pond, 1,000 feet north and 200 feet east of the southwest corner of Sec. 33, T. 42 S., R. 11 W.
Date of sampling October 20-23, 1969.
Description by: Vear Mortensen. Collectors: K. Flach, M. Olsen, V. Mortensen, and party.
Classification: Ustalfic Haplargid, coarse-loamy, mixed, mesic.
Vegetation: Fallow. Climate: Mean annual air temperature, 55°F.; mean summer temperature, 69°F.; average annual precipitation, 9 to 13 inches; frost-free period, 160 days. Parent materials: Sandstone, siltstone, and shale. Topography: Alluvial fan. Elevation: 4,830 feet. Drainage: Well drained, moderate permeability, medium runoff.

HORIZON	DESCRIPTION
Ap 0-28 cm RSL No. 69935	0 to 11 inches reddish brown (2.5YR 5/4) sandy loam; dark reddish brown (2.5YR 3/4) moist; weak coarse subangular blocky structure; hard, very friable, slightly sticky and slightly plastic; few fine and very fine roots; few medium and common fine and very fine tubular pores; non-calcareous; mildly alkaline (pH 7.8); abrupt wavy boundary.
B21t 28-48 cm RSL No. 69936	11 to 19 inches, red (2.5YR 5/5) sandy clay loam; dark red (2.5YR 3/5) moist; weak coarse prismatic structure that parts to moderate medium and fine subangular blocky; hard, friable, sticky and plastic; few very fine roots; few large and medium common fine and many very fine and micro pores; common thin clay films on ped faces; slightly calcareous, lime is disseminated; moderately alkaline (pH 8.0); clear wavy boundary.
B22tca 48-71 cm RSL No. 69937	19 to 28 inches, reddish brown (2.5YR 5/4) sandy clay loam, dark red (2.5YR 3/6) moist; moderate medium subangular blocky structure; hard, firm, sticky and plastic; few very fine roots; few medium and fine, and common very fine and micro pores; common thin clay films on ped faces; few fine (>1mm) gypsum flakes; moderately calcareous, lime is disseminated and some is segregated in veins; strongly alkaline (pH 8.8); gradual wavy boundary.
C1 71-115 cm RSL No. 69938	28 to 45 inches, reddish brown (2.5YR 6/4) loamy sand; red (2.5YR 4/6) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; few medium and fine and common very fine tubular pores; tongues of the B22tca extend into this horizon; moderately calcareous, lime is disseminated; strongly alkaline (pH 8.6); gradual wavy boundary.
C2 115-150 cm RSL No. 69939	45 to 59 inches, reddish brown (2.5YR 6/4) sand; red (2.5YR 5/6) moist; massive; few very fine roots; few very fine tubular and interstitial pores; moderately calcareous, lime is disseminated; strongly alkaline (pH 8.6).

1/ The Palma series is in a coarse-loamy, mixed, mesic family of Ustollic Haplargids. This pedon has too little organic carbon for the Ustollic subgroup.

CONSECUTIVE PEDON NUMBER C 69181 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES CLOVIS FINE SANDY LOAM (TAXADJUNCT) SOIL NO. 569 UTAH. 27- 5 SAMPLE NO. 9 929-9 934 WASHINGTON CO AREA

SOIL FAMILY: USTALFIC HAPLARGID,FINE-LOAMY,MIXED,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 1A2A

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	CSI .05- .02	FSI .02- .002	CC. 2- .2U	FINE CLAYS LT .2U	CARBO NATE 3A1A	INT. II .2- .02	-COARSE FRAGMENTS- PCT. OF WHOLE SOIL 20	I 75- PCT. OF LT 75	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM																	
9 929	0- 20	AP	65.1	26.4	8.5	0.1	1.2	6.6	31.7	25.5	16.5	9.9			63.8		--A	--	--	--
9 930	20- 36	B21T	56.9	18.7	24.4	0.2	1.9	8.0	29.1	17.7	10.4	8.3			47.2		--A	--	--	--
9 931	36- 56	B22T	42.6	22.3	35.1	0.3	2.2	6.4	19.3	14.4	13.8	8.5			40.4		--A	--	--	--
9 932	56- 86	C 1CA	30.7	35.5	33.8	0.1	0.5	1.8	12.8	15.5	16.5	19.0			12 41.1		--A	--	--	--
9 933	86-150	C 2CA	33.5	39.5	27.0	--	0.2	0.8	12.3	20.2	20.7	18.8			4 49.9		--A	--	--	--
9 934	0- 37	AP															--A	--	--	--

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR-BON 6A1A	NITRO-GEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES DI-CIT FE 6C2B	EXT AL 6G7A	PYROP FE 6C5A	EXT AL 6G5A	ATTERBERG LL 4F1	PL 4F2	I M I T 1/3 4A1F	BULK DENSITY EST. 1/3 BAR 4A1F	DRY BAR 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		PERCENT		PERCENT		PERCENT				PCT.NO.40		GRAMS PER CC				PERCENT			PERCENT	
9 929	0- 20	0.31	0.034			0.4	TR						1.61	1.64	1.00	12.5	7.1	3.2	0.6	0.6
9 930	20- 36	0.27	0.039			0.6	0.1						1.58	1.76	1.00	22.1	16.7	8.9	3.7	3.7
9 931	36- 56	0.30		4		0.7	0.1						1.51	1.81	1.00	26.6	23.1	13.5	6.2	6.2
9 932	56- 86	0.41		29		0.4	TR						1.44	1.61	1.00	27.0	23.6	12.4	3.8	3.8
9 933	86-150			21		0.5	TR						1.38	1.57	1.00	31.4	25.0	10.7	4.4	4.4
9 934	0- 37											1.60			1.00			4.6		

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI-DITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4-OAC 5A6A	BASE SATURATION SUM+ ACI-DITY	SUM+ AL	NH4-OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA-CL2 8C1E
		MEQ/100G									PERCENT					
9 929	0- 20	5.4	2.1	0.1	1.2	8.8			8.8	6.5			100+		8.3	7.6
9 930	20- 36	9.9	6.9	0.1	0.9	17.8			17.8	16.2			100+		7.7	7.3
9 931	36- 56	27.9	13.7	0.2	0.8	42.6			42.6	25.2			100+		8.0	7.6
9 932	56- 86	25.0	17.2	0.5	0.3	43.0			43.0	22.7			100+		8.6	8.0
9 933	86-150	20.8	21.5	1.4	0.2	43.9			43.9	22.2			100+		9.0	8.3
9 934	0- 37	7.2	2.6	0.1	1.0	10.9			10.9	8.9			100+		8.2	7.6

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 PERCENT	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
9 929	0- 20	MI 4	KK 2								MI MICA	1 TRACE
9 930	20- 36	MI 3	KK 1								KK KAOLINIT	2 SMALL
9 931	36- 56											3 MODERATE
9 932	56- 86	MT 5	MI 2								MT MONTMORT	4 ABUNDANT
9 933	86-150											5 DOMINANT
9 934	0- 37											6 INDETER.

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.

CLOVIS FINE SANDY LOAM (taxadjunct) 1/
S69 Utah 27-5

Location: Washington County, UT. About ½ mile south of Big Plains - Rockville Junction, about 600 feet south and 350 feet east of the northeast corner of Sec. 9, T. 43 S., R. 11 W. Date of sampling: October 20-23, 1969.
Description by: Vear Mortensen. Collected by: K. Flach, M. Olsen, V. Mortensen and party.
Classification: Ustalfic Haplargid, fine-loamy, mixed, mesic.
Vegetation: Russian-thistle and filaree (Dry cropland). Climate: Mean annual air temperature, 55°F.; mean summer temperature, 70°F. Parent materials: Mixed alluvium from sandstone, shale, and conglomerate. Topography: Alluvial fan. Elevation: 4,870 feet. Drainage: Well drained, moderately rapid runoff, moderately slow permeability.

HORIZON	DESCRIPTION
Ap 0-20 cm RSL No. 69929	0 to 8 inches, reddish brown (5YR 5/4) fine sandy loam; dark reddish brown (5YR 3/4) moist; weak medium subangular blocky structure that parts to moderate fine granular; slightly hard, very friable, nonsticky and nonplastic; few fine and very fine roots; few medium, many fine and very fine pores; neutral (pH 7.2); clear smooth boundary.
B21t 20-36 cm RSL No. 69930	8 to 14 inches, yellowish red (5YR 4/6) fine sandy loam; dark reddish brown (5YR 3/4) moist; moderate medium subangular blocky structure; hard, firm, sticky and plastic; few fine and very fine roots; few fine, common very fine and micro pores; few thin clay films on ped faces; neutral (pH 7.2); clear smooth boundary.
B22t 36-56 cm RSL No. 69931	14 to 22 inches, yellowish red (5YR 4/6) light clay; dark reddish brown (2.5YR 3/4) moist; weak medium prismatic structure that breaks to weak medium subangular blocky; very hard, very firm, sticky and plastic; few fine and very fine roots; common very fine and micro pores; common moderately thick clay films on ped faces; noncalcareous, neutral (pH 7.2); clear smooth boundary.
C1ca 56-86 cm RSL No. 69932	22 to 34 inches, light reddish brown (5YR6/4) clay loam, reddish brown (2.5YR 4/4) moist; moderate medium subangular blocky structure; hard, firm, sticky and plastic; few very fine roots; common very fine and micro pores; moderately calcareous; strongly alkaline (pH 8.8); clear wavy boundary.
C2ca 86-150 cm RSL No. 69933	34 to 59 inches, reddish brown (2.5YR 5/4) clay loam; reddish brown (2.5YR 4/5) moist; weak medium subangular blocky structure; hard, firm, slightly sticky and plastic; few very fine roots; common micro pores; moderately calcareous; strongly alkaline (pH 8.6).

1/ The Clovis series is in a fine-loamy, mixed, mesic family of Ustollic Haplargids. This pedon has too little organic carbon for the Ustollic subgroup.

CONSECUTIVE PEDON NUMBER C 70 40 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES UVADA LOAM (TAXADJUNCT) SOIL NO. S68 UTAH. 14-56 SAMPLE NO. 0 250-0 255 DELTA AREA

SOIL FAMILY: TYPIC NATRARGID, FINE, MIXED, MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2-.05	SILT .05-.002	CLAY LT .002	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 SANDS VCS 2-1	CS 1-.5	MS .5-.25	FS .25-.10	VFS .1-.05	SILTS CSI .05-.02	FSI .02-.002	CLAYS CO. 2-.20	FINE LT .20	CARBONATE 3A1A.02	1A2A INT. II .2-.02	COARSE FRAGMENTS PCT. OF WHOLE SOIL I 75-20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75		
0 250	0- 5	A2	32.9	45.8	21.3	0.7	0.7	1.5	14.2	15.8	17.3	28.5	18.8	2.5	7	42.7	--	--	--	--
0 251	5- 10	A+B	30.2	42.2	27.6	--	0.5	1.5	13.1	15.1	13.1	29.1			8	37.3	--	--	--	--
0 252	10- 18	B21T	13.7	27.0	59.3	--	0.3	0.7	6.1	6.6	5.5	21.5	46.3	13.0	12	16.2	--	--	--	--
0 253	18- 30	B22T	9.7	27.9	62.4	--	0.1	0.4	3.8	5.4	6.0	21.9	42.2	20.2	27	14.1	--	--	--	--
0 254	30- 38	B31T	6.6	30.3	63.1	--	--	0.2	2.2	4.2	5.8	24.5			12	11.6	--	--	--	--
0 255	38- 43	B32T	5.1	30.7	64.2	--	--	0.1	1.4	3.6	5.9	24.8			11	10.6	--	--	--	--

SAMPLE NO.	DEPTH CM.	ORG. MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	19-2 6E1B	EXT. IRON FE 6C2B	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST 1/3 4A1F	1/3 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTENSBLTY LEF 4D1	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
		-PERCENT--		-PERCENT-		PCT.	PCT. NO.40		GRAMS PER CC				----PERCENT---			-PERCENT--				
0 250	0- 5	0.64		24											7.1			8.8	9.4	8.2
0 251	5- 10	0.45		23											8.1			8.7	9.4	8.2
0 252	10- 18	0.52		23											16.7			8.4	9.3	8.4
0 253	18- 30	0.41		26											17.1			8.4	9.3	8.5
0 254	30- 38	0.30		26											17.9			8.3	9.2	8.4
0 255	38- 43	0.27		26											17.4			8.2	8.7	8.3

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A	MG 5B4A	NA 5B4A	K 5B4A	SUM	BASE SAT.	C E C NA-OAC 5A2A	NH4-CAC 5A6A	EC 8A1A	WATER EXTRACT FROM SATURATED PASTE 8A1 CA 6N1A	MG 6O1A	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1B	B 6T1A	PH SAT. PASTE 8C1B
		MEQ/100G					PCT.	MEQ/100G		MMHO	MEQ/100G ML								PPM	
0 250	0- 5	15.0	3.0	6.7	2.5	27.2	100+		13.1	6.8	2.2	2.7	62.0	1.9		9.1	53.1			7.9
0 251	5- 10	14.1	3.9	8.0	2.7	28.7	100+		14.6	9.1	5.6	4.4	76.2	2.2		6.2	75.4			7.9
0 252	10- 18	14.4	7.5	22.4	3.9	48.2	100+		26.8	18.2	5.1	6.1	185.0	2.4		6.5	176.0			7.9
0 253	18- 30	15.2	9.5	27.2	3.2	55.1	100+		25.4	22.7	6.7	11.6	232.0	2.2		8.5	211.0	38.4		8.1
0 254	30- 38	14.0	10.8	29.7	2.9	57.4	100+		24.4	28.0	10.6	20.0	280.0	2.1		5.7	242.0	56.6		8.1
0 255	38- 43	25.1	10.9	30.0	2.9	68.9	100+		24.8	28.0	35.6	34.7	300.0	2.7		7.6	260.0	116.0		8.0

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGBLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1B PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I 7A2E	II 7A2E	III 7A2E	IV 7A2E	DTA 7A3 PCT.	LT. .0002 MM X RAY I 7A2E	II 7A2E	III 7A2E	MINERAL CODE	RELATIVE AMOUNT
0 250	0- 5	30.4	4.8	37	40			MI 3	MT 2	KK 1						MI MICA	1 TRACE
0 251	5- 10	32.7	5.5	38	34											MT MONTMORT	2 SMALL
0 252	10- 18	59.4	11.4	43	78			MI 3	MT 2	KK 2	CL 1					KK KAOLINIT	3 MODERATE
0 253	18- 30	66.1	11.9	47	77			MI 3	MT 3	KK 3	CL 1		MI 3	MT 2	KK 1		4 ABUNDANT
0 254	30- 38	65.1	11.5	47	72											CL CHLORITE	5 DOMINANT
0 255	38- 43	62.3	11.3	46	51	0.7											6 INDETER.

UVADA LOAM (taxadjunct) 1/
S68Utah-14-56

Location: Millard County, UT. 9 miles west and 3 miles south of Deseret. Northeast 1/4 of Sec. 23, T. 18 S., R. 9 W. Date of sampling: November 1968.
Description by: G. Crandall and H. Maxwell. Collectors: G. Crandall and D. Beckstrand.
Classification: Typic Natrargid, fine, mixed, mesic.
Vegetation: Shadscale, halogeton, inkweed. Climate: Mean annual temperature, 49° to 52° F. Average annual precipitation, 6 to 8 inches. Parent material: Lake sediments from mixed parent material. Topography: Deltas on slopes of 0 to 1 percent. Elevation: 4,520 feet. Drainage: Well drained. Soil moisture: Dry.

HORIZON	DESCRIPTION
A2 RSL No. 70250	0-5 cm (0-2 inches), light gray (10YR 7/2) loam, brown (10YR 5/3) when moist; weak, medium and weak thin platy structure; hard, friable, slightly sticky, slightly plastic; few fine roots; common medium and fine pores; strongly calcareous; very strongly alkaline (pH 9.2); clear smooth boundary.
A2&B2 RSL No. 70251	5-10 cm (2-4 inches), light gray (10YR 7/2) clay loam, brown (7.5YR 5/4) when moist; weak medium angular blocky structure that parts to moderate, very fine, angular blocky; hard, firm, slightly sticky, plastic; strongly calcareous, very strongly alkaline (pH 9.4); clear smooth boundary.
B21t RSL No. 70252	10-18 cm (4-7 inches), brown (7.5YR 5/4) clay, brown (7.5YR 4/4) when moist; moderate medium prismatic structure that parts to strong, fine, blocky; very hard, very firm, very sticky, very plastic; few fine roots; few very fine pores; moderate, continuous, clay films on peds; strongly calcareous, lime is segregated in soft nodules; very strongly alkaline (pH 9.2); gradual smooth boundary.
B22t RSL No. 70253	18-30 cm (7-12 inches), light brown (7.5YR 6/4) clay, brown (7.5YR 5/4) when moist; moderate medium blocky structure; hard, firm, sticky, very plastic; common fine and few medium roots; common fine pores; thin, continuous, clay films on peds, strongly calcareous; strongly alkaline (pH 8.9); gradual smooth boundary.
B3t RSL No. 70254 70255	30-43 cm (12-17 inches), light brown (7.5YR 6/4) clay, brown (7.5YR 5/4) when moist; weak medium angular blocky structure; hard, firm, sticky, plastic; few fine roots; few fine pores; moderate, continuous, clay films on faces of peds; strongly calcareous, lime is segregated in soft nodules; strongly alkaline (pH 8.8); clear smooth boundary.
C1 Not Sampled	43-63 cm (17-25 inches), light brown (7.5YR 6/4) silty clay loam, brown (7.5YR 5/4) when moist; massive; hard, firm, sticky, plastic; few fine roots; few fine pores; strongly calcareous; strongly alkaline (pH 8.6); diffuse smooth boundary.
C2 Not Sampled	63-119 cm (25-47 inches), pale brown (10YR 6/3) silty clay loam, brown (10YR 5/3) when moist; massive; hard, firm, sticky, plastic; common fine pores; strongly calcareous; strongly alkaline (pH 8.9); gradual wavy boundary.
C3sa Not Sampled	119-165 cm (47-65 inches), very pale brown (10YR 7/3) silt loam, brown (10YR 5/3) when moist; massive; hard, firm, slightly sticky, plastic; common fine pores; strongly calcareous; strongly alkaline (pH 8.9).

1/ The Uvada series is in a fine, montmorillonitic, mesic family of Typic Natrargids. This pedon has less montmorillonite than is typical for the series.

CONSECUTIVE PEDCN NUMBER C 70 41 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES UVADA LOAM (TAXADJUNCT) SCIL NO. 568 UTAH. 14-66 SAMPLE NO. 0 256-0 260 DELTA AREA

SOIL FAMILY: TYPIC NATRARGID,FINE,MIXED,MESIC RIVERSIDE SCIL SURVEY LABCRATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	CSI .05- .02	FSI .02- .002	CO. 2- .2U	FINE LT .2U	CARBO NATE 3A1A	1A2A II .02	PCT. OF WHOLE SOIL	INT. -COARSE FRAGMENTS- I 75- 20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM															PCT. OF LT 75		
0 256	0- 8	A2	42.2	41.9	15.9	0.2	1.4	6.1	22.0	12.5	16.4	25.5	13.8	2.1	7	38.0	--	--	--	--
0 257	8- 15	A+B	46.5	28.9	24.6	0.6	3.0	10.6	25.1	7.2	8.9	20.0			7	23.9	--	--	--	--
0 258	15- 36	B21T	23.4	29.0	47.6	0.1	0.6	5.0	9.7	8.0	8.4	20.6	34.6	13.0	TR	19.3	--	--	--	--
0 259	36- 38	B22T	23.9	44.7	31.4	0.1	0.3	3.4	6.7	13.4	15.5	29.2	22.4	9.0	7	31.6	--	--	--	--
0 260	38- 60	C 1	24.2	47.7	28.1	--	0.1	2.0	4.3	17.8	20.3	27.4			6	40.1	--	--	--	--

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR- BON 6A1A -PERCENT--	NITRO GEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	19-2 6E1B	EXT. IRON FE 6C2B -PERCENT-	ATTERBERG LIMIT LL 4F1 PCT.	PL 4F2 PCT.NO.40	BULK DENSITY EST 1/3 4A1F	1/3 BAR 4A1F GRAMS PER CC	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C ----PERCENT---	15 BAR 4B2	EXTENSBLTY LEF 4D1 -PERCENT--	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
0 256	0- 8	0.50		23											4.6			9.0	9.3	8.1
0 257	8- 15	0.51		16											7.5			8.6	9.2	8.0
0 258	15- 36	0.55		21											15.5			8.3	9.2	8.3
0 259	36- 38	0.41		26											12.7			8.3	9.1	8.2
0 260	38- 60	0.28		25											11.9			8.3	9.0	8.2

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E -MEQ/100G-	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT. PCT.	C E C NA- OAC 5A2A -MEQ/100G	NH4- CAC 5A6A	EC 8A1A MMHO	WATER EXTRACT FROM SATURATED PASTE CA 6N1A	MG 6O1A	NA 6P1A	K 6Q1A -MEQ/1000 ML-	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1B	B 6T1A PPM	PH SAT. PASTE 8C1B
0 256	0- 8	15.5	2.6	2.4	3.2	23.7	100+		8.9	2.80	1.7	1.9	21.7	2.6		5.6	11.0			8.3
0 257	8- 15	17.3	3.8	4.1	3.0	28.2	100+		12.8	4.19	4.0	1.7	33.4	1.8		4.7	30.1			8.1
0 258	15- 36	18.5	8.1	18.3	2.7	47.6	100+		22.8	15.6	7.6	9.5	142.0	1.4		6.8	147.0			7.9
0 259	36- 38	17.7	8.6	20.0	1.8	48.1	100+		18.8	23.7	14.9	23.6	214.0	1.4		10.4	234.0			7.9
0 260	38- 60	19.9	8.1	19.3	1.5	48.8	100+		17.8	23.2	19.7	26.3	218.0	1.4		10.0	228.0	24.6		7.9

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGBLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM- AMT. 6F1B PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY DTA 7A2E I	7A2E II	7A2E III	7A2E IV	7A3 PCT.	L.T. .0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
0 256	0- 8	25.3	1.9	21	16			MI 2	KK 2	MT 1						MI MICA	1 TRACE
0 257	8- 15	36.2	2.9	23	20											KK KAOLINIT	2 SMALL
0 258	15- 36	62.0	9.5	42	49			MI 3	KK 2	MT 2						MT MONTMORT	3 MODERATE
0 259	36- 38	54.2	8.4	45	49			MT 3	MI 3	KK 2							4 ABUNDANT
0 260	38- 60	54.8	7.3	41	45	0.5											5 DOMINANT
																	6 INDETER.

UVADA LOAM (taxadjunct) 1/
S68Utah-14-66

Location: Millard County, UT. 4.5 miles east and 2.5 miles north of Sugarville, center of Sec. 18, T. 15 S., R. 6 W. Date of sampling: November 1968.
Description by: L. Stott and G. Crandall. Collectors: G. Crandall and D. Beckstrand.
Classification: Typic Natrargid, fine, mixed, mesic.
Vegetation: Shadscale Climate: Mean annual temperature, 49° to 52° F. Average annual precipitation, 6 to 8 inches. Parent material: Lake sediments from mixed parent material. Topography: Deltas on slopes of 0 to 1 percent. Elevation: 4,720 feet. Drainage: Well drained. Soil moisture: Dry.

HORIZON	DESCRIPTION
A2 RSL No. 70256	0-8 cm (0-3 inches), very pale brown (10YR 7/3) loam, brown (10YR 5/3) moist; weak thick platy structure, that parts to weak medium platy; hard, friable, slightly sticky, slightly plastic; few fine roots; many fine and medium pores; strongly calcareous, very strongly alkaline (pH 9.2); abrupt, smooth boundary.
A&B RSL No. 70257	8-15 cm (3-6 inches), pale brown (10YR 6/3) loam, brown (10YR 5/3) moist; weak medium prismatic structure that parts to medium platy; hard, friable, slightly sticky, slightly plastic; few fine roots; many fine and medium vesicular pores; strongly calcareous; very strongly alkaline (pH 9.2); abrupt smooth boundary.
B21t RSL No. 70258	15-36 cm (6-14 inches), light brown (7.5YR 6/4) clay, brown (7.5YR 5/4) moist; strong medium columnar structure that parts to strong coarse blocky; extremely hard, firm, very sticky, very plastic; few fine roots; common fine tubular pores; moderate, continuous clay films on ped faces; moderately calcareous, lime is segregated in soft nodules; very strongly alkaline (pH 9.2); arbitrary separation for laboratory analysis.
B22t RSL No. 70259	36-38 cm (14-15 inches), light brown (7.5YR 6/4) clay, brown (7.5YR 5/4) moist; strong medium columnar structure that parts to strong coarse blocky; extremely hard, firm, very sticky, very plastic; few fine roots; common fine tubular pores; moderate, continuous clay films on ped faces; moderately calcareous, lime is segregated in soft nodules; very strongly alkaline (pH 9.2); abrupt wavy boundary.
C1 RSL No. 70260	38-60 cm (15-24 inches), pink (7.5YR 7/4) heavy silt loam, brown (7.5YR 5/4) moist; moderate coarse blocky structure; very hard, friable, sticky, plastic; few fine roots; few fine tubular pores; moderately calcareous, lime is in veins; strongly alkaline (pH 8.6); gradual, wavy boundary.
C2	60-112 cm (24-44 inches), very pale brown (10YR 7/3) silty clay loam, brown (10YR 5/3) moist; weak medium subangular blocky structure; hard, firm, sticky, plastic; common fine tubular pores; no roots; strongly calcareous; strongly alkaline (pH 8.5); gradual, irregular boundary.
C3	112-140 cm (44-65 inches), pinkish gray (7.5YR 7/2) silty clay loam, brown (7.5YR 5/4) moist; common, medium, distinct, strong brown (7.5YR 5/8) mottles; weak medium subangular blocky structure; very hard, firm, very sticky, plastic; no roots; few fine tubular pores; strongly calcareous; strongly alkaline (pH 8.5).

1/ The Uvada series is in a fine, montmorillonitic, mesic family of Typic Natrargids. This pedon has less montmorillonite than is typical for the series.

SCS-420
10-64

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL FAMILY: Xerollic Natrargid, fine-loamy, mixed, mesic

SOIL Mellor silt loam (taxadjunct) SOIL Nos. S69Utah-20-311-7 LOCATION Sanpete Area, Utah

SOIL SURVEY LABORATORY Riverside, California LAB. Nos. 6953 - 6956

Depth (cm)	Horizon	1B1b Total Sand (2-0.05)	Total Silt (0.05-0.002)	Total Clay (< 0.002)	Sand Very coarse (2-1)	Sand Coarse (1-0.5)	Sand Medium (0.5-0.25)	Sand Fine (0.25-0.1)	Sand Very fine (0.1-0.05)	Silt (0.05-0.02)	Silt Int. III (0.02-0.002)	Int. II (0.2-0.02)	(2-0.1)	3A1a Carbonate clay	3A1a Non carbonate clay	1/ Coarse fragments 1A2a > 2 Pct	2 - 19	19 - 76
		Size class and particle diameter (mm) 3A1															Pct. of < 76 mm	
		Pct of < 2 mm																
0-5	A21	50.5	36.8	12.7	0.8	3.1	6.4	19.9	20.3	19.9	16.9	52.5	30.2					
5-15	A22	51.6	35.0	13.4	1.0	3.7	6.9	20.4	19.6	19.5	15.5	51.6	32.0					
15-33	B2t	38.2	33.9	27.9	0.6	2.5	4.2	14.9	16.0	19.4	14.5	44.8	22.2					
33-53	B3ca	45.8	27.0	27.2	1.9	4.6	6.7	18.8	13.8	15.8	11.2	41.0	32.0	14	13			

Depth (cm)	6A1a Organic carbon Pct	6B1a Nitrogen Pct	C/N	6C2b Ext. Iron as Fe Pct.	6E1b Carbonate as $CaCO_3$ Pct	Bulk density 4A1f 1/3 bar g/cc	4A1h Oven dry g/cc	g/cc	3B2 Cm	Water content Pct.	4B1c 1/3 bar Pct.	4B2 15 bar Pct	4D1 Extensibility LEf Pct	4D1 Extensibility LE Pct.	pH 8C1b Saturated Paste	8C1a H_2O 1:1	8C1 H_2O 1:10
0-5	0.88																
5-15	0.94																
15-33	0.54																
33-53	0.33				19												

Depth (cm)	Extractable bases 6N4c Ca 5B3a	6O4c Mg 5B3a	6P2a Na 5B4a	6Q2a K 5B4a	Sum of bases	6H2a Ext. Acidity	Cation Exch Capacity 5A2a NaOAc	5A6a NH_4OAc	Water extract from saturated paste 8A1 6N1b Ca	6O1b Mg	6P1a Na	6Q1a K		6I1a CO_3	6J1a HCO_3	6K1a Cl	6L1b SO_4	8A1a Electrical conductivity
	meq/100 g								meq/liter									mmho/cm
0-5	15.1	4.0	0.1	1.5	20.7			13.2										0.3
5-15	16.8	4.3	0.1	1.9	23.1			13.7										0.3
15-33	15.7	12.5	4.4	2.5	35.1			17.6										0.2
33-53	22.4	9.0	5.9	1.2	38.5			10.4	27.5	5.6	79.4	2.5		0.2	2.3	26.2	101.4	10.4

Depth (cm)	8A Water at Saturation Pct	Exch. bases 5B3b Ca	5B3b Mg	5B1b Na	5D2 Exchangeable Na Pct.	SAR	Gypsum Pct.	Clay mineralogy (<0.002 mm) 3A1 Mont.	Verm.	Mica 7A2 X-ray	Kaolin.
		meq./100 g.									
0-5											
5-15											
15-33											
33-53	52.5				16	20					

MELLOR SILT LOAM (taxadjunct) 1/
S69Utah-20-311-7

Location: Sanpete County, Sanpete Soil Survey Area. One mile north and 2 miles west of Maroni.

Description by: John Swenson.
Classification: Xerollic Natrargid, fine-loamy, mixed, mesic.
Vegetation: Big sagebrush, rubber rabbitbrush, salt grass, greasewood, and squirreltail.
Climate: Mean annual air temperature, 46° F.; mean summer air temperature, 65° F.; average annual precipitation, 13 inches; frost-free days, 120. Parent material: Mixed alluvium from sandstone and limestone. Topography: Alluvial plain. Elevation: 5,700 feet. Drainage: Well drained, slow permeability, rapid runoff. Relief: Two percent slope, east aspect, convex, long.
Remarks: Slight erosion.

HORIZON	DESCRIPTION
A21 RSL No. 6953	0-5 cm (0-2 inches), light brown (7.5YR 6/3) silt loam, brown (7.5YR 4/2) moist; moderate thick platy structure; slightly hard, friable, slightly sticky and plastic; few fine roots; many fine vesicular pores; noncalcareous; moderately alkaline (pH 8.2); abrupt smooth boundary.
A22 RSL No. 6954	5-15 cm (2-6 inches), pale brown (10YR 6/3) silt loam, brown (7.5YR 4/2) moist; weak thick platy structure that separates to moderate very fine granular; slightly hard, friable, slightly sticky and plastic; few medium and fine roots; few very fine pores; noncalcareous; moderately alkaline (pH 8.0); abrupt smooth boundary.
B2t RSL No. 6955	15-33 cm (6 to 13 inches), light brown (7.5YR 6/4) silty clay, brown (7.5YR 4/4) moist; moderate medium prismatic structure that separates to strong medium angular blocky; very hard, very firm, sticky and very plastic; few medium fine and few very fine roots; few very fine pores; common moderately thick clay films; slightly calcareous, lime is disseminated; very strongly alkaline (pH 9.2); clear smooth boundary.
B3ca RSL No. 6956	33-53 cm (13-21 inches), pink (7.5YR 7/3) silty clay, brown (7.5YR 5/4) moist; moderate medium subangular blocky structure; very hard, very firm, sticky and very plastic; few very fine and few fine roots; few very fine pores; few thin clay films; strongly calcareous, lime is disseminated; very strongly alkaline (pH 9.2); clear wavy boundary.
C1ca	53-73 cm (21-29 inches), pink (7.5YR 7/3) clay loam, light brown (7.5YR 6/4) moist; moderate thin platy structure; very hard, firm, sticky and plastic; few very fine roots; few very fine pores; strongly calcareous, lime is disseminated and in veins and modules; strongly alkaline (pH 9.0); clear smooth boundary.
IIC2	73-107 cm (29-42 inches), pink (7.5YR 7/3) clay loam, light brown (7.5YR 6/4) moist; moderate thin platy structure; hard, firm, sticky and plastic; few very fine roots; few very fine pores; strongly calcareous, lime is disseminated and in veins; very strongly alkaline (pH 9.1); gradual smooth boundary.
IIIC3ca	107-152 cm (42-60 inches), pink (7.5YR 7/3) silty clay loam, brown (7.5YR 5/4) moist; massive; hard, firm, sticky and plastic; few very fine pores; strongly calcareous, lime is disseminated; very strongly alkaline (pH 9.2).

1/ The Mellor series is in a fine-silty, mixed, mesic family of Xerollic Natrargids. This pedon has slightly more sand that is fine or coarser in size.

CONSECUTIVE PEDCN NUMBER C 70 42 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES MELLOR SILT LOAM (TAXADJUNCT) SOIL NO. S68 UTAH. 14-44 SAMPLE NO. 0 261-0 264 DELTA AREA

SOIL FAMILY: XEROLLIC NATRARGID,FINE-LOAMY,MIXED,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .20	FINE LT .20	CARBONATE 3A1A	INT. II .2- .02	COARSE FRAGMENTS PCT. OF WHOLE SOIL I 75- 20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75		
0 261	0- 15	A2	37.5	47.7	14.8	0.6	0.5	1.1	16.3	19.0	20.3	27.4	12.4	2.4	3	51.1	--	--	--	--
0 262	15- 33	B2 T	29.2	37.8	33.0	0.1	0.5	1.4	14.5	12.7	8.8	29.0	29.3	3.7	6	31.8	--	--	--	--
0 263	33- 38	C 1	11.6	39.3	49.1	--	--	0.6	5.1	5.9	8.3	31.0			17	17.5	--	--	--	--
0 264	38- 56	C 2	10.0	46.2	43.8	--	0.2	0.6	3.6	5.6	5.5	40.7			15	13.5	--	--	--	--

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR- BON 6A1A	NITRO GEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	19-2 6E1B	EXT. IRON FE 6C2B	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST 1/3 BAR 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 481C	1/3 BAR 481C	15 BAR 482	EXTENSIBILITY LEF 4D1	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
		-PERCENT--		-PERCENT-		PCT.	PCT.NO.40		GRAMS PER CC				----PERCENT---			-PERCENT--				
0 261	0- 15	0.97		12											8.3			8.1	8.6	8.1
0 262	15- 33	0.57		19											15.7			8.1	8.4	8.1
0 263	33- 38	0.64		35											20.0			8.3	8.6	8.4
0 264	38- 56	0.40		35											20.9			8.4	8.4	8.5

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT. PCT.	C E C NA- OAC 5A2A	NH4- OAC 5A6A	EC 8A1A MMHO	WATER EXTRACT FROM SATURATED PASTE CA 6N1A	MG 6O1A	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1B	8A1 B 6T1A	PH SAT. PASTE 8C1B
		--------MEQ/100G--------						-MEQ/100G			----------MEQ/1000 ML----------								PPM	
0 261	0- 15	25.4	5.2	5.8	7.4	43.8	100+		17.4	13.5	34.0	21.1	76.9	17.6		9.1	83.3	58.2		7.7
0 262	15- 33	25.3	13.5	11.9	7.9	58.6	100+		25.9	13.0	26.3	37.7	114.0	12.5		8.9	80.4	98.8		7.9
0 263	33- 38	35.6	18.4	18.2	5.8	78.0	100+		23.8	20.0	28.6	72.0	170.0	10.8		5.9	129.0	156.4		8.1
0 264	38- 56	51.2	19.5	17.3	4.6	92.6	100+		25.1	20.4	32.1	73.8	172.0	9.4		3.2	130.0	157.0		8.3

SAMPLE NO.	DEPTH CM.	WATER EXCHANGEABLE AT SAT. 8A PCT.	NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1B PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I 7A2E	II 7A2E	III 7A2E	IV 7A2E	DTA 7A3 PCT.	L.T. .0002 MM X RAY I 7A2E	II 7A2E	III 7A2E	MINERAL CODE	RELATIVE AMOUNT
0 261	0- 15	37.8	2.9	17	15	0.8		MI 2	MT 2	KK 1						MI MICA	1 TRACE
0 262	15- 33	59.5	5.1	20	20	0.7		MI 3	MT 2	KK 1						MT MONTMORT	2 SMALL
0 263	33- 38	67.6	6.7	28	24	2.0										KK KAOLINIT	3 MODERATE
0 264	38- 56	70.3	5.2	21	24	5.9											4 ABUNDANT
																	5 DOMINANT
																	6 INDETER.

MELLOR SILT LOAM (taxadjunct) 1/
S68Utah-14-44 (144)

Location: Millard County, UT. 7 miles north and 3 miles west of Pavant. Northwest 1/4 of the southeast 1/4 of Sec. 19, T. 19 S., R. 5 W. Date of sampling: November 1968. Description: L. Stott and G. Crandall. Collectors: G. Crandall and D. Beckstrand. Classification: Xerollic Natrargid, fine-loamy, mixed, mesic. Vegetation: Greasewood, big sagebrush, rubber rabbitbrush. Climate: Mean annual temperature, 49° to 52° F. Average annual precipitation, 8 to 11 inches. Parent material: Lake sediments and alluvium from mixed parent material. Topography: Deltas and flood plains on 0 to 1 percent slopes. Elevation: 4,650 feet. Drainage: Well drained. Soil moisture: Usually dry.

HORIZON	DESCRIPTION
A2 RSL No. 70261	0-15 cm (0-6 inches), light gray (10YR 7/2) silt loam, brown (10YR 5/3) when moist; weak very thin platy structure; slightly hard, very friable, slightly sticky, slightly plastic; few fine roots; many vesicular pores; strongly calcareous; strongly alkaline (pH 9.0); abrupt wavy boundary.
B2t RSL No. 70262	15-33 cm (6-13 inches), pale brown (10YR 6/3) light silty clay loam, dark brown (10YR 4/3) when moist; moderate coarse angular blocky and moderate medium angular blocky structure; very hard, firm, sticky, plastic; few fine roots; few fine and medium tubular pores; thin, occasional clay films on peds, strongly calcareous; very strongly alkaline (pH 9.1); clear wavy boundary.
C1 RSL No. 70263	33-38 cm (13-15 inches), light gray (10YR 7/2) silty clay loam, pale brown (10YR 6/3) when moist; massive; very hard, firm, sticky, plastic; few fine roots; common fine pores; strongly calcareous; strongly alkaline (pH 9.1); arbitrary separation for laboratory analysis.
C2 RSL No. 70264	38-56 cm (15-22 inches), light gray (10YR 7/2) silty clay loam, pale brown (10YR 6/3) when moist; massive; very hard, firm, sticky, plastic; few fine roots; common fine pores; strongly calcareous; strongly alkaline (pH 8.6); clear wavy boundary.
C3 Not sampled	56-165 cm (22-65 inches), light gray (10YR 7/2) silty clay loam, pale brown (10YR 6/3) when moist; massive; very hard, firm, very sticky, plastic; few fine roots in upper part; common very fine pores; strongly calcareous; moderately alkaline (pH 8.2).

1/ The Mellor series is in a fine-silty, mixed, mesic family of Xerollic Natrargids. This pedon has slightly more sand that is fine or coarser in size.

MELLOR SILT LOAM
S68Utah-14-45 (144b)

These are subsamples of S68Utah-14-44 (144) taken in the same delineation, a short distance away.

Sample No.	
70265	0-15 cm
70266	15-33 cm
70267	33-38 cm
70268	38-55 cm

CONSECUTIVE PEDCN NUMBER C 70 43 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES MELLCR SILT LOAM (TAXADJUNCT) SOIL NO. S68 UTAH. 14-45 SAMPLE NO. 0 265-0 268 DELTA AREA

SOIL FAMILY: XERCLLIC NATRARGID,FINE-LOAMY,MIXED,MESIC RIVERSIDE SOIL SURVEY LABCRATORY

SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SANC 2- .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBO NATE 3A1A.02	1A2A INT. II .2-	PCT. OF 75- WHCLE 20	COARSE FRAGMENTS I 20-5	II 5-2	III
			PERCENT OF LESS THAN 2MM														SOIL PCT. OF LT 75			
0 265	0- 15	A2	40.3	43.7	16.0	0.6	C.6	1.9	19.2	18.0	18.4	25.3	15.6	0.4	2	49.4	--	--	--	--
0 266	15- 33	B2 T	36.6	38.4	25.0	0.3	0.8	1.7	17.0	16.8	12.3	26.1	22.1	2.9	4	41.9	--	--	--	--
0 267	33- 38	C 1	16.7	38.6	44.7	--	0.3	0.5	6.2	9.7	7.6	31.0			13	22.3	--	--	--	--
0 268	38- 55	C 2	11.4	42.4	46.2	--	0.1	0.2	3.1	8.0	6.3	36.1			13	16.7	--	--	--	--

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR- BON 6A1A	NITRO GEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	19-2 6E1B	EXT. IRON FE 6C2B	ATTERBERG L I M I T LL 4F1	PL 4F2	BULK DENSITY EST 1/3 4A1F	DRY 4A1F	CM 4A1H	3B2	WATER CONTENT 1/10 8AR 4B1C	1/3 8AR 4B1C	15 BAR 4B2	EXTENSBLTY LEF 4D1	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
		-PERCENT--		-PERCENT-		PCT.	PCT.NO.40		GRAMS PER CC				----PERCENT---			-PERCENT--				
0 265	0- 15	0.99		8											8.8			8.1	8.3	8.1
0 266	15- 33	0.97		14											13.0			8.1	8.5	8.1
0 267	33- 38	0.56													18.4			8.3	8.7	8.4
0 268	38- 55	0.33													19.1			8.3	8.6	8.5

SAMPLE NC.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT.	C E C NA- OAC 5A2A	NH4- CAC 5A6A	EC 8A1A	WATER EXTRACT FROM SATURATED PASTE 8A1 CA 6N1A	MG 6O1A	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1B	B 6T1A	PH SAT. PASTE 8C1B
		MEQ/100G					PCT.	-MEQ/100G		MMHO	MEQ/1000 ML								PPM	
0 265	0- 15	23.0	5.2	5.0	7.2	40.4	100+		18.2	11.4	33.2	26.9	54.5	13.1		5.3	61.5	57.4		7.9
0 266	15- 33	23.2	14.8	11.1	6.8	55.9	100+		23.6	17.0	27.8	55.1	120.0	10.8		7.0	94.7	111.5		7.8
0 267	33- 38	29.4	19.8	14.3	4.5	68.0	100+		21.0	18.2	29.1	80.0	120.0	7.5		15.4	112.0	139.0		8.1
0 268	38- 55	45.9	18.4	13.7	3.9	81.9	100+		20.9	20.0	31.2	96.7	142.0	7.3		3.4	122.0	152.5		8.2

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGBLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1B PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY DTA 7A2E I	7A2E II	7A2E III	7A2E IV	7A3 PCT.	L.T. .0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
0 265	0- 15	37.9	2.9	16	10	1.4		MI 3	MT 3	KK 1						MI MICA	1 TRACE
0 266	15- 33	54.9	4.5	19	19	0.8		MT 3	MI 2	KK 1						MT MONTMORT	2 SMALL
0 267	33- 38	70.2	5.9	28	16	1.4										KK KAOLINIT	3 MODERATE
0 268	38- 55	69.1	3.9	19	18	4.0											4 ABUNDANT
																	5 DOMINANT
																	6 INDETER.

MELLOR SILT LOAM (taxadjunct) 1/
S68Utah-14-44 (144)

Location: Millard County, UT. 7 miles north and 3 miles west of Pavant. Northwest 1/4 of the southeast 1/4 of Sec. 19 S., R. 5 W. Date of sampling: November 1968.
Description: L. Stott and G. Crandall. Collectors: G. Crandall and D. Beckstrand.
Classification: Xerollic Natrargid, fine-loamy, mixed, mesic.
Vegetation: Greasewood, big sagebrush, rubber rabbitbrush. Climate: Mean annual temperature, 49° to 52° F. Average annual precipitation, 8 to 11 inches. Parent material: Lake sediments and alluvium from mixed parent material. Topography: Deltas and flood plains on 0 to 1 percent slopes. Elevation: 4,650 feet. Drainage: Well drained. Soil moisture: Usually dry.

HORIZON	DESCRIPTION
A2 RSL No. 70261	0-15 cm (0-6 inches), light gray (10YR 7/2) silt loam, brown (10YR 5/3) when moist; weak very thin platy structure; slightly hard, very friable, slightly sticky, slightly plastic; few fine roots; many vesicular pores; strongly calcareous; strongly alkaline (pH 9.0); abrupt wavy boundary.
B2t RSL No. 70262	15-33 cm (6-13 inches), pale brown (10YR 6/3) light silty clay loam, dark brown (10YR 4/3) when moist; moderate coarse angular blocky and moderate, medium, angular blocky structure; very hard, firm, sticky, plastic; few fine roots; few fine and medium tubular pores; thin, occasional clay films on peds, strongly calcareous; very strongly alkaline (pH 9.1); clear wavy boundary.
C1 RSL No. 70263	33-38 cm (13-15 inches), light gray (10YR 7/2) silty clay loam, pale brown (10YR 6/3) when moist; massive; very hard, firm, sticky, plastic; few fine roots; common fine pores; strongly calcareous; strongly alkaline (pH 9.1); arbitrary separation for laboratory analysis.
C2 RSL No. 70264	38-56 cm (15-22 inches), light gray (10YR 7/2) silty clay loam, pale brown (10YR 6/3) when moist; massive; very hard, firm, sticky, plastic; few fine roots; common fine pores; strongly calcareous; strongly alkaline (pH 8.6); clear wavy boundary.
C3 Not sampled	56-165 cm (22-65 inches), light gray (10YR 7/2) silty clay loam, pale brown (10YR 6/3) when moist; massive; very hard, firm, very sticky, plastic; few fine roots in upper part; common very fine pores; strongly calcareous; moderately alkaline (pH 8.2).

1/ The Mellor series is in a fine-silty, mixed, mesic family of Xerollic Natrargids. This pedon has slightly more sand that is fine or coarser in size.

MELLOR SILT LOAM
S68Utah-14-45 (144b)

These are subsamples of S68Utah-14-44 (144) taken in the same delineation, a short distance away.

Sample No.	
70265	0-15 cm
70266	15-33 cm
70267	33-38 cm
70268	38-55 cm

CONSECUTIVE PEDON NUMBER C 70 52 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES VEYO COBBLY SANDY LOAM (TAXADJUNCT) SOIL NO. S70 UTAH. 27- 7 SAMPLE NO. 0 311-0 316 WASHINGTON CO. AREA

SOIL FAMILY: PETROCALCIC PALEARGID,CLAYEY-SKTL,MONT.,MESC,SH RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY .002 LT	VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	CSI .05- .02	FSI .02- .002	CO. 2- .2U	FINE CLAY .2U LT	CARBONATE 3A1A	INT. II .2- .02	1A2A -COARSE FRAGMENTS- PCT. OF WHOLE SOIL 20	I 75- 20-5 PCT.	II CF	III 5-2 LT 75
			PERCENT OF LESS THAN 2MM																	
0 311	0- 5	A1	65.1	19.6	15.3	7.8	12.6	9.4	17.9	17.4	12.9	6.7	12.3	3.0		40.9	28A	16	7	5
0 312	5- 14	B1	42.1	21.0	36.9	5.1	7.7	5.6	11.0	12.7	11.5	9.5				30.5	35A	30	4	2
0 313	14- 30	B21T	31.4	16.8	51.8	3.2	6.8	4.9	8.3	8.2	7.5	9.3	18.7	33.1		20.5	--A	--	--	--
0 314	30- 43	B22T	39.8	11.0	49.2	9.9	11.1	6.2	7.8	4.8	3.8	7.2				12.7	50A	41	4	5
0 315	43- 48	B3 CA	55.4	12.6	32.0	19.4	15.4	8.3	8.9	3.4	3.7	8.9			8	11.4	43A	22	9	12
0 316	48- 60	C CAM															--	--	--	--

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A -PERCENT-	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B -PERCENT-	SESQUIOXIDES CI-CIT FE 6C2B	EXT AL 6G7A	PYROP FE 6C5A	EXT AL 6G5A	ATTERBERG LL 4F1	PL 4F2	PCT.NO.40	BULK DENSITY EST. 1/3 BAR 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		-PERCENT-		-PERCENT-		PERCENT						GRAMS PER CC					PERCENT			-PERCENT-	
0 311	0- 5	0.61	0.059			1.1	0.1					1.30			0.84				7.7		
0 312	5- 14	0.49	0.052			1.1	0.1						1.38	1.57	0.78		27.2	22.6	14.9	4.4	3.4
0 313	14- 30	0.36				1.2	0.1						1.29	1.68	1.00		38.7	33.8	21.9	9.2	9.2
0 314	30- 43	0.42		TR		1.0	0.1						1.10	1.44	0.70		48.4	43.2	21.9	9.4	6.2
0 315	43- 48	0.49		17		0.5	TR						1.38	1.51	0.72		24.7	22.0	15.4	3.0	2.2
0 316	48- 60			52									1.69	1.70			18.1	16.3	9.8	0.2	

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI-DITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4-OAC 5A6A	BASE SATURATION SUM+ ACI-DITY	SUM+ AL	NH4-OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA-CL2 8C1E
		MEQ/100G									PERCENT					
0 311	0- 5	19.5	3.0	0.4	1.2	24.1			24.1	17.2			100+		8.0	7.6
0 312	5- 14	24.7	5.0	0.5	1.5	31.7			31.7	31.1			100+		7.6	7.2
0 313	14- 30	31.0	7.3	0.6	1.5	40.4			40.4	42.7			95		7.0	6.8
0 314	30- 43	33.5	7.0	0.6	1.3	42.4			42.4	41.6			100+		7.2	7.0
0 315	43- 48	31.3	4.9	0.6	0.8	37.6			37.6	24.5			100+		7.7	7.4
0 316	48- 60	20.9	2.5	0.1	0.5	24.0			24.0	12.7			100+		8.4	7.6

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
0 311	0- 5	MI 3	MT 3	KK 1				MT 4	MI 2		MI MICA	1 TRACE
0 312	5- 14	MT 3	MI 3	KK 3							MT MONTMORI	2 SMALL
0 313	14- 30	MT 4	MI 3	KK 2				MT 5	MI 3	KK 1	KK KAOLINIT	3 MODERATE
0 314	30- 43	MT 4	MI 3	KK 2								4 ABUNDANT
0 315	43- 48	MT 4	MI 2	KK 1								5 DOMINANT
0 316	48- 60											6 INDETER.

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.

VEYO COBBLY SANDY LOAM (taxadjunct) 1/
S70Utah-27-7

Location: Washington County, UT. 300 feet east of blackbrush enclosure, northwest of Gunlock, near the north 1/4 corner of Sec. 9, T. 40 S., R. 17 W. Date of sampling: September 16, 1970.
Description by: Vear L. Mortensen. Collectors: D. Nettleton, V. Mortensen, T. B. Hutchings, and party.
Classification: Petrocalcic Paleargid, clayey-skeletal, montmorillonitic, mesic, shallow.
Vegetation: Blackbrush, desert almond, pinyon pine, juniper. Climate: Mean annual temperature, 45°F to 52°F.; mean summer temperature, 70° to 75°F.; average annual precipitation, 10 to 13 inches; frost-free period, 120 to 160 days. Parent materials: Colluvium and residuum from basalt. Topography: Alluvial fan. Slopes about 3 percent. Elevation: 4,000 feet. Drainage: Well drained. Soil moisture: Usually dry.

HORIZON	DESCRIPTION
A1 RSL No. 70311	0-5cm (0-2 inches), brown (7.5YR 5/3) sandy loam, dark brown (7.5YR 3/2) moist; moderate fine granular structure; slightly hard, friable, slightly sticky, slightly plastic; few fine roots; 30 percent cobble; noncalcareous; moderately alkaline (pH 8.0); clear smooth boundary.
B1 RSL No. 70312	5-14 cm (2-6 inches), brown (7.5YR 4/4) cobbly heavy clay loam; brown (7.5YR 4/2) moist; moderate medium subangular blocky structure; hard, firm, sticky and plastic; common fine and medium roots; 30 percent rock fragments; noncalcareous; moderately alkaline (pH 7.9); clear smooth boundary.
B21t RSL No. 70313	14-30 cm (6-12 inches), yellowish red (5YR 4/6) cobbly clay, reddish brown (5YR 4/4) moist; strong medium prismatic structure; very hard, very firm, sticky, plastic; common fine and medium roots; 40 percent rock fragments; noncalcareous; mildly alkaline (pH 7.8); clear wavy boundary.
B22t RSL No. 70314	30-43 cm (12-17 inches), reddish brown (5YR 5/4) very cobbly clay, reddish brown (5YR4/4) moist; weak medium prismatic structure that parts to strong medium subangular blocky; very hard, very firm, sticky, plastic; common fine and medium roots; 50 percent rock fragments; noncalcareous; mildly alkaline (pH 7.8); clear wavy boundary.
B3ca RSL No. 70315	43-48 cm (17-19 inches), brown (7.5YR 5/4) very cobbly heavy sandy clay loam, brown (7.5YR 5/4) moist; moderate medium subangular blocky structure; hard, firm, sticky, plastic; few fine and medium roots; 50 percent rock fragments; strongly calcareous, lime is disseminated; moderately alkaline (pH 8.4); abrupt wavy boundary.
Ccam RSL No. 70316	48-60 cm (19-23 inches) carbonate cemented hardpan (indurated).

1/ The Veyo series is in a clayey-skeletal, montmorillonitic, mesic, shallow family of Petrocalcic Ustollic Paleargids. This pedon has less organic carbon in the upper 40 cm.

CONSECUTIVE PEDON NUMBER C 68 47 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES DERA GRAVELLY SANDY LOAM SOIL NO. S68 UTAH. 14- 5 SAMPLE NO. 8 273-8 279 DESERT RANGE AREA

SOIL FAMILY: TYPIC CALCIORTHID,LOAMY-SKELETAL,CARB.,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SIZE, CLASS AND PARTICLE DIAMETER (MM) SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBONATE	INT. II .2- .02	COARSE FRAGMENTS PCT. OF WHOLE SOIL I 75- 20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75		
8 273	0- 8	A1															33A --	33Z	N
8 274	8- 23	A12															26A --	26Z	N
8 275	23- 30	B2															6A --	6Z	N
8 276	30- 56	C 1CA															66A --	66Z	N
8 277	56- 71	C 2CA															82A --	82Z	N
8 278	71- 97	C 3CA															68A --	68Z	N
8 279	97-137	C 4															85A --	85Z	N

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON	NITROGEN	CARBONATE AS CACO3 LT 2	19-2	EXT. IRON FE	ATTERBERG LIMIT LL	PL	BULK DENSITY EST 1/3 BAR	1/3 BAR	DRY	CM	WATER CONTENT 1/10 BAR	1/3 BAR	15 BAR	EXTENSBLTY LEF	LE	PH H2O 1/1	H2O 1/10	CACL2
		PERCENT		PERCENT		PCT.	PCT.NO.40		GRAMS PER CC				PERCENT			PERCENT				
8 273	0- 8	0.56	0.065	32	60					1.26	1.29	0.81		20.7	8.0	0.8	0.6	8.3		7.7
8 274	8- 23	0.64	0.079	35	59					1.10	1.14	0.87		23.6	9.6	1.2	1.0	8.2		7.7
8 275	23- 30	0.67		48	66					1.13	1.18	0.97		30.0	11.7	1.5	1.4	8.1		7.7
8 276	30- 56	0.57		63	67					0.97	0.99	0.58		45.3	11.3	0.7	0.4	8.3	9.0	8.1
8 277	56- 71	0.25		59	68				1.00			0.37			9.6			8.2	8.9	8.2
8 278	71- 97			52	69				1.00			0.55			12.0			8.3	9.2	8.3
8 279	97-137			44	64				1.00			0.32			8.0			8.6	9.5	8.2

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA	MG	NA	K	SUM	BASE SAT.	C E C NA-OAC	NH4-OAC	EC	WATER EXTRACT FROM SATURATED PASTE CA	MG	NA	K	CO3	HCO3	CL	SO4	B	PH SAT. PASTE
		MEQ/100G					PCT.	MEQ/100G		MMHO	MEQ/1000 ML								PPM	
8 273	0- 8			0.3	1.7	2.0			13.3	0.28										
8 274	8- 23			0.5	0.9	1.4			14.3	0.61										
8 275	23- 30			0.7	0.2	0.9			10.7	0.70										
8 276	30- 56			1.2	0.1	1.3			6.4	9.2	11.8	11.5	74.4	0.3		3.0	61.0	24.8		7.9
8 277	56- 71			1.6	0.2	1.8			7.1	15.7	34.5	30.9	131.0	0.4		2.9	104.0	73.6		7.9
8 278	71- 97			2.0	0.2	2.2			8.8	15.7	21.7	23.5	136.0	0.3		3.5	112.0	54.1		8.0
8 279	97-137			1.6	0.2	1.8			10.0	11.3	7.4	10.8	109.0	0.2		2.5	71.0	32.7		8.2

SAMPLE NO.	DEPTH CM.	WATER AT SAT.	EXCHANGBLE NA	NA	SAR	GYPSUM AMT.	REQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I	II	III	IV	DTA	-L.T. .0002 MM X RAY I	II	III	MINERAL CODE	RELATIVE AMOUNT
		PCT.	MEQ.	PCT.		PCT.	MEQ.										
8 273	0- 8		0.3	2													1 TRACE
8 274	8- 23		0.5	3													2 SMALL
8 275	23- 30		0.7	7													3 MODERATE
8 276	30- 56	57.1			22	0.1											4 ABUNDANT
8 277	56- 71	47.0			23	0.2											5 DOMINANT
8 278	71- 97	46.0			29	0.1											6 INDETER.
8 279	97-137	38.6			36												

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
N=NOT DETERMINED.
Z=NOT ALL FRACTIONS SEPERATED. ADJACENT FRACTIONS INCLUDED HERE.

DERA GRAVELLY SANDY LOAM
68Utah-14-5

Location: Millard County, UT; Antelope Valley, 550 feet south and 150 feet east, northwest corner, Sec. 15, T. 25 S., R. 18 W. (SLM). Date of sampling: 1968.
Description by: Vern Hugie. Collectors: Vern Hugie and others.
Classification: Typic Calciorthid, loamy-skeletal, carbonatic, mesic.
Vegetation: Rabbitbrush (yellowbrush) and scattered plants of winterfat, black sagebrush, bud sagebrush, Indian ricegrass, and bottlebrush squirreltail. Climate: Average annual precipitation is about 6 inches. Mean annual temperature is about 49° F. Parent material: Alluvium, limestone, sandstone, quartzite, rhyolite, and tuff. Topography: Valley fill, alluvial fan, 2 percent north-facing slopes. Elevation: 6,100 feet. Drainage: Well drained. Soil moisture: The soil is dry more than 75 percent of the time when the soil temperature is above 41° F.

HORIZON	DESCRIPTION
A1 RSL No. 68273	0-8 cm (0-3 inches), very pale brown (10YR 7/3) gravelly sandy loam, brown (10YR 5/3) moist; moderate thin platy structure; soft, friable; nonsticky, nonplastic; many medium and fine interstitial and vesicular pores; few fine roots; 20 percent gravel; violent effervescence; moderately alkaline (pH 8.3); thin veneer of gravel on surface; abrupt wavy boundary.
A12 RSL No. 68274	8-23 cm (3-9 inches), light yellowish brown (10YR 6/4) gravelly sandy loam, yellowish brown (10YR 5/4) moist; weak fine subangular blocky structure; soft, friable; slightly sticky, slightly plastic; many fine roots; many fine tubular pores; 25 percent gravel; strong effervescence; secondary carbonate as coatings on underside of pebbles; moderately alkaline (pH 8.2); clear irregular boundary.
B2 RSL No. 68275	23-30 cm (9-12 inches), light yellowish brown (10YR 6/4) sandy loam, yellowish brown (10YR 4/4) moist; massive; soft; friable; nonsticky, nonplastic; common fine roots; many fine tubular pores; violent effervescence, secondary carbonates as coatings on underside of pebbles; moderately alkaline (pH 8.1); clear wavy boundary.
C1ca RSL No. 68276	30-56 cm (12-22 inches), white (10YR 8/3) very gravelly sandy loam, very pale brown (10YR 7/3) moist; massive; slightly hard, friable; nonsticky, nonplastic; common fine roots; many fine and very fine tubular pores; 50 percent gravel; violent effervescence; secondary carbonates disseminated and as thick coating on pebbles; moderately alkaline (pH 8.3); gradual wavy boundary.
C2ca RSL No. 68277	56-71 cm (22-28 inches), very pale brown (10YR 7/3) very gravelly sandy loam, pale brown (10YR 6/3) moist; massive; soft; friable; nonsticky, nonplastic; few fine roots; many medium and fine tubular pores; 70 percent gravel; violent effervescence; secondary carbonate as pendants on underside of gravel and as moderately cemented lenses, 3 to 4 inches thick; moderately alkaline (pH 8.2); clear wavy boundary.
C3ca RSL No. 68278	71-97 cm (28-38 inches), very pale brown (10YR 7/3) very gravelly sandy loam, pale brown (10YR 6/3) moist; massive; few fine roots; many fine and very fine tubular pores; 55 percent gravel; violent effervescence; secondary carbonates as coatings on gravel and as discontinuous weakly cemented lenses, 1-3 inches thick; moderately alkaline (pH 8.3); diffuse smooth boundary.
C4 RSL No. 68279	97-137 cm (38-54 inches), this horizon is similar to the above horizon except the cemented lenses are more strongly cemented. Gravel content is 70 percent in this horizon.

SCS-420
10-64

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL FAMILY: Typic Calciorthid, coarse-loamy, carbonatic, mesic.

SOIL Hiko Springs high lime variant, sandy loam SOIL Nos. S66Utah-14-2 LOCATION Millard County, Utah

SOIL SURVEY LABORATORY Riverside, California LAB. Nos. 66195 - 66200

Depth (In.)	Horizon	1B1b Total Sand (2-0.05)	Total Silt (0.05-0.002)	Total Clay (<0.002)	Sand: Very coarse (2-1)	Sand: Coarse (1-0.5)	Sand: Medium (0.5-0.25)	Sand: Fine (0.25-0.1)	Sand: Very fine (0.1-0.05)	Silt: (0.05-0.02)	Silt: Int III (0.02-0.002)	Int II (0.2-0.02)	(2-0.1)	3A1a Carbonate clay	3A1a Non-carbonate clay	1/ Coarse fragments 1A2a >2 Pct.	2-19 (Pct of <76 mm)	19-76 (Pct of <76 mm)
		Pct of <2 mm																
0-3	A1	64.5	25.2	10.3	9.2	16.5	11.9	16.7	10.2	14.7	10.5	33.1	54.3	0	10	24	23	1
3-13	B2	63.0	25.0	12.0	7.6	14.5	12.0	17.3	11.6	17.0	13.0	32.8	51.4	1	11	15	14	1
13-25	C1ca	35.6	32.2	28.2	4.3	8.9	6.5	10.8	8.1	9.7	22.5	23.7	30.9	16	13	38	37	1
25-38	C2ca	33.8	39.9	26.3	7.1	7.2	4.8	9.4	6.3	6.9	33.0	18.1	27.5	14	12	40	36	4
38-48	C3ca	25.9	42.8	31.3	6.8	5.1	3.4	5.8	4.8	7.0	35.8	15.1	21.1	21	10	43	40	3
48-66+	C4	36.7	38.7	24.6	7.7	6.9	4.9	8.6	8.6	11.9	26.8	25.6	28.1	9	16	31	30	1

Depth (In.)	6A1a Organic carbon Pct.	6B1a Nitrogen Pct	C/N	6C2a Ext. Iron as Fe Pct.	6E1b Carbonate as $CaCO_3$ Pct.	Carbonate as $CaCO_3$ (whole soil) 6E1b Pct.	Bulk density 4A1f 1/3 bar g/cc	Bulk density 4A1h Oven dry g/cc	Bulk density g/cc	3B2 Cm	Water content Pct	Water content 4B1c 1/3 bar Pct	Water content 4B2 15 bar Pct.	4D1 Extensibility COLEF in./in.	4D1 Extensibility COLE in./in.	pH 8C1b Saturated Paste	pH 8C1a H_2O 1:1	pH 8C1a H_2O 1:10
0-3	0.64	0.066	10		21		1.43	1.46		0.85		14.6	7.0	0.007	0.006	8.1	8.5	9.1
3-13	0.61	0.060	10		21		1.19	1.21		0.93		13.6	8.6	0.007	0.007	8.2	8.4	8.9
13-25	0.60				49	59	1.14	1.18		0.79		33.7	13.3	0.009	0.007	7.9	8.2	9.0
25-38	0.26				57	64	1.19	1.23		0.77		30.3	13.4	0.011	0.009	8.1	8.2	8.7
38-48	0.25				67	66	1.22	1.25		0.74		33.7	12.6	0.007	0.005	8.2	8.3	8.9
48-66+	0.13				40	47	1.26	1.33		0.82		21.3	12.7	0.017	0.014	8.1	8.3	9.1

Depth (In.)	Extractable bases 6N4c Ca 5B3a	6O4c Mg 5B3a	6P2a Na 5B1a	6Q2a K 5B1a	* Sum of bases	6H2a Ext. Acidity	Cation Exch. Capacity 5A2a NaOAc	5A1a NH_4OAc	Water extract from saturated paste 8A1 6N1a Ca	6O1a Mg	6P1a Na	6Q1a K		6I1a CO_3	6J1a HCO_3	6K1a Cl	SO_4	8A1a Electrical conductivity
	meq/100 g								meq/liter									mmho/cm
0-3	10.2	1.8	0.9	2.1	14.6			12.1	3.9	1.1	8.2	1.1		-	7.1	2.0		1.31
3-13	11.9	2.3	0.5	0.7	15.2			12.8	3.0	0.7	2.1	0.2		-	4.4	0.2		0.50
13-25	8.5	2.8	2.3	0.2	11.6			8.5	8.3	4.6	25.3	tr		-	3.0	24.0	7.9	3.55
25-38	10.0	4.0	6.8	0.2	9.5			4.7	34.6	27.9	104	0.2		-	2.4	88.9	68.8	13.5
38-48	6.0	1.9	6.6	0.1	6.4			3.0	15.6	24.1	95.5	0.2		-	2.0	89.6	30.0	11.5
48-66+	6.3	4.9	7.6	0.3	12.3			9.5	10.8	15.1	90.0	0.2		-	1.4	84.4	26.5	11.5

Depth (In.)	8A Water at Saturation Pct	Exch. bases 5B3b* Ca	5B3b* Mg	5B1b Na	5D2 Exchangeable Na Pct	SAR	6F1a Gypsum Pct.	Clay mineralogy (<0.002 mm) 7A Mont.	Verm.	Mica	Kaolin.	Illite
		meq /100 g						X-ray				
0-3	26.5	10.1	1.8	0.6	5	5		x			tr	x
3-13	37.5	11.8	2.3	0.4	3	1		xx			x	xxx
13-25	54.4	8.0	2.5	0.9	11	10						
25-38	62.0	6.7	2.3	0.3	6	19	0.1					
38-48	60.8	5.1	0.4	0.8	27	21	tr					
48-66+	55.0	5.7	3.7	2.6	27	25	-	xx	x		x	xx

1/ From characterization sample (5 kg) except as noted.

* Ca++ and Mg++ corrected for Ca++ and Mg++ in the saturation extract and as gypsum.

- = looked for but not found
tr = trace
x = small
xx = moderate
xxx = abundant
xxxx = dominant

HIKO SPRINGS HIGH LIME VARIANT, SANDY LOAM 1/
S66Utah-14-2

Location: Millard County, UT. Desert Range Experiment Station, exclosure No. 3, white-sage-yellowbrush, 99 feet south and 12 feet west of the northwest corner of the exclosure, NE 1/4 of the SW 1/4, Sec. 22, T. 5 S., R. 18 W. (SLC PM). (UT 5-66B). Date of sampling: May 2, 1966.

Description by: Vern K. Hugie and Klaus W. Flach. Collectors: Klaus W. Flach and Vern K. Hugie.

Classification: Typic Calciorthid, coarse-loamy, carbonatic, mesic.

Vegetation: Black sagebrush, little rabbitbrush, winterfat, and Indian ricegrass. Climate: Mean annual temperature is about 48° to 50°F. Average annual precipitation is about 6 inches. Parent material: Mixed alluvium from sedimentary and igneous rocks, mainly limestone, sandstone, quartzite and rhyolite. Topography: Toe of an extensive bajada from the Needle Mountains to the west. Slopes are about 2 percent and northeast-facing. Elevation: 6,200 feet. Drainage: Well drained. Soil moisture: At time of sampling the A and B horizons were moist and the remainder of the profile dry. The control section is dry more than 75 percent of the time when the soil temperature is above 41°F.

Remarks: This soil was tentatively called Sanpete series in Vern Hugie's report. It is more like the Hiko Springs soil, but is higher in carbonate (more than 40 percent).

HORIZON	DESCRIPTION
A1 RSL No. 66195	0-3 inches (0-8 cm), light brownish gray (10YR 6/2) sandy loam, dark grayish brown (10YR 4/2) moist; weak medium platy structure; soft, very friable, nonsticky, nonplastic; few fine roots; many medium and fine interstitial pores; 15 percent fine gravel; strong effervescence; moderately alkaline (pH 8.4); clear, smooth boundary.
B2 RSL No. 66196	3-13 inches (8-33 cm), pale brown (10YR 6/3) sandy loam, brown (10YR 4/3) moist; weak subangular blocky structure; soft, very friable, nonsticky, nonplastic; common fine roots; common medium and fine tubular pores; 10 percent gravel; strong effervescence, secondary carbonates as pendents and coatings on underside of pebbles; moderately alkaline (pH 8.4); clear wavy boundary.
C1ca RSL No. 66197	13-25 inches (33-63 cm), white (10YR 8/2) gravelly loam, very pale brown (10YR 7/3) moist; weak medium subangular blocky structure; very hard, friable, nonsticky, slightly plastic; common fine roots; many medium and fine tubular pores; 25 percent fine gravel; violent effervescence, secondary carbonate coatings on pebbles; strongly alkaline (pH 8.6); diffuse smooth boundary.
C2ca RSL No. 66198	25-38 inches (63-97 cm), white (10YR 8/3) gravelly loam, pale brown (10YR 7/3) moist; massive; hard, friable, nonsticky, slightly plastic; few fine roots; many medium and fine tubular pores; 25 percent gravel; violent effervescence, secondary carbonate coatings on pebbles; strongly alkaline (pH 8.6); diffuse smooth boundary.
C3ca RSL No. 66199	38-48 inches (97-122 cm), white (10YR 8/2) gravelly loam, very pale brown (10YR 7/3) moist; massive; hard; friable, nonsticky, slightly plastic; 30 percent violent effervescence; strongly alkaline (pH 8.6); clear wavy boundary.
C4 RSL No. 66200	48-66 inches (122-168 cm), very pale brown gravelly loam, pale yellowish brown (10YR 6/4) moist; massive; slightly hard, friable, nonsticky, nonplastic; many fine tubular pores; 20 percent gravel; weak effervescence, secondary carbonate coatings on pebbles; moderately alkaline (pH 8.2); few roots.

1/ The Hiko Springs series is in a coarse-loamy, mixed, mesic family of Typic Calciorthids. This pedon has more than 40 percent carbonate between 25 cm and 1 meter in depth.

SCS-420
10-64

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL FAMILY: Typic Calciorthid, coarse-loamy, carbonatic, mesic

SOIL Hiko Springs cemented subsoil variant gravelly loam SOIL Nos. S66Utah-14-3 LOCATION Millard County, Utah

SOIL SURVEY LABORATORY Riverside, California LAB. Nos. 66207 - 66213

Depth (in.)	Horizon	1B1b Total Sand (2-0.05)	Total Silt (0.05-0.002)	Total Clay (< 0.002)	Sand: Very coarse (2-1)	Sand: Coarse (1-0.5)	Sand: Medium (0.5-0.25)	Sand: Fine (0.25-0.1)	Sand: Very fine (0.1-0.05)	Silt: 0.05-0.02	Silt: Int. III (0.02-0.002)	Int II (0.2-0.02)	(2-0.1)	3A1a Carbonate clay	3A1a Non-carbonate clay	1/ Coarse fragments 1A2a > 2 Pct	2 - 19 (Pct of < 76 mm)	19 - 76 (Pct of < 76 mm)
		Pct. of < 2 mm																
0-3	A1	43.8	41.5	14.7	9.2	7.7	4.6	10.9	12.4	19.9	21.6	35.6	31.4	1	14	33	32	1
3-10	B21	48.6	41.1	9.3	8.7	7.7	4.9	14.1	14.7	18.4	22.7	41.8	34.9	1	8	25	24	1
10-20	B22	51.3	37.9	10.8	9.0	9.3	5.5	13.1	13.6	17.5	20.3	39.2	37.7	2	9	31	31	0
20-29	C1ca	51.2	25.0	23.8	8.4	8.3	5.8	13.5	15.2	12.7	12.3	35.5	36.0	19	5	61	36	21 2/
29-34	C2ca	50.5	25.0	24.5	9.1	12.7	6.9	11.9	10.0	10.9	14.1	27.6	40.5	16	9	46	36	10 3/
34-46	C3ca	72.2	12.4	15.4	20.6	20.3	10.7	13.6	7.0	5.9	6.5	19.9	65.2	5	10	66	64	2
46-69+	C4	80.9	6.7	12.4	33.8	25.0	9.2	9.5	3.4	2.3	4.4	10.2	77.5	2	10	63	63	0

Depth (in.)	6A1a Organic carbon Pct	6B1a Nitrogen Pct	C/N	6C2a Ext. Iron as Fe Pct.	6E1b Carbonate as $CaCO_3$ Pct	Carbonate as $CaCO_3$ (whole soil) 6E1b Pct.	Bulk density 4A1f 1/3 bar g/cc	Bulk density 4A1h Oven dry g/cc	g/cc	3B2 Cm	Water content Pct	Water content 4B1c 1/3 bar Pct.	Water content 4B2 15 bar Pct	4D1 Extensibility COLEF in./in.	4D1 Extensibility COLE in./in.	pH 8C1b Saturated Paste	pH 8C1a H_2O 1:1	pH 8C1a H_2O 1:10
0-3	0.66	0.071	9		21		1.32	1.36		0.80		16.6	9.2	0.010	0.008	8.0	8.4	8.8
3-10	0.60	0.065	9		24		1.18	1.20		0.87		17.5	9.0	0.005	0.004	8.0	8.3	8.8
10-20	0.55				28								9.4			7.8	8.2	9.2
20-29	0.73				74	74							19.0			7.6	7.8	8.2
29-34	0.55				62	66	1.11	1.13		0.74		38.1	21.6	0.006	0.004	7.8	7.8	8.1
34-46	0.31				49	64							13.6			7.7	7.9	8.6
46-69+	0.15				58	57							7.1			7.8	8.2	9.0

Depth (in.)	Extractable bases 6N4c Ca 5B3a	6O4c Mg 5B3a	6P2a Na 5B1a	6Q2a K 5B1a	* Sum of bases	6H2a Ext. Acidity	Cation Exch. Capacity 5A2a NaOAc	5A1a NH_4OAc	Water extract from saturated paste 6N1a Ca	6O1a Mg	6P1a Na	6Q1a K		6I1a CO_3	6J1a HCO_3	8A1 6K1a Cl	SO_4	8A1a Electrical conductivity
	meq/100 g								meq/liter									mmho/cm
0-3	13.7	2.1	0.2	2.0	17.9			15.2	4.5	1.0	1.0	0.6		-	4.4	1.5		0.71
3-10	14.2	2.9	0.2	1.4	18.6			15.3	3.2	0.7	1.0	0.3		-	3.8	0.2		0.51
10-20	11.4	4.1	5.9	0.3	18.2			16.3	11.9	6.1	55	0.1		-	3.1	67.2		7.6
20-29	20.5	5.7	12.9	0.1	9.7			5.8	86.6	69.0	235	0.2		-	4.7	329	56.2	25.4
29-34	33.5	6.1	13.9	0.1	8.0			5.9	82.4	56.8	188	0.2		-	2.5	283	54.5	20.7
34-46	8.9	4.8	11.3	0.1	11.1			8.8	58.5	46.6	197	0.1		-	2.1	281	26.5	27.8
46-69+	6.7	3.4	6.7	0.1	10.9			7.9	28.0	21.7	132	0.1		-	2.9	170	11.9	17.3

Depth (in.)	8A Water at Saturation Pct.	Exch. bases 5B3b* Ca	5B3b* Mg	5B1b Na	5D2 Exchangeable Na Pct.	SAR	6F1a Gypsum Pct.	Clay mineralogy (<0.002 mm) 7A Mont.	Verm.	Mica	Kaolin.	Illite
		meq /100 g						X-ray				
0-3	25.9	13.6	2.1	0.2	1	0.6		x			tr	xx
3-10	35.4	14.1	2.9	0.2	1	0.7						
10-20	47.7	10.8	3.8	3.3	20	18		xx			tr	xx
20-29	51.6	6.7	2.1	0.8	14	27	0.8					
29-34	68.1	4.6	2.2	1.1	12	22	2					
34-46	46.4	6.2	2.6	2.2	25	27	tr.					
46-69+	32.8	5.8	2.7	2.3	29	26	-	xxx			x	x

1/ From characterization sample (5 kg) except as noted.

2/ 2-19 mm from characterization sample, 19-76 and >76 mm from field wts. >2 mm includes >76 mm.

3/ 2-19 mm from characterization sample, 19-76 mm from field weight.

* Ca++ and Mg++ corrected for Ca++ and Mg++ in the saturation extract and as gypsum.

- = looked for but not found
tr = trace
x = small
xx = moderate
xxx = abundant
xxxx = dominant

HIKO SPRINGS CEMENTED SUBSOIL VARIANT GRAVELLY LOAM 1/
S66Utah-14-3

Location: Millard County, UT. Southwest corner Desert Range Experiment Station, 363 feet south and 181 feet east of the NW corner, Sec. 28, T. 25 S., R. 18 W. (SLC PM). (UT 2-66A).
Date of sampling: May 3, 1966.

Description by: Vern K. Hugie and Klaus W. Flach. Collectors: Klaus W. Flach and Vern K. Hugie.
Classification: Typic Calciorthid, coarse-loamy, carbonatic, mesic.
Vegetation: Winterfat, bud sagebrush, and squirreltail. Climate: Mean annual temperature is about 48° to 50°F. Average annual precipitation is about 6 inches. Parent material: Mixed alluvium from sedimentary and igneous rocks, mainly limestone, sandstone, and quartzite. Topography: Lower end of bajada from Needle Mountain. Slope is about 2 percent. Elevation: 6,350 feet. Drainage: Well drained. Soil moisture: At the time of sampling, the soil was moist to a depth of about 10 inches, and dry below this point. The control section is dry in all parts more than 75 percent of the time when the soil temperature is above 41°F.
Remarks: This soil was tentatively called Denmark in Vern Hugie's report. The cemented layer is not indurated and therefore not a petrocalcic horizon. This soil will be designated as a cemented subsoil variant of Hiko Springs soils.

HORIZON	DESCRIPTION
A1 RSL No. 66207	0-3 inches (0-8 cm), light brownish gray (10YR 6/2) gravelly loam, dark grayish brown (10YR 4/2) moist; moderate thin platy structure; soft, very friable, nonsticky, slightly plastic; few fine roots; many moderate and fine interstitial pores; 20 percent gravel; strong effervescence; moderately alkaline (pH 8.2); clear smooth boundary.
B21 RSL No. 66208	3-10 inches (8-25 cm), pale brown (10YR 6/3) gravelly loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; soft, very friable, nonsticky, slightly plastic; common fine roots; common medium and fine tubular pores; 15 percent gravel; strong effervescence, secondary carbonate coating on underside of pebbles; moderately alkaline (pH 8.4); diffuse smooth boundary.
B22 RSL No. 66209	10-20 inches (25-51 cm), very pale brown (10YR 7/3) gravelly loam, yellowish brown (10YR 5/4) moist; weak subangular blocky structure; soft; very friable, nonsticky, slightly plastic; common fine roots; common medium and fine tubular pores; 20 percent gravel; strong effervescence, secondary carbonate coating on underside of pebbles; strongly alkaline (pH 8.6); clear wavy boundary.
C1ca RSL No. 66210	20-29 inches (51-74 cm), white (10YR 8/2) gravelly loam, very pale brown (10YR 7/3) moist; weak medium angular and subangular blocky structure; compact and moderately cemented with carbonate but not indurated, appears to restrict root penetration; few fine roots; common fine tubular pores; 45 percent gravel; violent effervescence; secondary carbonate coating on pebbles and pendents on undersides; moderately alkaline (pH 8.2); clear wavy boundary.
C2ca RSL No. 66211	29-34 inches (74-86 cm), white (10YR 8/2) gravelly loam, very pale brown (10YR 7/3) moist; weak thick platy; strongly cemented with carbonates; very few roots; many fine tubular pores; 30 percent gravel; violent effervescence; many carbonate concretions; moderately alkaline (pH 8.2); clear wavy boundary.
C3ca RSL No. 66212	34-46 inches (86-117 cm), white (10YR 8/2) and light brown (10YR 7/3) variegated and stratified very gravelly sandy loam and very gravelly loamy sand; massive; very hard, firm, nonsticky, nonplastic; contains moderately cemented lenses 2 to 3 inches thick; very few roots; 45 percent gravel; strong effervescence; moderately alkaline (pH 8.2); diffuse smooth boundary.
C4 RSL No. 66213	46-69 inches (117-175 cm), pale brown (10YR 7/3) and light brown (10YR 6/3) variegated stratified very gravelly sandy loam and gravelly sand; few roots; 45 percent gravel; contains moderately cemented lenses 2 to 4 inches thick; secondary carbonate as pendents on undersides of pebbles; moderately alkaline (pH 8.2).

1/ The Hiko Springs series is in a coarse-loamy, mixed, mesic family of Typic Calciorthids. This pedon has more than 40 percent carbonate between 25 cm and 1 meter in depth.

SCS-420
10-64

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL FAMILY: Typic Calciorthid, coarse-loamy, carbonatic, mesic

SOIL Hiko Springs high lime variant sandy loam SOIL Nos. S66Utah-14-4 LOCATION Millard County, Utah

SOIL SURVEY LABORATORY Riverside, California LAB. Nos. 66201 - 66206

Depth (in.)	Horizon	1B1b Total Sand (2-0.05)	Total Silt (0.05-0.002)	Total Clay (< 0.002)	Sand Very coarse (2-1)	Sand Coarse (1-0.5)	Sand Medium (0.5-0.25)	Sand Fine (0.25-0.1)	Sand Very fine (0.1-0.05)	Silt 0.05-0.02	Silt Int. III (0.02-0.002)	Int. II (0.2-0.02)	(2-0.1)	3A1a Carbonate clay	3A1a Non-carbonate clay	1/ Coarse fragments 1A2a > 2 Pct	2 - 19 (Pct. of < 76 mm)	19 - 76 (Pct. of < 76 mm)
		Pct. of < 2 mm																
0-3	A1	50.7	34.7	14.6	11.6	9.3	5.0	11.8	13.0	16.0	18.7	36.1	37.7	1	14	27	27	0
3-10	B2	47.0	35.7	17.3	6.3	7.1	4.8	13.3	15.5	15.5	20.2	39.5	31.5	2	15	17	17	0
10-16	C1ca	34.5	34.6	28.9	6.7	6.2	3.8	9.5	10.8	13.1	21.5	29.8	25.7	14	15	48	42	6
16-25	C2ca	39.1	28.0	32.9	10.2	7.8	3.9	8.9	8.3	10.1	17.9	23.4	30.8	20	13	48	46	2
25-33	C3ca	47.3	27.8	24.9	15.3	11.7	4.8	7.5	8.0	11.3	16.5	23.5	39.3	12	13	58	47	11
33-60+	C4	60.6	24.2	15.2	14.9	11.3	6.7	15.7	12.0	12.5	11.7	33.6	48.6	4	11	51	44	7

Depth (in.)	6A1a Organic carbon Pct.	6B1a Nitrogen Pct.	C/N	6C2a Ext. Iron as Fe Pct.	6E1b Carbonate as $CaCO_3$ Pct	Carbonate as $CaCO_3$ (whole soil) 6E1b Pct.	Bulk density 4A1f 1/3 bar g/cc	Bulk density 4A1h Oven dry g/cc	Bulk density g/cc	3B2 Cm	Water content Pct.	Water content 4B1c 1/3 bar Pct.	Water content 4B2 15 bar Pct	4D1 Extensibility COLEF in./in.	4D1 Extensibility COLE in./in.	pH 8C1b Saturated Paste	pH 8C1a H_2O 1:1	pH 8C1a H_2O 1:10
0-3	0.85	0.081	10		21		1.39	1.43		0.84		12.1	8.5	0.010	0.008	8.0	8.3	8.8
3-10	0.81	0.085	10		24		1.22	1.25		0.91		18.1	11.0	0.009	0.008	8.0	8.3	8.8
10-16	0.68				52	57	1.34	1.37		0.68		24.8	13.8	0.007	0.005	7.9	8.2	9.0
16-25	0.60				54	61							15.0			7.8	8.1	9.1
25-33	0.33				48	59							12.0			8.1	8.5	9.4
33-60+	0.11				36	48							7.8			8.0	8.2	8.6

Depth (in.)	Extractable bases 6N4c Ca 5B3a	6O4c Mg 5B3a	6P2a Na 5B1a	6Q2a K 5B1a	* Sum of bases	6H2a Ext. Acidity	Cation Exch. Capacity 5A2a NaOAc	5A1a NH_4OAc	Water extract from saturated paste 8A1 6N1a Ca	6O1a Mg	6P1a Na	6Q1a K		6I1a CO_3	6J1a HCO_3	6K1a Cl	SO_4	8A1a Electrical conductivity
	meq/100 g								meq/liter									mmho/cm
0-3	14.2	1.8	0.3	1.6	17.6			15.0	7.0	1.1	1.2	0.5		-	4.9	1.1		0.84
3-10	16.5	2.6	0.3	0.6	19.8			17.0	3.5	0.7	1.1	0.1		-	3.9	tr		0.46
10-16	11.3	2.5	1.2	0.2	14.9			11.5	3.2	1.4	9.0	tr		-	2.5	11.6		1.63
16-25	7.4	2.0	4.6	0.2	10.4			6.9	9.6	4.8	53.5	0.2		-	3.6	60.8		7.2
25-33	7.0	3.5	8.0	0.4	13.0			8.9	9.2	10.0	111	0.4		-	3.0	99.4	27.3	12.6
33-60+	20.5	3.5	10.1	0.4	21.5			10.8	33.0	23.3	185	0.4		-	2.6	156	108	18.8

Depth (in.)	8A Water at Saturation Pct	Exch. bases 5B3b* Ca	5B3b* Mg	5B1b Na	5D2 Exchangeable Na Pct.	SAR	6F1a Gypsum Pct	Clay mineralogy (<0.002 mm) 7A Mont.	Verm.	Mica	Kaolin.	
		meq /100 g						X-ray				
0-3	25.6	14.0	1.8	0.2	1	0.6						
3-10	40.2	16.4	2.6	0.2	1	0.8						
10-16	51.7	11.1	2.4	1.2	10	6						
16-25	56.9	6.9	1.7	1.6	23	20						
25-33	45.4	6.6	3.0	3.0	34	36						
33-60+	29.6	13.7	2.8	4.6	43	35						

1/ From characterization sample (5 kg).

* Ca++ and Mg++ corrected for Ca++ and Mg++ in the saturation extract and as gypsum.

HIKO SPRINGS HIGH LIME VARIANT SANDY LOAM 1/
S66Utah-14-4

Location: Millard County, UT. Southeast corner Desert Range Experiment Station, 132 feet south and 100 feet east of the NW 1/4, corner Sec. 28, T. 25 S., R. 18 W. (SLC PM). (UT 1-66A). Date of sampling: May 3, 1966.
Description by: Vern K. Hugie and Klaus W. Flach. Collectors: Klaus W. Flach and Vern K. Hugie.
Classification: Typic Calciorthid, coarse-loamy, carbonatic, mesic.
Vegetation: Black sagebrush, winterfat, little rabbitbrush, Indian ricegrass and squirreltail.
Climate: Average annual precipitation is about 6 inches, and mean annual temperature is about 48° to 50°F. Parent material: Mixed alluvium from sedimentary and igneous rocks (limestone, sandstone, quartzite, rhyolite). Topography: Lower 1/3 of an extensive bajada from the Needle Mountains to the west. Slope is 2 percent, northeast-facing. Elevation: 6,350 feet. Drainage: Runoff, none to slight; rapid permeability; well drained. Soil moisture: At the time of sampling, the A & B horizons were moist and the remainder of the profile dry. The control section is dry for more than 75 percent of the time when the soil temperature is above 41°F.
Remarks: This soil was tentatively called Sanpete in Vern Hugie's report. It is more like the Hiko Springs soil but is higher in carbonate.

HORIZON	DESCRIPTION
A1 RSL No. 66201	0-3 inches (0-8 cm), light brownish gray (10YR 6/2) sandy loam, dark grayish brown (10YR 4/2) moist; moderate thin platy structure; soft, very friable, nonsticky, slightly plastic; few fine roots; many medium and fine interstitial and few vesicular pores; 15 percent gravel; strong effervesence; moderately alkaline (pH 8.2); clear smooth boundary.
B2 RSL No. 66202	3-10 inches (8-25 cm), pale brown (10YR 6/3) loam, brown (10YR 4/3) moist; weak subangular blocky structure; soft, friable, nonsticky, slightly plastic; common fine roots; common medium and fine tubular pores; 10 percent gravel; strong effervescence; pebbles coated with secondary carbonates on undersides; moderately alkaline (pH 8.2); clear wavy boundary.
C1ca RSL No. 66203	10-16 inches (25-41 cm), white (10YR 8/2) and pale brown (10YR 6/3) variegated color in peds; crushed is very pale brown (10YR 8/3) gravelly loam, pale brown (10YR 6/3) moist; weak medium angular and subangular blocky structure; very hard, friable, nonsticky, slightly plastic; common fine roots; common fine tubular pores; 30 percent gravel; violent effervescence, secondary carbonates as coatings and as pendents on undersides of pebbles; many carbonate concretions; moderately alkaline (pH 8.4); gradual smooth boundary.
C2ca RSL No. 66204	16-25 inches (41-63 cm), white (10YR 8/2) gravelly loam, pale brown (10YR 7/3) moist; massive; extremely hard, friable, nonsticky, slightly plastic; few fine roots; many medium and fine tubular pores; 30 percent gravel; violent effervescence; secondary carbonates as coatings on pebbles; strongly alkaline (pH 8.6); clear wavy boundary.
C3ca RSL No. 66205	25-33 inches (63-84 cm), white (10YR 8/2) gravelly loam, very pale brown (10YR 7/3) moist; massive; very hard, friable, nonsticky, slightly plastic; few fine roots; many medium and fine tubular pores; 40 percent gravel; violent effervescence, secondary carbonates as coatings on gravel and as pendents on undersides; strongly alkaline (pH 8.6); diffuse smooth boundary.
C4 RSL No. 66206	33-60 inches (84-152 cm), pale brown (10YR6/3) gravelly coarse sandy loam, yellowish brown (10YR 5/4) moist; massive; hard, friable, nonsticky, non-plastic; few fine roots; 40 percent gravel; strong effervescence, secondary carbonates as pendents on underside of pebbles; strongly alkaline (pH 8.6).

1/ The Hiko Springs series is in a coarse-loamy, mixed, mesic family of Typic Calciorthids. This pedon has more than 40 percent carbonate between 25 cm and 1 meter in depth.

SCS-420
10-64

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL FAMILY: Typic Calciorthid, coarse-loamy, mixed, mesic

SOIL Hiko Springs gravelly loam SOIL Nos. S66Utah-14-1 LOCATION Millard County, Utah

SOIL SURVEY LABORATORY Riverside, California LAB. Nos. 66214 - 66221

Depth (In.)	Horizon	1B1b Total Sand (2-0.05)	Total Silt (0.05-0.002)	Total Clay (< 0.002)	Sand: Very coarse (2-1)	Sand: Coarse (1-0.5)	Sand: Medium (0.5-0.25)	Sand: Fine (0.25-0.1)	Sand: Very fine (0.1-0.05)	Silt: 0.05-0.02	Silt: Int. III (0.02-0.002)	Int. II (0.2-0.02)	(2-0.1)	3A1a Carbonate clay	3A1a Non-carbonate clay	1/ Coarse fragments 1A2a > 2 Pct	2 - 19 (Pct of < 76 mm)	19 - 76 (Pct of < 76 mm)
		Pct. of < 2 mm																
0-3	A11	47.5	38.0	14.1	10.0	13.6	8.8	9.5	6.0	14.9	24.1	25.5	41.9	1	12	22	22	0
3-6	A12	50.5	34.6	14.5	6.2	15.4	11.3	11.5	6.5	13.2	21.4	25.2	44.4	1	14	14	14	0
6-15	B21	53.1	23.7	13.2	7.5	13.6	10.4	12.5	9.1	13.1	20.6	28.1	44.0	0	13	13	13	0
15-22	B22	53.5	22.9	11.6	8.7	15.9	11.7	13.9	9.3	12.4	16.5	28.7	50.2	1	11	15	15	0
22-32	C1ca	51.4	20.6	28.0	8.4	13.0	10.2	12.8	7.0	7.0	13.6	20.3	44.4	17	11	19	18	1
32-35	C2ca	[illegible]	19.5	17.5	7.6	14.0	12.9	19.1	10.4	8.5	11.0	28.9	53.6	10	7	25	23	2
35-48	C3ca	72.5	14.8	12.7	13.5	19.4	14.3	17.7	7.6	5.8	9.0	21.3	64.9	5	8	42	40	2
48-60	C4	76.8	7.6	15.6	15.4	34.0	17.3	8.2	1.9	1.3	6.3	9.9	74.9	3	13	34	34	0

Depth (In.)	6A1a Organic carbon Pct	6B1a Nitrogen Pct.	C/N	6C2a Ext. Iron as Fe Pct.	6E1b Carbonate as $CaCO_3$ Pct	Carbonate as $CaCO_3$ (whole soil) 6E1b Pct.	Bulk density 4A1f 1/3 bar g/cc	Bulk density 4A1h Oven dry g/cc	g/cc	3B2 Cm	Water content Pct.	4B1c 1/3 bar Pct.	4B2 15 bar Pct.	4D1 Extensibility COLEF in./in.	4D1 Extensibility COLE in./in.	pH 8C1b Saturated Paste	pH 8C1a H_2O 1:1	pH 8C1a H_2O 1:10
0-3	0.67	0.070	10		14		1.38	1.42		0.87		18.2	8.0	0.010	0.008	8.1	8.5	8.9
3-6	0.53	0.054	10		14								8.5			8.0	8.4	9.0
6-15	0.53				16		1.19	1.21		0.94		19.3	8.4	0.004	0.004	8.1	8.4	8.9
15-22	0.39				14		1.28	1.28		0.92		18.6	8.2	0.002	0.001	7.8	8.1	9.0
22-32	0.34				40	43	1.47	1.52		0.88		22.2	11.4	0.010	0.009	7.8	8.0	8.7
32-35	0.31				40	45	1.50	1.51		0.84		18.8	11.4	0.003	0.003	7.9	7.9	8.5
35-48	0.21				32	43	1.57	1.58		0.70		18.1	8.6	0.002	0.002	7.8	8.0	8.7
48-60	0.11				21	35	1.50	1.55		0.77		11.0	8.0	0.011	0.009	7.8	8.1	8.8

Depth (In.)	Extractable bases 6N4c Ca 5B3a	6O4c Mg 5B3a	6P2a Na 5B1a	6Q2a K 5B1a	* Sum of bases	6H2a Ext. Acidity	Cation Exch. Capacity 5A2a NaOAc	5A1a NH_4OAc	Water extract from saturated paste 6N1a Ca	6O1a Mg	6P1a Na	6Q1a K		6I1a CO_3	6J1a HCO_3	6K1a Cl	SO_4	8A1 8A1a Electrical conductivity
	meq/100 g								meq/liter									mmho/cm
0-3	13.2	2.3	0.3	5.9	21.5			14.9	4.3	1.1	1.4	1.0		-	5.8	1.0		0.72
3-6	12.8	2.6	0.2	2.7	18.2			15.0	3.1	1.0	0.8	1.0		-	4.6	0.2		0.55
6-15	11.7	3.7	0.4	2.4	18.0			15.9	2.4	0.9	1.6	0.7		-	4.2	0.1		0.48
15-22	9.9	4.5	3.3	1.3	16.7			14.6	12.5	8.6	36.2	0.6		-	3.1	48.8		5.87
22-32	9.6	5.1	6.1	0.2	12.0			8.1	48.2	43.3	106	0.3		-	3.0	151	30.8	17.1
32-35	12.7	4.4	5.1	0.2	10.2			7.6	58.9	41.9	89	0.3		-	2.4	129	48.8	17.5
35-48	8.3	3.7	4.4	0.2	10.3			7.8	42.1	31.0	83	0.2		-	1.9	117	21.1	14.5
48-60	8.3	3.7	3.9	0.2	11.8			9.4	26.7	17.4	66	0.2		-	1.9	82.2	11.8	9.4

Depth (In.)	8A Water at Saturation Pct.	Exch. bases 5B3b* Ca	5B3b* Mg	5B1b Na	5D2 Exchangeable Na Pct	SAR	6F1a Gypsum Pct.	Clay mineralogy (<0.002 mm) 7A Mont.	Verm.	Mica	Kaolin.
		meq /100 g						X-ray			
0-3	26.2	13.1	2.3	0.2	1	0.8					
3-6	25.9	12.7	2.6	0.2	1	0.6					
6-15	43.6	11.6	3.7	0.3	2	1					
15-22	40.5	9.4	4.2	1.8	12	9					
22-32	45.4	7.4	3.1	1.3	16	16	tr				
32-35	45.6	6.5	2.5	1.0	13	12	0.3				
35-48	40.0	6.6	2.5	1.0	13	14	tr				
48-60	38.8	7.3	3.0	1.3	14	14	-				

1/ From characterization sample (5 kg).

* Ca++ and Mg++ corrected for Ca++ and Mg++ in the saturation extract and as gypsum.

HIKO SPRINGS GRAVELLY LOAM

S66Utah-14-1

Location: Millard County, UT. Desert Range Experiment Station, near exclosure No. 3, white-sage-yellowbrush, 198 feet west and 20 feet south of the southeast corner of the exclosure; NE 1/4 of the SW 1/4, Sec. 22, T. 25 S., R. 18 W. (SLC PM). (UT 4-66A). Date of sampling: May 2, 1966.

Description by: Vern K. Hugie and Klaus W. Flach. Collectors: Klaus W. Flach and Vern K. Hugie.

Classification: *Typic Calciorthid, coarse-loamy, mixed, mesic.*

Vegetation: Mainly winterfat with a trace of bud sagebrush. Climate: Mean annual temperature is about 48° to 50°F. Average annual precipitation is about 6 inches. Parent material: Mixed alluvium from sedimentary and igneous rocks; mainly limestone, sandstone, quartzite, and rhyolite. Topography: The toe end of an extensive bajada from the Needle Mountains to the west. Slopes are about 2 percent and northeast-facing. Elevation: 6,200 feet. Drainage: Well drained. Soil moisture: At time of sampling, the top 10 inches of the soil was moist and the remainder of the profile dry. The control section is dry in all parts more than 75 percent of the time when the soil temperature is above 41°F.

HORIZON	DESCRIPTION
A11 RSL No. 66214	0-3 inches (0-8 cm), light grayish brown (10YR 6/2) gravelly loam, brown (10YR 4/3) moist; moderate thin platy structure; soft; very friable, nonsticky, slightly plastic; few fine roots; many medium and fine interstitial and few vesicular pores; moderate polygonal soil surface pattern; 15 percent fine gravel; weak effervescense; moderately alkaline (pH 8.4); clear smooth boundary.
A12 RSL N. 66215	3-6 inches (8-15 cm), pale brown (10YR 6/3) loam, brown (10YR 4/3) moist; weak medium and thick platy structure; soft, very friable, nonsticky, slightly plastic; common fine roots; many medium and fine interstitial and few tubular pores; 10 percent fine gravel; strong effervescence; moderately alkaline (pH 8.4); occasional krotovina; clear smooth boundary.
B21 RSL No. 66216	6-15 inches (15-38 cm), very pale brown (10YR 7/3) sandy loam, yellowish brown (10YR 5/4) moist; weak coarse prismatic structure; soft, very friable, nonsticky, nonplastic; common fine roots; common medium and fine tubular pores; 10 percent fine gravel; strong effervescence, secondary carbonate coating on underside of pebbles; moderately alkaline (pH 8.4); occasional krotovina; diffuse smooth boundary.
B22 RSL No. 66217	15-22 inches (38-56 cm), very pale brown (10YR 7/3) sandy loam, yellowish brown (10YR 5/4) moist; weak medium and coarse subangular blocky structure; soft, very friable, nonsticky, nonplastic; common fine roots; few medium and fine tubular pores; 10 percent fine gravel; strong effervescence; secondary carbonate coating on underside of pebbles; moderately alkaline (pH 8.4); occasional krotovina; gradual smooth boundary.
C1ca RSL No. 66218	22-32 inches (56-81 cm), very pale brown (10YR 8/3) loam, light yellowish brown (10YR 6/4) moist; weak medium and thick platy structure; moderately cemented; very hard, friable, nonsticky, slightly plastic; few fine roots; common medium and fine tubular pores; 10 percent fine gravel; violent effervescence; secondary carbonate coating on pebbles; many concretions of carbonate; moderately alkaline (pH 8.4); abrupt wavy boundary.
C2ca RSL No. 66219	32-35 inches (81-89 cm), white (10YR 8/2) sandy loam, very pale brown (10YR 7/3) moist; moderate thick platy structure; strongly cemented thin lenses with troweled surface; extremely hard; firm; nonsticky, slightly plastic; few roots; few medium and fine tubular pores; 15 percent fine gravel; many carbonate concretion; violent effervescence; moderately alkaline (pH 8.2); clear wavy boundary.
C3ca RSL No. 66220	35-48 inches (89-122 cm), white (10YR 8/2) gravelly coarse sandy loam, pale brown (10YR 7/3) moist; massive; hard, friable, nonsticky, nonplastic; few fine roots; many fine tubular pores; 25 percent gravel; violent effervescence; secondary carbonate coating and pendents on underside of pebbles; many carbonate concretions; moderately alkaline (pH 8.4); diffuse smooth boundary.
C4 RSL No. 66221	48-60 inches (122-152 cm), pale brown (10YR 7/3) stratified sand and gravel, yellowish brown (10YR 5/4) moist; massive; contains lenses of moderately cemented materials; 25 percent gravel; strong effervescence; many carbonate concretions; moderately alkaline (pH 8.2).

CONSECUTIVE PEDON NUMBER C 68 51 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES HIKO SPRINGS GRAVELLY SANDY LOAM SOIL NO. S68 UTAH. 1- 5 SAMPLE NO. 8 401-8 407 DESERT RANGE AREA

SOIL FAMILY: TYPIC CALCIORTHIC,COARSE-LOAMY,MIXED,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2-.05	SILT .05-.002	CLAY LT .002	SANDS VCS 2-1	CS 1-.5	MS .5-.25	FS .25-.10	VFS .1-.05	SILTS CSI .05-.02	FSI .02-.002	CLAYS CO. 2-.2U	FINE LT .2U	CARBONATE	INT. II .2-.02	COARSE FRAGMENTS I PCT. OF WHOLE SOIL	II 75-20	III 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75			
8 401	0- 3	A11															12A	--	12Z	N
8 402	3- 10	A12															10A	--	10Z	N
8 403	10- 30	B21	--	--	--	--	--	--	--	--	--					--	12A	--	12Z	N
8 404	30- 41	B22															19A	--	19Z	N
8 405	41- 74	C 1CA															15A	--	15Z	N
8 406	74-107	C 2CA															35A	--	35Z	N
8 407	107-152	C 3															40A	--	40Z	N

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON	NITROGEN	CARBONATE AS CACO3 LT 2	19-2	EXT. IRON FE	ATTERBERG LIMIT LL	PL	BULK DENSITY EST 1/3 BAR	DRY	CM	WATER CONTENT 1/10 BAR	1/3 BAR	15 BAR	EXTENSIBLITY LEF	LE	PH H2O 1/1	H2O 1/10	CACL2
		-PERCENT--		-PERCENT-		PCT.	PCT.NO.40		GRAMS PER CC			----PERCENT---			-PERCENT--				
8 401	0- 3	0.18	0.024	5	16				1.23		0.94			5.0			8.5	8.8	8.0
8 402	3- 10	0.20	0.022	5	16				1.23		0.95			5.7			8.5	8.7	7.9
8 403	10- 30	0.22		5	20				1.20		0.94			6.3			8.5		7.9
8 404	30- 41	0.22		8	17				1.20		0.90			7.0			8.4		7.8
8 405	41- 74	0.29		21	17				1.45		0.91			8.0			8.8		7.9
8 406	74-107	0.17		10	35				1.45		0.77			6.3			9.4	9.7	8.2
8 407	107-152	0.09		3	14				1.40		0.74			3.9			8.2	8.9	8.1

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA	MG	NA	K	SUM	BASE SAT.	C E C NA-OAC	NH4-CAC	EC	WATER EXTRACT FROM SATURATED PASTE CA	MG	NA	K	CO3	HCO3	CL	SO4	B	PH SAT. PASTE
		MEQ/100G					PCT.	-MEQ/100G		MMHO	MEQ/1000 ML								PPM	
8 401	0- 3			0.3	1.8	2.1			11.4	1.07	4.5	1.3	4.2	1.3		3.9	4.4			8.1
8 402	3- 10			0.1	1.8	1.9			11.6	0.83	4.2	1.2	3.3	1.2		4.1	2.8			7.9
8 403	10- 30			0.1	1.9	2.0			12.1	0.50										
8 404	30- 41			0.2	1.5	1.7			12.1	0.56										
8 405	41- 74			1.3	0.6	1.9			9.5	0.76										
8 406	74-107			5.5	0.1	5.6			10.3	3.50	0.7	0.6	37.0	0.2		6.4	23.8			8.5
8 407	107-152			5.5	0.1	5.6			9.5	10.1	15.4	10.8	95.5	0.2		2.7	53.5	70.2		8.0

SAMPLE NO.	DEPTH CM.	WATER AT SAT.	EXCHANGEABLE NA	NA	SAR	GYPSUM AMT.	REQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I	II	III	IV	DTA	L.T. .0002 MM X RAY I	II	III	MINERAL CODE	RELATIVE AMOUNT
		PCT.	MEQ.	PCT.		PCT.	MEQ.										
8 401	0- 3	22.3	0.2	2	2												1 TRACE
8 402	3- 10	30.0	TR	TR	2												2 SMALL
8 403	10- 30		0.1	1													3 MODERATE
8 404	30- 41		0.2	2													4 ABUNDANT
8 405	41- 74		1.3	14													5 DOMINANT
8 406	74-107	20.4	4.7	46	46												6 INDETER.
8 407	107-152	24.2	3.2	34	26												

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
N=NOT DETERMINED.
Z=NOT ALL FRACTIONS SEPERATED. ADJACENT FRACTIONS INCLUDED HERE.

HIKO SPRINGS GRAVELLY SANDY LOAM
68Utah-1-5

Location: Beaver County, UT. Pine Valley, approximately Sec. 16, T. 26 S., R. 17 W. (SLM). Date of sampling: 1968.
Description by: V. Hugie. Collectors: V. Hugie, others.
Classification: Typic Calciorthid, coarse-loamy, mixed, mesic.
Vegetation: Dominantly shadscale and winterfat with understory of Indian ricegrass and galleta grass. Climate: Average annual precipitation is about 6 inches. Mean annual temperature is about 49° F. Parent material: Alluvium from limestone, quartzite, sandstone, rhyolite, and tuff. Topography: Valley fill, alluvial fan, 2 percent northeast-facing slope. Elevation: 5,300 feet. Drainage: Well drained: Soil moisture: The soil is dry for more than 75 percent of the time when soil temperature is above 41° F.

HORIZON	DESCRIPTION
A11 RSL No. 68401	0- 3cm (0-1½ inches), pale brown (10YR 6/3) gravelly sandy loam, brown (10YR 5/3) moist; moderate medium and thin platy structure; soft; friable; nonsticky, nonplastic; few fine roots; many medium and fine interstitial and vesicular pores; 15 percent gravel; violent effervescence; strongly alkaline (pH 8.5); clear wavy boundary.
A12 RSL No. 68402	3-10 cm (1½-4 inches), light brown (7.5YR 6/2) gravelly sandy loam, brown (7.5YR 4/2) moist; weak medium platy structure; soft; friable; nonsticky, nonplastic; few fine roots; many fine interstitial pores; 10 percent gravel; violent effervescence; strongly alkaline (pH 8.5); gradual wavy boundary.
B21 RSL No. 68403	10-30 cm (4-12 inches), light brown (7.5YR 6/2) gravelly sandy loam, (7.5YR 5/4) moist; massive; soft; friable; nonsticky, nonplastic; many medium fine and very fine roots; many fine interstitial pores; 10 percent gravel; violent effervescence; secondary carbonates on underside of pebbles; strongly alkaline (pH 8.5); gradual wavy boundary.
B22 RSL No. 68404	30-41 cm (12-16 inches), light brown (7.5YR 6/2) gravelly sandy loam, brown (7.5YR 5/4) moist; massive; soft; friable; nonsticky, nonplastic; common medium and fine roots; many medium and fine tubular pores; 15 percent gravel; violent effervescence; secondary carbonates on underside of pebbles; moderately alkaline (pH 8.4); gradual irregular boundary.
C1ca RSL No. 68405	41-74 cm (16-29 inches), pinkish white (7.5YR 8/2) gravelly sandy loam, light brown (7.5YR 6/2) moist; massive; hard; friable; nonsticky, slightly plastic; common medium and fine roots; many medium and fine tubular pores; 10 percent gravel; common rodent krotovina; violent effervescence; secondary carbonates disseminated and as coatings on pebbles; clear wavy boundary.
C2ca RSL No. 68406	74-107 cm (29-42 inches), pinkish white (7.5YR 7/2) very gravelly loamy sand, brown (7.5YR 5/4) moist; massive; loose; very friable; nonsticky, nonplastic; few fine roots; many fine interstitial pores; 25 percent gravel; common rodent krotovina; violent effervescence; secondary carbonates disseminated and as coatings on pebbles; clear wavy boundary.
C3 RSL No. 68407	107-152 cm (42-60 inches), very light brown (7.5YR 6/2) very gravelly loamy sand (stratified gravel, sand, and loamy sand) brown (7.5YR 4/2) moist; massive; loose; containing thin lenses of weakly cemented material; violent effervescence; secondary carbonates as pendents on underside of pebbles; moderately alkaline (pH 8.2).

CONSECUTIVE PEDCN NUMBER C 68 53 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES HIKC SPRINGS SANDY LOAM SOIL NO. S68 UTAH. 1- 6 SAMPLE NC. 8 488-8 494 DESERT RANGE AREA

SOIL FAMILY: TYPIC CALCIORTHIC,COARSE-LOAMY,MIXED,MESIC RIVERSIDE SOIL SURVEY LABCRATORY

SIZE, CLASS AND PARTICLE DIAMETER (MM)

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SANC 2- .05	SILT .05- .002	CLAY LT .002	VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	CSI .05- .02	FSI .02- .002	CC. 2- .2U	FINE LT .2U	CARBO NATE	INT. II .2- .02	PCT. OF WHOLE SOIL	COARSE FRAGMENTS I 75- 20 PCT. OF LT 75	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM																	
8 488	0- 3	A11	--	--	--	--	--	--	--	--	--	--				--	--	--	--	--
8 489	3- 13	A12															--	--	--	--
8 490	13- 28	B21															10A	--	10Z	N
8 491	28- 51	B22															13A	--	13Z	N
8 492	51- 71	B23															13A	--	13Z	N
8 493	71-114	C 1CA															13A	--	13Z	TR
8 494	114-183	C 2															15A	--	15Z	N

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR- BON	NITRO GEN	CARBONATE AS CACC3 LT 2	19-2	EXT. IRON FE	ATTERBERG LIMIT LL	PL	BULK DENSITY EST 1/3 BAR		CM DRY	WATER CONTENT 1/10 BAR	1/3 BAR	15 BAR	EXTENSBLTY LEF	LE	PH H20 1/1	H20 1/10	CACL2
		-PERCENT--		-PERCENT-		PCT.	PCT.NO.40		GRAMS PER CC			----PERCENT---			-PERCENT--				
8 488	0- 3	0.28	0.037	5										5.9			8.5		7.9
8 489	3- 13	0.15	0.022	6	5									6.6			8.4	8.8	8.0
8 490	13- 28	0.15		5	4				1.20		0.95			9.4			8.3		7.9
8 491	28- 51	0.20		6	14				1.20		0.94			6.9			8.6		7.9
8 492	51- 71	0.21		6	10				1.25		0.94			6.9			8.6	9.2	8.1
8 493	71-114	0.26		26						1.34 1.36	0.93		23.5	7.6	0.5	0.5	8.0	8.8	7.9
8 494	114-183	0.11		10					1.40		0.92			5.8			8.3	9.0	8.0

SAMPLE NC.	DEPTH CM.	EXTRACTABLE BASES CA	MG	NA	K	SUM	BASE SAT.	C E C NA- OAC	NH4- OAC	EC	WATER EXTRACT FROM SATURATED PASTE CA	MG	NA	K	CO3	HCO3	CL	SO4	B	PH SAT. PASTE
		MEQ/100G					PCT.	-MEQ/100G		MMHO	MEQ/1000 ML								PPM	
8 488	0- 3			0.5	1.8	2.3			14.3	0.68										
8 489	3- 13			0.3	2.5	2.8			14.7	1.38	6.7	1.9	5.1	1.5		3.4	6.1			7.9
8 490	13- 28			0.4	2.2	2.6			14.5	0.63										
8 491	28- 51			1.8	0.7	2.5			14.7	0.88										
8 492	51- 71			4.3	0.2	4.5			16.0	3.67	3.9	2.0	37.5	0.1		3.8	26.6			8.0
8 493	71-114			5.9	0.1	6.0			11.9	10.1	22.9	1.4	85.1	0.1		2.9	81.4	23.0		7.7
8 494	114-183			6.2	0.1	6.3			13.2	9.9	27.3	10.2	115.0	0.1		2.9	70.5	51.0		7.9

SAMPLE NC.	DEPTH CM.	WATER AT SAT.	EXCHANGBLE NA	NA	SAR	GYPSUM AMT.	REQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I	II	III	DTA IV	PCT.	L.T. .0002 MM X RAY I	II	III	MINERAL CODE	RELATIVE AMOUNT
		PCT.	MEQ.	PCT.		PCT.	MEQ.										
8 488	0- 3		0.5	3													1 TRACE
8 489	3- 13	21.4	0.2	1	2												2 SMALL
8 490	13- 28		0.4	3													3 MODERATE
8 491	28- 51		1.8	12													4 ABUNCANT
8 492	51- 71	33.6	3.0	19	22												5 DOMINANT
8 493	71-114	39.2	2.6	22	24	0.1											6 INDETER.
8 494	114-183	28.4	2.9	22	27	0.1											

SAMPLE PREPARATICN CODES
A=STANDARC PREPARATICN.
N=NCT DETERMINED.
Z=NOT ALL FRACTICNS SEPERATEC. ADJACENT FRACTIONS INCLUDED HERE.

HIKO SPRINGS SANDY LOAM
68Utah-1-6

Location: Beaver County, UT. Pine Valley, approximately Sec. 21, T. 26 S., R. 17 W. (SLM). Date of sampling: 1968.
Description by: V. Hugie. Collectors: V. Hugie, others.
Classification: Typic Calciorthid, coarse-loamy, mixed, mesic.
Vegetation: Dominantly winterfat. Climate: Average annual precipitation is about 6 inches. Mean annual temperature is about 49°F. Parent material: Alluvium from sandstone, limestone, quartzite, rhyolite, and tuff. Topography: Valley fill, alluvial fan, 1 percent northeast slope. Elevation: 5,300 feet. Drainage: Well drained. Soil moisture: The soil is dry more than 75 percent of the time when the soil temperature is above 41° F.

HORIZON	DESCRIPTION
A11 RSL No. 68488	0-3 cm (0-1 inches), pale brown (10YR 6/3) sandy loam, brown (10YR 4/3) moist; moderate medium and thin platy structure; soft; friable; nonsticky, slightly plastic; few fine roots; many coarse, medium and fine interstitial and vesicular pores; 10 percent gravel; violent effervescence; strongly alkaline (pH 8.6); abrupt wavy boundary.
A12 RSL No. 68489	3-13 cm (1-5 inches), light yellowish brown (10YR 6/4) sandy loam, yellowish brown (10YR 5/4) moist; moderate thin platy structure; soft; friable; nonsticky, slightly plastic; clay; few fine roots; many medium and fine interstitial pores; 10 percent gravel; violent effervescence; strongly alkaline (pH 8.6); clear wavy boundary.
B21 RSL No. 68490	13-28 cm (5-11 inches), light yellowish brown (10YR 6/4) sandy loam, yellowish brown (10YR 5/4) moist; weak coarse prismatic structure; soft; friable; nonsticky, nonplastic; many medium and fine roots; many fine and very fine tubular pores; 10 percent gravel; violent effervescence; secondary carbonate as thin coating on underside of pebbles; moderately alkaline (pH 8.2); gradual wavy boundary.
B22 RSL No. 68491	28-51 cm (11-20 inches), light brown (7.5YR 6/4) sandy loam, brown (7.5YR 4/3) moist; massive; soft; friable; nonsticky, slightly plastic; many medium and fine roots; many fine tubular pores; 10 percent gravel; violent effervescence; thin coatings of secondary carbonates on underside of pebbles; moderately alkaline (pH 8.4); gradual wavy boundary.
B23 RSL No. 68492	51-71 cm (20-28 inches), light brown (7.5YR 6/4) sandy loam, brown (7.5YR 5/4) moist; massive; soft; very friable; nonsticky, nonplastic; many fine and very fine roots; common fine and very fine tubular pores; 10 percent gravel; common krotovina; violent effervescence; secondary carbonates as thin coatings on underside of pebbles; moderately alkaline (pH 8.4); abrupt irregular boundary.
C1ca RSL No. 68493	71-114 cm (28-45 inches), pinkish white (7.5YR 8/2) fine sandy loam, pink (7.5YR 7/3) moist; moderate coarse prismatic structure; hard; firm; nonsticky, slightly plastic; few fine and very fine tubular pores; 10 percent gravel; violent effervescence; secondary carbonates disseminated; moderately alkaline (pH 8.2); clear wavy boundary.
C2 RSL No. 68494	114-183 cm (45-72 inches), pink (7.5YR 7/3) sandy loam, brown (7.5YR 4/3) moist; massive; hard; firm; nonsticky, nonplastic; few fine roots; few fine and very fine tubular pores; 15 percent gravel; common rodent krotovina; violent effervescence; secondary carbonate coating on pebbles; moderately alkaline (pH 8.2).

CONSECUTIVE PEDON NUMBER C 70 23 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES ATEPIC VERY SHALY CLAY LOAM SOIL NO. S70 UTAH. 20- 3 SAMPLE NO. 0 143-0 149 SANPETE AREA

SOIL FAMILY: XEROLLIC CALCIORTHID,LOAMY,CBN,MESIC,SHALLOW RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION SAND 2-.05	SILT .05-.002	CLAY LT .002	VCS 2-1	CS 1-.5	MS .5-.25	FS .25-.10	VFS .1-.05	CSI .05-.02	FSI .02-.002	CO. 2-.2U	FINE LT .2U	CARBONATE 3A1A	1A2A INT. II .2-.02	COARSE FRAGMENTS PCT. OF WHOLE SOIL I 75-20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75		
0 143	0- 4	A11	25.7	49.6	24.7	4.1	3.6	3.6	7.4	7.0	16.0	33.6	24.4	0.3	6	27.1	43A 16	20	7
0 144	4- 14	A12	17.4	51.2	31.4	1.9	2.4	2.2	5.2	5.7	13.4	37.8			8	22.1	25A 8	11	5
0 145	14- 27	C 1	1.9	51.7	46.4	0.2	0.3	0.2	0.5	0.7	4.2	47.5			9	5.2	--G --	--	--
0 146	27- 43	C 2CA	0.6	60.0	39.4	0.1	0.1	0.1	0.1	0.2	3.4	56.6			17	3.7	--G --	--	--
0 147	43- 73	C 3	0.8	68.6	30.6	0.2	0.1	--	0.2	0.3	5.6	63.0			5	6.1	--G --	--	--
0 148	73-100	C 4	1.7	63.1	35.2	0.1	0.3	0.2	0.5	0.6	5.8	57.3			21	6.8	--G --	--	--
0 149	100-110	C 5	5.7	45.1	49.2	--	0.5	0.5	2.8	1.9	2.9	42.2			2	6.6	--G --	--	--

SAMPLE NO.	DEPTH CM.	ORG. MATTER CARBON 6A1A -PERCENT--	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B -PERCENT-	19-2 6E1B	EXT. IRON FE 6C2B PCT.	ATTERBERG LIMIT LL 4F1 PCT.	PL 4F2 NO.40	BULK DENSITY EST 1/3 BAR 4A1F GRAMS PER CC	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C ----PERCENT---	1/3 BAR 4B1C	15 BAR 4B2	EXTENSIBLITY LEF 4D1 -PERCENT--	LE 4D1	PH H2O 1/1 8C1A	PH H2O 1/10 8C1A	PH CACL2 8C1E
0 143	0- 4	1.57	0.114	39					1.00			0.78			10.3			7.9		7.4
0 144	4- 14	1.62	0.112	37						1.06	1.19	0.88	28.5	24.9	12.0	3.9	3.4	8.0		7.6
0 145	14- 27	1.13	0.074	42						1.31	1.60	1.00	28.7	26.7	15.2	6.9	6.9	8.1		7.7
0 146	27- 43	0.43		70						1.48	1.70	1.00	26.0	23.7	11.6	4.7	4.7	8.3		7.9
0 147	43- 73	0.19		50						1.59	1.86	1.00	23.5	21.9	12.0	5.4	5.4	8.4		8.0
0 148	73-100	0.22		80						1.70	1.83	1.00	22.0	19.9	2.0	2.5	2.5	8.5	8.9	8.1
0 149	100-110	0.51		12						1.50	1.90	1.00	26.6	24.7	18.5	8.2	8.2	8.2	8.9	8.1

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT.	C E C NA-OAC 5A2A	NH4-OAC 5A6A	EC 8A1A	WATER EXTRACT FROM SATURATED PASTE 8A1 CA 6N1A	MG 6O1A	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1B	B 6T1A	PH SAT. PASTE 8C1B
		--------MEQ/100G--------					PCT.	-MEQ/100G		MMHO	----------MEQ/1000 ML----------								PPM	
0 143	0- 4	25.1	3.7	0.1	1.0	29.9	100+		17.2	0.55										
0 144	4- 14	26.9	4.7	0.1	1.1	32.8	100+		20.7	0.49										
0 145	14- 27	24.5	8.4	0.2	0.9	34.0	100+		24.9	0.21										
0 146	27- 43	20.9	7.5	0.2	0.5	29.1	100+		14.0	0.19										
0 147	43- 73	18.1	11.1	0.5	0.6	30.3	100+		16.2	0.21										
0 148	73-100	10.3	8.2	1.3	0.3	20.1	100+		8.5	1.94	1.7	6.2	10.6	0.2		2.6	12.2			8.2
0 149	100-110	16.1	25.1	5.3	0.9	47.4	100+		33.4	4.09	2.8	13.6	24.9	0.3		4.6	24.3			7.8

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGBLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1B PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY --LESS THAN 0.002 MM--- X RAY 7A2E I	7A2E II	7A2E III	DTA 7A2E IV	7A3 PCT.	-L.T. .0002 MM- X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
0 143	0- 4		0.1	1													1 TRACE
0 144	4- 14		0.1	TR				MI 4	MT 1	KK 1						MI MICA	2 SMALL
0 145	14- 27		0.2	1				MI 4								MT MONTMORT	3 MODERATE
0 146	27- 43		0.2	1												KK KAOLINIT	4 ABUNDANT
0 147	43- 73		0.5	3				MI 4									5 DOMINANT
0 148	73-100	60.7	0.7	8	5			MI 3									6 INDETER.
0 149	100-110	71.0	3.5	11	9			MI 3									

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
G=GROUND WHOLE. HORIZON INDURATED OR GRAVEL TOO SOFT TO BE SEPARATED. ALL DATA FOR WHOLE SOIL.

ATEPIC VERY SHALY CLAY LOAM
S70Utah-20-3

Location: Sanpete County, UT. Near head of Mellor Canyon on the West Mountain; about 3,000 feet north and 400 feet west of southeast corner of Sec. 2, T. 18 S., R. 1 E. Date of sampling: August 11, 1970.
Description by: J. Swenson, B. Brasher, D. Nettleton, J. Shiozaki, R. Tew, M. Olsen.
Collectors: J. Swenson, B. Brasher, D. Nettleton, J. Shiozaki, R. Tew, M. Olsen.
Classification: Xerollic Calciorthid, loamy, carbonatic, mesic, shallow.
Vegetation: Juniper, sagebrush, pinyon, Indian ricegrass. Climate: Mean annual temperature, about 47°F. Mean summer temperature, about 65°F. Average annual precipitation, about 12 inches; frost-free period, about 100 days. Parent materials: Colluvium and residuum from shale and limestone. Topography: Hillside slopes. South-facing, about 20 percent slopes. Elevation: 6,320 feet. Drainage: Well drained, moderately slow permeability, rapid runoff. Soil moisture: Usually dry.

HORIZON	DESCRIPTION
A11 RSL No. 70143	0-4 cm (0-2 inches), light brownish gray (10YR 6/2) shaly clay loam, grayish brown (10YR 5/2) moist; weak medium platy structure that parts to moderate fine granular; hard, firm, sticky, plastic; few fine roots; common fine vesicular pores; 25 percent shale fragments, usually less than 3 inches in diameter; very strongly calcareous, lime is disseminated; moderately alkaline (pH 8.2); abrupt smooth boundary.
A12 RSL No. 70144	4-14 cm, (2-6 inches), light brownish gray (10YR 6/2) shaly clay loam, brown (10YR 5/3) moist; weak medium subangular blocky and moderate fine granular structure; slightly hard, firm, sticky, plastic; common fine roots; few fine and medium pores; 25 percent shale fragments less than 3 inches; very strongly calcareous, lime is disseminated; moderately alkaline (pH 8.2); clear smooth boundary.
C1 RSL No. 70145	14-27 cm, (6-11 inches), light brownish gray (2.5Y 6/2) shaly silty clay loam, grayish brown (2.5Y 5/2) moist; moderate fine subangular blocky structure; hard, firm, sticky, plastic; few fine and medium roots; few fine and very fine pores; 25 percent shale fragments; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.6); clear smooth boundary.
C2ca RSL No. 70146	27-43 cm (11-17 inches), 40 percent pale yellow (2.5Y 8/4), 60 percent light gray (5Y 7/2) shaly silty clay loam, 40 percent light yellowish brown (2.5Y 6/3), 60 percent olive (5Y 5/3) moist; massive very hard, firm, sticky, plastic; few fine roots; no pores; very strongly calcareous, lime is disseminated and in fine nodules; strongly alkaline (pH 8.6); clear smooth boundary.
C3 RSL No. 70147	43-73 cm, (17-29 inches), pale olive (5Y 6/3) soft decomposing shale, olive gray (5Y 5/2) moist; massive; very hard, firm, sticky, plastic; few fine and medium roots; no pores; very strongly calcareous, lime is coated on shale fragments and in shale; strongly alkaline (pH 8.6); gradual smooth boundary.
C4 RSL No. 70148	73-100 cm (29-40 inches), pale yellow (2.5Y 8/4) soft decomposing shale, light yellowish brown (2.5Y 6/4) moist; massive; few fine roots; very strongly calcareous, lime is coated on shale fragments and in shale; strongly alkaline (pH 8.6); gradual smooth boundary.
C5 RSL No. 70149	100-110 cm (40-44 inches), soft shale.

CONSECUTIVE PEDON NUMBER C 70 24 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES ATEPIC SHALY CLAY LOAM SOIL NO. S70 UTAH. 20-10 SAMPLE NO. 0 150-0 156 SANPETE AREA

SOIL FAMILY: XEROLLIC CALCIORTHID,LOAMY,CBN,MESIC,SHALLOW RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBONATE 3A1A.02	1A2A INT. II .2- 75-	COARSE FRAGMENTS PCT. OF WHOLE SOIL I 20 PCT. OF LT 75	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM																
0 150	0- 2	A11	24.4	52.2	23.4	9.5	6.2	1.9	3.3	3.5	12.9	39.3			3	18.2	--G	--	--	--
0 151	2- 10	A12	9.8	52.2	38.0	0.5	1.8	1.4	3.0	3.1	10.2	42.0			8	14.9	--G	--	--	--
0 152	10- 24	B2	6.8	49.4	43.8	0.7	1.1	0.9	1.9	2.2	8.0	41.4			11	11.2	10	10	--G	--G
0 153	24- 39	C 1CA	7.4	57.4	35.2	0.6	1.6	1.1	2.5	1.6	4.5	52.9			11	7.4	--G	--	--	--
0 154	39- 60	C 2	42.7	31.0	26.3	15.6	10.7	4.7	8.3	3.4	5.4	25.6			6	13.1	--G	--	--	--
0 155	60- 76	R1															--G	--	--	--
0 156	76-105	R2	3.6	52.2	44.2	--	0.1	0.2	0.9	2.4	6.8	45.4			14	9.8	--G	--	--	--

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A -PERCENT--	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6F1B -PERCENT-	19-2 6E1B	EXT. IRON FE 6C2B PCT.	ATTERBERG LIMIT LL 4F1 PCT.	PL 4F2 PCT.NO.40	BULK DENSITY EST 1/3 4A1F GRAMS PER CC	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C ----PERCENT---	1/3 BAR 4B1C	15 BAR 4B2	EXTENSBLTY LEF 4D1 -PERCENT--	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
0 150	0- 2	18.93	0.725	23					1.10			1.00			50.7			7.8	8.1	7.7
0 151	2- 10	2.79	0.211	37						1.15	1.36	1.00	34.0	29.7	15.9	5.7	5.7	7.9		7.6
0 152	10- 24	1.73	0.131	42						1.34	1.54	0.95	26.8	24.5	15.6	4.7	4.5	7.9		7.6
0 153	24- 39	0.89	0.049	46						1.62	1.86	1.00	20.9	19.0	12.2	4.7	4.7	8.2		7.8
0 154	39- 60	1.61		31						1.82	1.95	1.00	12.1	11.8	12.2	2.3	2.3	8.2		7.7
0 155	60- 76	0.30		80					1.65			1.00			5.1			8.5		7.8
0 156	76-105	0.30		51						1.65	1.86	1.00	22.2	20.5	11.8	4.1	4.1	8.1	8.6	7.8

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT. PCT.	C E C NA-OAC 5A2A -MEQ/100G	NH4-OAC 5A6A	WATER EXTRACT FROM SATURATED PASTE 8A1 EC 8A1A MMHO	CA 6N1A	MG 6O1A	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1B	B 6T1A PPM	PH SAT. PASTE 8C1B
		MEQ/100G								MEQ/1000 ML										
0 150	0- 2	60.1	8.4	0.2	2.1	70.8	100+		55.8	1.74	18.6	6.2	0.7	1.2		21.0	0.6			7.4
0 151	2- 10	26.5	6.8	0.2	2.8	36.3	100+		29.1	0.70										
0 152	10- 24	26.4	5.9	0.2	2.8	35.3	100+		25.1	0.46										
0 153	24- 39	22.1	4.6	0.3	1.4	28.4	100+		18.8	0.47										
0 154	39- 60	24.3	6.1	0.3	1.0	31.7	100+		21.9	0.70										
0 155	60- 76	16.9	3.8	0.2	0.3	21.2	100+		6.1	0.63										
0 156	76-105	17.4	10.3	0.5	0.9	29.1	100+		16.5	1.86	6.5	9.0	4.0	0.6		3.3	3.7			7.7

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGEABLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1B PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I 7A2E	II 7A2E	III 7A2E	IV 7A2E	DTA 7A3 PCT.	L.T. .0002 MM X RAY I 7A2E	II 7A2E	III 7A2E	MINERAL CODE	RELATIVE AMOUNT
0 150	0- 2	177.6	TR	TR	TR												1 TRACE
0 151	2- 10		0.2	1				MI 3	MT 1	KK 1						MI MICA	2 SMALL
0 152	10- 24		0.2	1				MI 3								MT MONTMORT	3 MODERATE
0 153	24- 39		0.3	2												KK KAOLINIT	4 ABUNDANT
0 154	39- 60		0.3	1				MI 4									5 DOMINANT
0 155	60- 76		0.2	3													6 INDETER.
0 156	76-105	44.8	0.3	2	1												

SAMPLE PREPARATION CODES
G=GROUND WHOLE. HORIZON INDURATED OR GRAVEL TOO SOFT TO BE SEPARATED. ALL DATA FOR WHOLE SOIL.

ATEPIC SHALY CLAY LOAM
S70Utah-20-10

Location: Sanpete County, UT. Dry farm area on West Mountain - west of Manti - left fork of Maple Canyon. Date of sampling: August 14, 1970.
Description by: B. Brasher, D. Nettleton, M. Olsen, J. Swenson, D. Beckstrand, C. McKinlay.
Collectors: B. Brasher, D. Nettleton, M. Olsen, J. Swenson, D. Beckstrand, C. McKinlay.
Classification: Xerollic Calciorthid, loamy, carbonatic, mesic, shallow.
Vegetation: Juniper, pinyon, Indian ricegrass. Climate: Mean annual temperature is about 47° F. Mean summer temperature is about 65° F. Average annual precipitation is about 12 inches; frost-free period is 100 to 110 days. Parent materials: Colluvium and residuum from shale. Topography: Hillside slope, south-facing, 15 percent slope. Elevation: 6,500 feet. Soil moisture: Usually moist.

HORIZON	DESCRIPTION
A11 RSL No. 70150	0-2 cm (0-1 inches), dark grayish brown (10YR 4/2) shaly clay loam, very dark grayish brown (10YR 3/2) moist; weak very fine granular structure; slightly hard, firm, sticky, plastic; shale fragments as surface mantle; strongly calcareous, lime is disseminated; moderately alkaline (pH 8.2); abrupt smooth boundary.
A12 RSL No. 70151	2-10 cm (1-4 inches), light brownish gray (2.5Y 6/2) silty clay loam, dark grayish brown (2.5Y 4/2) moist; weak medium subangular blocky structure that parts to moderate very fine granular; hard, firm, sticky, plastic; few medium and common fine roots; strongly calcareous, lime is disseminated; moderately alkaline (pH 8.4); clear smooth boundary.
B2 RSL No. 70152	10-24 cm (4-10 inches), grayish brown (2.5Y 5/2) silty clay loam, dark grayish brown (2.5Y 4/2) moist; moderate medium subangular blocky structure; hard, firm, sticky, plastic; few coarse, common medium, and few fine roots; few fine and very fine pores; 10 percent coarse fragments; very strongly calcareous, lime is disseminated and in fine nodules; strongly alkaline (pH 8.6); clear smooth boundary.
C1ca RSL No. 70153	24-39 cm (10-16 inches), light gray (2.5Y 7/2) very shaly silty clay loam, grayish brown (2.5Y 5/2) moist; moderate thin platy structure; very hard, firm, sticky, plastic; few coarse, few medium, few fine roots; 70 percent soft shale fragments; very strongly calcareous, lime is disseminated and on shale fragments; strongly alkaline(pH 8.6); abrupt smooth boundary.
C2 RSL No. 70154	39-60 cm (16-24 inches), light grayish brown (2.5Y 6/2) soft partially decomposed shale; grayish brown (2.5Y 5/2) moist.
R1 RSL No. 70155	60-76 cm (24-30 inches), shale bedrock.
R2 RSL No. 70156	76-105 cm (30-41 inches), shale bedrock.

CONSECUTIVE PEDON NUMBER C 67 20 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES LISADE LOAM SOIL NO. S67 UTAH. 20-11 SAMPLE NO. 7 366-7 375 SANPETE CO. AREA

SOIL FAMILY: XERCLLIC CALCIORTHID,COARSE-LCAMY,CARBCN.,MESIC RIVERSIDE SOIL SURVEY LABCRATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION SAND 2-.05	SILT .05-.002	CLAY .002 LT	VCS 2-1	CS 1-.5	MS .5-.25	FS .25-.10	VFS .1-.05	CSI .05-.02	FSI .02-.002	CO. 2-.2U	FINE CLAYS LT .2U	CARBONATE 3A1A	INT. II .2-.02	1A2A -COARSE FRAGMENTS- PCT. OF WHOLE SOIL I 75-20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75		
7 366	0- 5	A11	63.8	25.7	10.5	2.8	6.9	7.0	24.5	22.6	15.7	10.0			1	53.7	8 TR	8Z	N
7 367	5- 13	A12	63.9	25.2	10.9	3.3	6.3	6.1	24.0	24.2	14.7	10.5			2	54.5	9 1	8Z	N
7 368	13- 25	A13	56.6	29.5	13.9	2.1	3.9	4.7	23.1	22.8	19.2	10.3			1	57.6	6 TR	6Z	N
7 369	25- 33	C 1CA	56.9	26.8	16.3	2.9	5.7	6.1	22.2	20.0	6.0	20.8			6	40.2	5 TR	5Z	N
7 370	33- 51	C 2CA	41.5	24.8	33.7	1.1	2.1	3.4	17.7	17.2	12.3	12.5			21	41.6	TR TR	--	--
7 371	51- 76	C 3CA	41.8	26.1	32.1	3.9	6.4	4.6	15.0	11.9	7.5	18.6			22	29.2	TR TR	--	--
7 372	76- 97	C 4CA	40.7	35.6	23.7	0.7	0.8	1.3	12.4	25.5	21.9	13.7			9	57.2	TR TR	--	--
7 373	97-122	C 5	56.0	26.6	17.4	1.8	2.5	2.8	18.6	30.3	18.1	8.5			4	62.8	3 TR	3Z	N
7 374	122-155	2C 6															57 9	48Z	N
7 375	155-183	2C 7															41 2	39Z	N

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	19-2 6E1B	EXT. IRON FE 6C2B	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST 1/3 BAR 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTENSBLTY LEF 4D1	LE 4D1	PH H2O I/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
		-PERCENT--		-PERCENT-		PCT.	PCT.NO.40		GRAMS PER CC				----PERCENT----			-PERCENT--				
7 366	0- 5	0.61	0.067	19		0.3				1.39	1.40	0.96		20.8	6.6	0.2	0.2		8.8	
7 367	5- 13	0.45	0.047	18		0.3				1.40	1.42	0.95		17.2	6.0	0.5	0.5		9.1	
7 368	13- 25			15		0.3				1.43	1.47	0.97		20.2	6.8	0.9	0.9		9.0	
7 369	25- 33			32		0.2			1.30			0.97			8.6				9.0	
7 370	33- 51			41		0.2				1.20	1.22	1.00		32.5	9.5	0.6	0.6		9.0	
7 371	51- 76			53						1.61	1.70	1.00		17.8	10.6	1.8	1.8		9.3	
7 372	76- 97			29		0.2				1.67	1.74	1.00		15.3	7.5	1.4	1.4		9.1	
7 373	97-122			23						1.60	1.64	0.98		12.3	5.9	0.8	0.8		9.2	
7 374	122-155									1.28	1.30	0.61		17.3	6.7	0.5	0.3			
7 375	155-183									1.47	1.52	0.72		12.3	3.3	1.1	0.8			

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B3A 6N4C	MG 5B3A 6O4C	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT.	C E C NA-OAC 5A2A	NH4-OAC 5A6A	EC 8A1A	WATER EXTRACT FROM SATURATED PASTE 8A1 CA 6N1B	MG 6O1B	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1A	B 6T1A	PH SAT. PASTE 8C1B
		MEQ/100G					PCT.	-MEQ/100G		MMHO	MEQ/1000 ML								PPM	
7 366	0- 5			0.1	1.6	1.7			9.8	1.35	8.2	2.0	0.6	1.3		5.9	3.4			7.9
7 367	5- 13			0.1	1.8	1.9			9.7	0.67	3.1	1.0	0.5	1.3		4.4	0.5			7.9
7 368	13- 25			0.1	1.7	1.8			9.8	0.41	3.0	1.0	0.3	0.9		3.2	0.2			7.8
7 369	25- 33			0.4	0.6	1.0			7.9	0.72	2.6	1.0	2.1	0.3		3.3	2.9			8.0
7 370	33- 51			2.9	0.2	3.1			7.2	10.0	14.4	35.2	54.8	0.1		2.5	71.9	33.5		7.8
7 371	51- 76			2.8	0.2	3.0			5.8	4.62	4.2	6.6	32.0	0.1		3.8	23.2	19.8		8.1
7 372	76- 97			2.4	0.3	2.7			7.3	7.6	8.8	22.0	20.0	0.1		1.6	53.3			7.9
7 373	97-122			2.1	0.3	2.4			6.4	9.4	11.2	30.2	49.2	0.1		2.7	64.0	30.0		8.0
7 374	122-155																			
7 375	155-183																			

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGBLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1A PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I 7A2E	II 7A2E	III 7A2E	DTA IV 7A2E	PCT. 7A3	L.T. .0002 MM X RAY I 7A2E	II 7A2E	III 7A2E	MINERAL CODE	RELATIVE AMOUNT
7 366	0- 5	30.6	TR	1	TR			MI 3	MT 2	KK 1						MI MICA	1 TRACE
7 367	5- 13	28.2	TR	1	TR											MT MONTMORT	2 SMALL
7 368	13- 25	36.9	TR	1	TR			MI 4	MT 2	KK 2						KK KAOLINIT	3 MODERATE
7 369	25- 33	44.8	0.3	4	2												4 ABUNDANT
7 370	33- 51	46.8	0.3	5	11	0.1		MT 2	MI 1	KK 1							5 DOMINANT
7 371	51- 76	52.9	1.1	19	14												6 INDETER.
7 372	76- 97	35.5	1.7	23	5			MI 3	MT 2	KK 1							
7 373	97-122	32.8	0.5	8	11	0.1											
7 374	122-155																
7 375	155-183																

SAMPLE PREPARATICN CODES
N=NCT DETERMINED.
Z=NOT ALL FRACTIONS SEPERATED. ACJACENT FRACTIONS INCLUDED HERE.

LISADE LOAM

S67Utah-20-11

Location: Sanpete Soil Survey Area, Utah. Sec. 21, T. 20 S., R. 1 E. 3/4 mile east of Axtell store, about 100 feet south of road. Date of sampling: August 30, 1967. Description by: A. Erickson, D. Erickson, J. Swenson, J. Shiozaki. Collectors: B Brasher; D. Nettleton.
Classification: Xerollic Calciorthid, coarse-loamy, carbonatic, mesic.
Vegetation: Indian ricegrass, yellowbrush, white sage. Use: Winter grazing. Climate: Precipitation 9 inches, Mean annual air temperature 49°F.; mean summer air temperature, 66°F.; frost-free days, 130. Parent materials: Alluvium from limestone and sandstone. Topography: Alluvial fan. Slope 2 percent, northwest-facing. Elevation: 5,300 feet. Drainage: Well drained; permeability, moderate; medium runoff; no water table. Soil moisture: Dry.

HORIZON	DESCRIPTION
	(0-5 cm)
A11 RSL 67366	0 to 2 inches, pinkish gray (7.5YR 6/2) loam, brown (7.5YR 5/3) moist; weak thin platy breaking to weak fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; few fine roots; common fine pores; strongly calcareous, lime is disseminated; strongly alkaline; (pH 8.8); abrupt smooth boundary.
A12 RSL 67367 (5-13 cm)	2 to 5 inches, light brown (7.5YR 6/3) loam; brown (7.5YR 5/3) moist; weak fine granular structure; slightly hard, friable slightly sticky and slightly plastic; common fine roots; few fine pores; strongly calcareous, lime is disseminated and in fine, soft nodules; strongly alkaline; (pH 8.8); clear wavy boundary.
A13 RSL 67368 (13-25 cm)	5 to 10 inches, light brown (7.5YR 6/3) loam, brown (7.5YR 5/3) moist; weak thick platy breaking to weak fine granular structure; slightly hard, friable; slightly sticky and slightly plastic; common fine and very fine roots; few medium and fine pores; strongly calcareous, lime is disseminated and in fine soft nodules; strongly alkaline; (pH 8.8) clear wavy boundary.
C1ca RSL 67369 (25-33 cm)	10 to 13 inches, light brown (7.5YR 6/4) loam, brown (7.5YR 5/4) moist; weak coarse platy structure; hard, friable, slightly sticky and plastic; common very fine roots, concentrated on top of plates; few very fine pores; very strongly calcareous, lime is in soft nodules, veins, flakes and disseminated; strongly alkaline; (pH 8.8); clear smooth boundary.
C2ca RSL 67370 (33-51 cm)	13 to 20 inches, pink (7.5YR 7/3) clay loam, light brown (7.5YR 6/3) moist; weak medium platy breaking to weak fine subangular blocky structure; hard, firm, sticky and plastic; common very fine roots; common fine and very fine pores; very strongly calcareous, lime is disseminated and in soft nodules, flakes and veins; strongly alkaline; (pH 8.9); gradual smooth boundary.
C3ca RSL 67371 (51-76 cm)	20 to 30 inches, pink (7.5YR 8/4) clay loam, light brown (7.5YR 6/4) moist; weak fine subangular blocky structure; hard, firm, sticky, plastic; few very fine roots; common very fine pores; very strongly calcareous, lime is disseminated in soft nodules, veins, and flakes; strongly alkaline; (pH 8.9); gradual smooth boundary.
C4ca RSL 67372 (76-97 cm)	30 to 38 inches, pink (7.5YR 7/4) loam, light, brown (7.5YR 6/4) moist massive; hard, friable, slightly sticky and slightly plastic; few very fine roots; common very fine pores; very strongly calcareous, lime is in fine soft nodules, veins, flakes and disseminated; strongly alkaline; (pH 8.9); gradual smooth boundary.
C5 RSL 67373 (97-122 cm)	38 to 48 inches, light brown (7.5YR 6/4) loam, brown (7.5YR 5/4) moist; massive; hard, friable, slightly sticky, plastic; few very fine roots; few medium and fine pores; strongly calcareous, lime is disseminated and in flakes; strongly alkaline (pH 8.9); clear wavy boundary.
IIC6 RSL 67374 (122-155 cm)	48 to 61 inches, light brown (7.5YR 6/4) gravelly sandy loam, brown (7.5YR 5/4) moist; massive; hard, dry, friable, moist, sticky and slightly plastic, wet; few fine pores; stratified lenses of sand and gravel, very strongly calcareous, lime is disseminated and in veins and flakes; strongly alkaline, (pH 8.9); clear wavy boundary.
IIC7 RSL 67375 155-183 cm)	61 to 72 inches, light brown (7.5YR 6/4) gravelly loam, brown (7.5YR 5/4) moist; 1-inch-thick layer of reddish gray (5YR 5/2) clay loam; single grain; slightly hard, friable, nonsticky and slightly plastic; strongly calcareous, lime is disseminated and in flakes and veins; strongly alkaline (pH 8.7).

CONSECUTIVE PEDON NUMBER C 67 21 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES LISADE LOAM SOIL NO. S67 UTAH. 20-12 SAMPLE NO. 7 376-7 384 SANPETE CO. AREA

SOIL FAMILY: XERCLLIC CALCIORTHID,COARSE-LCAMY,CARBON.,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2-.05	SILT .05-.002	CLAY LT .002	SANDS VCS 2-1	CS 1-.5	MS .5-.25	FS .25-.10	VFS .1-.05	SILTS CSI .05-.02	FSI .02-.002	CLAYS CO. 2-.2U	FINE LT .2U	CARBONATE 3A1A.02	INT. II .2-.02	1A2A COARSE FRAGMENTS PCT. OF WHOLE SOIL I 75-20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75		
7 376	0- 8	A11	68.7	20.9	10.4	7.6	12.4	14.5	21.9	12.3	12.7	8.2			2	35.7	14 TR	14Z	N
7 377	8- 18	A12	66.3	21.5	12.2	5.0	10.1	13.7	22.2	15.3	12.2	9.3			3	38.6	13 TR	13Z	N
7 378	18- 25	A13	56.7	26.9	16.4	3.5	8.1	10.7	18.7	15.7	15.2	11.7			3	40.3	10 1	9Z	N
7 379	25- 33	C 1CA	37.7	34.2	28.1	2.5	6.2	6.7	12.8	9.5	17.6	16.6			13	34.2	1 TR	1Z	N
7 380	33- 46	C 2CA	41.2	29.3	29.5	2.0	6.6	6.9	14.3	11.4	13.5	15.8			20	32.6	TR TR	--	—
7 381	46- 66	C 3CA	23.2	29.4	47.4	0.8	1.8	3.5	8.9	8.2	10.5	18.9			34	23.6	3 TR	3Z	N
7 382	66- 94	C 4	49.3	27.3	23.4	2.2	4.7	10.8	21.3	10.3	15.8	11.5			11	36.1	12 TR	12Z	N
7 383	94-114	C 5	67.0	21.0	12.0	2.7	6.5	16.5	28.3	13.0	10.9	10.1			3	36.9	22 2	20Z	N
7 384	114-147	2C 6	87.1	8.2	4.7	12.1	13.1	20.8	31.7	9.4	4.2	4.0				28.8	-- 48	32Z	N

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	19-2 6E1B	EXT. IRON FE 6C2B	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST 1/3 BAR 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTENSIBLITY LEF 4D1	LE 4D1	PH H2O 1/1 8C1A	PH H2O 1/10 8C1A	PH CACL2 8C1E
		-PERCENT-		-PERCENT-		PCT.	PCT.	NO.40	GRAMS PER CC				-PERCENT-			-PERCENT-				
7 376	0- 8	0.72	0.072	21					1.46	1.48	0.92		15.3	7.5		0.5	0.4		9.3	
7 377	8- 18	0.42	0.048	19					1.40	1.42	0.93		16.4	7.9		0.5	0.4		9.2	
7 378	18- 25			17					1.31	1.37	0.95		16.6	9.4		1.5	1.4		9.2	
7 379	25- 33			40					1.21	1.31	1.00		26.7	14.8		2.7	2.7		9.5	
7 380	33- 46			57					1.14	1.16	1.00		34.7	15.2		0.6	0.6		9.4	
7 381	46- 66			49					1.07	1.13	0.99		40.5	15.0		1.8	1.8		9.2	
7 382	66- 94			20					1.32	1.43	0.94		22.5	11.0		2.7	2.5		9.2	
7 383	94-114			12					1.42	1.51	0.86		17.2	8.7		2.1	1.8		9.2	
7 384	114-147			7										3.6					8.4	

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B3A 6N4C	MG 5B3A 6O4C	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT.	C E C NA-OAC 5A2A	NH4-OAC 5A6A	EC 8A1A	WATER EXTRACT FROM SATURATED PASTE CA 6N1B	MG 6O1B	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1A	B 6T1A	PH SAT. PASTE 8C1B
		MEQ/100G					PCT.	MEQ/100G		MMHO	MEQ/1000 ML								PPM	
7 376	0- 8			1.3	1.9	3.2			10.2	2.72	7.8	2.8	12.2	1.3		16.6	11.6			7.9
7 377	8- 18			0.7	1.0	1.7			10.4	0.69	1.6	0.6	3.0	0.2		5.0	1.3			8.1
7 378	18- 25			1.3	0.4	1.7			12.7	0.76	1.6	0.6	4.2	0.1		5.7	1.0			8.1
7 379	25- 33			2.8	0.3	3.1			12.3	2.63	1.5	1.6	19.0	0.1		5.6	15.4			8.0
7 380	33- 46			12.5	0.1	12.6			8.6	17.2	7.5	17.8	153.6	0.4		5.7	12.3	58.4		8.0
7 381	46- 66			12.0	0.1	12.1			6.9	18.3	8.8	27.5	157.6	0.4		3.9	12.8	78.3		8.3
7 382	66- 94			10.2	0.1	10.3			10.2	18.6	23.8	34.0	146.6	0.3		3.1	11.1	11.7		8.0
7 383	94-114			9.6	0.1	9.7			10.0	17.2	28.8	32.8	137.6	0.4		3.1	90.5	11.8		8.0
7 384	114-147			6.2	0.1	6.3			8.5	15.2	23.8	30.0	121.6	0.4		2.0	85.1	12.7		8.0

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGEABLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1A PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I 7A2E	II 7A2E	III 7A2E	OTA IV 7A2E	PCT. 7A3	L.T. .0002 MM X RAY I 7A2E	II 7A2E	III 7A2E	MINERAL CODE	RELATIVE AMOUNT
7 376	0- 8	31.6	0.9	9	5			MI 3	MT 2	KK 1						MI MICA	1 TRACE
7 377	8- 18	31.3	0.6	6	3											MT MONTMORT	2 SMALL
7 378	18- 25	37.5	1.1	9	4			MI 3	MT 2	KK 1						KK KAOLINIT	3 MODERATE
7 379	25- 33	55.4	1.7	14	15												4 ABUNDANT
7 380	33- 46	54.5	4.1	48	43			MT 3	MI 3	KK 1							5 DOMINANT
7 381	46- 66	69.8	1.0	14	37	0.1											6 INDETER.
7 382	66- 94	45.8	3.5	34	27	0.1											
7 383	94-114	39.0	4.2	42	25	0.1											
7 384	114-147	23.4	3.4	39	23	1.0											

SAMPLE PREPARATION CODES
N=NOT DETERMINED.
Z=NOT ALL FRACTIONS SEPERATED. ADJACENT FRACTIONS INCLUDED HERE.

LISADE LOAM
S67Utah-20-12

Location: Sanpete Soil Survey Area, Utah; Sec. 35, T. 19 S., R. 1 W.; 4 miles of Centerfield and 1 1/4 miles south on a small hill.
Description by: J. Swenson, A. Erickson, D. Erickson, J. Shiozaki. Collectors: B. Brasher, D. Nettleton.
Classification: Xerollic Calciorthid, coarse-loamy, carbonatic, mesic.
Vegetation: Shadscale, yellow rabbitbrush. Use: Range land. Climate: Precipitation, 9 inches. Mean annual air temperature, 49°F.; mean summer air temperature, 70°F.; frost-free days, 130. Parent materials: Alluvium from limestone, shale, and sandstone. Topography: Old alluvial fan, 6 percent slope, west aspect, convex, long. Elevation: 5,400 feet. Drainage: Well drained, moderate permeability, medium runoff. Soil moisture: Dry.

HORIZON	DESCRIPTION
A11 RSL No. 67376	(0-8 cm) 0 to 3 inches, pinkish gray (7.5YR 6/2) loam, brown (7.5YR 5/4) moist weak thick platy parting to weak fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; common fine and very fine pores; strongly calcareous, lime is disseminated; strongly alkaline; (pH 8.6); abrupt smooth boundary.
A12 RSL No. 67377	(8-18 cm) 3 to 7 inches, light brown (7.5YR 6/4) loam; brown (7.5YR 5/4) moist; weak thick platy parting to weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few fine, few medium, few very fine roots; few medium, few fine pores; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.7); clear smooth boundary.
A13 RSL No. 67378	(18-25 cm) 7 to 10 inches, light brown (7.5YR 6/4) loam, brown (7.5YR 5/4) moist; weak thick platy parting to weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few fine and few very fine roots; common fine and very fine, few medium pores; strongly calcareous, lime is disseminated, few lime nodules; strongly alkaline (pH 8.6); abrupt irregular boundary.
C1ca RSL No. 67379	(25-33 cm) 10 to 13 inches, pink (7.5YR 7/4) heavy loam; brown (7.5YR 5/4) moist; moderate thick platy structure; slightly hard, friable, slightly sticky and slightly plastic; plentiful fine and very fine roots; common fine and very fine, few medium pores; strongly calcareous, lime is mainly in soft nodules, also disseminated; strongly alkaline; (pH 8.7); abrupt smooth boundary.
C2ca RSL No. 67380	(33-46 cm) 13 to 18 inches, pinkish white (7.5YR 8/2) loam, pink (7.5YR 7/3) moist; moderate thick platy structure; hard, friable, nonsticky and slightly plastic; common very fine, few fine, roots, concentrated on horizontal plates; common very fine pores; very strongly calcareous, lime is in soft nodules, veins, flakes, and disseminated; strongly alkaline; (pH 8.8); clear smooth boundary.
C3ca RSL No. 67381	(46-66 cm) 18 to 26 inches, pinkish white (7.5YR 8/2) light silty clay loam; pink (7.5YR 7/3) moist; weak medium platy parting to weak medium subangular blocky structure; hard, friable, sticky and slightly plastic; few very fine roots; few fine and medium, many very fine pores; very strongly calcareous, lime is in soft nodules, veins, flakes, and disseminated; strongly alkaline (pH 8.9); gradual wavy boundary.
C4 RSL No. 67382	(66-94 cm) 26 to 37 inches, pinkish gray (7.5YR 7/2) loam, pale brown (10YR 6/3) moist; massive; hard, friable, slightly sticky and plastic; common very fine and micro pores; strongly calcareous, lime is disseminated, flakes, veins and fine soft nodules; (pH 8.8); gradual wavy boundary.
C5 RSL No. 67383	(94-114 cm) 37 to 45 inches, pinkish white (7.5YR 7/2) sandy loam; brown (10YR 5/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; few medium, few fine pores; strongly calcareous, lime is disseminated; strongly alkaline; (pH 8.6); clear smooth boundary.
IIC6 RSL No. 67384	(114-147 cm) 45 to 58 inches, light gray (10YR 7/2) gravelly sandy loam, grayish brown (10YR 5/2) moist; single grain; loose, moist and dry, nonsticky and nonplastic; strongly calcareous, lime is disseminated, strongly alkaline (pH 8.5).

CONSECUTIVE PEDCN NUMBER C 67 22 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES LISADE VERY FINE SANDY LOAM SOIL NO. S67 UTAH. 20-17 SAMPLE NO. 7 385-7 396 SANPETE CO. AREA

SOIL FAMILY: XERGLLIC CALCIORTHID,COARSE-LOAMY,CARBON.,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 181B,3A1 TOTAL FRACTION 2- .05	SANDS .05- .002	SILT LT .002	VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	CSI .05- .02	FSI .02- .002	SILTS CO. 2- .2U	CLAYS FINE LT .2U	CARBO NATE 3A1A	INT. II .2- .02	1A2A COARSE FRAGMENTS- PCT. OF WHOLE SOIL	I 20 PCT. OF LT 75	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM																	
7 385	0- 5	A11	51.4	37.5	11.1	8.5	10.2	8.0	12.9	11.8	19.2	18.3			4	38.2	47*	9	32Z	N
7 386	5- 13	A12	51.1	33.4	15.5	7.2	10.5	9.1	14.0	10.3	15.8	17.6			5	33.7	31	10	21Z	N
7 387	13- 30	C 1CA	51.0	28.9	20.1	8.8	13.4	10.2	10.6	8.0	11.2	17.7			13	24.7	5	TR	5Z	N
7 388	30- 41	C 2CA	66.3	24.4	9.3	11.4	18.1	14.0	13.6	9.2	10.8	13.6			4	26.8	3	1	2Z	N
7 389	41- 56	C 3CA	72.5	20.0	7.5	9.9	17.0	14.7	19.1	11.8	8.9	11.1			3	30.6	54	7	47Z	N
7 390	56- 76	C 4	68.2	20.3	11.5	11.9	15.4	13.4	17.1	10.4	7.8	12.5			4	27.0	36	2	34Z	N
7 391	76- 86	2C 5	57.3	24.7	18.0	12.1	13.4	9.6	13.4	8.8	7.7	17.0			7	23.4	57	2	55Z	N
7 392	86-124	2C 6	60.9	27.0	12.1	5.2	8.9	9.6	21.6	15.6	13.7	13.3			4	41.6	17	2	15Z	N
7 393	124-140	3C 7															62*	10	44Z	N
7 394	140-168	3C 8															71*	19	50Z	N
7 395	168-198	3C 9	75.1	14.4	10.5	14.6	24.0	16.9	13.8	5.8	5.4	9.0			1	17.1	51	4	47Z	N
7 396	198-216	4C X															7	TR	7Z	N

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES CITRATE FE 6C2B	EXT AL 6G7A	PYROP EXT FE 6C5A	AL 6G5A	ATTERBERG LIMIT EST. LL 4F1	PL 4F2	1/3 BAR 4A1F	BULK DENSITY 1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		-PERCENT-		-PERCENT-		-PERCENT-				PCT.NO.40		GRAMS PER CC				-PERCENT-			-PERCENT-	
7 385	0- 5	0.96	0.104	44		0.3							1.28	1.31	0.70		22.7	9.2	0.8	0.5
7 386	5- 13	0.99	0.111	48		0.2							1.15	1.17	0.84		27.2	12.6	0.6	0.5
7 387	13- 30	0.60	0.058	58		0.1							1.11	1.13	0.98		36.2	14.4	0.6	0.6
7 388	30- 41			49		0.2							1.20	1.22	0.99		32.9	10.5	0.6	0.5
7 389	41- 56			39									1.31	1.35	0.63		21.1	10.4	1.0	0.6
7 390	56- 76			40									1.29	1.39	0.79		22.6	9.6	2.5	2.0
7 391	76- 86			45									1.28	1.33	0.61		21.3	10.2	1.3	0.8
7 392	86-124			32									1.60	1.63	0.89		12.6	7.0	0.6	0.6
7 393	124-140			26									1.29	1.33	0.56		23.6	9.8	1.0	0.6
7 394	140-168			33									1.14	1.18	0.49		22.8	7.0	1.2	0.6
7 395	168-198			33									1.50	1.53	0.63		10.9	5.0	0.7	0.4
7 396	198-216			15									1.49	1.53	0.96		20.9	5.3	0.9	0.9

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B3A 6N4C	MG 5B3A 6O4C	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI-DITY 6H2A	KCL EXT. AL 6G1E	SUM NH4-OAC 5A3A	SUM NH4-OAC 5A6A	BASE SATURATION SUM* ACI-DITY	SUM* AL	NH4-OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA-CL2 8C1E
		MEQ/100G									PERCENT					
7 385	0- 5				0.8	0.8			0.8	9.2						
7 386	5- 13			0.1	0.6	0.7			0.7	9.3						
7 387	13- 30			0.1	0.6	0.7			0.7	4.7						
7 388	30- 41			0.3	0.6	0.9			0.9	5.9						
7 389	41- 56			1.0	0.8	1.8			1.8	7.3						
7 390	56- 76			1.7	0.5	2.2			2.2	7.5						
7 391	76- 86			3.6	0.4	4.0			4.0	8.2						
7 392	86-124			2.7	0.3	3.0			3.0	5.6						
7 393	124-140															
7 394	140-168															
7 395	168-198			2.9	0.2	3.1			3.1	5.3						
7 396	198-216															

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	OTA 7A3 IV	7A3 -PERCENT-	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
7 385	0- 5	VR 3	KK 2	MT 1	MI 1					VR VERMICLT	1 TRACE
7 386	5- 13	VR 3	KK 2	MT 1	MI 1					KK KAOLINIT	2 SMALL
7 387	13- 30	VR 3	MT 1	KK 1						MT MONTMORT	3 MODERATE
7 388	30- 41									MI MICA	4 ABUNDANT
7 389	41- 56										5 DOMINANT
7 390	56- 76										6 INDETER.
7 391	76- 86	KK 4	MT 3	MI 1							
7 392	86-124										
7 393	124-140										
7 394	140-168										
7 395	168-198										
7 396	198-216										
										MT MONTMORT VRMTMI	A

SAMPLE PREPARATION CODES
*=THE 75-250MM FRACTION IS INCLUDED.
N=NOT DETERMINED.
Z=NOT ALL FRACTIONS SEPERATED. ADJACENT FRACTIONS INCLUDED HERE.

LISADE VERY FINE SANDY LOAM
S67Utah-20-17

Location: Sanpete Soil Survey Area, Utah, Sec. 15, T. 2 S., R. 1 E., East of Axtell about 2 miles north, 1 1/4 miles on the east side of the Highline Canal. Date of sampling: September 1, 1967.
Description by: A. J. Erickson, D. Erickson, J. Swenson, J. Shiozaki. Collectors: B. Brasher and D. Nettleton.
Classification: Xerollic Calciorthid , coarse-loamy, carbonatic, mesic.
Vegetation: Black sage, yellowbrush. Use: Winter grazing. Climate: Precipitation, 10 inches; mean annual air temperature, 49°F.; mean summer air temperature, 66°F.; frost free days, 130. Parent materials: Mixed alluvium from limestone and shale. Topography Alluvial fan. Slopes 5 percent, north-facing. Elevation: 5,400 feet. Drainage: Well drained, moderate permeability, medium runoff, no water table. Soil moisture: Dry.

HORIZON	DESCRIPTION
	(0-5 cm)
A11 RSL 67385	0 to 2 inches, pinkish gray (7.5YR 6/2) very fine sandy loam, brown (7.5YR 5/3) moist; weak thin platy, parting to weak fine granular structure; slightly hard, very friable, slightly sticky and slightly plastic; few medium and common fine roots; common fine pores; gravel mantle on surface (15 percent of horizon); strongly calcareous, lime is disseminated; moderately alkaline; (pH 8.4) clear smooth boundary.
A12 RSL 67386 (5-13 cm)	2 to 5 inches, light brown (7.5YR 6/4) very fine sandy loam; brown (7.5YR 5/4) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common fine and medium roots; strongly calcareous, lime is disseminated, and few nodules; strongly alkaline (pH 8.5); clear smooth boundary.
C1ca RSL 67387 (13-30 cm)	5 to 12 inches, pinkish white (7.5YR 8/2) silt loam, pink (7.5YR 7/4) moist; weak medium platy structure; slightly hard, friable, slightly sticky and slightly plastic; common fine and medium roots; common fine and very fine pores; very strongly calcareous, lime is in form of nodules, flakes, and disseminated; strongly alkaline; (pH 8.6); gradual smooth boundary.
C2ca RSL 67388 (30-41 cm)	12 to 16 inches, pinkish white (7.5YR 8/2) very fine sandy loam, pink (7.5YR 7/4) moist; weak medium platy structure; slightly hard, very friable, nonsticky and nonplastic; common fine and few medium roots; common very fine pores; very strongly calcareous, lime is in nodules, flakes, and disseminated; strongly alkaline: (pH 8.6); gradual smooth boundary.
C3ca RSL 67389 (41-56 cm)	16 to 22 inches, pink (7.5YR 7/4) loam, light brown (7.5YR 6/4) moist; massive; hard friable, slightly sticky and slightly plastic; few fine roots; common very fine pores; about 15 percent gravel; very strongly calcareous, lime is disseminated, coatings on gravel, and in nodules; strongly alkaline (pH 8.7) clear smooth boundary.
C4 RSL 67390 (56-76 cm)	22 to 30 inches, pink (7.5YR 7/4) finely gravelly sandy loam; light brown (7.5YR 6/4) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; few fine pores; very strongly calcareous, lime is disseminated and in fine nodules and flakes; strongly alkaline (pH 8.7) clear smooth boundary.
IIC5 RSL 67391 (76-86 cm)	30 to 34 inches, pink (7.5YR 7/4) finely gravelly loam; light brown (7.5YR 6/4) moist; massive; hard, friable, slightly sticky and slightly plastic; few fine roots; few very fine pores; very strongly calcareous, lime is disseminated in flakes and in nodules; strongly alkaline (pH 8.7); clear wavy boundary.
IIC6 RSL 67392 (86-124 cm)	34to 49 inches, light brown (7.5YR 6/4) sandy loam reddish brown (5YR 5/4) moist; massive; slightly hard, very friable, nonsticky and slightly plastic; few fine roots; common very fine pores; about 10 percent fine gravel; strongly calcareous, lime is disseminated and in nodules; strongly alkaline; (pH 8.8); clear wavy boundary.
IIIC7 RSL 67393 (124-140 cm)	49 to 55 inches, pink (5YR 7/4) gravelly sandy loam; reddish, brown (5YR 5/4) moist; single grain; slightly hard, very friable, nonsticky and slightly plastic; few fine roots; few fine and very fine pores; very strongly calcareous, lime is disseminated, coated on coarse fragments, and in nodules; strongly alkaline (pH 9.0); gradual smooth boundary.
IIIC8 RSL 67394 (140-168 cm)	55 to 66 inches, pink (5YR 7/4) gravelly loam, yellowish red (5YR 5/6) moist; single grain; slightly hard, very friable, slightly sticky and slightly plastic; few fine roots; few fine and very fine pores; about 30 percent gravel; strongly calcareous, lime is disseminated and segregated on gravel; strongly alkaline; (pH 8.8); clear wavy boundary.
IIIC9 RSL 67395 (168-198 cm)	66 to 78 inches, light red (2.5YR 6/4) very gravelly loam; red (2.5YR 4/6) moist; massive; hard, friable, slightly sticky, slightly plastic; few fine and medium roots; few fine pores; about 60 percent gravel; slightly calcareous, lime is disseminated strongly alkaline (pH 8.7); clear wavy boundary.
IVC10 RSL 67396 (198-216 cm)	78 to 85 inches, pink (5YR 7/4) fine sandy loam, yellowish red (5YR 5/6) moist; single grain; soft very friable; nonsticky and nonplastic; slightly calcareous, lime is disseminated; strongly alkaline; (pH 8.8)

CONSECUTIVE PEDCN NUMBER C 67 23 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES LISADE VERY FINE SANDY LOAM SOIL NO. S67 UTAH. 20-18 SAMPLE NO. 7 397-7 408 SANPETE CO. AREA

SOIL FAMILY: XERCLLIC CALCIORTHID,COARSE-LCAMY,CARBCN.,MESIC RIVERSIDE SOIL SURVEY LABCRATCRY

SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 1A2A

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2-.05	SILT .05-.002	CLAY LT .002	SANDS VCS 2-1	CS 1-.5	MS .5-.25	FS .25-.10	VFS .1-.05	CSI .05-.02	FSI .02-.002	SILTS CO. 2-.2U	CLAYS FINE LT .2U	CARBO NATE 3A1A	INT. II .2-.02	COARSE FRAGMENTS PCT. CF WHOLE 20 SOIL	I 75-PCT.	II 20-5 OF LT 75	III 5-2
			PERCENT OF LESS THAN 2MM																	
7 397	0- 13	AP	34.6	46.2	19.2	1.8	2.0	1.4	8.3	21.1	26.0	20.2			3	53.0	13	1	12Z	N
7 398	13- 36	AP2	31.8	49.5	18.7	2.3	2.0	1.8	7.7	18.0	27.6	21.9			3	51.2	11	1	10Z	N
7 399	36- 51	B2	39.4	45.1	15.5	3.0	3.0	1.6	7.9	23.9	28.8	16.3			3	58.9	26	1	25Z	N
7 400	51- 66	C 1CA	54.3	34.4	11.3	7.2	8.3	4.8	13.2	20.8	18.3	16.1			6	48.1	53	17	36Z	N
7 401	66- 84	C 2CA	39.2	36.7	24.1	3.9	6.9	4.7	10.1	13.6	14.7	22.0			18	34.5	22	1	21Z	N
7 402	84- 99	C 3CA	38.6	39.2	22.2	2.9	4.8	3.9	10.0	17.0	15.3	23.9			15	38.7	20	1	19Z	N
7 403	99-112	C 4CA	51.0	30.2	18.8	11.8	10.2	5.6	8.7	14.7	14.5	15.7		--	12	34.4	57	11	46Z	N
7 404	112-1302	C 5															57	7	50Z	N
7 405	130-1553	C 6															60	4	56Z	N
7 406	155-1784	C 7															49	12	37Z	N
7 407	178-1964	C 8															42	10	32Z	N
7 408	196-2114	C 9															53*	17	32Z	N

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR-BCN 6A1A	NITRO-GEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	19-2 6E1B	EXT. IRON FE 6C2B	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST 1/3 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTENSBLTY LEF 4D1	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
		-PERCENT--		-PERCENT-		PCT.	PCT.NO.40		GRAMS PER CC				----PERCENT---			-PERCENT--				
7 397	0- 13	1.02	0.108	18		0.4				1.41	1.50	0.93		20.2	9.8	2.1	1.9		8.9	
7 398	13- 36	1.04	0.110	20		0.4				1.40	1.50	0.94		20.2	10.6	2.3	2.2		9.0	
7 399	36- 51	0.44	0.054	21		0.3				1.35	1.43	0.85		20.6	9.1	1.9	1.6		9.1	
7 400	51- 66			53		0.2				1.31	1.32	0.64		24.4	9.9	0.3	0.2		9.2	
7 401	66- 84			69						1.12	1.13	0.89		38.5	15.1	0.3	0.3		9.3	
7 402	84- 99			60						1.06	1.08	0.91		40.1	14.7	0.6	0.6		9.2	
7 403	99-112			56						1.17	1.18	0.63		35.7	11.2	0.3	0.2		9.3	
7 404	112-130									1.40	1.42	0.59		18.1	7.7	0.5	0.3			
7 405	130-155								1.40			0.56			6.5					
7 406	155-178									1.40	1.43	0.66		22.3	8.5	0.7	0.5			
7 407	178-196									1.40	1.44	0.72		14.8	6.7	0.9	0.7			
7 408	196-211									1.31	1.35	0.64		25.7	7.4	1.0	0.6			

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B3A 6N4C	MG 5B3A 6O4C	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT.	C E C NA- OAC 5A2A	NH4- CAC 5A6A	EC 8A1A	WATER EXTRACT FROM SATURATED PASTE CA 6N1B	MG 6O1B	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1A	B 6T1A	PH SAT. PASTE 8C1B
		MEQ/100G					PCT.	-MEQ/100G		MMHO	MEQ/1000 ML								PPM	
7 397	0- 13			0.7	0.8	1.5			14.0	1.84	5.3	8.0	5.0	0.4		9.2	7.3			7.7
7 398	13- 36			0.7	0.6	1.3			14.1	1.08	3.2	4.7	2.7	0.2		8.7	1.7			8.0
7 399	36- 51			0.8	0.6	1.4			12.9	1.30	2.6	5.0	2.1	0.1		4.5	3.6			7.8
7 400	51- 66			0.6	0.9	1.5			7.5	1.03	2.0	3.3	3.7	0.1		3.9	1.9			8.1
7 401	66- 84			0.6	0.4	1.0			3.1	0.92	2.8	3.2	3.1	0.1		4.5	1.8			8.3
7 402	84- 99			0.7		0.7			5.2	0.75	1.5	2.1	3.1	0.1		3.5	1.4			8.4
7 403	99-112			0.8	0.1	0.9			7.5	0.79	1.7	2.0	3.6	0.1		3.6	1.1			8.3
7 404	112-130																			
7 405	130-155																			
7 406	155-178																			
7 407	178-196																			
7 408	196-211																			

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGBLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1A PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY DTA 7A2E I	7A2E II	7A2E III	7A2E IV	7A3 PCT.	L.T. .0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
7 397	0- 13	43.4	0.5	3	2			MI	3	MT	2	KK	2			MI MICA	1 TRACE
7 398	13- 36	42.8	0.6	4	1			MI	3	MT	2	KK	2			MT MONTMORT	2 SMALL
7 399	36- 51	55.2	0.7	5	1			MT	3	MI	2	KK	2			KK KAOLINIT	3 MODERATE
7 400	51- 66	55.2	0.4	5	2			MI	3	MT	2	KK	2				4 ABUNDANT
7 401	66- 84	59.7	0.4	13	2												5 DOMINANT
7 402	84- 99	63.0	0.5	10	2												6 INDETER.
7 403	99-112	47.8	0.6	8	3												
7 404	112-130																
7 405	130-155																
7 406	155-178																
7 407	178-196																
7 408	196-211																

MT MONTMORT MIKK

SAMPLE PREPARATICN CODES
N=NCT DETERMINED.
Z=NCT ALL FRACTIONS SEPERATED. ACJACENT FRACTIONS INCLUDED HERE.
*=THE 75-250MM FRACTION IS INCLUDED.

LISADE VERY FINE SANDY LOAM
S67Utah-20-18

Location: Sanpete Soil Survey Area, Utah. Sec. 27, T. 20 S., R. 1 E.; about 2 miles east of Axtell. Date of sampling: September 1, 1967.
Description by: D. Erickson, A. Erickson, J. Shiozaki, J. Swenson. Collectors: B. Brasher, D. Nettleton.
Classification: Xerollic Calciorthid, coarse-loamy, carbonatic, mesic.
Vegetation: Barley stubble. Use: Irrigated farming. Climate: Precipitation, 9 inches; mean annual air temperature, 49°F.; mean summer air temperature, 66°F.; frost-free days 130. Parent materials: Mixed alluvium from limestone and shale. Topography: Alluvial fan. Slope 4 percent, west aspect. Elevation: 5,400 feet. Drainage: Well drained, moderate permeability, medium runoff, no water table. Soil moisture: Dry.

HORIZON	DESCRIPTION
	(0-13 cm)
Ap RSL 67397	0 to 5 inches, pale brown (10YR 6/3) loam, dark yellowish brown (10YR 4/4) moist; weak fine granular structure; hard, firm, slightly sticky and plastic; common very fine roots; few fine and interstitial pores; strongly calcareous, lime is disseminated; moderately alkaline; (pH 8.2); clear smooth boundary.
Ap2 RSL 67398 (13-36 cm)	5 to 14 inches, pale brown (10YR 6/3) loam, dark yellowish brown (10YR 4/4) moist; weak fine subangular blocky structure; very hard, firm, slightly sticky and plastic; common fine and very fine roots; few fine and medium pores; strongly calcareous, lime is disseminated; moderately alkaline (pH 8.4); clear smooth boundary.
B2 RSL 67399 (36-51 cm)	14 to 20 inches, pink (7.5YR 7/3) loam, brown (7.5YR 5/3) moist; weak fine subangular blocky structure; hard, firm, sticky and plastic; common fine and very fine roots; common fine pores; less than 5 percent coarse fragments; very strongly calcareous, lime is in nodules, veins, coatings on coarse fragments, and disseminated; moderately alkaline; (pH 8.4); clear smooth boundary.
C1ca RSL 67400 (51-66 cm)	20 to 26 inches, pink (7.5YR 8/2) gravelly fine sandy loam; pink (7.5YR 7/3) moist; moderate coarse platy structure; slightly hard, friable, slightly sticky and slightly plastic; common fine and very fine roots; common fine and very fine pores; very strongly calcareous, lime is in nodules; coating on coarse fragments and disseminated; strongly alkaline (pH 8.6); gradual smooth boundary.
C2ca RSL 67401 (66-84 cm)	26 to 33 inches, white (10YR 8/2) loam, pinkish white (7.5YR 8/2) moist; weak thick platy structure; hard, friable, slightly sticky and plastic; common very fine, and few fine roots; common fine and very fine pores; very strongly calcareous, lime is in nodules and disseminated; strongly alkaline (pH 8.8); gradual smooth boundary.
C3ca RSL 67402 (84-99 cm)	33 to 39 inches, pinkish white (7.5YR 8/2) loam; pink (7.5YR 7/3) moist; weak thick platy structure; slightly hard, friable, slightly sticky and plastic; few very fine roots; common very fine and few fine pores; very strongly calcareous, lime is in nodules and disseminated; strongly alkaline (pH 8.8); clear smooth boundary.
C4ca RSL 67403 (99-112 cm)	39 to 44 inches, pink (7.5YR 8/2) gravelly loam, light brown (7.5YR 6/3) moist; weak thick platy structure; hard, friable, slightly sticky and plastic; few very fine roots; few fine and common very fine pores; 30 percent gravel and cobble; very strongly calcareous, lime is disseminated and in veins, flakes, and soft nodules; strongly alkaline; (pH 8.6); gradual smooth boundary.
IIC5 RSL 67404 (112-130 cm)	44 to 51 inches, pink (7.5YR 8/3) very gravelly sandy loam, light brown (7.5YR 6/3) moist; single grain; loose, very friable, slightly sticky and slightly plastic; few very fine roots; few fine pores; 60 percent gravel and cobble; very strongly calcareous, lime is disseminated and in fine nodules and flakes; strongly alkaline (pH 8.6); gradual smooth boundary.
IIIC6 RSL 67405 (130-155 cm)	51 to 61 inches, pink (7.5YR 7/3) very gravelly sandy loam, brown (7.5YR 5/3) moist single grain; loose, very friable, slightly sticky and slightly plastic; few very fine roots; few fine pores; 70 percent gravel and cobble; strongly calcareous, lime is disseminated and in fine nodules; strongly alkaline (pH 8.6); clear wavy boundary.
IVC7 RSL 67406 (155-178 cm)	61 to 70 inches, pink (7.5YR 7/4) very gravelly loam; light brown (7.5YR 6/3) moist; single grain; slightly hard, friable, slightly sticky and plastic; few very fine roots; few fine pores; 70 percent gravel and cobble; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.6; clear wavy boundary.
IVC8 RSL 67407 (178-196 cm)	70 to 77 inches, pink (7.5YR 7/4) gravelly sandy loam, brown (7.5YR 5/3) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; 30 percent gravel and cobble; strongly calcareous, lime is disseminated, strongly alkaline; (pH 8.6); clear smooth boundary.
IVC9 RSL 67408 (196-211 cm)	77 to 83 inches +, pink (7.5YR 7/3) gravelly sandy loam; brown (7.5YR 5/3) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; 30 percent gravel and cobble; strongly calcareous, lime is disseminated; strongly alkaline. (pH 8.6).

CONSECUTIVE PEDON NUMBER C 70 44 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES ESCALANTE SANDY LOAM SOIL NO. S68 UTAH. 14-59 SAMPLE NO. 0 269-0 271 DELTA AREA

SOIL FAMILY: XEROLLIC CALCIORTHID,COARSE-LOAMY,MIXED,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBONATE 3A1A	INT. II .2- .02	COARSE FRAGMENTS PCT. OF WHOLE SOIL I 75- 20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75		
0 269	0- 10	A1	73.9	16.9	9.2	1.1	2.8	3.3	40.4	26.3	8.1	8.8				65.2	--	--	--	--
0 270	10- 38	C 1	69.3	16.2	14.5	2.1	4.3	4.5	37.3	21.1	6.2	10.0			3	54.6	--	--	--	--
0 271	38- 74	C 2	71.6	18.2	10.2	2.4	6.1	5.6	38.2	19.3	8.0	10.2			3	54.7	--	--	--	--

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 6E1B	EXT. IRON FE 6E1B	ATTERBERG LIMIT LL 6C2B	PL 4F1	1/3 BAR 4F2	BULK DENSITY EST 1/3 BAR 4A1F	DRY 4A1F	CM 4A1H	3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTENSBLTY LEF 4D1	LE 4D1	PH H2O 8C1A	H2O 1/1 8C1A	CACL2 1/10 8C1E
		-PERCENT--		-PERCENT-		PCT.	PCT.NO.40		GRAMS PER CC				----PERCENT---			-PERCENT--				
0 269	0- 10	0.63		.9											5.5			8.8	9.1	7.9
0 270	10- 38	0.46		14											8.3			8.6	9.3	8.0
0 271	38- 74	0.34		20											7.7			8.5	9.3	8.1

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT.	C E C NA-OAC 5A2A	NH4-OAC 5A6A	EC 8A1A	WATER EXTRACT FROM SATURATED PASTE CA 6N1A	MG 6O1A	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1B	B 6T1A	PH SAT. PASTE 8C1B
		MEQ/100G				PCT.		-MEQ/100G		MMHO	MEQ/1000 ML								PPM	
0 269	0- 10	19.7	1.5	1.4	4.0	26.6	100+		13.6	1.31	2.3	1.7	9.2	1.5		5.2	3.7			8.2
0 270	10- 38	18.8	1.7	4.6	3.5	28.6	100+		15.7	4.04	4.3	1.3	32.1	1.3		3.2	29.4			8.1
0 271	38- 74	19.8	2.3	9.6	1.7	33.4	100+		14.3	9.4	9.8	4.5	85.8	0.6		3.2	78.6			7.9

SAMPLE NO.	DEPTH CM.	WATER EXCHANGBLE AT SAT. 8A PCT.	NA 5B4B MEQ.	NA 5O2 PCT.	SAR 5E	GYPSUM AMT. 6F1B PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I 7A2E	II 7A2E	III 7A2E	IV 7A2E	DTA PCT. 7A3	L.T. .0002 MM X RAY I 7A2E	II 7A2E	III 7A2E	MINERAL CODE	RELATIVE AMOUNT
0 269	0- 10	35.5	1.1	8	7												1 TRACE
0 270	10- 38	41.4	3.3	21	19												2 SMALL
0 271	38- 74	43.3	5.9	41	32												3 MODERATE
																	4 ABUNDANT
																	5 DOMINANT
																	6 INDETER.

ESCALANTE SANDY LOAM
68Utah-14-59 (159)

Location: Millard County, UT. 2.25 miles west of UT-26 at Pavant. Southeast 1/4 of northeast 1/4 of Sec. 30, T. 20 S., R. 5 W. Date of sampling: November 1968. Description: L. Stott and D. Beckstrand. Collectors: G. Crandall and D. Beckstrand. Classification: Xerollic Calciorthid, coarse-loamy, mixed, mesic. Vegetation: Big sagebrush, greasewood, yellowbrush, halogeton. Climate: Mean annual temperature, 49° to 52° F. Average annual precipitation is 8 to 10 inches. Parent material: Lake sediments and alluvium from mixed parent material. Topography: Lake terraces on slopes of 1 to 3 percent. Elevation: 4,710 feet. Drainage: Well drained. Soil moisture: Usually dry.

HORIZON	DESCRIPTION
A1 RSL No. 70269	0-10 cm (0-4 inches), light brownish gray (10YR 6/2) sandy loam, dark grayish brown (10YR 4/2) when moist; weak, thin, platy structure; soft, very friable, nonsticky, nonplastic; few fine roots; few fine tubular and vesicular pores; moderately calcareous; moderately alkaline (pH 8.4); abrupt smooth boundary.
C1 RSL No. 70270	10-38 cm (4-15 inches), light brownish gray (10YR 6/2) sandy loam, dark brown (10YR 4/3) when moist; massive; soft, very friable, nonsticky, nonplastic; many fine and medium and few coarse roots; common fine and medium tubular pores; moderately calcareous; strongly alkaline (pH 8.5); arbitrary separation for laboratory analysis.
C2 RSL No. 70271	38-74 cm (15-29 inches), light brownish gray (10YR 6/2) sandy loam, dark brown (10YR 4/3) when moist; massive; soft, very friable, nonsticky, nonplastic; many fine and medium and few coarse roots; common fine and medium tubular pores; moderately calcareous; strongly alkaline (pH 8.5); abrupt wavy boundary.
C3ca Not sampled	74-104 cm (29-41 inches), white (10YR 8/1) light loam, light brownish gray (10YR 6/2) when moist; massive; strongly cemented, friable, slightly sticky, slightly plastic; few fine roots; few fine pores; strongly calcareous; very strongly alkaline (pH 9.2); clear wavy boundary.
C4 Not sampled	104-124 cm (41-49 inches), white (10YR 8/2) sandy loam, grayish brown (10YR 5/2) when moist; massive; loose, very friable, nonsticky, nonplastic; few fine roots; few fine pores; strongly calcareous; strongly alkaline (pH 8.5); clear wavy boundary.
C5 Not sampled	124-152 cm (49-60 inches), white (10YR 8/1) silt loam, light brownish gray (10YR 6/2) when moist; massive; weakly and strongly cemented, friable, slightly sticky, slightly plastic; few fine roots; few fine pores; strongly calcareous; moderately alkaline (pH 8.2).

ESCALANTE SANDY LOAM
68Utah-14-60(159b)

These are subsamples of S68Utah-14-59 (159) taken in the same delineation, a short distance away.

Sample No.	
70272	0-10 cm
70273	10-38 cm
70274	38-72 cm

CONSECUTIVE PEDON NUMBER C 70 45 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES ESCALANTE SANDY LOAM SOIL NO. S68 UTAH. 14-60 SAMPLE NO. 0 272-0 274 DELTA AREA

SOIL FAMILY: XERCLLIC CALCIORTHID,COARSE-LOAMY,MIXED,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	CSI .05- .02	FSI .02- .002	SILTS CO. 2- .2U	CLAYS FINE LT .2U	CARBO NATE 3A1A	1A2A INT. II .2- .02	COARSE FRAGMENTS PCT. OF WHOLE SOIL 75- 20	I 20-5 PCT. OF LT 75	II 5-2	III
			PERCENT OF LESS THAN 2MM																	
0 272	0- 10	A1	73.8	17.2	9.0	1.2	2.1	2.5	38.7	29.3	8.5	8.7				68.5	--	--	--	--
0 273	10- 38	C 1	67.4	19.3	13.3	2.0	3.4	3.0	31.1	27.9	8.5	10.8			2	61.5	--	--	--	--
0 274	38- 72	C 2	61.7	25.6	12.7	4.6	5.6	4.0	22.9	24.6	10.7	14.9			4	52.4	--	--	--	--

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR- BON 6A1A -PERCENT--	NITRO GEN 6B1A	CARBONATE AS CACO3 LT 2 19-2 6E1B 6E1B -PERCENT-	EXT. IRON FE 6C2B PCT.	ATTERBERG LIMIT LL 4F1 PCT.	PL 4F2 NO.40	BULK DENSITY EST 1/3 BAR 4A1F	DRY 4A1F	4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C ----PERCENT---	1/3 BAR 4B1C	15 BAR 4B2	EXTENSBLTY LEF 4D1 -PERCENT--	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
0 272	0- 10	0.72												5.3			8.8	9.2	7.9
0 273	10- 38	0.50												8.1			8.6	9.2	7.8
0 274	38- 72	0.42												8.6			8.5	9.2	8.1

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT. PCT.	C E C NA- OAC 5A2A	NH4- OAC 5A6A	EC 8A1A	WATER EXTRACT FROM SATURATED PASTE CA 6N1A	MG 6O1A	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1B	B 6T1A	PH SAT. PASTE 8C1B
		MEQ/100G						-MEQ/100G		MMHO	MEQ/1000 ML								PPM	
0 272	0- 10	17.2	1.5	1.6	4.0	24.3	100+		13.4	1.51	2.2	0.7	11.2	1.6		6.1	5.5			8.3
0 273	10- 38	19.8	1.8	2.5	3.6	27.7	100+		16.4	1.85	3.1	0.6	13.9	0.8		4.1	11.0			8.2
0 274	38- 72	19.4	2.0	10.3	1.3	33.0	100+		16.3	8.4	6.4	2.2	77.4	0.4		26.4	69.7			8.1

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGBLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1B PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I 7A2E	II 7A2E	III 7A2E	IV 7A2E	DTA 7A3 PCT.	L.T. .0002 MM X RAY I 7A2E	II 7A2E	III 7A2E	MINERAL CODE	RELATIVE AMOUNT
0 272	0- 10	38.0	1.2	9	9												1 TRACE
0 273	10- 38	41.0	1.9	12	10												2 SMALL
0 274	38- 72	44.6	6.8	42	37												3 MODERATE
																	4 ABUNDANT
																	5 DOMINANT
																	6 INDETER.

ESCALANTE SANDY LOAM
68Utah-14-59 (159)

Location: Millard County, UT. 2.25 miles west of UT-26 at Pavant. Southeast 1/4 of northeast 1/4 of Sec. 30, T. 20 S., R. 5 W. Date of sampling: November 1968.
Description: L. Stott and D. Beckstrand. Collectors: G. Crandall and D. Beckstrand.
Classification: Xerollic Calciorthid, coarse-loamy, mixed, mesic.
Vegetation: Big sagebrush, greasewood, yellowbrush, halogeton. Climate: Mean annual temperature, 49° to 52° F. Average annual precipitation is 8 to 10 inches. Parent material: Lake sediments and alluvium from mixed parent material. Topography: Lake terraces on slopes of 1 to 3 percent. Elevation: 4,710 feet. Drainage: Well drained. Soil moisture: Usually dry.

HORIZON	DESCRIPTION
A1 RSL No. 70269	0-10 cm (0-4 inches), light brownish gray (10YR 6/2) sandy loam, dark grayish brown (10YR 4/2) when moist; weak thin platy structure; soft, very friable, nonsticky, nonplastic; few fine roots; few fine tubular and vesicular pores; moderately calcareous; moderately alkaline (pH 8.4); abrupt smooth boundary.
C1 RSL No. 70270	10-38 cm (4-15 inches), light brownish gray (10YR 6/2) sandy loam, dark brown (10YR 4/3) when moist; massive; soft, very friable, nonsticky, nonplastic; many fine and medium and few coarse roots; common fine and medium tubular pores; moderately calcareous; strongly alkaline (pH 8.5); arbitrary separation for laboratory analysis.
C2 RSL No. 70271	38-74 cm (15-29 inches), light brownish gray (10YR 6/2) sandy loam, dark brown (10YR 4/3) when moist; massive; soft, very friable, nonsticky, nonplastic; many fine and medium and few coarse roots; common fine and medium tubular pores; moderately calcareous; strongly alkaline (pH 8.5); abrupt wavy boundary.
C3ca Not sampled	74-104 cm (29-41 inches), white (10YR 8/1) light loam, light brownish gray (10YR 6/2) when moist; massive; strongly cemented, friable, slightly sticky, slightly plastic; few fine roots; few fine pores; strongly calcareous; very strongly alkaline (pH 9.2); clear wavy boundary.
C4 Not sampled	104-124 cm (41-49 inches), white (10YR 8/2) sandy loam, grayish brown (10YR 5/2) when moist; massive; loose, very friable, nonsticky, nonplastic; few fine roots; few fine pores; strongly calcareous; strongly alkaline (pH 8.5); clear wavy boundary.
C5 Not sampled	124-152 cm (49-60 inches), white (10YR 8/1) silt loam, light brownish gray (10YR 6/2) when moist; massive; weakly and strongly cemented, friable, slightly sticky, slightly plastic; few fine roots; few fine pores; strongly calcareous; moderately alkaline (pH 8.2).

ESCALANTE SANDY LOAM
68Utah-14-60(159b)

These are subsamples of S68Utah-14-59 (159) taken in the same delineation, a short distance away.

Sample No.	
70272	0-10 cm
70273	10-38 cm
70274	38-72 cm

SCS-420
10-64

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL FAMILY: Typic Camborthid, loamy-skeletal, carbonatic, mesic

SOIL Sardo gravelly sandy loam SOIL Nos. S66Utah-14-5 LOCATION Millard County, Utah

SOIL SURVEY LABORATORY Riverside, California LAB. Nos. 66222 - 66226

Depth (In.)	Horizon	1B1b Total Sand (2-0.05)	Total Silt (0.05-0.002)	Total Clay (< 0.002)	Sand: Very coarse (2-1)	Sand: Coarse (1-0.5)	Sand: Medium (0.5-0.25)	Sand: Fine (0.25-0.1)	Sand: Very fine (0.1-0.05)	Silt (0.05-0.02)	Silt: Int. III (0.02-0.002)	Int. II (0.2-0.02)	(2-0.1)	3A1a Carbonate clay	3A1a Non-carbonate clay	1/ Coarse fragments 1A2a > 2 Pct.	2 - 19 Pct. of < 76 mm	19 - 76 Pct. of < 76 mm	
		Pct. of < 2 mm																	
0-4	A1	63.1	27.3	9.6	6.7	13.0	10.6	19.5	13.3	13.8	13.5	37.5	49.8	1	9	23	22	1	
4-15	B2	63.5	25.1	11.4	7.0	14.6	10.9	19.0	12.0	11.9	13.2	33.6	51.5	0	11	24	21	3	
15-22	C1ca	69.9	17.0	13.1	13.3	17.2	13.7	17.3	8.4	7.1	9.9	23.6	61.5	3	10	65	36	27	2/
22-40	IIC2ca	85.0	3.6	11.4	23.6	26.0	18.7	14.2	2.5	1.6	2.0	8.9	82.5	1	10	78	47	30	2/
40-60+	IIC3	88.8	4.7	6.5	22.6	30.3	19.9	13.6	2.4	1.7	3.0	8.6	86.4	0	7	71	40	30	2/

Depth (In.)	6A1a Organic carbon Pct	6B1a Nitrogen Pct.	C/N	6C2a Ext. Iron as Fe Pct.	6E1b Carbonate as $CaCO_3$ Pct.	Carbonate as $CaCO_3$ (whole soil) 6E1b Pct.	Bulk density 4A1f 1/3 bar g/cc	Bulk density 4A1h Oven dry g/cc	g/cc	3B2 Cm	Water content Pct.	4B1c 1/3 bar Pct.	4B2 15 bar Pct.	4D1 Extensibility COLEF in./in.	4D1 Extensibility COLE in./in.	pH 8C1b Saturated Paste	8C1a H_2O 1:1	8C1a H_2O 1:10
0-4	0.48	0.050	10		16								5.5			8.2	8.5	9.1
4-15	0.34				16		1.43	1.46		0.85		13.1	6.3	0.007	0.006	8.5	9.0	9.5
15-22	0.40				20	39	1.53	1.56		0.48		16.2	7.2	0.007	0.003	8.5	9.1	9.8
22-40	0.15				20	42							4.5			8.0	8.2	8.8
40-60+	0.12				19	40							3.7			8.1	8.7	9.5

Depth (In.)	Extractable bases 6N1c Ca 5B3a	6O1c Mg 5B3a	6P2a Na 5B1a	6Q2a K 5B1a	* Sum of bases	6H2a Ext. Acidity	Cation Exch. Capacity 5A2a NaOAc	5A1a NH_4OAc	Water extract from saturated paste 8A1 6N1a Ca	6O1a Mg	6P1a Na	6Q1a K		6I1a CO_3	6J1a HCO_3	6K1a Cl	SO_4	8A1a Electrical conductivity
	meq/100 g								meq/liter									mmho/cm
0-4	8.9	2.6	0.2	2.2	13.7			10.4	2.7	1.4	0.9	1.6		-	4.9	0.4		0.61
4-15	7.3	3.3	1.4	2.1	13.9			10.6	0.6	0.4	6.1	0.6		-	6.5	0.2		0.75
15-22	5.7	3.2	4.5	0.5	12.5			9.0	1.3	1.5	41.2	0.2		-	5.8	26.6	6.3	4.06
22-40	8.9	3.2	5.5	0.2	13.4			8.0	29.4	24.0	123	0.3		-	4.4	82.4	94.2	14.5
40-60+	5.3	2.6	4.8	0.2	9.3			6.7	11.3	15.0	115	0.2		-	3.0	100	41.2	12.8

Depth (In.)	8A Water at Saturation Pct.	Exch. bases 5B3b* Ca	5B3b* Mg	5B1b Na	5D2 Exchangeable Na Pct.	SAR	6F1a Gypsum Pct.	Clay mineralogy (<0.002 mm) 7A Mont.	Verm.	Mica	Kaolin	Illite
		meq /100 g						X-ray				
0-4	23.9	8.8	2.6	0.1	1	0.6		x			tr	x
4-15	29.4	7.3	3.3	1.2	11	9		xx			tr	xx
15-22	32.7	5.7	3.2	3.1	34	35						
22-40	25.3	8.2	2.6	2.4	30	24	tr					
40-60+	24.6	5.0	2.2	1.9	28	32	tr	xxx			x	x

1/ From characterization sample (5 kg) except as noted.

2/ 2-19 mm from characterization sample, 19-76 and >76 mm from field wts. >2 mm includes >76 mm.

* Ca++ and Mg++ corrected for Ca++ and Mg++ in the saturation extract and as gypsum.

- = looked for but not found
tr = trace
x = small
xx = moderate
xxx = abundant
xxxx = dominant

SARDO GRAVELLY SANDY LOAM
S66Utah-14-5

Location: Millard County, UT. Desert Range Experiment Station, 21 feet west and 25 feet north from the southeast corner of exclosure No. 1, paddock 16, SW 1/4, Sec. 29, T. 25 S., R. 17 W. (SLC PM). (UT 6-66B). Date of sampling: May 3, 1966.
Description by: Vern K. Hugie and Klaus W. Flach. Collectors: Klaus W. Flach and Vern K. Hugie.
Classification: Typic Camborthid, loamy-skeletal, carbonatic, mesic.
Vegetation: Winterfat, bud sagebrush, galleta, and shadscale. Climate: Mean annual temperature, about 48° to 50°F. Average annual precipitation, about 6 inches. Parent material: Mixed alluvium from sedimentary and igneous rocks (limestone, sandstone, quartzite, rhyolite, tuff, etc.) Topography: Bajada from the foothills directly west of the Desert Range Experiment Station Headquarters and from the Needle Mountains to the southwest. Study is on a 2 percent northeast-facing slope. Elevation: 5,300 feet. Drainage: Well to somewhat excessively drained. Soil moisture: At time of sampling, the A and B horizons were moist and the remainder of the profile dry. The control section is dry more than 75 percent of the time when the soil temperature is above 41°F.
Remarks: This soil was called Crestline (like), very gravelly substratum in Vern Hugie's report. It appears to be mainly within the range of characteristics for the Sardo series.

HORIZON	DESCRIPTION
A1 RSL No. 66222	0-4 inches (0-10 cm), light brownish gray (10YR 6/2) gravelly sandy loam, dark grayish brown (10YR 4/2) moist; weak thin and medium platy structure; soft, very friable, nonsticky, nonplastic; few fine roots; many fine interstitial pores; 15 percent gravel; weak effervescence; moderately alkaline (pH 8.2); clear smooth boundary.
B2 RSL No. 66223	4-15 inches (10-38 cm), pale brown (10YR 6/3) gravelly sandy loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; soft, very friable, nonsticky, nonplastic; common fine roots; common medium and fine tubular pores; 15 percent gravel; strongly effervescence; secondary carbonate coating on underside of pebbles; strongly alkaline (pH 8.6); clear wavy boundary.
C1ca RSL No. 66224	15-22 inches (38-56 cm), very pale brown (10YR 7/3) gravelly coarse sandy loam, brown (10YR 5/3) moist; massive; slightly hard, friable, nonsticky, nonplastic; common fine roots; common medium and fine tubular pores; 50 percent gravel and cobble; violent effervescence; secondary carbonate coating on pebbles; strongly alkaline (pH 9.0); clear wavy boundary.
IIC2ca RSL No. 66225	22-40 inches (56-102 cm) pale brown (10YR 6/3) stratified, very gravelly sandy loam, loamy sand, and sand, dark yellowish brown (10YR 4/4) moist; massive; loose; few fine roots; 70 percent gravel and cobble; violent effervescence; thin layers (2-3 inches); moderately cemented with secondary carbonates on underside of pebbles; moderately alkaline (pH 8.3); diffuse smooth boundary.
IIC3 RSL No. 66226	40-60 inches (102-152 cm), pale brown (10YR 6/3) stratified very gravelly sandy loam, loamy sand, and sand, dark yellowish brown (10YR 4/4) moist; massive; loose; few fine roots; 60 percent gravel and cobble; strong effervescence; secondary carbonate pendents on underside of pebbles; weakly cemented with carbonate; strongly alkaline (pH 8.6).

SCS-420
10-64

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL FAMILY: Typic Camborthid, sandy-skeletal, carbonatic, mesic

SOIL Sardo gravelly sandy loam (taxadjunct) SOIL Nos. S66Utah-14-8 LOCATION Millard County, Utah

SOIL SURVEY LABORATORY Riverside, California LAB. Nos. 66227 - 66231

Depth (in.)	Horizon	1B1b Total Sand (2-0.05)	Total Silt (0.05-0.002)	Total Clay (<0.002)	Sand: Very coarse (2-1)	Sand: Coarse (1-0.5)	Sand: Medium (0.5-0.25)	Sand: Fine (0.25-0.1)	Sand: Very fine (0.1-0.05)	Silt: 0.05-0.02	Silt: Int III (0.02-0.002)	Int. II (0.2-0.02)	(2-0.1)	3A1a Carbonate clay	3A1a Non-carbonate clay	1/ Coarse fragments >2 Pct.	1A2a 2-19	1A2a 19-76
		Size class and particle diameter (mm) 3A1 — Pct. of <2 mm															Pct. of <76 mm	
0-3	A1	70.5	22.2	7.0	8.4	16.7	12.5	19.1	14.1	11.7	10.5	35.7	56.7	0	7	26	24	2
3-13	B2	67.5	22.0	10.1	6.1	14.3	12.9	19.7	14.9	11.3	10.7	36.9	53.0	1	9	22	16	6
13-25	IIC1ca	83.1	10.6	6.3	24.9	25.5	16.3	11.6	4.8	6.1	4.5	15.3	78.3	1	5	79	47	31 2/
25-32	IIC2ca	87.4	6.3	7.3	24.6	29.0	18.7	12.3	1.8	3.6	2.7	9.5	84.6	0	7	66	42	22 2/
32-54+	IIC3	88.2	5.4	8.4	25.5	26.8	17.4	14.4	2.1	2.4	3.0	9.9	84.1	1	7	70	45	23 2/

Depth (in.)	6A1a Organic carbon Pct.	6B1a Nitrogen Pct	C/N	6C2a Ext. Iron as Fe Pct.	6E1b Carbonate as $CaCO_3$ Pct	Carbonate as $CaCO_3$ (whole soil) 6E1b Pct.	Bulk density 4A1f 1/3 bar g/cc	Bulk density 4A1h Oven dry g/cc	g/cc	3B2 Cm	Water content Pct.	4B1c 1/3 bar Pct	4B2 15 bar Pct	4D1 Extensibility COLEF in./in.	4D1 Extensibility COLE in./in.	pH 8C1b Saturated Paste	pH 8C1a H_2O 1:1	pH 8C1a H_2O 1:10
0-3	0.34	0.037	9		15		1.54	1.56		0.83		11.4	4.5	0.005	0.004	8.2	8.5	9.1
3-13	0.32				16		1.45	1.45		0.87		13.2	5.8	0.000	0.000	8.2	8.5	9.1
13-25	0.44				25	44	1.75	1.75		0.28		11.8	4.7	0.000	0.000	7.9	8.5	9.2
25-32	0.18				18	35	1.84	1.84		0.42		7.6	4.1	0.000	0.000	7.9	8.1	8.7
32-54+	0.12				21	46							4.2			7.8	8.2	9.1

Depth (in.)	Extractable bases 6N4c Ca 5B3a	6O4c Mg 5B3a	6P2a Na 5B1a	6Q2a K 5B1a	* Sum of bases	6H2a Ext. Acidity	Cation Exch. Capacity 5A2a NaOAc	5A1a NH_4OAc	Water extract from saturated paste 8A1 6N1a Ca	6O1a Mg	6P1a Na	6Q1a K		6I1a CO_3	6J1a HCO_3	6K1a Cl	SO_4	8A1a Electrical conductivity
	meq/100 g								meq/liter									mmho/cm
0-3	8.1	1.9	0.2	1.7	11.8			8.7	3.2	1.3	1.7	1.4		-	4.9	1.0		0.72
3-13	8.0	3.4	0.3	1.6	13.3			10.3	1.4	1.0	2.1	0.8		-	4.4	0.2		0.48
13-25	6.3	3.0	1.6	0.4	10.2			6.9	8.0	7.9	26.5	0.6		-	4.5	24.6	14.2	4.10
25-32	7.7	3.4	3.2	0.2	10.8			6.6	37.0	30.4	81.0	0.6		-	2.9	83.9	60.5	11.3
32-54+	6.5	3.5	4.1	0.2	10.6			7.2	26.7	27.0	96.3	0.4		-	2.0	111	39.0	13.8

Depth (in.)	8A Water at Saturation Pct.	Exch. bases 5B3b* Ca	5B3b* Mg	5B1b Na	5D2 Exchangeable Na Pct.	SAR	6F1a Gypsum Pct.	Clay mineralogy (<0.002 mm) 7A Mont.	Verm.	Mica	Kaolin	
		meq/100 g						X-ray				
0-3	21.2	8.0	1.9	0.2	2	1						
3-13	27.5	8.0	3.4	0.3	3	2						
13-25	26.7	6.1	2.8	0.9	13	9	-					
25-32	25.0	6.8	2.6	1.2	18	14	tr					
32-54+	24.6	5.8	2.8	1.8	25	18	-					

1/ From characterization sample (5 kg) except as noted.

2/ 2-19 mm from characterization sample, 19-76 and >76 mm from field weights. >2 mm includes >76 mm.

* Ca++ and Mg++ corrected for Ca++ and Mg++ in the saturation extract and as gypsum.

SARDO GRAVELLY SANDY LOAM (TAXADJUNCT) 1/
S66Utah-14-8

Location: Millard County, Ut. Desert Range Experiment Station, 120 feet north and 20 feet east of the southeast corner of exclosure No. 1 paddock 15, SE 1/4 of the SW 1/4. Sec. 28, T. 25 S., R. 17 W. (SLC PM). (UT 7-66A). Date of sampling: May 4, 1966.
Description by: Vern K. Hugie and Klaus W. Flach. Collectors: Klaus W. Flach and Vern K. Hugie.
Classification: Typic Camborthid, sandy-skeletal, carbonatic, mesic.
Vegetation: Winterfat, Indian ricegrass, shadscale, and bud sage. Climate: Mean annual temperature is about 48° to 50°F. Average annual precipitation is about 6 inches. Parent material: Mixed alluvium from sedimentary and igneous rocks, mainly limestone, sandstone, and quartzite. Topography: Bajada from foothills, northeast-facing, about 2 percent slopes. Elevation: 5,250 feet. Drainage: Well to somewhat excessively drained. Soil moisture: At the time of sampling, the A and B horizons were moist and the remainder of the profile dry. The control section is dry more than 75 percent of the time that the temperature is above 41°F.
Remarks: This soil was called Crestline, very gravelly substratum in Vern Hugie's report. It is most like Sardo soils, but more sandy.

HORIZON	DESCRIPTION
A1 RSL No. 66227	0-3 inches (0-8 cm), light grayish brown (10YR 6/2) gravelly sandy loam, dark grayish brown (10YR4/2) moist; moderate medium platy structure; soft, very friable, nonsticky, nonplastic; few fine roots; many medium and fine interstitial and a few coarse vesicular pores; 15 percent gravel; strong effervescence; moderately alkaline (pH 8.0); clear wavy boundary.
B2 RSL No. 66228	3-13 inches (8-33 cm), pale brown (10YR 6/3) gravelly sandy loam brown (10YR 4/3) moist; weak medium and coarse subangular blocky structure; soft, very friable, nonsticky, nonplastic; common fine roots; common medium and fine tubular pores; 15 percent gravel; strong effervescence; secondary carbonate coating on underside of pebbles; moderately alkaline (pH 8.0); clear smooth boundary.
IIC1ca RSL No. 66229	13-25 inches (33-63 cm), very pale brown (10YR 8/3) very gravelly loamy coarse sand, yellowish brown (10YR 5/4) moist; massive; soft, very friable, nonsticky, nonplastic; common fine roots; 55 percent gravel; violent effervescence; secondary carbonate pendents on underside of pebbles; moderately alkaline (pH 8.0); clear wavy boundary.
IIC2ca RSL No. 66230	25-32 inches (63-81 cm), pale yellowish brown (10YR 6/4) very gravelly loamy coarse sand, dark yellowish brown (10YR 4/4) moist; massive; compacted lenses weakly cemented with calcium carbonate. (2-3 inches); few roots, many very coarse interstitial pores; 50 percent gravel; strong effervescence; calcium carbonate pendents on underside of pebbles; moderately alkaline (pH 8.2); gradual smooth boundary.
IIC3 RSL No. 66231	32-54 inches (81-137 cm), pale yellowish brown (10YR 6/4) stratified, very gravelly coarse sand and loamy coarse sand, dark yellowish brown (10YR 4/4) moist; massive; few roots; many very coarse interstitial pores; 55 percent gravel; strong effervescence; pendents of secondary carbonates on underside of pebbles; moderately alkaline (pH 8.0); contain compact, weakly carbonate cemented lenses (2-4 inches).

1/ The Sardo series is in a loamy-skeletal, carbonatic, mesic family of Typic Camborthids. This pedon has less silt and clay so that it is sandy instead of loamy.

CONSECUTIVE LOCN NUMBER C 68 55 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES UNNAMED GRAVELLY SANDY LOAM SOIL NO. S68 UTAH. 1- 8 SAMPLE NO. 8 502-8 507 DESERT RANGE AREA

SOIL FAMILY: TYPIC DURORTHID,COARSE-LOAMY,MIXED,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SIZE, CLASS AND PARTICLE DIAMETER (MM) SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CC. 2- .2U	FINE LT .2U	CARBO NATE	INT. II .2- .02	COARSE FRAGMENTS PCT. OF WHOLE	I 75- 20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM													SOIL	PCT. OF LT 75			
8 502	0- 10	A1	55.6	32.5	11.9	5.0	8.6	7.9	17.4	16.7	17.8	14.7			1	44.7	20A	—	20Z	N
8 503	10- 30	B21	56.4	30.7	12.9	5.6	9.8	8.1	16.8	16.1	15.6	15.1			2	41.6	19A	—	19Z	N
8 504	30- 53	B22	58.1	30.3	11.6	6.6	9.9	8.5	16.8	16.3	15.7	14.6			2	42.0	34A	17V	17Z	TR
8 505	53- 76	C 1CA	59.4	27.3	13.3	7.5	11.9	8.9	16.9	14.2	14.0	13.3			4	37.9	1A	--	1Z	N
8 506	76- 91	C2SICAM	72.7	17.5	9.8	24.2	15.8	8.3	12.0	8.4	7.8	9.7			5	22.5	TRA	--	--	--
8 507	91-122	C3SICAM	64.7	20.7	14.6	7.4	19.9	12.6	14.5	10.3	11.0	9.7			2	28.2	2A	--	2Z	N

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON	NITROGEN	CARBONATE AS CACO3 LT 2	19-2	EXT. IRON FE	ATTERBERG LIMIT LL	PL	BULK DENSITY EST 1/3	1/3 BAR	DRY	CM WATER CONTENT 1/10 BAR	1/3 BAR	15 BAR	EXTENSBLTY LEF	LE	PH H2O 1/1	H2O 1/10	CACL2
		-PERCENT--		-PERCENT-		PCT.	PCT.NO.40		GRAMS PER CC			----PERCENT---			-PERCENT--				
8 502	0- 10	0.68	0.073	15					1.20		0.90			9.8			8.2		7.7
8 503	10- 30	0.58	0.066	17						1.27	1.31	0.90	23.1	8.9	1.0	0.9	8.2		7.8
8 504	30- 53	0.52		20					1.27			0.80		9.5			8.2		7.8
8 505	53- 76	0.48		31						1.27	1.29	1.00	27.3	11.5	0.5	0.5	8.3		7.9
8 506	76- 91	0.31		51						1.67	1.70	1.00	14.1	10.0	0.6	0.6	8.3	9.1	8.0
8 507	91-122	0.27		19					1.67			0.99		11.6			7.9	8.2	8.0

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA	MG	NA	K	SUM	BASE SAT.	C E C NA- OAC	NH4- CAC	EC	WATER EXTRACT FROM SATURATED PASTE CA	MG	NA	K	CO3	HCO3	CL	SO4	B	PH SAT. PASTE
		MEQ/100G					PCT.	-MEQ/100G		MMHO	MEQ/1000 ML								PPM	
8 502	0- 10			0.2	1.2	1.4			13.7	0.74										
8 503	10- 30			0.1	1.0	1.1			13.1	0.65										
8 504	30- 53			0.2	0.6	0.8			12.6	0.52										
8 505	53- 76			0.9	0.4	1.3			10.3	0.99										
8 506	76- 91			2.6	0.5	3.1			9.6	4.01	7.8	6.8	32.7	0.3		3.1	29.8			8.1
8 507	91-122			6.2	0.7	6.9			13.7	11.2	44.1	40.7	74.1	0.9		2.9	81.2	69.2		7.7

SAMPLE NO.	DEPTH CM.	WATER AT SAT.	EXCHANGBLE NA	NA	SAR	GYPSUM AMT.	REQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I	II	III	IV	DTA PCT.	L.T. .0002 MM X RAY I	II	III	MINERAL CODE	RELATIVE AMOUNT
		PCT.	MEQ.	PCT.		PCT.	MEQ.										
8 502	0- 10		0.2	1				MI 2	KK 1							MI MICA	1 TRACE
8 503	10- 30		0.1	1				KK 2	MM 2							KK KAOLINIT	2 SMALL
8 504	30- 53		0.2	2												MM MT/MICA	3 MODERATE
8 505	53- 76		0.9	9													4 ABUNDANT
8 506	76- 91	44.1	1.2	12	12			MT 2	MI 2	KK 2						MT MONTMORT	5 DOMINANT
8 507	91-122	47.9	2.6	19	11	0.5											6 INDETER.

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
N=NOT DETERMINED.
Z=NOT ALL FRACTIONS SEPERATED. ADJACENT FRACTIONS INCLUDED HERE.
V=NOT WEIGHED. VALUE CALCULATED FROM A VOLUME ESTIMATE.

(UNNAMED) GRAVELLY SANDY LOAM
68Utah-1-8

Location: Beaver County, UT. South end of Wah Wah Valley, Sec. 2, T. 29 S., R. 14 W. (SLM). Date of sampling: 1968.
Description by: V. Hugie. Collectors: V. Hugie and others.
Classification: Typic Durorthid, coarse-loamy, mixed, mesic.
Vegetation: Dominantly big sagebrush. Climate: Average annual precipitation is about 9 inches. Mean annual temperature is about 49° F. Parent material: Alluvium from rhyolite, tuff, sandstone, quartzite, and limestone. Topography: Valley fill, alluvial fan, 1 percent northeast slope. Elevation: 5,500 feet. Drainage: Well drained. Soil moisture: The soil is dry 75 percent or more of the time when soil temperature is above 41°F.

HORIZON	DESCRIPTION
A1 RSL No. 68502	0-10 cm (0-4 inches), light brownish gray (10YR 6/2) gravelly sandy loam, dark grayish brown (10YR 4/2) moist; moderate thin platy structure; soft; friable; nonsticky, slightly plastic; few fine roots; many medium and fine vesicular and interstitial pores; 20 percent gravel; violent effervescence; moderately alkaline (pH 8.2); clear wavy boundary.
B21 RSL No. 68503	10-30 cm (4-12 inches), pale brown (10YR 6/3) gravelly sandy loam, brown (10YR 4/3) moist; weak coarse subangular blocky structure; soft; very friable; nonsticky, slightly plastic; many medium, fine and few coarse roots; many fine and common medium tubular pores; 15 percent gravel; violent effervescence; moderately alkaline (pH 8.2); gradual smooth boundary.
B22 RSL No. 68504	30-53 cm (12-21 inches), pale brown (10YR 6/3) gravelly sandy loam, brown (10YR 4/3); weak coarse subangular blocky structure; soft; very friable; nonsticky, nonplastic; many coarse medium and fine roots; many fine, very fine and few medium tubular pores; common krotovina; 15 percent angular cobble and gravel; violent effervescence; moderately alkaline (pH 8.2); abrupt irregular boundary.
C1ca RSL No. 68505	53-76 cm (21-30 inches), white (10YR 8/2) sandy loam, pale brown (10YR 6/3) moist; massive; extremely hard; very firm; nonsticky, nonplastic; few fine and very fine roots; many medium, fine, and very fine tubular pores; 5 percent gravel; violent effervescence; secondary carbonates disseminated and coatings on pebbles; common krotovina; moderately alkaline (pH 8.3); clear wavy boundary.
C2sicam RSL No. 68506	76-91 cm (30-36 inches), very pale brown (10YR 7/3) duripan, light yellowish brown (10YR 6/4) moist; platy in appearance (1/4 to 1 inch in thickness), top of plates have trowled surfaces with pendants on bottom of plates; fine and very fine roots; growing between plates; gradual wavy boundary.
C3sicam RSL No. 68507	91-122 cm (36-48 inches), similar to the above horizon except the lenses of cemented material are not as indurated and thinner; gravelly sandy material occurs between the lenses and as pockets; few fine roots.

CONSECUTIVE PEDON NUMBER C 70 46 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES WINKEL GRAVELLY FINE SANDY LOAM SOIL NO. S70 UTAH. 27- 1 SAMPLE NO. 0 275-0 279 WASHINGTON CO. AREA

SOIL FAMILY: TYPIC PALECRTHID,LMY-SKTL,MXC,THERMIC,SHALLOW RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION SANC 2- .05	SILT .05- .002	CLAY LT .002	VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	CSI .05- .02	FSI .02- .002	CG. 2- .2U	FINE CLAY LT .2U	CARBO NATE 3A1A	1A2A INT. II .2- .02	PCT. OF WHOLE SOIL	-COARSE FRAGMENTS- I 75- 20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75			
0 275	0- 3	A1	79.5	14.9	5.6	1.7	2.3	5.4	44.2	25.9	11.2	3.7				64.5	18*	5	4	2
0 276	3- 15	C 1	65.9	23.9	10.2	2.0	2.3	4.2	36.1	21.3	14.3	9.6				59.3	14A	8	4	2
0 277	15- 30	C 2CA	63.5	23.9	12.6	1.3	1.8	3.8	35.3	21.3	13.9	10.0			TR	58.3	50*	29	4	2
0 278	30- 41	C 3CA	63.0	21.0	16.0	4.8	4.6	4.7	31.4	17.5	11.4	9.6			3	49.2	64*	42	5	2
0 279	41- 50	C 4CAM															25*	--	--G	--G

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR-BON 6A1A	NITRO-GEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES DI-CIT EXT FE 6C2B	AL 6G7A	PYROP EXT FE 6C5A	AL 6G5A	ATTERBERG L I M I T LL 4F1	PL 4F2	EST. 1/3 BAR 4A1F	DRY 4A1H	BULK DENSITY CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		-PERCENT-		-PERCENT-		PERCENT				PCT.NO.40		GRAMS PER CC			PERCENT			-PERCENT-	
0 275	0- 3	0.97	0.085	6								1.50		0.89			3.8		
0 276	3- 15	0.18	0.029	6									1.60	1.61	0.91	16.0	10.6	5.1	0.2	0.2
0 277	15- 30	0.23		9									1.42	1.45	0.65	16.8	10.4	5.8	0.7	0.4
0 278	30- 41	0.38		21									1.31	1.35	0.54	17.7	12.4	7.7	1.0	0.5
0 279	41- 50	0.37		88									2.04	2.05	0.80	9.9	8.8	5.3	0.2	0.1

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6Q2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI-DITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4-OAC 5A6A	BASE SATURATION SUM+ ACI-CITY	SUM+ AL	NH4-OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA-CL2 8C1E
		MEQ/100G									PERCENT					
0 275	0- 3	13.5	1.0	0.4	1.2	16.1			16.1	6.5			100+		7.9	7.4
0 276	3- 15	16.8	1.7	0.5	1.2	20.2			20.2	7.8			100+		8.4	7.8
0 277	15- 30	18.3	2.0	0.4	1.4	22.1			22.1	7.6			100+		8.4	7.7
0 278	30- 41	16.2	2.4	0.4	1.0	22.0			22.0	6.6			100+		8.2	7.6
0 279	41- 50	16.2	1.1	0.4	0.3	18.0			18.0	1.8			100+		8.6	7.8

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
0 275	C- 3	MI 3	KK 2	MT 1	CL 1						MI MICA	1 TRACE
0 276	3- 15	MI 3	KK 3	MT 1	CL 1						KK KACLINIT	2 SMALL
0 277	15- 30	MI 4	KK 3	MT 1	CL 1						MT MONTMORT	3 MODERATE
0 276	30- 41	MI 4	KK 3	MT 1	CL 1						CL CHLORITE	4 ABUNDANT
0 279	41- 50											5 DOMINANT
												6 INDETER.

SAMPLE PREPARATION CODES
*=THE 75-250MM FRACTION IS INCLUDED.
A=STANDARD PREPARATION.
G=GROUND WHOLE. HORIZON INDURATED OR GRAVEL TOO SOFT TO BE SEPARATED. ALL DATA FOR WHOLE SOIL.

WINKEL GRAVELLY FINE SANDY LOAM
S70Utah27-1

Location: Washington County, UT. 1/2 mile northwest of the St. George City garbage dump. In the NW 1/4 of the NW 1/4 of Sec. 17, T. 42 S., R. 15 W. Date of sampling: September 15, 1970. Description by: Vear L. Mortensen. Collectors: D. Nettleton, V. Mortensen, and T. B. Hutchings.
Classification: Typic Paleorthid, loamy-skeletal, mixed, thermic, shallow.
Vegetation: Creosotebush, galleta grass, cholla cactus, pricklypear. Climate: Mean annual temperature, 60° to 62°F.; mean summer temperature, about 80°F.; average annual precipitation, about 8 inches; frost-free period, about 195 days. Parent material: colluvium and residuum from basalt, and wind deposited material from sandstone and shale. Topography: Mesa top of an old lava flow. Slopes are about 3 percent. Elevation: 3,200 feet. Drainage: Well drained. Soil moisture: Usually dry.

HORIZON	DESCRIPTION
A1 RSL No. 70275	0-3 cm (0 to 1 inches), reddish brown (5YR 5/4) gravelly fine sandy loam; reddish brown (5YR 4/4) moist; weak fine granular structure; slightly hard, very friable, nonsticky, nonplastic; common fine roots; few fine and medium tubular pores; 40 percent gravel and cobble; moderately calcareous, lime is disseminated; strongly alkaline (pH 8.8); abrupt smooth boundary.
C1 RSL No. 70276	3-15 cm (1-6 inches), reddish brown (5YR 5/4) gravelly fine sandy loam, reddish brown (5YR 4/4) moist; weak, moderately thick platy structure that parts to fine granular; slightly hard, very friable, nonsticky, nonplastic; common fine roots; common very fine, fine, and medium pores; 40 percent gravel and cobble; moderately calcareous, lime is disseminated; strongly alkaline (pH 8.8); clear smooth boundary.
C2ca RSL No. 70277	15-30 cm (6-12 inches), light reddish brown (5YR 6/4) gravelly fine sandy loam; reddish brown (5YR 4/4) moist; massive; slightly hard, very friable, nonsticky, nonplastic; common fine roots; common fine and medium pores; 40 percent gravel and cobble; moderately calcareous, lime is disseminated; strongly alkaline (pH 8.8); clear wavy boundary.
C3ca RSL No. 70278	30-41 cm (12-16 inches), light reddish brown (5YR 6/4) very cobbly fine sandy loam, reddish brown (5YR 4/4) moist; massive, soft, very friable, nonsticky, nonplastic; common fine roots; few fine and medium pores; 60 percent cobble and gravel that are fragments of Ccam horizon; moderately calcareous, lime is disseminated; strongly alkaline (pH 8.8); abrupt wavy boundary.
C4cam RSL No. 70279	41-50 cm (16-20 inches), carbonate cemented hardpan (indurated).

CONSECUTIVE PEDON NUMBER C 70 47 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES WINKEL VERY GRAVELLY FINE SANDY LOAM SOIL NO. S70 UTAH. 27- 2 SAMPLE NO. C 280-C 284 WASHINGTON CO. AREA

SOIL FAMILY: TYPIC PALECRTHID,LMY-SKTL,MXC,THERMIC,SHALLOW RIVERSIDE SOIL SURVEY LABCRATCRY

SAMPLE NO.	DEPTH CM.	HCRZ.	TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBONATE 3A1A-02	INT. II .2- 75-	1A2A COARSE FRAGMENTS PCT. OF WHOLE 20 SOIL	I 75- 20-5	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75			
C 280	0- 6	A1	54.3	36.7	9.0	4.2	4.6	2.1	16.5	26.9	22.9	13.8			TR	63.2	40*	19	10	6
C 281	6- 18	C 1	49.6	38.6	11.8	1.3	3.5	1.6	13.5	29.2	21.7	16.9			TR	62.3	35A	27	4	3
C 282	18- 26	C 2CA	47.C	36.8	16.2	2.4	3.0	1.5	12.0	28.1	19.7	17.1			2	57.8	41A	33	5	3
C 283	28- 45	C 3CAM	54.9	27.4	17.7	13.9	10.7	3.9	11.0	15.4	12.5	14.9			7	36.1	63*	53	--G	--G
C 284	45- 50	C 4CAM															--	--	--G	--G

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A -PERCENT-	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B -PERCENT-	2-20 6E1B	SESQUIOXIDES DI-CIT FE 6C2B	EXT AL 6G7A	PYROP FE 6C5A	EXT AL 6G5A	ATTERBERG LIMIT EST. LL 4F1	PL 4F2	1/3 BAR 4A1F	BULK DENSITY 1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
						PERCENT				PCT.NO.40		GRAMS PER CC				PERCENT			PERCENT	
C 280	0- 6	0.39	0.049	21									1.38	1.41	0.74	21.2	16.4	5.4	0.7	0.5
C 281	6- 18	0.26	0.037	18								1.30			0.79			6.5		
C 282	18- 28	0.26		24									1.24	1.30	0.75	25.2	21.3	7.2	1.6	1.2
C 283	28- 45	0.44		52								2.20			0.41			9.2		
C 284	45- 50	0.30		92									2.20	2.20	1.00	8.8	6.1	5.5		

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6Q2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI-DITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4-OAC 5A6A	BASE SATURATION SUM+ ACI-DITY	SUM+ AL	NH4-OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA-CL2 8C1E
		MEQ/100G									PERCENT					
C 280	0- 6	18.6	1.3	0.4	0.8	21.1			21.1	9.2			100+		8.3	7.7
C 281	6- 18	14.1	1.7	0.5	0.7	17.0			17.0	10.1			100+		8.1	7.6
C 282	18- 28	19.9	2.0	0.4	0.6	22.9			22.9	9.1			100+		8.1	7.6
C 283	28- 45	19.6	2.2	0.4	0.3	22.5			22.5	7.4			100+		8.1	7.6
C 284	45- 50	15.5	0.9	0.4	0.1	16.9			16.9	1.9			100+		8.4	7.7

CLAY MINERALOGY

SAMPLE NO	DEPTH CM.	LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
C 280	0- 6	MI 4	KK 2	MT 2	CL 1						MI MICA	1 TRACE
C 281	6- 18	MI 4	KK 2	MT 2	CL 1						KK KAOLINIT	2 SMALL
C 282	16- 28	MI 4	KK 2	MT 2	CL 1						MT MCNTMCRT	3 MCDERATE
C 283	28- 45										CL CHLORITE	4 ABUNDANT
C 284	45- 50											5 DCMINANT
												6 INDETER.

SAMPLE PREPARATICN CCDES
*=THE 75-250MM FRACTICN IS INCLUDED.
A=STANDARC PREPARATICN.
G=GROUND WHCLE. HCRIZCN INDURATED CR GRAVEL TCO SOFT TO BE SEPARATED. ALL DATA FOR WHCLE SOIL.

WINKEL VERY GRAVELLY FINE SANDY LOAM
S70Utah-27-2

Location: Washington County, UT. 3 miles southwest of Bloomington; 2,385 feet north and 1,055 feet east of the southwest corner of Sec. 17, T. 43 S., R. 16 W. Date of sampling: September 16, 1970.
Description by: Vear L. Mortensen. Collectors: D. Nettleton, V. Mortensen, T. B. Hutchings, and party.
Classification: Typic Paleorthid, loamy-skeletal, mixed, thermic, shallow.
Vegetation: Creosotebush, Brigham tea, cheatgrass, cholla cactus, desert ratany, black brush. Climate: Mean annual air temperature, 60° to 62°F.; mean summer temperature, 80° to 84°F.; average annual precipitation, 8 to 11 inches; frost-free period, about 190 days. Parent material: Residuum and colluvium from limestone. Topography: Low rolling hills. Slopes are about 3 percent. Elevation: 3,000 feet. Drainage: Well drained. Soil moisture: Usually dry.

HORIZON	DESCRIPTION
A1 RSL No. 70280	0-6 cm (0-2 inches), light brown (7.5YR 6/4) very gravelly fine sandy loam; dark reddish brown (5YR 3/4) moist; weak medium and fine subangular blocky structure; slightly hard, very friable, nonsticky, nonplastic; common very fine roots; few fine, many very fine and micro tubular pores; 50 percent rock fragments; moderately calcareous, lime is disseminated; strongly alkaline (pH 8.6); abrupt smooth boundary.
C1 RSL No. 70281	6-18 cm (2-7 inches), light brown (7.5YR 6/4) gravelly loam, reddish brown (5YR 4/4) moist; weak medium subangular blocky structure; hard, very friable, slightly sticky, slightly plastic; few fine and very fine roots; few fine, common very fine and micro tubular pores; 25 percent rock fragments; moderately calcareous, lime is disseminated; moderately alkaline (pH 8.7); clear smooth boundary.
C2ca RSL No. 70282	18-28 cm (7-11 inches), pink (7.5YR 7/4) very cobbly loam, light brown (7.5YR 6/4) moist; moderate fine subangular blocky structure; very hard, friable, sticky, slightly plastic; few fine and very fine roots; few fine, common very fine and micro tubular pores; 50 percent rock fragments; strongly calcareous, lime is disseminated and in soft nodules; moderately alkaline (pH 8.4); clear wavy boundary.
C3cam RSL No. 70283	28-45 cm (11-18 inches), partially fractured lime-cemented hardpan.
C4cam RSL No. 70284	45-50 cm (18-20 inches), lime-cemented hardpan (indurated).

CONSECUTIVE PEDON NUMBER C 70 49 C H A R A C T E R I Z A T I C N D A T A

SOIL SERIES PASTURA SANDY LOAM (TAXADJUNCT) SOIL NO. S70 UTAH. 27- 4 SAMPLE NO. 0 290-0 293 WASHINGTON CO. AREA

SOIL FAMILY: USTOLLIC PALEORTHID,LOAMY,MIXED,MESIC,SHALLOW RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION 2- .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBONATE 3A1A.02	1A2A INT. II .2- OF 75- 2	COARSE FRAGMENTS PCT. I WHOLE SOIL 15A	II 20-5 PCT. OF LT 75	III 5-2
			PERCENT OF LESS THAN 2MM																
0 290	0- 7	A1	57.5	25.8	16.7	3.3	7.6	8.0	19.6	19.0	14.4	11.4				2 45.6	15A	3	8	4
0 291	7- 25	C 1	54.4	25.5	20.1	8.1	9.9	7.1	14.2	15.1	13.2	12.3				4 36.7	9A	--	3	5
0 292	25- 46	C 2CA	49.2	26.7	24.1	5.1	8.4	7.1	14.0	14.6	13.1	13.6				7 36.0	21A	12	3	6
0 293	46- 50	C 3CAM	72.5	18.5	9.0	28.8	18.1	8.2	10.3	7.1	7.8	10.7				7 20.1	--G	--	--	--

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A -PERCENT-	NITROGEN 6B1A	CARBONATE AS CACO3 6E1B -PERCENT- LT 2	2-20	SESQUIOXIDES DI-CIT 6E1B 6C2B -PERCENT- FE	EXT PYROP 6G7A	AL	EXT 6C5A	AL 6G5A	ATTERBERG LIMIT LL 4F1	PL 4F2	1/3 4A1F	BULK DENSITY EST. 1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1 -PERCENT-	LE 4D1
						PERCENT					PCT.NO.40		GRAMS PER CC				PERCENT				
0 290	0- 7	0.30	0.036	12									1.31	1.38	0.92	20.9	17.2	8.0	1.8	1.6
0 291	7- 25	0.50	0.047	19									1.27	1.33	0.96	23.5	18.3	8.8	1.6	1.5
0 292	25- 46	0.59	0.053	24									1.22	1.31	0.89	30.4	25.4	10.6	2.4	2.1
0 293	46- 50	0.23		56									1.67	1.68	1.00	17.4	14.7	7.2	0.2	0.2

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6Q2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI- DITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4- OAC 5A6A	BASE SATURATION SUM+ ACI- DITY 6H2A	SUM+ AL 6G1E	NH4- OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA- CL2 8C1E
		MEQ/100G									PERCENT					
0 290	0- 7	22.0	1.2	0.5	0.8	24.5			24.5	15.3			100+		8.2	7.7
0 291	7- 25	27.2	1.5	0.5	0.7	29.9			29.9	15.0			100+		8.0	7.5
0 292	25- 46	23.8	1.6	0.6	0.5	26.5			26.5	14.5			100+		7.9	7.5
0 293	46- 50	17.0	1.0	0.6	0.2	18.8			18.8	5.6			100+		8.2	7.6

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
0 290	0- 7	MI 3	MT 3	KK 1							MI MICA	1 TRACE
0 291	7- 25	MT 3	MI 3	KK 1							MT MONTMORT	2 SMALL
0 292	25- 46	MT 3	MI 3	KK 1							KK KAOLINIT	3 MODERATE
0 293	46- 50											4 ABUNDANT
												5 DOMINANT
												6 INDETER.

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
G=GROUND WHOLE. HORIZON INDURATED OR GRAVEL TOO SOFT TO BE SEPARATED. ALL DATA FOR WHOLE SOIL.

PASTURA SANDY LOAM (taxadjunct) 1/
S70Utah-27-4

Location: Washington County, UT. Tobin wash area, near the north 1/4 corner of Sec. 9, T. 40 S., R. 17 W. Date of sampling: September 16, 1970.

Description by: Vear L. Mortensen. Collectors: D. Nettleton, V. Mortensen, T. B. Hutchings, and party.

Classification: Typic Paleorthid, loamy, mixed, mesic, shallow.

Vegetation: Blackbrush, desert almond, scattered juniper. Climate: Mean annual temperature, 56° to 59°F; mean summer temperature, 76° to 79°F.; average annual precipitation, 12 to 13 inches; frost-free period, 160-170 days. Parent materials: Alluvium and colluvium from basalt, dacite, limestone, sandstone. Topography: Old alluvial fan. Slopes are about 4 percent. Elevation: 4,000 feet. Drainage: Well drained. Soil moisture: Usually dry.

HORIZON	DESCRIPTION
A1 RSL No. 70290	0-7 cm (0-3 inches), light brown (7.5YR 6/3) sandy loam, brown (7.5YR 4/4) moist; moderate fine granular structure; soft, friable, slightly sticky, slightly plastic; many very fine and fine pores; strongly calcareous, lime is disseminated; mildly alkaline; abrupt smooth boundary.
C1 RSL No. 70291	7-25 cm (3-10 inches), brown (7.5YR 5/4) heavy sandy loam; brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; slightly hard, friable, sticky slightly plastic; common very fine and medium roots; common very fine and fine pores; 15 percent fine gravel; very strongly calcareous, lime is disseminated; mildly alkaline; clear wavy boundary.
C2ca RSL No. 70292	25-46 cm (10-18 inches), light-brown (7.5YR 6/4) gravelly loam, brown (7.5YR 5/4) moist; massive, slightly hard, friable, slightly sticky, slightly plastic; common fine and medium, few coarse roots; many very fine and fine few medium pores; 40 percent gravel size hardpan fragments; very strongly calcareous, lime is disseminated; mildly alkaline; abrupt smooth boundary.
C3cam RSL No. 70293	46-50 cm (18-20 inches), carbonate cemented hardpan (indurated).

1/ The Pastura series is in a loamy, mixed, mesic, shallow family of Ustollic Paleorthids. This pedon fails to have enough organic carbon to be Ustollic.

CONSECUTIVE PEDON NUMBER C 70 6C C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES CAVE GRAVELLY SANDY LOAM SOIL NO. S70 UTAH. 27-15 SAMPLE NO. 0 363-0 368 WASHINGTON CO. AREA

SOIL FAMILY: TYPIC PALEORTHID,LOAMY,MIXED,THERMIC,SHALLOW RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBONATE 3A1A.02	INT. II .2- OF WHOLE SOIL	COARSE FRAGMENTS PCT. I 75- 20 PCT. OF LT 75	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM																
0 363	0- 3	A1	57.9	31.7	10.4	8.7	6.7	3.8	14.5	24.2	21.3	10.4			1	56.0 27*	2	12	9
0 364	3- 9	C 1	54.9	32.0	13.1	7.1	6.2	3.5	13.4	24.7	19.6	12.4			1	54.4 14A	--	6	8
0 365	9- 21	C 2	52.3	33.2	14.5	5.2	5.2	3.4	13.0	25.5	19.8	13.4			2	55.1 10A	--	4	6
0 366	21- 38	C 3	50.1	33.6	16.3	4.5	5.0	3.2	12.4	25.0	19.9	13.7			2	54.4 35A	27	3	5
0 367	38- 64	C 4CAM	54.0	24.6	21.4	18.1	13.3	6.0	8.7	7.9	8.6	16.0			17	21.2 32	32V	--G	--G
0 368	64- 69	C 5CAM														32	32V	--G	--G

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR- BON 6A1A -PERCENT-	NITRO GEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B -PERCENT-	2-20 6E1B	SESQUIOXIDES DI-CIT EXT FE 6C2B	AL 6G7A	PYROP EXT FE 6C5A	AL 6G5A	ATTERBERG L I M I T LL 4F1	PL 4F2	BULK DENSITY EST. 1/3 BAR 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
						PERCENT				PCT.NO.40		GRAMS PER CC				PERCENT			PERCENT	
0 363	0- 3	0.81	0.073	13								1.20		0.86				7.0		
0 364	3- 9	0.48	0.049	14									1.43	1.47	0.92	21.6	16.1	7.4	0.9	0.8
0 365	9- 21	0.45		14								1.30			0.95			8.0		
0 366	21- 38	0.45		15									1.24	1.31	0.80	20.8	14.9	8.8	1.8	1.5
0 367	38- 64	0.45		67								1.84			0.75			11.3		
0 368	64- 69			44									1.84	1.85	0.75	13.5	12.1	5.2	0.2	0.1

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 584A 6N2E	MG 584A 6O2D	NA 584A 6P2A	K 584A 6Q2A	SUM	EXT. ACI- DITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4- OAC 5A6A	BASE SATURATION SUM+ ACI- DITY	SUM+ AL	NH4- OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA- CL2 8C1E
		MEQ/100G									PERCENT					
0 363	0- 3	21.7	1.6	0.1	0.9	24.3			24.3	12.6			100+		8.3	7.7
0 364	3- 9	21.0	1.2	0.1	0.8	23.1			23.1	13.4			100+		8.3	7.7
0 365	9- 21	22.7	1.5	0.1	0.6	24.9			24.9	13.5			100+		8.2	7.6
0 366	21- 38	23.4	2.1	0.1	0.9	26.5			26.5	13.5			100+		8.0	7.6
0 367	38- 64	17.8	1.3	0.1	0.2	19.4			19.4	5.6			100+		8.1	7.6
0 368	64- 69	20.3	1.6	0.3	0.2	22.4			22.4	7.5			100+		8.6	7.8

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
0 363	0- 3	MI 4	KK 2	MT 2							MI MICA	1 TRACE
0 364	3- 9										KK KAOLINIT	2 SMALL
0 365	9- 21	MI 4	KK 2	MT 1							MT MONTMORT	3 MODERATE
0 366	21- 38											4 ABUNDANT
0 367	38- 64	MI 3										5 DOMINANT
0 368	64- 69											6 INDETER.

SAMPLE PREPARATION CODES
*=THE 75-250MM FRACTION IS INCLUDED.
A=STANDARD PREPARATION.
G=GROUND WHOLE. HORIZON INDURATED OR GRAVEL TOO SOFT TO BE SEPARATED. ALL DATA FOR WHOLE SOIL.
V=NOT WEIGHED. VALUE CALCULATED FROM A VOLUME ESTIMATE.

CAVE GRAVELLY SANDY LOAM
S70Utah-27-15

Location: Washington County, UT. Motoqua - Jim Bowns study area. Near the South 1/4 corner of Sec. 15, T. 40 S., R. 19 W. Date of sampling: September 17, 1970.
Description by: Vear L. Mortensen. Collectors: D. Nettleton, T. B. Hutchings, V. Mortensen, and party.
Classification: Typic Paleorthid, loamy, mixed, thermic, shallow.
Vegetation: Blackbrush, Joshua-tree, cactus, cheatgrass. Climate: Mean annual temperature is 59° to 62° F. Mean summer temperature is 80° to 84° F. Average annual precipitation is 8 to 11 inches; frost-free season is 180 to 190 days. Parent materials: Mixed alluvium from limestone, dacite, rhyolite, sandstone, gneiss, schists. Topography: Old dissected alluvial fan. Slopes are about 15 percent. Elevation: 4,000 feet. Drainage: Well drained Soil moisture: Usually dry.

HORIZON	DESCRIPTION
A1 RSL No. 70363	0-3 cm (0-1 inch), brown (7.5YR 5/3) gravelly heavy sandy loam, dark brown (7.5YR 3/2) moist; weak thin platy structure that parts to weak fine granular; soft, very friable, slightly sticky, slightly plastic; few fine roots; 50 percent gravel; moderately calcareous, moderately alkaline (pH 8.0); clear smooth boundary.
C1 RSL No. 70364	3-9 cm (1-3 inches), brown (7.5YR 5/4) gravelly heavy sandy loam; dark brown (7.5YR 4/3) moist; weak medium subangular blocky structure that parts to weak fine granular; soft, very friable, slightly sticky, slightly plastic; few very fine and fine roots; many very fine and fine pores; 35 percent fine gravel; moderately calcareous; moderately alkaline; (pH 8.0); clear smooth boundary.
C2 RSL No. 70365	9-21 cm (3-8 inches), brown (7.5YR 5/4) heavy sandy loam, dark brown (7.5YR 4/4) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky, slightly plastic; common fine and few medium roots; many very fine and fine, few medium pores; 15 percent fine gravel; strongly calcareous; moderately alkaline (pH 8.0); clear smooth boundary.
C3 RSL No. 70366	21-38 cm (8-15 inches), brown (7.5YR 5/4) gravelly loam, brown (7.5YR 4/4) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky, slightly plastic; common fine and medium and few coarse roots; common very fine and fine and few medium pores; 30 percent gravel and a few cobblea; very strongly calcareous; moderately alkaline (pH 8.0); abrupt wavy boundary.
C4cam RSL No. 70367	38-64 cm (15-25 inches), indurated carbonate cemented hardpan. (Somewhat fractured)
C5cam RSL No. 70368	64-69 cm (25-27 inches), indurated carbonate cemented hardpan.

CONSECUTIVE PEDON NUMBER C 69179 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES HARRISBURG FINE SANDY LOAM SOIL NO. S69 UTAH. 27- 3 SAMPLE NO. 9 917-9 921 WASHINGTON CO AREA

SOIL FAMILY: TYPIC PALEORTHID,COARSE-LOAMY,MIXED,THERMIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2-.05	SILT .05-.002	CLAY LT .002	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 VCS 2-1	CS 1-.5	MS .5-.25	FS .25-.10	VFS .1-.05	CSI .05-.02	FSI .02-.002	CO. 2-.2U	FINE LT .2U	CARBONATE 3A1A.02	INT. II .2-	1A2A -COARSE FRAGMENTS- PCT. OF WHOLE SOIL	I 75-20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75			
9 917	0- 5	A1	82.1	12.8	5.1	0.4	3.8	23.4	39.5	15.0	10.5	2.3				44.2	--A	--	--	--
9 918	5- 41	C 1	80.0	14.0	6.0	0.6	2.7	21.5	41.9	13.3	10.0	4.0				43.4	--A	--	--	--
9 919	41- 66	C 2	78.4	15.0	6.6	0.4	2.4	19.8	42.3	13.5	11.1	3.9				46.1	--A	--	--	--
9 920	66- 90	C 3	82.5	11.3	6.2	0.2	2.8	24.0	42.2	13.3	7.6	3.7				40.8	3A	1	1	1
9 921	90-110	C 4CAM															--G	--	--	--

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6F1B	19-2 6F1B	EXT. IRON FE 6C2B	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST 1/3 BAR 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTENSBLTY LEF 4D1	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
		-PERCENT--		-PERCENT-		PCT.	PCT.	ND.40	GRAMS PER CC				----PERCENT---			-PERCENT--				
9 917	0- 5	0.20	0.022	2		0.3			1.69	1.71	1.00		5.1	3.5	1.9	0.4	0.4	8.6		7.9
9 918	5- 41	0.09	0.012	4		0.3			1.63	1.66	1.00		5.4	3.8	2.4	0.6	0.6	8.6		8.0
9 919	41- 66	0.09		5		0.3			1.67	1.69	1.00		4.5	3.3	2.2	0.4	0.4	8.8		8.0
9 920	66- 90			5		0.2			1.55	1.59	0.99		6.0	4.3	2.6	0.9	0.8	8.8		7.9
9 921	90-110			39		0.2			1.83	1.84	1.00		14.2	11.9	4.2	0.2	0.2	8.3	8.8	7.9

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6Q2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT.	C E C NA-OAC 5A2A	NH4-OAC 5A6A	EC 8A1A	WATER EXTRACT FROM SATURATED PASTE CA 6N1B	MG 6O1B	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1B	8A1 B 6T1A	PH SAT. PASTE 8C1B
		--------MEQ/100G--------					PCT.	-MEQ/100G		MMHO	----------MEQ/1000 ML----------								PPM	
9 917	0- 5	16.9	1.0	TR	0.4	18.3	100+		3.1	0.40										
9 918	5- 41	18.2	1.5	0.1	0.6	20.4	100+		3.2	0.40										
9 919	41- 66	17.8	1.6	0.1	1.2	20.7	100+		3.0	0.48										
9 920	66- 90	18.0	1.2	0.1	1.4	20.7	100+		3.1	0.54										
9 921	90-110	19.7	2.4	0.1	0.6	22.8	100+		1.8	2.81	25.6	9.9	2.2	1.2		3.2	1.9	38.3		7.5

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGBLE NA 5B4B MEQ.	NA 5D2 PCT.	SAP 5E	GYPSUM AMT. 6F1B PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I 7A2E	II 7A2E	III 7A2F	IV 7A2E	DTA PCT. 7A3	L.T. .0002 MM X RAY I 7A2E	II 7A2E	III 7A2E	MINERAL CODE	RELATIVE AMOUNT
9 917	0- 5		TR	2				MI 4	KK 3							MI MICA	1 TRACE
9 918	5- 41		0.1	3												KK KAOLINIT	2 SMALL
9 919	41- 66		0.1	3				MI 3									3 MODERATE
9 920	66- 90		0.1	3													4 ABUNDANT
9 921	90-110	30.8	TR	2	1	0.1											5 DOMINANT
																	6 INDETER.

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
G=GROUND WHOLE. HORIZON INDURATED OR GRAVEL TOO SOFT TO BE SEPARATED. ALL DATA FOR WHOLE SOIL.

HARRISBURG FINE SANDY LOAM
S69 Utah 27-3

Location: Washington County, UT, 2 miles east of old St. George airport, 1,600 feet south and 1,600 feet east of the northwest corner of Sec. 24, T. 43 S., R. 15 W.
Date of sampling: October 20-23, 1969.
Description by: V. Mortensen. Collectors. K. Flach, M. Olsen, V. Mortensen, and party.
Classification: Typic Paleorthid, coarse-loamy, mixed, thermic.
Vegetation: Galleta, Creosotebush, saltbush, Brigham tea. Climate: Mean annual air temperature, 60°F; mean summer temperature, 80°F.; average annual precipitation, 8 to 11 inches; frost-free period, 195 days. Parent materials: Sandstone. Topography: Desert mesa. Elevation: 2,900 feet. Drainage: Well drained, rapid permeability, slow runoff.

HORIZON	DESCRIPTION
A1 0-5 cm RSL No. 69917	0 to 2 inches, yellowish red (5YR 5/6) light fine sandy loam; yellowish red (5YR 4/6) moist; weak thin platy structure; loose, very friable, nonsticky and nonplastic; common fine and very fine roots; common fine and very fine vesicular pores; 5 percent coarse fragments; slightly calcareous; abrupt smooth boundary.
C1 5-41 cm RSL No. 69918	2 to 16 inches, yellowish red (5YR 5/6) light fine sandy loam; yellowish red (5YR 4/6) moist; weak medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; few fine and very fine roots; common fine and very fine tubular pores; 5 percent gravel; slightly calcareous; clear smooth boundary.
C2 41-66 cm RSL No. 69919	16 to 26 inches, yellowish red (5YR 5/6) fine sandy loam; yellowish red (5YR 4/6) moist; weak medium subangular blocky structure; soft very friable, nonsticky and nonplastic; few fine and very fine roots; common fine and very fine tubular pores; 5 to 10 percent gravel; slightly calcareous, clear smooth boundary.
C3 66-90 cm RSL No. 69920	26 to 35½ inches, yellowish red (5YR 5/6) fine sandy loam; yellowish red (5YR 4/6)moist; weak medium subangular blocky structure; soft very friable nonsticky and nonplastic; few fine and very fine roots; common fine and very fine tubular pores; slightly calcareous; abrupt wavy boundary.
C4cam 90-110 cm RSL No. 69921	35½ to 43 inches +, indurated hardpan.

CONSECUTIVE PEDCN NUMBER C 69185 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES HARRISBURG FINE SANDY LOAM SOIL NO. S69 UTAH. 27- 9 SAMPLE NO. 9 947-9 951 WASHINGTON CO AREA

SCIL FAMILY: TYPIC PALECRTHIC,COARSE-LCAMY,MIXED,THERMIC RIVERSIDE SCIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SANC 2- .05	SILT .05- .002	CLAY LT .002	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	CSI .05- .02	FSI .02- .002	CO. 2- .2U	FINE LT .2U	CARBO NATE 3A1A	1A2A INT. .2- .02	-COARSE FRAGMENTS- PCT. OF WHOLE SOIL	I 75- 20	II 20-5	III 5-2
			----------PERCENT OF LESS THAN 2MM ----------														PCT. OF LT 75			
S 947	0- 8	A1	83.6	10.9	5.5	0.4	1.2	6.0	39.2	36.8	7.5	3.4				73.4	--A	--	--	--
9 946	8- 18	C 1	73.6	17.9	8.5	0.9	1.2	6.2	34.5	30.8	12.3	5.6				68.3	2A	--	--	2
9 949	18- 37	C 2	73.2	17.1	9.7	0.7	1.1	5.6	37.1	28.7	11.4	5.7			TR	66.9	5A	--	3	2
9 950	37- 58	C 3	77.9	12.9	9.2	1.8	2.4	9.0	42.2	22.5	7.2	5.7				57.1	5A	--	3	2
9 951	58- 79	C 4CA	69.3	19.9	10.8	16.5	13.1	6.9	15.7	17.1	10.3	9.6			8	37.8	--G	--	--	--

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR- BON 6A1A	NITRO GEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6C1B	SESQUIOXIDES DI-CIT FE 6C2B	EXT AL 6G7A	PYROP FE 6C5A	EXT AL 6G5A	ATTERBERG L I M I T LL 4F1	PL 4F2	EST. 1/3 BAR 4A1F	BULK DENSITY 1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		-PERCENT-		-PERCENT-		------PERCENT-------				PCT.NO.40 GRAMS PER CC						----PERCENT---			-PERCENT-	
9 947	0- 8	0.29	0.034	1								1.54	1.55	1.00		11.4	10.0	2.6	0.2	0.2
9 948	8- 18	0.12	0.019	3							1.50			0.99				3.4		
9 949	18- 37	0.10		5								1.50	1.52	0.97		10.0	6.2	3.6	0.4	0.4
9 950	37- 58			9							1.50			0.97				3.6		
9 951	58- 79			57							1.50			1.00				5.5		

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI- DITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4- OAC 5A6A	BASE SATURATION SUM+ ACI- DITY	SUM+ AL	NH4- OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA- CL2 8C1E
		----------MEQ/100G----------									----PERCENT----					
9 947	0- 8	14.0	1.3	0.1	0.8	16.2			16.2	5.1			100+		8.4	7.9
9 948	8- 18	17.7	1.7	0.1	0.6	20.1			20.1	6.1			100+		8.5	7.9
9 949	18- 37	19.5	1.8	0.1	0.5	21.9			21.9	5.8			100+		8.5	7.9
9 950	37- 58	12.7	1.7	0.1	0.4	14.9			14.9	5.1			100+		8.5	7.8
9 951	58- 79	18.7	2.0	0.1	0.1	20.9			20.9	3.1			100+		8.5	8.0

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
S 947	0- 8											1 TRACE
9 948	8- 18											2 SMALL
9 949	18- 37											3 MCDERATE
9 950	37- 58											4 ABUNDANT
9 951	58- 79											5 DCMINANT
												6 INDETER.

SAMPLE PREPARATICN CODES
A=STANCARC PREPARATICN.
G=GRCUND WHCLE. HORIZCN INDURATED OR GRAVEL TOO SOFT TO BE SEPARATED. ALL DATA FOR WHCLE SOIL.

HARRISBURG FINE SANDY LOAM
S69 Utah 27-9

Location: Washington County, UT, 1/2 mile southwest of Dixie Springs hydrophonic plant. Approximately 400 feet south and 350 feet west of the east 1/4 corner of Sec. 12, T. 42 S., R. 13 W. Date of sampling: October 20-23, 1969.
Description by: Vear Mortensen. Collected by: K. Flach, M. Olsen, V. Mortensen, and party.
Classification: Typic Paleorthid, coarse-loamy, mixed, thermic
Vegetation: Creosotebush, yellowbrush, galleta. Climate: Mean annual temperature, 60°F.; mean summer temperature, 80°F.; average annual precipitation, 8 to 11 inches; frost-free period, 195 days. Parent materials: Sandstone and basalt. Topography: Desert mesa. Elevation: 3,160 feet. Drainage: Well drained, rapid permeability, slow runoff.

HORIZON	DESCRIPTION
A1 0-8 cm RSL No. 69947	0 to 3 inches, yellowish red (5YR 5/6) light fine sandy loam; yellowish red (5YR 4/6) moist; weak medium platy structure that parts to weak and moderate fine granular; soft, very friable, nonsticky and nonplastic; few fine and very fine roots; few fine and common very fine tubular pores; 3 to 5 percent gravel; noncalcareous; mildly alkaline (pH 8.4); abrupt wavy boundary.
C1 8-18 cm RSL No. 69948	3 to 7 inches, reddish yellow (5YR 6/6) fine sandy loam, yellowish red (5YR 6/6) moist; weak medium subangular structure; hard, very friable, nonsticky and nonplastic; few fine and very fine roots; common fine and micro pores; 3 percent gravel; slightly calcareous; strongly alkaline (pH 8.8); clear wavy boundary.
C2 18-37 cm RSL No. 69949	7 to 15 inches, reddish yellow (5YR 6/6) fine sandy loam; yellowish red (5YR 4/6) moist; moderate medium subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; common fine and medium tubular pores; 3 percent gravel; moderately calcareous; strongly alkaline (pH 8.7); clear wavy boundary.
C3 37-58 cm RSL No. 69950	15 to 23 inches, reddish yellow (5YR 6/6) fine sandy loam; yellowish red (5YR 4/6) moist; weak medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; few very fine roots; few fine and medium tubular pores; moderately calcareous; strongly alkaline (pH 8.8); clear wavy boundary.
C4ca 58-79 cm RSL No. 69951	23 to 31 inches, reddish yellow (5YR 6/6) very gravelly fine sandy loam; yellowish red (5YR 5/6) moist; weak fine subangular blocky structure; loose, very friable, nonsticky and nonplastic; few very fine roots; common fine and very fine tubular pores; 50 to 60 percent gravel; moderately calcareous; strongly alkaline (pH 8.7); abrupt wavy boundary. (Not sampled)
C5cam 79-86 cm	31 to 34 inches, indurated hardpan.

CONSECUTIVE PEDON NUMBER C 70 48 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES PASTURA LOAM SOIL NO. S70 UTAH. 27- 3 SAMPLE NO. 0 285-0 289 WASHINGTON CO. AREA

SOIL FAMILY: USTOLLIC PALEORTHIC,LOAMY,MIXED,MESIC,SHALLOW RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	CSI .05- .02	FSI .02- .002	SILTS CO. 2- .2U	CLAYS FINE LT .2U	CARBONATE 3A1A.02	INT. .2- 1A2A OF WHOLE SOIL	COARSE FRAGMENTS PCT. 75- 20 I	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75		
0 285	0- 5	A1	48.3	39.7	12.0	4.7	3.3	2.5	18.0	19.8	21.3	18.4			TR	53.8	11A —	4	7
0 286	5- 20	C 1	40.4	42.1	17.5	0.8	2.2	1.9	15.9	19.6	19.9	22.2			2	51.9	6A —	2	4
0 287	20- 38	C 2CA	37.7	40.6	21.7	0.9	1.6	1.8	14.4	19.0	18.9	21.7			4	49.1	7A —	3	4
0 288	38- 46	C 3CA	39.1	31.3	29.6	4.8	7.5	5.4	11.4	10.0	10.4	20.9			19	28.0	38A 16V	9	13
0 289	46- 68	C 4CAM															--G —	—	—

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A -PERCENT-	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B -PERCENT-	2-20 6E1B	SESQUIOXIDES DI-CIT EXT FE 6C2B	AL 6G7A	PYROP EXT FE 6C5A ------PERCENT------	AL 6G5A	ATTERBERG LIMIT EST. LL 4F1 PCT.NC.40	PL 4F2	1/3 4A1F GRAMS PER CC	BULK DENSITY 1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C ----PERCENT---	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1 -PERCENT-	LE 4D1
0 285	0- 5	1.32	0.114	10									1.29	1.35	0.94	20.1	17.0	8.6	1.5	1.4
0 286	5- 20	0.82	0.072	11								1.25			0.97			10.4		
0 287	20- 38	0.71	0.070	18									1.22	1.30	0.97	29.2	22.6	11.6	2.1	2.1
0 288	38- 46	1.03		60											0.76			13.0		
0 289	46- 68	0.52		81									1.70	1.72	1.00	17.5	15.5	12.1	0.4	0.4

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACIDITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4-OAC 5A6A	BASE SATURATION SUM+ ACIDITY	SUM+ AL	NH4-OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CACL2 8C1E
		MEQ/100G									PERCENT					
0 285	0- 5	19.5	1.9	0.4	1.3	23.1			23.1	16.9			100+		8.1	7.6
0 286	5- 20	23.9	2.5	0.5	0.9	27.8			27.8	18.7			100+		8.0	7.6
0 287	20- 38	31.1	3.2	0.4	0.6	35.3			35.3	18.3			100+		7.9	7.6
0 288	38- 46	20.6	2.2	0.6	0.3	23.7			23.7	10.4			100+		7.9	7.5
0 289	46- 68	17.9	1.6	0.5	0.1	20.1			20.1	4.4			100+		8.0	7.5

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
0 285	0- 5	MI 3	MT 2	KK 1	CL 1						MI MICA	1 TRACE
0 286	5- 20	MT 4	MI 3	KK 1	CL 1						MT MONTMORT	2 SMALL
0 287	20- 38	MT 3	MI 3	KK 1	CL 1						KK KAOLINIT	3 MODERATE
0 288	38- 46										CL CHLORITE	4 ABUNDANT
0 289	46- 68											5 DOMINANT
												6 INDETER.

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
V=NOT WEIGHED. VALUE CALCULATED FROM A VOLUME ESTIMATE.
G=GROUND WHOLE. HORIZON INDURATED OR GRAVEL TOO SOFT TO BE SEPARATED. ALL DATA FOR WHOLE SOIL.

PASTURA LOAM
S70Utah-27-3

Location: Washington County, UT. Approximately 1 1/2 miles S. W. of Upper Sand Cove Reservoir, 400 feet south and 800 feet west of the NE corner of Sec. 26, T. 40 S., R. 17 W. Date of sampling: September 17, 1970.

Description by: Vear L. Mortensen. Collectors: Nettleton, V. Mortensen, T. B. Hutchings, and party.

Classification: Ustollic Paleorthid, loamy, mixed, mesic, shallow.

Vegetation: Sagebrush, yellowbrush, squirreltail, cheatgrass, pricklypear. Climate: Mean annual temperature about 58° F.; mean summer temperature, about 78°F.; average annual precipitation, 10 to 12 inches; frost-free period, about 170 days. Parent material: Alluvium and colluvium from basalt. Topography: Old lava flow. Slopes are about 4 percent. Elevation: 4,380 feet. Drainage: Well drained. Soil moisture: Usually dry.

HORIZON	DESCRIPTION
A1 RSL 70285	0-5 cm (0-2 inches), brown (7.5YR 5/3) loam, dark brown (7.5YR 4/3) moist; weak moderately thick platy structure that parts to moderate fine subangular blocky; slightly hard, friable, slightly sticky, slightly plastic; few fine roots; common fine, many very fine, and micro vesicular pores; 15 percent gravel; slightly calcareous, lime is disseminated; strongly alkaline (pH 8.6); clear smooth boundary.
C1 RSL No. 70286	5-20 cm (2-8 inches), brown (7.5YR 5/4) gravelly loam; dark brown (7.5YR 4/3) moist; weak medium and coarse subangular blocky structure; slightly hard, firm, slightly sticky plastic; few very fine, fine, and medium roots; few micro, fine and medium pores; 20 percent gravel; moderately calcareous, lime is disseminated; strongly alkaline (pH 8.6); gradual smooth boundary.
C2ca RSL No. 70287	20-38 cm (8-15 inches), brown (7.5YR 5/4) gravelly heavy loam, dark brown (7.5YR 4/3) moist; weak medium subangular blocky structure; slightly hard, firm, slightly sticky, plastic; few very fine and fine roots; common micro and very fine tubular pores; 30 percent gravel; very strongly calcareous, lime is disseminated; strongly alkaline (pH 8.6); clear smooth boundary.
C3ca RSL No. 70288	38-46 cm (15-18 inches), brown (7.5YR 5/4) gravelly heavy loam, dark brown (7.5YR 4/3) moist; massive; slightly hard, firm, slightly sticky, plastic; few very fine and fine roots; common fine and very fine tubular pores; 30 percent gravel; very strongly calcareous, lime is concentrated in irregular shaped masses; strongly alkaline (pH 8.6); abrupt smooth boundary.
C4cam RSL No. 70289	46-68 cm (18-27 inches), carbonate cemented hardpan (indurated).

SOIL SURVEY LABORATORY Riverside, California

SOIL TYPE Saltair silty clay loam **LOCATION** Davis County, Utah

SOIL FAMILY: Typic Salorthid, fine-silty, mixed, mesic

SOIL NOS. S58 Utah-6-2 **LAB. NOS.** 58136 - 58142

DEPTH INCHES	HORIZON	1B1b PARTICLE SIZE DISTRIBUTION (in mm.) (per cent) VERY COARSE SAND 2-1	COARSE SAND 1-0.5	MEDIUM SAND 0.5-0.25	FINE SAND 0.25-0.10	VERY FINE SAND 0.10-0.05	SILT 0.05-0.002	CLAY < 0.002	3A1 0.2-0.02	0.02-0.002	2A2 > 2	TEXTURAL CLASS
0- 1	A1sa	0.2	0.2	0.2	5.5	26.6	56.3	11.0	63.9	24.2	0	sil
1- 4	C1sa	0.0	0.1	0.1	6.4	22.7	48.9	21.8	54.2	23.5	0	l
4- 9	C2sa	0.1	0.1	0.1	3.0	18.8	57.0	20.9	49.0	29.5	0	sil
9-20	C3sa	0.0	0.1	0.1	3.0	11.5	57.0	28.3	32.0	39.2	0	sicl
20-32	C4sa	0.0	0.1	0.1	6.5	17.6	54.0	21.7	48.6	29.2	0	sil
32-44	C5sa	0.0	0.0	0.1	0.9	5.1	63.9	30.0	24.9	44.9	0	sicl
44-60	C6sa	0.1	0.1	0.1	0.6	2.4	64.2	32.5	20.9	46.2	0	sicl

pH 8C1b SATURATED PASTE 1:1	pH 1:5	pH 8C1a 1:10	ORGANIC MATTER 6A1a ORGANIC CARBON %	ORGANIC MATTER 6B1a NITROGEN %	ORGANIC MATTER C/N	6I1a * CO_3 meq/l	8A1a Elec. Conduc. mmhos/cm. at 25°C.	6E1b $CaCO_3$ equivalent %	6J1a * HCO_3 meq/l	4B1b 1/3 atmos. %	4A3a Bulk Density g/cc	4D2 Soil Water 15 ATMOS. %
8.2		9.3	0.65	0.021	30.9	0	203	16	2.4			4.6
8.6		9.7	0.36	0.022	16.3	0	93	21	5.2	23.9	1.51	11.6
9.0		9.9	0.21	0.020		0	66	22	5.0	22.7	1.53	10.9
8.9		9.8	0.21	0.020		0	70	27	3.8	33.8	1.36	14.1
8.8		9.8	0.22			0	82	28	4.2	39.5	1.23	11.7
8.7		9.7	0.25			0	76	30	3.6	37.0	1.26	12.7
8.8		9.7	0.28			0	74	22	3.8	37.8	1.25	15.4

5A2a CATION EXCHANGE CAPACITY (-Na)	EXTRACTABLE CATIONS 5B1a Ca 6N2b	5B1a Mg 6Q2c	6H2a H	Exch. 5B1b Na** 6P2a	Exch. 5B1b K 6Q2a	5D1 EXCH. Na %	SATURATION EXTRACT SOLUBLE 6P1a Na	6Q1a K	6N1a Ca	6O1a Mg	6K1a Cl	8A1 8A MOISTURE AT SATURATION %
	milliequivalents per 100g. soil						milliequivalents per liter					
7.8					0.8		3785	25.0	22.6	4.9	3390	29.1
15.9					1.4		1175	12.5	2.0	1.2	1040	46.3
15.9					1.4		750	7.5	1.4	0.7	670	46.0
18.6					1.3		825	6.9	1.2	1.4	740	51.3
15.9					1.1		1025	7.7	1.2	1.9	960	47.6
16.2					1.2		888	6.6	1.2	1.8	805	54.8
17.6					1.2		881	6.3	1.4	1.8	808	60.2

* Saturation Extract Soluble

** Not determinable accurately

SALTAIR SILTY CLAY LOAM
S58Utah-6-2

Location: Center of southeast 1/4 of Sec. 3, T. 1 N., R. 1 W, 1 mile west of north Salt Lake, 1/4 mile north of Cudahy Lane, Davis County, UT.
Collectors: LeMoyne Wilson, Austin Erikson, James P. Thorne, and R. E. Nelson.
Description by: Austin Erickson. Date of sampling: September 1958.
Classification: Typic Salorthid, fine-silty, mixed, mesic.
Vegetation: Salacornia - Scattered stand.
Parent material: Mixed lacustrine.
Physiographic position: Lake plain.
Topography: Nearly flat.
Slope: Less than 1 percent.
Drainage: Very poorly drained.

HORIZON	DESCRIPTION
RSL No. 58136 A1sa 0-1"	Gray (5Y 6/1) dry, silty clay loam, dark grayish brown (2.5Y 4/2) moist; weak coarse platy structure; slightly hard dry, friable moist, slightly sticky and slightly plastic wet; thin salt crust on immediate surface; moderately calcareous; pH 9.4 (T.B.); abrupt smooth boundary.
RSL No. 58137 C1sa 1-4"	Light gray (2.5Y 7/2) dry, silty clay loam; light brownish gray (2.5Y 6/2) moist; weak coarse platy structure; slightly hard dry, friable moist, slightly sticky and slightly plastic wet; common fine and medium pores; moderately calcareous; pH 9.2 (T.B.); clear smooth boundary.
RSL No. 58138 C2sa 4-9"	Light gray (5Y 7/2) dry, silty clay loam, light olive gray (5Y 6/2) moist; massive, hard dry, firm moist, sticky and plastic wet; few medium distinct brown mottles; common fine and medium pores; moderately calcareous; pH 9.2 (T.B.); clear wavy boundary.
RSL No. 58139 C3sa 9-20"	White (5Y 8/2) dry, silty clay loam, light olive gray (5Y 6/2) moist; massive, hard dry, firm moist, sticky and plastic wet; common fine distinct brown mottles; common medium and fine pores; moderately calcareous; pH 9.0 (T.B.); gradual wavy boundary.
RSL No. 58140 C4sa 20-32"	Light gray (5Y 7/2) dry, silty clay loam, light olive gray (5Y 6/2) moist; massive (laminated); hard dry, firm moist, sticky and plastic wet; few fine distinct brown mottles; common fine and medium pores; moderately calcareous; pH 8.8 (T.B.); abrupt smooth boundary.
RSL No. 58141 C5sa 32-44"	Pinkish gray (7.5YR 7/2) dry, silty clay loam marginal to silty clay, pinkish gray (7.5YR 6/2) moist; massive (laminated); hard dry, firm moist; sticky and very plastic wet; common medium and fine pores; moderately calcareous; pH 8.8 (T.B.); abrupt smooth boundary.
RSL No. 58142 C6sa 44-60"	Light gray (2.5Y 7/2) dry, silty clay, light brownish gray (2.5Y 6/2) moist; massive; hard dry, firm moist, very sticky and very plastic wet; many coarse prominent reddish yellow mottles; common medium and fine pores; moderately calcareous; pH 8.8 (T.B.)

SOIL SURVEY LABORATORY Riverside, California

SOIL TYPE Saltair silty clay loam (taxadjunct) **LOCATION** Davis County, Utah

SOIL FAMILY: Typic Salorthid, fine-silty, mixed, mesic

SOIL NOS. S58 Utah 6-1 **LAB. NOS.** 58129 - 58135

DEPTH INCHES	HORIZON	1B1b PARTICLE SIZE DISTRIBUTION (in mm.) (per cent) VERY COARSE SAND 2-1	COARSE SAND 1-0.5	MEDIUM SAND 0.5-0.25	FINE SAND 0.25-0.10	VERY FINE SAND 0.10-0.05	SILT 0.05-0.002	CLAY < 0.002	3A1 0.2-0.02	0.02-0.002	2A2 > 2	TEXTURAL CLASS
0- 1	A11sa	0.3	0.7	0.7	5.1	13.0	60.2	20.0	44.6	32.7	0	sil
1- 8	A12sa	0.1	0.4	0.9	2.7	6.9	60.2	28.8	33.1	35.7	0	sicl
8-16	A13sa	0.3	0.7	0.8	2.2	3.9	57.3	34.8	24.7	37.9	0	sicl
16-23	A14sa	0.1	0.4	0.4	1.7	4.1	60.4	32.7	24.7	41.0	0	sicl
23-33	C1sa	0.1	0.2	0.2	1.2	6.9	63.8	27.6	31.3	40.4	0	sicl
33-42	C2sa	0.0	0.1	0.3	3.7	11.5	63.9	20.5	42.9	35.6	0	sil
42-60	C3sa	0.1	0.1	0.2	1.4	4.5	64.1	29.6	31.1	38.6	0	sicl

8C1b pH SATURATED PASTE 1:1	1:5	8C1a 1:10	6A1a ORGANIC MATTER ORGANIC CARBON %	6B1a NITROGEN %	C/N	6I1a * CO_3 meq/l	8A1a Elec. Conduc. mmhos/cm. at 25° C.	6E1b $CaCO_3$ equivalent %	6J1a * HCO_3 meq/l	4B1b 1/3 atmos. %	4A3a Bulk Density g/cc	4B2 Soil Water 15 ATMOS. %
7.7		8.6	2.74	0.127	21.5	0	219	9.3	1.0			11.7
8.0		8.8	1.49	0.120	12.4	0	129	18.7	1.2			22.1
7.9		8.6	1.61	0.138	11.7	0	121	18.7	0.6			25.9
8.0		8.8	0.64	0.047	13.6	0	121	19.7	1.0	37.4	1.33	18.6
8.1		9.0	0.30			0	97	21.3	1.0	27.0	1.63	13.9
8.2		9.0	0.29			0	123	14.8	0.6	28.5	1.56	9.5
8.2		8.9	0.28			0	101	17.0	0.6	25.7	1.60	15.8

5A2a CATION EXCHANGE CAPACITY (Na)	EXTRACTABLE CATIONS 5B1a Ca 6N2b	5B1a Mg 6O2c	6H2a H	Exch. 5B1b Na* 6P2a	5B Exch. 5B1b K 6Q2a	5D1 EXCH. Na %	SATURATION EXTRACT SOLUBLE 8A1 6P1a Na	6Q1a K	6N1a Ca	6O1a Mg	6K1a Cl	8A MOISTURE AT SATURATION %
	milliequivalents per 100g. soil						milliequivalents per liter					
14.4					2.7		4750	105.0	39.4	494.0	5050	34.0
22.6					2.0		1640	52.5	73.4	64.0	1740	60.2
26.6					2.0		1490	47.5	76.6	152.0	1620	68.5
21.7					3.0		1425	27.5	60.2	171.0	1545	57.7
16.2					2.5		1140	18.8	42.0	112.0	1180	51.2
12.0					1.6		1510	32.5	61.2	154.6	1370	42.2
16.3					1.5		1200	32.5	45.0	110.0	1210	53.9

* Saturation Extract Soluble

** Not determinable accurately

SALTAIR SILTY CLAY LOAM (taxadjunct) 1/
S58Utah-6-1

Location: 1/4 mile west and 100 feet north of Southeast corner, Sec. 27, T. 3 N., R. 1 W, 3 miles west and 1 mile south of Farmington, Davis County, UT.
Collectors: LeMoyne Wilson, Austin Erikson, James P. Thorne, and R. E. Nelson.
Description by: Austin Erikson. **Date of sampling:** September 1958.
Classification: Aquollic Salorthid, fine-silty, mixed, mesic.
Vegetation: Barren - red swampfire nearby.
Parent material: Mixed Lacustrine.
Physiographic position: Lake plain.
Topography: Nearly flat.
Slope: Less than one percent.
Drainage: Very poorly drained.

HORIZON	DESCRIPTION
RSL No. 58129 A11sa 0-1"	Gray (5Y 6/1) dry, silty clay loam, olive gray (5Y 4/2) moist; single grain with exception of 1/4-inch puddled surface crust; loose, both dry and moist; slightly sticky and slightly plastic, wet; moderately calcareous; pH 8.4 (T.B.); abrupt smooth boundary.
RSL No. 58130 A12sa 1-8"	Light gray (5Y 7/2) dry, silty clay loam, olive gray (5Y 5/2) moist; massive (laminated); hard dry, firm moist, slightly sticky and slightly plastic wet; few medium pores; moderately calcareous; pH 8.4 (T.B.); abrupt smooth boundary.
RSL No. 58131 A13sa 8-16"	Light gray (5Y 7/2) dry, silty clay loam marginal to silty clay, olive gray (5Y 5/2) moist; massive; hard dry, firm moist, sticky and plastic wet; abundant medium pores; moderately calcareous; pH 8.4 (T.B.); gradual wavy boundary.
RSL No. 58132 A14sa 16-23"	Light gray (5Y 7/2) dry, silty clay loam, marginal to silty clay, olive gray (5Y 5/2) moist; massive, hard dry, firm moist, sticky and plastic wet; few fine distinct strong brown mottles mainly on pore surfaces; abundant medium tubular pores; moderately calcareous; pH 8.4 (T.B.); clear wavy boundary.
RSL No. 58133 C1sa 23-33"	Pinkish gray (7.5YR 7/2) dry, silty clay, brown (7.5YR 5/4) moist; massive; hard dry, firm moist, sticky and plastic wet; many coarse prominent strong brown mottles; abundant medium tubular pores; moderately calcareous; pH 8.4 (T.B.); gradual wavy boundary.
RSL No. 58134 C2sa 33-42"	Pinkish gray (7.5YR 7/2) dry, silty clay loam, brown (7.5YR 5/4) moist; massive (laminated); hard dry, firm moist, slightly sticky and slightly plastic wet; many coarse prominent strong brown mottles; moderately calcareous; pH 8.4 (T.B.); gradual wavy boundary
RSL No. 58135 C3sa 42-60"	Light gray (2.5Y 7/2) dry, silty clay, light olive brown (2.5Y 5/4) moist; massive; hard dry, firm moist, sticky and plastic wet; many coarse prominent strong brown mottles; moderately calcareous; pH 8.6 (T.B.).

1/ The Saltair series is in a fine-silty, mixed, mesic family of Typic Salorthids. This pedon has an average of more than 0.6 percent organic carbon in the surface 40 cm.

CONSECUTIVE PEDON NUMBER C 70 33 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES ABBOTT SILTY CLAY SOIL NO. S68 UTAH. 14- 1 SAMPLE NO. 0 211-0 215 DELTA AREA

SOIL FAMILY: VERTIC FLUVAQUENT,FINE,MONT.,(CALC.),MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBO NATE 3A1A	INT. II .2- .02	1A2A COARSE FRAGMENTS PCT. OF WHOLE SOIL I 75- 20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75		
0 211	0- 28	A1															--	--	--
0 212	28- 48	C 1															--	--	--
0 213	48- 66	C 2															--	--	--
0 214	66- 89	C 3															--	--	--
0 215	89-155	C 4															--	--	--

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	19-2 6E1B	EXT. IRON FE 6C2B	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST 1/3 4A1F	1/3 BAR 4A1H	DRY 3B2	CM WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTENSBLTY LEF 4D1	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
		PERCENT		PERCENT		PCT.	PCT.NO.40		GRAMS PER CC			PERCENT			PERCENT				
0 211	0- 28	1.32		21										18.8			8.2	9.0	8.0
0 212	28- 48	0.69		26										21.3			7.9	8.4	8.0
0 213	48- 66	0.53		27										22.1			7.8	8.1	7.9
0 214	66- 89	0.36		36										20.1			7.8	8.4	7.9
0 215	89-155	0.29		35										21.2			7.8	8.5	7.8

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT.	C E C NA- OAC 5A2A	NH4- OAC 5A6A	EC 8A1A	WATER EXTRACT FROM SATURATED PASTE CA 6N1A	MG 6O1A	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1B	B 6T1A	PH SAT. PASTE 8C1B
		MEQ/100G					PCT.	MEQ/100G		MMHO	MEQ/1000 ML								PPM	
0 211	0- 28	21.0	16.5	6.3	2.0	45.8	100+		29.5	3.64	5.5	15.6	29.5	0.6		17.0	14.9	12.3		7.6
0 212	28- 48	29.4	15.9	14.1	1.7	61.1	100+		34.9	10.8	24.9	19.0	66.3	0.7		5.2	36.2	96.6		7.6
0 213	48- 66	43.5	16.1	16.4	1.1	77.1	100+		35.3	11.8	29.1	27.3	100.0	0.7		3.5	65.0	94.0		7.6
0 214	66- 89	32.3	12.4	10.5	0.9	56.1	100+		29.5	10.4	28.8	20.5	68.0	0.7		3.1	52.3	70.8		7.6
0 215	89-155	35.0	13.1	10.5	0.9	59.5	100+		32.8	9.8	28.6	20.7	65.4	0.7		3.2	54.8	62.4		7.5

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGBLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1B PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	DTA 7A2E IV	7A3 PCT.	L.T. .0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
0 211	0- 28	67.4	4.3	15	9												1 TRACE
0 212	28- 48	86.6	8.4	24	14	0.4											2 SMALL
0 213	48- 66	83.3	8.1	23	19	1.3											3 MODERATE
0 214	66- 89	73.3	5.5	19	14	0.2											4 ABUNDANT
0 215	89-155	80.4	5.2	16	13	0.2											5 DOMINANT
																	6 INDETER.

ABBOTT SILTY CLAY
S68Utah-14-1

Location: Millard County, UT. 1/2 mile north of Big Delta Ranch, 1,320 feet west, 880 feet south of the northeast corner of Sec. 19, T. 16 S., R. 7 W. Date of sampling: November 1968.
Description by: L. Woodward and G. Crandall. Collectors: G. Crandall and D. Beckstrand.
Classification: Vertic Fluvaquent, fine, montmorillonitic (calcareous), mesic.
Vegetation: Irrigated cropland. Climate: Mean annual temperature, 49° to 52° F. Average annual precipitation, 6 to 8 inches. Parent material: Lake sediments and alluvium from mixed parent material. Topography: Deltas and flood plains on slopes 0 to 1 percent. Elevation: 4,600 feet. Drainage: Poorly drained. Soil moisture: Usually moist (seepage)

HORIZON	DESCRIPTION
A1 RSL No. 70211	0-28 cm (0-11 inches), grayish brown (2.5Y 5/2) silty clay, dark grayish brown (2.5Y 4/2) moist; weak fine and medium subangular blocky structure; extremely hard, very firm, sticky, very plastic; common fine roots; few medium tubular pores; strongly calcareous; strongly alkaline (pH 8.5); clear smooth boundary.
C1 RSL No. 70212	28-48 cm (11-19 inches), gray (N 6/) clay, dark grayish brown (2.5Y 5/2) moist; massive; extremely hard, very firm, very sticky, very plastic; few fine roots; few fine tubular pores; strongly calcareous; strongly alkaline (pH 8.5); clear smooth boundary.
C2 RSL No. 70213	48-66 cm (19-26 inches), same as C1 horizon except common, fine, distinct, light olive brown (2.5Y 5/6) mottles.
C3 RSL No. 70214	66-89 cm (26-35 inches), light gray (5Y 7/1) clay, dark gray (5Y 4/1) moist; common, fine, distinct, light olive brown (2.5Y 5/6) mottles; massive; extremely hard, very firm, very sticky, very plastic; few fine roots; few fine tubular pores; strongly calcareous; moderately alkaline (pH 8.2); abrupt wavy boundary.
C4 RSL No. 70215	89-155 cm (35-61 inches), light brownish gray (2.5Y 6/2) clay, grayish brown (2.5Y 5/2) moist, common, medium, distinct, light olive brown (2.5Y 5/6) mottles; massive; extremely hard, very firm, very sticky, very plastic; strongly calcareous; moderately alkaline (pH 8.2).

CONSECUTIVE PEDCN NUMBER C 70 34 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES ABBOTT SILTY CLAY SOIL NO. S68 UTAH. 14- 9 SAMPLE NO. 0 216-0 221 DELTA AREA

SOIL FAMILY: VERTIC FLUVAQUENT,FINE,MONT.(CALC),MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL SAND 2-.05	FRACTION SILT .05-.002	CLAY LT .002	SANDS VCS 2-1	CS 1-.5	MS .5-.25	FS .25-.10	VFS .1-.05	SILTS CSI .05-.02	FSI .02-.002	CLAYS CC. 2-.2U	FINE LT .2U	CARBONATE 3A1A	INT. II .2-.02	COARSE FRAGMENTS I PCT. OF WHOLE SOIL 75-20	II 20-5 PCT. OF LT 75	III 5-2
			PERCENT OF LESS THAN 2MM																
0 216	0- 20	A1															--	--	--
0 217	20- 56	C 1															--	--	--
0 218	56-102	C 2															--	--	--
0 219	56-102	C 2													--	--	--	--	--
0 220	102-137	C 3															--	--	--
0 221	137-155	C 4															--	--	--

SAMPLE NO.	DEPTH CM.	ORG. MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	19-2 6E1B	EXT. IRON FE 6C2B	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST 1/3 BAR 4A1F	4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTENSBLTY LEF 4D1	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
		PERCENT		PERCENT		PCT.	PCT. NO.40		GRAMS PER CC				PERCENT			PERCENT				
0 216	0- 20	0.93		31											17.6			8.1	8.9	8.0
0 217	20- 56	0.60		32											18.6			8.0	8.8	8.0
0 218	56-102	0.41		34											19.6			7.8	8.4	7.9
0 219	56-102	0.41		26											22.2			7.8	8.3	7.8
0 220	102-137	0.26		29											13.8			8.0	8.8	8.0
0 221	137-155	0.21		35											11.9			8.0	8.9	8.0

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT.	C E C NA-OAC 5A2A	NH4-CAC 5A6A	EC 8A1A	WATER EXTRACT FROM SATURATED PASTE 8A1 CA 6N1A	MG 6O1A	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1B	B 6T1A	PH SAT. PASTE 8C1B
		MEQ/100G					PCT.	MEQ/100G		MMHO	MEQ/1000 ML								PPM	
0 216	0- 20	23.6	16.9	4.8	2.2	47.5	100+		29.7	4.21	8.3	9.9	27.4	0.8		8.8	22.8	12.8		7.6
0 217	20- 56	25.1	15.9	7.2	1.7	49.9	100+		30.9	6.3	13.1	14.7	38.4	0.6		6.4	35.0	36.2		7.6
0 218	56-102	30.8	14.6	9.9	1.1	56.4	100+		30.9	9.1	28.9	27.2	66.5	0.4		4.4	49.6	72.6		7.6
0 219	56-102	38.3	19.1	13.2	1.0	71.6	100+		36.8	12.0	33.1	34.7	81.4	0.7		4.4	80.4	72.6		7.5
0 220	102-137	21.8	11.4	10.2	0.8	44.2	100+		21.8	12.8	27.9	33.0	98.6	0.4		4.9	99.2	63.6		7.5
0 221	137-155	19.1	10.1	10.5	0.6	40.3	100+		19.6	12.2	25.7	29.5	101.0	0.4		3.4	94.7	64.6		7.8

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGBLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1B PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I 7A2E	II 7A2E	III 7A2E	IV 7A2E	DTA PCT. 7A3	L.T. .0002 MM X RAY I 7A2E	II 7A2E	III 7A2E	MINERAL CODE	RELATIVE AMOUNT
0 216	0- 20	61.9	3.1	10	9												1 TRACE
0 217	20- 56	66.0	4.7	15	10												2 SMALL
0 218	56-102	71.1	5.2	17	13	0.6											3 MODERATE
0 219	56-102	77.2	6.9	19	14	0.8											4 ABUNDANT
0 220	102-137	52.0	5.1	23	18	0.1											5 DOMINANT
0 221	137-155	53.3	5.1	26	19	0.1											6 INDETER.

ABBOTT SILTY CLAY
S68Utah-14-9

Location: Millard County, Ut. Approximately 1/2 mile east of Topaz Chicken ranch; 100 feet south of the southwest corner of intersection, northeast 1/4 of northeast 1/4, Sec. 23, T. 16 S., R. 8 W. Date of sampling: November 1968.
Description by: L. Woodward and G. Crandall. Collectors: G. Crandall and D. Beckstrand.
Classification: Vertic Fluvaquent, fine, montmorillonitic (calcareous), mesic.
Vegetation: Idle cropland. Climate: Mean annual temperature, 49° to 52°F. Average annual precipitation, 6 to 8 inches. Parent material: Lake sediments and alluvium from mixed parent material. Topography: Deltas and flood plains on slopes of 0 to 1 percent. Elevation: 4,580 feet. Drainage: Poorly drained. Soil moisture: Usually moist (seepage).
Remarks: Sampled by 1-foot depths.

HORIZON	DESCRIPTION
A1 RSL No. 70216	0-20 cm (0-8 inches), gray (2.5Y 6/1) silty clay, dark gray (2.5Y 4/1) moist; very weak medium subangular blocky structure that parts to weak fine granular; extremely hard, very firm, sticky, very plastic; common fine roots; few fine tubular pores; strongly calcareous; strongly alkaline (pH 8.8); abrupt smooth boundary.
C1 RSL No. 70217	20-56 cm (8-22 inches), gray (2.5Y 6/1) silty clay, gray (2.5Y 5/1) moist; fine, distinct, olive brown (2.5Y 4/4) mottles; very weak medium subangular blocky structure that parts to weak fine granular; extremely hard, very firm, sticky, very plastic; common fine roots; few medium and common fine tubular pores; strongly calcareous; strongly alkaline (pH 8.8); clear smooth boundary.
C2 RSL No. 70218 70219	56-102 cm (22-40 inches), gray (2.5Y 6/1) clay, gray (2.5Y 5/1) moist; common, fine, distinct, light olive brown (2.5Y 5/6) mottles; massive; extremely hard, very firm, sticky, very plastic; few fine roots; few fine tubular pores; strongly calcareous, strongly alkaline (pH 8.8); abrupt smooth boundary.
C3 RSL No. 70220	102-137 cm (40-54 inches), light olive gray (5Y 6/2) silty clay loam, olive, olive gray (5Y 5/2) moist, common fine, distinct, olive (5Y 5/4) mottles; massive; hard, firm, sticky, very plastic; few fine roots; common fine and few medium tubular pores; strongly calcareous; strongly alkaline (pH 9.0); abrupt smooth boundary.
C4 RSL No. 70221	137-155 cm (54-61 inches), light brownish gray (2.5Y 6/2) silt loam, grayish brown (2.5Y 5/2) moist, few, fine, faint, light olive brown (2.5Y 5/4) mottles; massive; very friable, slightly sticky and slightly plastic; few fine roots; common fine and few medium tubular pores; strongly calcareous; very strongly alkaline (pH 9.5); clear smooth boundary.
C5 Not Sampled	155-173 cm (61-68 inches), light gray (10YR 7/2) silty clay, grayish brown (10YR 5/2) moist; common, fine distinct, light olive brown (2.5Y 5/6) mottles; massive; very firm, sticky and very plastic; few fine roots; common fine tubular pores; strongly calcareous; very strongly alkaline (pH 9.4); clear smooth boundary.

CONSECUTIVE PEDCN NUMBER C 70 36 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES ABBOTT SILTY CLAY SOIL NO. S68 UTAH. 14-61 SAMPLE NO. 0 229-0 233 DELTA AREA

SOIL FAMILY: VERTIC FLUVAQUENT,FINE,MONT.(CALC.),MESIC RIVERSIDE SOIL SURVEY LABORATORY

SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBONATE 3A1A	INT. II .2- .02	1A2A COARSE FRAGMENTS PCT. OF WHOLE 20 I 75-	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														SOIL PCT. OF LT 75		
0 229	0- 30	A 1															--	--	--
0 230	30- 61	C 1															--	--	--
0 231	61- 91	C 1															--	--	--
0 232	91-122	C 2															--	--	--
0 233	122-152	C 2															--	--	--

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR-BON 6A1A	NITRO-GEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	19-2 6E1B	EXT. IRON FE 6C2B	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST 1/3 BAR 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTENSBLTY LEF 4D1	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
		-PERCENT--		-PERCENT-		PCT.	PCT.NO.40		GRAMS PER CC				----PERCENT---			-PERCENT--				
0 229	0- 30	0.40		36											14.3			7.9	8.7	8.0
0 230	30- 61	0.30		34											18.1			7.8	8.4	7.9
0 231	61- 91	0.21		36											19.0			7.8	8.5	7.8
0 232	91-122	0.22		36											20.1			7.8	8.5	8.0
0 233	122-152	0.19		37											17.7			7.9	8.5	8.0

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT.	C E C NA-OAC 5A2A	NH4-CAC 5A6A	EC 8A1A	WATER EXTRACT FROM SATURATED PASTE CA 6N1A	MG 6O1A	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	8A1 SO4 6L1B	B 6T1A	PH SAT. PASTE 8C1B
		MEQ/100G					PCT.	-MEQ/100G		MMHO	MEQ/1000 ML								PPM	
0 229	0- 30	23.4	12.5	6.0	1.4	43.3	100+		22.3	9.2	20.1	21.7	59.3	0.8		4.7	101.0			7.6
0 230	30- 61	23.0	20.4	16.0	1.1	60.5	100+		26.5	24.5	47.2	92.2	152.0	1.0		4.0	269.0			7.6
0 231	61- 91	21.9	19.4	18.7	1.2	61.2	100+		26.7	25.5	45.1	101.9	167.0	1.3		3.6	296.0			7.6
0 232	91-122	20.4	20.4	21.4	1.1	63.3	100+		27.5	25.5	39.1	95.2	174.0	1.2		6.3	288.0			7.7
0 233	122-152	18.8	19.2	21.6	1.3	60.9	100+		23.9	27.7	42.6	101.1	206.0	1.5		5.2	326.0			7.6

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGBLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1B PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I 7A2E	II 7A2E	III 7A2E	IV 7A2E	DTA PCT. 7A3	L.T. .0002 MM X RAY I 7A2E	II 7A2E	III 7A2E	MINERAL CODE	RELATIVE AMOUNT
0 229	0- 30	51.8	2.9	13	13												1 TRACE
0 230	30- 61	67.9	5.7	21	18												2 SMALL
0 231	61- 91	70.1	7.0	26	19												3 MODERATE
0 232	91-122	79.7	7.5	27	21												4 ABUNDANT
0 233	122-152	66.9	7.8	33	24												5 DOMINANT
																	6 INDETER.

ABBOTT SILTY CLAY
S68Utah-14-61

Location: Millard County, UT. 50 feet south of old highway, northeast 1/4 of northeast 1/4 of Sec. 25, T. 17 S., R. 9 W. Date of sampling: November 1968.
Description by: G. Crandall and H. Maxwell. Collectors: G. Crandall, D. Beckstrand.
Classification: Vertic Fluvaquent, fine, montmorillonitic (calcareous), mesic.
Vegetation: Greasewood and shadscale. Climate: Mean annual temperature, 49° to 52° F. Average annual precipitation, 6 to 8 inches. Parent material: Lake sediments and alluvium from mixed parent material. Topography: Deltas and flood plains on slopes of 0 to 1 percent. Elevation: 4,550 feet. Drainage: Poorly drained. Soil moisture: Usually moist (seepage).
Remarks: Sampled by 1-foot depths.

HORIZON	DESCRIPTION
A11 RSL No. 70229	0-13 cm (0-5 inches), light gray (2.5YR 7/2) silty clay, light brownish gray (2.5YR 6/2) moist; weak, medium, platy structure that parts to weak subangular blocky; hard, firm, very sticky, plastic; few fine roots; common fine vesicular pores; strongly calcareous; strongly alkaline (pH 8.7); clear smooth boundary.
A12 RSL No. 70229	13-30 cm (5-12 inches), light gray (2.5YR 7/2) silty clay, light brownish gray (2.5YR 6/2) moist; weak fine subangular blocky structure; very hard, firm, sticky, plastic; few fine and medium roots; few fine tubular pores; strongly calcareous; moderately alkaline (pH 8.3); gradual smooth boundary.
C1 RSL No. 70230 70231	30-91 cm (12-36 inches), light gray (2.5YR 7/2) silty clay, grayish brown (2.5Y 5/2) moist; few, coarse, distinct, dark greenish gray (5 GY 4/1) mottles; weak coarse prismatic structure that parts to moderate coarse blocky; very hard, firm, sticky, plastic; few fine roots; few fine and medium tubular pores; strongly calcareous; moderately alkaline (pH 8.3); gradual irregular boundary.
C2 RSL No. 70232 70233	91-152 cm (36-60 inches), light gray (10YR 7/2) silty clay, pale brown (10YR 6/3) moist; common, medium, distinct, olive brown (2.5Y 4/4) mottles; weak coarse prismatic structure that parts to moderate coarse blocky; extremely hard, firm, sticky, plastic; few fine roots; common fine tubular pores; strongly calcareous; moderately alkaline (pH 8.3).

CONSECUTIVE PEDON NUMBER C 68 56 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES GLENTON SANDY LOAM SOIL NO. S68 UTAH. 1- 9 SAMPLE NO. 8 508-8 513 DESERT RANGE AREA

SOIL FAMILY: TYPIC TORRIFLUVENT,COARSE-LMY,MXD(CALCR.),MESIC RIVERSIDE SOIL SURVEY LABORATORY

SIZE, CLASS AND PARTICLE DIAMETER (MM)

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBO NATE	INT. II .2- .02	COARSE FRAGMENTS PCT. OF WHOLE SOIL I 75-	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75		
8 508	0- 8	A1	60.3	26.0	13.7	1.0	4.2	8.3	29.8	17.0	12.4	13.6				46.9	1A --	1Z	N
8 509	8- 28	C 1	47.5	37.1	15.4	0.3	2.1	5.5	24.3	15.3	14.9	22.2			1	44.6	1A --	1Z	N
8 510	28- 51	C 2	50.5	33.8	15.7	0.8	4.0	7.9	24.0	13.8	14.9	18.9			1	41.6	2A --	2Z	N
8 511	51- 74	C 3	64.1	24.0	11.9	0.8	5.9	12.2	31.8	13.4	11.3	12.7				41.5	6A --	6Z	N
8 512	74-122	C 4	65.1	23.0	11.9	2.7	6.3	9.6	28.1	18.4	12.2	10.8				46.2	5A --	5Z	N
8 513	122-168	2C 5	7.5	68.0	24.5	0.2	0.4	0.4	1.7	4.8	16.1	51.9		--	2	22.1	TRA --	--	--

SAMPLE NO.	DEPTH CM.	ORG. MATTER CAR-BON	NITRO GEN	CARBONATE AS CACO3 LT 2	19-2	EXT. IRON FE	ATTERBERG LIMIT LL	PL	BULK DENSITY EST 1/3 BAR	1/3 BAR	DRY	CM	WATER CONTENT 1/10 BAR	1/3 BAR	15 BAR	EXTENSBLTY LEF	LE	PH H2O 1/1	H2O 1/10	CACL2
		-PERCENT--		-PERCENT-		PCT.	PCT.NO.40		GRAMS PER CC				----PERCENT---			-PERCENT--				
8 508	0- 8	0.39	0.050	6					1.23	1.29	1.00		17.7	8.6		1.6	1.6	8.5		8.0
8 509	8- 28	0.29	0.034	8					1.22	1.27	1.00		20.3	9.7		1.3	1.3	8.3		7.9
8 510	28- 51	0.30		9					1.28	1.34	0.99		19.7	9.8		1.5	1.5	8.3		7.8
8 511	51- 74	0.23		7					1.46	1.51	0.97		15.7	8.0		1.1	1.1	8.2	8.9	8.0
8 512	74-122	0.13		6				1.46			0.97			7.6				7.8	8.5	7.9
8 513	122-168	0.31		11				1.46			1.00			16.0				7.6	8.2	7.8

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA	MG	NA	K	SUM	BASE SAT.	C E C NA-OAC	NH4-OAC	EC	WATER EXTRACT FROM SATURATED PASTE CA	MG	NA	K	CO3	HCO3	CL	SO4	B	PH SAT. PASTE
		--------MEQ/100G--------					PCT.	-MEQ/100G		MMHO	----------MEQ/1000 ML----------								PPM	
8 508	0- 8			0.1	4.1	4.2			18.6	0.58										
8 509	8- 28			0.1	4.3	4.4			20.9	0.65										
8 510	28- 51			1.1	2.0	3.1			20.7	0.79										
8 511	51- 74			4.6	0.4	5.0			19.4	5.25	12.9	3.3	40.5	0.1		3.9	47.4			7.7
8 512	74-122			5.7	0.5	6.2			17.3	14.3	90.8	20.7	81.0	0.4		3.2	110.0	43.7		7.6
8 513	122-168			8.7	0.6	9.3			16.3	19.2	134.1	29.1	94.9	0.4		3.3	158.0	17.3		7.4

SAMPLE NO.	DEPTH CM.	WATER AT SAT.	EXCHANGBLE NA	NA	SAR	GYPSUM AMT.	REQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I	II	III	IV	DTA	L.T. .0002 MM X RAY I	II	III	MINERAL CODE	RELATIVE AMOUNT
		PCT.	MEQ.	PCT.		PCT.	MEQ.					PCT.					
8 508	0- 8		0.1	1				MT 3	MI 3	KK 2						MT MONTMORT	1 TRACE
8 509	8- 28		0.1	TR				MT 3	MI 2	KK 2						MI MICA	2 SMALL
8 510	28- 51		1.1	5												KK KAOLINIT	3 MODERATE
8 511	51- 74	37.8	3.1	16	14												4 ABUNDANT
8 512	74-122	37.2	2.7	16	11	0.1		MT 4	MI 2	KK 2							5 DOMINANT
8 513	122-168	59.2	3.1	19	11												6 INDETER.

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
N=NOT DETERMINED.
Z=NOT ALL FRACTIONS SEPERATED. ADJACENT FRACTIONS INCLUDED HERE.

GLENTON SANDY LOAM

68Utah-1-9

Location: Beaver County, UT. Wah Wah Valley South of State Highway 21, approximately Sec. 2, T. 28 S., R. 14 W. (SLM). Adjacent to Wah Wash. Date of sampling: 1968. Description by: V. Hugie. Collectors: Vern Hugie and others. Classification: Typic Torrifluvent, coarse-loamy, mixed (calcareous), mesic. Vegetation: Dominantly winterfat. Climate: Average annual precipitation is about 6 inches. Mean annual temperature is about 49° F. Parent material: Alluvium from sandstone, quartzite, limestone, siltstone, shale, rhyolite, and tuff. Topography: Alluvial valley fill. Slope about 1 percent. Elevation: 5,100 feet. Drainage: Well drained. Soil moisture: The soil is dry for more than 75 percent of the time when the soil temperature is above 41°F.

HORIZON	DESCRIPTION
A1 RSL No. 68508	0-8 cm (0-3 inches), light brown (7.5YR 6/3) fine sandy loam, brown (7.5YR 4/3) moist; weak medium and thin platy structure that parts to single grain; loose; very friable; nonsticky, slightly plastic; few fine and very fine roots; many medium and fine interstitial pores; violent effervescence; strongly alkaline (pH 8.5); clear wavy boundary.
C1 RSL No. 68509	8-28 cm (3-11 inches), light brown (7.5YR 6/3) fine sandy loam, brown (7.5YR 4/3) moist; weak coarse prismatic structure; soft; friable; nonsticky, slightly plastic; common medium and fine roots; common medium, fine and very fine tubular pores; violent effervescence; moderately alkaline (pH 8.3); gradual smooth boundary.
C2 RSL No. 68510	28-51 cm (11-20 inches), light brown (7.5YR 6/3) fine sandy loam, brown (7.5YR 4/3) moist; weak coarse prismatic structure; soft; friable; nonsticky, slightly plastic; common medium and fine roots; many fine, very fine and common medium tubular pores; violent effervescence; moderately alkaline (pH 8.3); gradual smooth boundary.
C3 RSL No. 68511	51-74 cm (20-29 inches), light brown (7.5YR 6/3) fine sandy loam, brown (7.5YR 4/3) moist; weak coarse prismatic structure; soft; friable; nonsticky, slightly plastic; common fine and very fine roots; common medium, fine and very fine tubular pores; common thin and faint veins of secondary carbonate; violent effervescence; moderately alkaline (pH 8.2); gradual smooth boundary.
C4 RSL No. 68512	74-122 cm (29-48 inches), light brown (7.5YR 6/3) fine sandy loam, brown (7.5YR 4/3) moist; massive; soft; very friable; nonsticky, slightly plastic; few fine and very fine roots; few fine tubular pores; violent effervescence; mildly alkaline (pH 7.8); clear wavy boundary.
IIC5 RSL No. 68513	122-168 cm (48-66 inches), light brown (7.5YR 6/3) silt loam, brown (7.5YR 4/3) moist; massive; soft; friable; sticky, plastic; few fine and very fine roots; common fine and very fine tubular pores; violent effervescence; mildly alkaline (pH 7.6).

CONSECUTIVE PEDON NUMBER C 68 49 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES GLENTON LOAM SOIL NO. S68 UTAH. 14- 6 SAMPLE NO. 8 385-8 392 DESERT RANGE AREA

SOIL FAMILY: TYPIC TORRIFLUVENT,COARSE-LMY,MXD(CALCR.),MESIC RIVERSIDE SOIL SURVEY LABORATORY

SIZE, CLASS AND PARTICLE DIAMETER (MM)

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBO NATE	INT. II .2- .02	COARSE FRAGMENTS PCT. OF WHOLE SOIL	I 75- 20 PCT. OF LT 75	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM																	
8 385	0- 5	A11	43.1	46.1	10.8	1.4	7.3	5.7	13.5	15.2	21.1	25.0			2	44.3	2A	--	2Z	N
8 386	5- 10	A12	47.4	40.3	12.3	4.5	8.7	6.2	14.2	13.8	18.7	21.6			2	40.8	6A	--	6Z	N
8 387	10- 30	C 1	33.2	58.9	7.9	0.7	5.2	4.3	9.7	13.3	26.7	32.2			1	45.7	TRA	--	--	--
8 388	30- 61	C 2	32.7	61.3	6.0	0.5	3.1	2.7	8.7	17.7	30.3	31.0			1	54.0	2A	--	2Z	N
8 389	61- 89	C 3	35.0	57.7	7.3	1.4	1.9	1.8	9.0	20.9	27.4	30.3			2	54.6	6A	--	6Z	N
8 390	89-114	C 4	43.2	45.8	11.0	3.5	3.3	2.8	12.0	21.6	23.7	22.1			2	53.4	18A	--	18Z	N
8 391	114-168	C 5	43.3	41.3	15.4	8.5	4.9	3.5	10.0	16.4	18.2	23.1			3	41.1	25A	--	25Z	N
8 392	168-1832	C 6	59.4	26.7	13.9	11.2	13.7	9.8	13.5	11.2	12.2	14.5			3	30.7	63A	--	63Z	N

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR-BON	NITRO-GEN	CARBONATE AS CACO3 LT 2	19-2	EXT. IRON FE	ATTERBERG LIMIT LL	PL	BULK DENSITY EST 1/3 BAR	DRY	CM	WATER CONTENT 1/10 BAR	1/3 BAR	15 BAR	EXTENSBLTY LEF	LE	PH H2O 1/1	H2O 1/10	CACL2
		-PERCENT--		-PERCENT-		PCT.	PCT.NO.40		GRAMS PER CC			-----PERCENT---			-PERCENT--				
8 385	0- 5	0.78	0.091	30					1.23	1.27	0.99	22.5	8.7		1.1	1.1	8.1		7.8
8 386	5- 10	0.58	0.072	34				1.23			0.97		8.6				8.3		7.9
8 387	10- 30	0.59		30					1.11	1.13	1.00	29.7	9.3		0.6	0.6	8.3		7.9
8 388	30- 61	0.48		30					1.14	1.15	0.99	23.6	9.1		0.3	0.3	8.4		8.0
8 389	61- 89	0.36		26					1.21	1.24	0.97	26.5	8.7		0.8	0.8	8.4	9.2	8.2
8 390	89-114	0.21		21				1.21			0.91		8.8				8.2	9.1	8.2
8 391	114-168	0.12		18				1.21			0.87		9.3				8.1	8.9	8.1
8 392	168-183	0.12		30				1.21			0.56		6.7				8.1	8.9	8.0

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA	MG	NA	K	SUM	BASE SAT.	C E C NA-OAC	NH4-OAC	EC	WATER EXTRACT FROM SATURATED PASTE CA	MG	NA	K	CO3	HCO3	CL	SO4	B	PH SAT. PASTE
		--------MEQ/100G--------					PCT.	-MEQ/100G		MMHO	----------MEQ/1000 ML----------								PPM	
8 385	0- 5			0.1	2.1	2.2			16.3	0.59										
8 386	5- 10			0.1	2.0	2.1			16.7	0.58										
8 387	10- 30			0.1	2.3	2.4			17.8	0.54										
8 388	30- 61			0.3	1.3	1.6			17.8	0.51										
8 389	61- 89			2.1	0.3	2.4			17.6	2.82	3.7	11.4	13.4	0.1	TR	2.1	17.4			8.3
8 390	89-114			6.5	0.2	6.7			19.5	12.9	17.7	40.5	80.3	0.2	0.2	1.9	67.1	14.0		8.0
8 391	114-168			7.2	0.2	7.4			17.6	16.9	32.6	51.3	111.0	0.1	0.2	2.3	95.5	35.6		7.8
8 392	168-183			4.3	0.1	4.4			11.7	12.1	34.8	49.7	98.7	0.1		2.9	81.9	43.2		7.7

SAMPLE NO.	DEPTH CM.	WATER AT SAT.	EXCHANGBLE NA	NA	SAR	GYPSUM AMT.	REQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I	II	III	IV	DTA PCT.	L.T. .0002 MM X RAY I	II	III	MINERAL CODE	RELATIVE AMOUNT
		PCT.	MEQ.	PCT.		PCT.	MEQ.										
8 385	0- 5		0.1	1				MI 2	KK 1							MI MICA	1 TRACE
8 386	5- 10		0.1	1				MI 2	KK 1							KK KAOLINIT	2 SMALL
8 387	10- 30		0.1	1													3 MODERATE
8 388	30- 61		0.3	2				MT 1								MT MONTMORT	4 ABUNDANT
8 389	61- 89	46.9	1.5	8	5												5 DOMINANT
8 390	89-114	40.3	3.3	17	15	0.1											6 INDETER.
8 391	114-168	32.3	3.6	21	17	0.1		MT 1	MI 1	KK 1							
8 392	168-183	30.0	1.3	11	15	0.1											

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
N=NOT DETERMINED.
Z=NOT ALL FRACTIONS SEPERATED. ADJACENT FRACTIONS INCLUDED HERE.

GLENTON LOAM

S68Utah-14-6

Location: Millard County, UT. Antelope Valley, 550 feet south and 575 feet east, northwest corner, Sec. 15, T. 23 S., R. 18 W. (SLM). Date of sampling: 1968.
Description by: V. Hugie. Collectors: V. Hugie and others.
Classification: Typic Torrifluvent, coarse-loamy, mixed (calcareous), mesic.
Vegetation: Gardners saltbush, greasewood, bluestem wheatgrass and bottlebrush squirreltail.
Climate: Mean annual precipitation is about 6 inches. Mean annual temperature is about 49° F. Parent material: Alluvium mixed from rhyolite, tuffs, basalt, limestone, quartzite, and sandstone. Topography: Valley fill, alluvial fan, 1 percent northwest-facing slope. Elevation: 6,060 feet. Drainage: Well drained. Soil moisture: The soil is dry more than 75 percent of the time when soil temperature is above 41° F.
Remarks: The control section of this pedon is marginal to coarse-silty family.

HORIZON	DESCRIPTION
A11 RSL No. 68385	0-5 cm (0-2 inches), very pale brown (10YR 7/3) light loam, brown (10YR 5/3) moist; moderate thin and medium platy structure; soft, friable; slightly sticky, slightly plastic; few fine roots; many fine and very fine interstitial pores; violent effervescence; moderately alkaline (pH 8.1); abrupt wavy boundary.
A12 RSL No. 68386	5-10 cm (2-4 inches), very pale brown (10YR 7/3) light loam, brown (10YR 5/3) moist; weak medium platy structure; soft; friable; nonsticky, nonplastic; many fine roots; many medium and fine interstitial pores; 5 percent gravel; violent effervescence; moderately alkaline, (pH 8.3); abrupt wavy boundary.
C1 RSL No. 68387	10-30 cm (4-12 inches), very pale brown (10YR 7/3) silt loam, brown (10YR 5/3) moist; weak thin platy structure; soft; friable; slightly sticky, slightly plastic; many fine roots; many fine and very fine tubular pores; 5 percent gravel; violent effervescence; moderately alkaline (pH 8.3); gradual wavy boundary.
C2 RSL No. 68388	30-61 cm (12-24 inches), very pale brown (10YR 7/3) silt loam, brown (10YR 5/3) moist; weak very coarse prismatic structure; soft; friable; slightly sticky, slightly plastic; common fine roots; many fine and very fine tubular pores; violent effervescence; moderately alkaline (pH 8.4); gradual wavy boundary.
C3 RSL No 68389	61-89 cm (24-35 inches), very pale brown (10YR 7/3) silt loam, brown (10YR 5/3) moist; weak coarse prismatic structure; soft; friable; slightly sticky, slightly plastic; common fine roots; many fine and very fine tubular pores; 5 percent gravel; common rodent krotovina; violent effervescence; moderately alkaline (pH 8.4); gradual wavy boundary.
C4 RSL No. 68390	89-114 cm (35-45 inches), very pale brown (10YR 7/3) loam, brown (10YR 5/3) moist; weak medium subangular blocky; soft; friable; slightly sticky, slightly plastic; common fine roots; many fine and very fine tubular pores; 10 percent gravel; common rodent krotovina; violent effervescence; moderately alkaline (pH 8.2); clear irregular boundary.
C5 RSL No. 68391	114-168 cm (45-66 inches), very pale brown (10YR 7/3) loam, brown (10YR 5/3) moist; weak medium angular and subangular blocky; hard; friable; slightly sticky, slightly plastic; common fine roots; many fine and very fine tubular pores; 15 percent gravel; violent effervescence, secondary carbonates as thin veins and coatings on underside of pebbles; moderately alkaline (pH 8.1); clear wavy boundary.
IIC6 RSL No. 68392	168-183 cm (66-72 inches), very pale brown (10YR 7/3) very gravelly coarse sandy loam, brown (10YR 5/3) moist; massive; hard; firm; nonsticky, nonplastic; few fine roots; many fine, medium and coarse intersitial pores; 50 percent gravel; violent effervescence, secondary carbonates as pendants on underside of pebbles; pebbles weakly cemented together with carbonates in places; moderately alkaline (pH 8.1).

CONSECUTIVE PEDON NUMBER C 69177 C H A R A C T E R I Z A T I C N D A T A

SOIL SERIES TOBLER FINE SANDY LOAM SOIL NO. S69 UTAH. 27- 1 SAMPLE NO. 9 906-9 910 WASHINGTON CO AREA

SOIL FAMILY: TYPIC TORRIFLUVENT,COARSE-LMY,MXD,(CALC.),THRMC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	CSI .05- .02	FSI .02- .002	SILTS CC. 2- .2U	CLAYS FINE LT .2U	CARBO NATE 3A1A	1A2A INT. II .2- .02	COARSE FRAGMENTS PCT. OF WHOLE SOIL I 75- 2	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75		
9 906	0- 10	A1	82.5	7.9	5.6	0.3	4.5	12.2	37.4	28.1	5.0	2.9	9.3	0.3		59.4	--A --	--	--
9 907	10- 33	C 1	77.2	12.4	10.4	0.1	1.6	7.1	35.1	33.3	6.8	5.6				65.8	--A --	--	--
9 908	33- 53	C 2	69.9	19.4	10.7	--	1.6	6.4	30.0	31.9	9.7	9.7				63.0	--A --	--	--
9 909	53- 96	C 3	65.1	24.5	10.4	0.1	1.5	6.3	27.5	29.7	12.2	12.3			TR	61.2	--A --	--	--
9 910	96-150	C 4	64.8	25.9	9.3	--	1.4	5.7	26.3	31.4	13.0	12.9				63.0	--A --	--	--

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR- BON 6A1A	NITRO GEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	19-2 6E1B	EXT. IRON FE 6C2B	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST 1/3 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTENSBLTY LEF 4D1	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
		-PERCENT--		-PERCENT-		PCT.	PCT.NO.40		GRAMS PER CC				----PERCENT---			-PERCENT--				
9 906	0- 10	0.08	0.012	2		0.4				1.58	1.63	1.00	5.8	4.1	2.8	1.0	1.0	8.5		8.0
9 907	10- 33	0.12	0.013	4		0.4				1.51	1.55	1.00	10.2	7.2	3.5	0.9	0.9	8.6		7.9
9 908	33- 53	0.09		7		0.6				1.51	1.57	1.00	14.1	11.6	3.7	1.3	1.3	8.6		7.9
9 909	53- 96			8		0.7				1.50	1.56	1.00		18.6	3.9	1.3	1.3	8.7		7.9
9 910	96-150			7		0.6				1.59	1.63	1.00	18.3	9.6	3.9	0.8	0.8	8.5	9.0	8.0

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6A2E	MG 5B4A 6G2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT.	C E C NA- OAC 5A2A	NH4- OAC 5A6A	EC 8A1A MMHO	WATER EXTRACT FROM SATURATED PASTE 8A1 CA 6N1B	MG 6O1B	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1B	B 6T1A	PH SAT. PASTE 8C1B
		-------MEQ/100G-------					PCT.	-MEQ/100G			----------MEQ/1000 ML----------								PPM	
9 906	0- 10	16.7	1.5	TR	0.5	18.7	100+		4.6	0.47										
9 907	10- 33	20.2	2.2	0.1	0.7	23.2	100+		5.4	0.41										
9 908	33- 53	19.6	3.1	0.3	0.6	23.6	100+		6.5	0.41										
9 909	53- 96	19.3	4.9	0.1	0.5	24.8	100+		6.7	0.62										
9 910	96-150	18.9	6.7	0.6	0.6	26.8	100+		7.3	3.21	10.4	23.3	12.7	1.2		2.6	7.5	34.8		7.8

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGBLE NA 5B4B MEQ.	NA 5O2 PCT.	SAR 5E	GYPSUM AMT. 6F1B PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY DTA I 7A2E	II 7A2E	III 7A2E	IV 7A2E	PCT. 7A3	L.T. .0002 MM X RAY I 7A2E	II 7A2E	III 7A2E	MINERAL CODE	RELATIVE AMOUNT
9 906	0- 10		TR	1				MT 4	MI 3	KK 2						MT MONTMORT	1 TRACE
9 907	10- 33		0.1	2				MI 4	MT 2	KK 2						MI MICA	2 SMALL
9 908	33- 53		0.3	5												KK KAOLINIT	3 MODERATE
9 909	53- 96		0.1	1													4 ABUNDANT
9 910	96-150	33.3	0.2	2	3			MT 4	MI 4	KK 2							5 DOMINANT
																	6 INDETER.

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.

TOBLER FINE SANDY LOAM
S69 Utah 27-1

Location: Washington County, UT, Warner Valley: 400 feet north of the west 1/4 corner of Sec. 8, T. 43 S., R. 14 W. Date of sampling: October 20-23, 1969. Description by: Vear L. Mortensen. Collected by: K. Flach, M. Olsen, V. Mortensen, and party.
Classification: Typic Torrifluvent, coarse-loamy, mixed (calcareous), thermic.
Vegetation: Galleta, yellowbrush, pricklypear. Climate: Mean annual air temperature, 60°F.; mean summer temperature, 80°F.; average annual precipitation, 8 to 11 inches; frost-free period, 195 days. Parent materials: Sandstone, shale, and limestone. Topography: Alluvial fan. Elevation: 3,000 feet. Drainage: Somewhat excessively drained, moderately rapid permeability, slow runoff.

HORIZON	DESCRIPTION
A1 0-10 cm RSL No. 69906	0 to 4 inches, red (2.5YR 4/6) light fine sandy loam; dark red (2.5YR 3/6) moist; weak medium platy structure; soft, very friable, nonsticky and nonplastic; common fine and very fine roots; many very fine and fine vesicular pores; slightly calcareous, lime is disseminated; clear smooth boundary.
C1 10-33cm RSL No. 69907	4 to 13 inches, red (2.5YR 4/6) fine sandy loam; dark red (2.5YR 3/6) moist; massive; slightly hard, very friable, slightly sticky slightly plastic; common fine and medium, few fine roots; common fine and medium tubular pores; slightly calcareous; lime is disseminated; clear smooth boundary.
C2 33-53cm RSL No. 69908	13 to 21 inches, red (2.5YR 4/6) fine sandy loam; dark red (2.5YR 3/6) moist; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common fine and medium roots; common fine and very fine tubular pores; slightly calcareous; lime is disseminated; clear smooth boundary.
C3 53-96cm RSL No. 69909	21 to 38 inches, red (2.5YR 4/6) fine sandy loam; dark red (2.5YR 3/6) moist; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common fine roots; common fine and very fine tubular pores; slightly calcareous; lime is disseminated; clear smooth boundary.
C4 96- 150 cm RSL No. 69910	38 to 59 inches, red (2.5YR 4/6) fine sandy loam; dark red (2.5YR 3/6) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; few fine and medium roots; common very fine and fine tubular pores; slightly calcareous; lime is disseminated.

CONSECUTIVE PEDON NUMBER C 69178 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES TOBLER FINE SANDY LOAM SOIL NO. S69 UTAH. 27- 2 SAMPLE NO. 9 911-9 916 WASHINGTON CO AREA

SOIL FAMILY: TYPIC TORRIFLUVENT,COARSE-LMY,MXD,(CALC.),THRMC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CC. 2- .2U	FINE LT .2U	CARBONATE 3A1A.02	INT. II .2- 75-	1A2A COARSE FRAGMENTS PCT. OF WHOLE SOIL	I 20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75			
9 911	0- 5	A1	89.7	7.0	3.3	0.2	1.4	11.5	44.9	31.7	4.9	2.1				67.6	--A	--	--	--
9 912	5- 15	C 1	77.8	12.3	9.9	0.4	1.7	10.4	34.5	30.8	6.9	5.4				61.6	--A	--	--	--
9 913	15- 30	C 2	75.2	15.5	9.3	0.1	1.5	10.6	34.4	28.6	9.2	6.3				60.9	--A	--	--	--
9 914	30- 43	C 3CA	72.2	17.0	10.8	0.1	1.9	11.0	32.6	26.6	10.7	6.3				58.5	--A	--	--	--
9 915	43- 79	C 4	73.0	18.6	8.4	0.3	1.6	8.0	32.3	30.8	11.9	6.7				64.4	--A	--	--	--
9 916	79-107	2C 5	70.8	21.1	8.1	1.4	4.0	12.6	28.2	24.6	10.6	10.5			1	51.9	--A	--	--	--

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 GEN LT 2 6E1B	2-20 6E1B	SESQUIOXIDES DI-CIT FE 6C2B	EXT PYROP AL 6G7A	FE 6C5A	AL 6G5A	ATTERBERG LL 4F1	PL 4F2	BULK DENSITY EST. 1/3 BAR 4A1F	1/3 BAR 4A1F	ORY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		-PERCENT-		-PERCENT-		PERCENT				PCT.NO.40		GRAMS PER CC				PERCENT			-PERCENT-	
9 911	0- 5	0.28	0.026	1								1.58			1.00			1.7		
9 912	5- 15	0.13	0.016	2									1.69	1.73	1.00	6.0	4.7	3.3	0.8	0.8
9 913	15- 30	0.09		3								1.69			1.00			3.4		
9 914	30- 43			6									1.55	1.60	1.00	8.1	5.6	3.7	1.1	1.1
9 915	43- 79			6									1.52	1.56	1.00	9.1	5.8	3.3	0.9	0.9
9 916	79-107			8								1.52			1.00			3.0		

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACIDITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4-OAC 5A6A	BASE SATURATION SUM+ ACIDITY	SUM+ AL	NH4-OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA-CL2 8C1E
		MEQ/100G									PERCENT					
9 911	0- 5	3.9	1.3	0.1	0.3	5.6			5.6	2.9			100+		8.3	7.6
9 912	5- 15	12.5	2.1	0.1	0.5	15.2			15.2	4.4			100+		8.6	7.9
9 913	15- 30	19.3	2.1	0.1	0.5	22.0			22.0	4.6			100+		8.6	7.9
9 914	30- 43	18.5	2.1	0.1	0.5	21.2			21.2	5.1			100+		8.6	7.9
9 915	43- 79	19.4	2.1	0.1	0.5	22.1			22.1	5.3			100+		8.6	7.9
9 916	79-107	21.3	3.3	0.1	0.4	25.1			25.1	4.7			100+		8.7	8.0

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
9 911	0- 5											1 TRACE
9 912	5- 15											2 SMALL
9 913	15- 30											3 MODERATE
9 914	30- 43											4 ABUNDANT
9 915	43- 79											5 DOMINANT
9 916	79-107											6 INDETER.

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.

TOBLER FINE SANDY LOAM
S69 Utah 27-2

Location: Washington County, UT. About 1 mile east of Ivins, 1,200 feet north of the southwest corner of Sec. T. 41 S., R. 16 W. Date of sampling: October 20-23, 1969. Description By: Vear L. Mortensen. Collected by: K. Flach, M. Olsen, V. Mortensen, and party.
Classification: Typic Torrifluvent, coarse-loamy, mixed (calcareous), thermic.
Vegetation: Yellowbrush, creosotebush, galleta, cheatgrass, pricklypear.
Climate: Mean annual air temperature, 60°F.; mean summer temperature, 80°F.; average annual precipitation, 8 to 11 inches; frost-free season, 195 days.
Parent materials: Mixed alluvium from sandstone and shale. Topography: Alluvial fan. Elevation: 3,000 feet. Drainage: Somewhat excessively drained, moderately rapid permeability, slow runoff.

HORIZON	DESCRIPTION
A1 0-5 cm RSL No. 69911	0 to 2 inches, yellowish red (5YR 4/7) light fine sandy loam; dark red (2.5YR 3/6) moist; weak medium platy structure; soft, very friable, nonsticky and nonplastic; few fine and very fine roots; few very fine and common micro interstitial pores; slightly calcareous, lime is disseminated; mildly alkaline (pH 7.6); abrupt smooth boundary.
C1 5-15 cm RSL No. 69912	2 to 6 inches, red (2.5YR 4/6) fine sandy loam; dark red (2.5YR 3/6) moist; weak coarse subangular blocky sturcture; slightly hard, very friable, nonsticky and nonplastic; few medium, fine and very fine roots; few medium and fine, and common very fine tubular pores; slightly calcareous, lime is disseminated; moderately alkaline (pH 8.3); clear smooth boundary.
C2 15-30 cm RSL No. 69913	6 to 12 inches, red (2.5YR 4/6) fine sandy loam; dark red (2.5YR 3/6) moist; weak medium and coarse subangular blocky structure; soft, very friable, nonsticky and nonplastic; few fine and very fine roots; few fine, many very fine and micro tubular pores; few fine gypsum nodules; slightly calcareous, lime is disseminated; strongly alkaline (pH 8.8); clear smooth boundary.
C3 ca 30-43 cm RSL No. 69914	12 to 17 inches, red (2.5YR 4/6) fine sandy loam; dark red (2.5YR 3/6) moist; weak medium and coarse subangular blocky structure; soft, very friable, nonsticky and nonplastic; few fine and very fine roots; common medium and fine, many very fine and micro tubular pores; 3 percent fine gravel; moderately calcareous, lime is disseminated and segregated in few soft nodules; strongly alkaline (pH 8.9); clear wavy boundary.
C4 43-79 cm RSL No. 69915	17 to 31 inches, red (2.5YR 4/6) fine sandy loam; dark red (2.5YR 3/6) moist; weak coarse and medium subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; few very fine roots; few fine, common very fine and micro tubular pores; 5 percent gravel; moderately calcareous, lime is disseminated; strongly alkaline (pH 8.8); abrupt smooth boundary.
IIC5 79-107cm RSL No. 69916	31 to 42 inches, red (2.5YR 4/6) fine sandy loam; dark red (2.5YR 3/6) moist; massive; slightly hard, very friable, nonsticky and slightly plastic; few very fine roots; few fine, common very fine and few micro pores; 15 percent fine gravel; moderately calcareous, lime is disseminated; strongly alkaline (pH 8.9); abrupt smooth boundary.
IIIC6 107 - 152 cm	42 to 60 inches, red (2.5YR 4/6) fine sandy loam, dark red (2.5YR 3/6) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine roots; 5 to 10 percent fine gravel; very fine and micro tubular pores; moderately calcareous, lime is disseminated; strongly alkaline (pH 9.0).

CONSECUTIVE PEDON NUMBER C 68 54 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES PENCYER SILT LOAM (TAXADJUNCT) SOIL NO. S68 UTAH. 1- 7 SAMPLE NO. 8 495-8 501 DESERT RANGE AREA

SOIL FAMILY: TYPIC TORRIFLUVENT,COARSE-LOAMY ,MXD(CALC.),MESC. RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2-.05	SILT .05-.002	CLAY LT .002	SANDS VCS 2-1	CS 1-.5	MS .5-.25	FS .25-.10	VFS .1-.05	SILTS CSI .05-.02	FSI .02-.002	CLAYS CO. 2-.20	FINE LT .20	CARBONATE	INT. II .2-.02	COARSE FRAGMENTS PCT. OF WHOLE SOIL I 75-20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75		
8 495	0- 8	A1	17.1	66.7	16.2	0.1	1.5	1.8	6.0	7.7	20.1	46.6				31.3	--A	--	--	--
8 496	8- 20	C 1															--A	--	--	--
8 497	20- 46	C 2	19.4	65.5	15.1	0.1	1.4	2.5	7.3	8.1	18.9	46.6			1	31.4	--A	--	--	--
8 498	46- 66	C 3											--	--			--A	--	--	--
8 499	66- 97	C 4															--A	--	--	--
8 500	97-117	C 5	7.3	69.5	23.2	--	0.1	0.2	1.4	5.6	26.2	43.3				32.9	--A	--	--	--
8 501	117-163	C 6															--A	--	--	--

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON	NITROGEN	CARBONATE AS CACO3 LT 2	19-2	EXT. IRON FE	ATTERBERG LIMIT LL	PL	BULK DENSITY EST 1/3 BAR	1/3 BAR	DRY	CM	WATER CONTENT 1/10 BAR	1/3 BAR	15 BAR	EXTENSBLTY LEF	LE	PH H2O 1/1	H2O 1/10	CACL2
		PERCENT		PERCENT		PCT.	PCT.NO.40		GRAMS PER CC				PERCENT			PERCENT				
8 495	0- 8	1.12	0.117	7						1.27	1.37	1.00		29.6	11.6	2.6	2.6	8.2		7.7
8 496	8- 20	0.68	0.084	10					1.20			1.00			12.0			8.2		7.7
8 497	20- 46	0.55		12						1.13	1.17	1.00		30.4	11.0	1.2	1.2	8.0	8.7	7.8
8 498	46- 66	0.49		12					1.12			1.00			11.5			7.7	8.4	7.8
8 499	66- 97	0.43		9						1.12	1.21	1.00		33.5	12.9	2.6	2.6	7.7	8.1	7.8
8 500	97-117	0.36		7						1.13	1.22	1.00		39.3	13.1	2.6	2.6	7.6	8.0	7.8
8 501	117-163	0.31		3					1.22			1.00			11.9			7.6	8.0	7.7

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA	MG	NA	K	SUM	BASE SAT.	CEC NA-OAC	NH4-OAC	EC	WATER EXTRACT FROM SATURATED PASTE CA	MG	NA	K	CO3	HCO3	CL	SO4	B	PH SAT. PASTE
		MEQ/100G					PCT.	MEQ/100G		MMHO	MEQ/1000 ML								PPM	
8 495	0- 8			0.2	3.3	3.5			25.7	0.99										
8 496	8- 20			0.2	3.5	3.7			25.6	0.67										
8 497	20- 46			1.6	3.2	4.8			23.4	2.63	9.8	3.5	12.0	1.2		4.4	16.1			7.8
8 498	46- 66			7.0	1.3	8.3			24.7	13.9	73.9	33.4	85.9	0.6		2.4	115.0	13.5		7.6
8 499	66- 97			7.3	1.0	8.3			24.5	18.8	109.3	48.2	89.2	0.5		3.5	142.0	31.6		7.5
8 500	97-117			7.0	1.1	8.1			24.5	20.8	146.6	63.3	105.0	0.7		2.8	167.0	42.1		7.4
8 501	117-163			3.1	0.8	3.9			25.7	17.5	104.3	40.6	86.1	0.3		2.8	132.0			7.4

SAMPLE NO.	DEPTH CM.	WATER AT SAT.	EXCHANGEABLE NA	NA	SAR	GYPSUM AMT.	REQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I	II	III	IV	DTA	LT .0002 MM X RAY I	II	III	MINERAL CODE	RELATIVE AMOUNT
		PCT.	MEQ.	PCT.		PCT.	MEQ.										
8 495	0- 8		0.2	1													1 TRACE
8 496	8- 20		0.2	1													2 SMALL
8 497	20- 46	54.1	1.0	4	5												3 MODERATE
8 498	46- 66	52.9	2.5	10	12												4 ABUNDANT
8 499	66- 97	53.5	2.5	10	10	0.4											5 DOMINANT
8 500	97-117	49.0	1.9	8	10												6 INDETER.
8 501	117-163	45.8			10												

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.

PENOYER SILT LOAM (taxadjunct) 1/
68Utah-1-7

Location: Beaver County, UT, south end of Wah Wah Valley, Sec. 2, T. 29 S., R. 14 W. (SLM). Date of sampling: 1968.
Description by: V. Hugie. Collectors: V. Hugie and others.
Classification: Typic Torrifluvent, coarse-loamy, mixed (calcareous), mesic.
Vegetation: Dominantly winterfat. Climate: Average annual precipitation is about 8 inches. Mean annual temperature is about 49° F. Parent material: Alluvium from limestone, siltstone, sandstone, quartzite, rhyolite, and tuff. Topography: Valley fill, alluvial fan, 1 percent north slope. Elevation: 5,500 feet. Drainage: Well drained. Soil moisture: The soil is dry for more than 75 percent of the time when the soil temperature is above 41° F.

HORIZON	DESCRIPTION
A1 RSL No. 68495	0-8 cm (0-3 inches), light brownish gray (10YR 6/2) silt loam, dark grayish brown (10YR 4/2) moist; moderate medium and thin platy structure; soft; friable; slightly sticky, plastic; few fine and very fine roots; many medium, fine and very fine vesicular and interstitial pores; violent effervescence; moderately alkaline (pH 8.2); abrupt wavy boundary.
C1 RSL No. 68496	8-20 cm (3-8 inches), pale brown (10YR 6/3) silt loam, dark brown (10YR 4/3) moist; weak coarse prismatic structure that parts to thick plates; soft; friable; sticky, plastic; many medium and fine roots; many medium and fine tubular pores; violent effervescence; moderately alkaline (pH 8.2); gradual smooth boundary.
C2 RSL No 68497	20-46 cm (8-18 inches), pale brown (10YR 6/3) silt loam, dark brown (10YR 4/3) moist; weak coarse prismatic structure; hard; friable; sticky, plastic; many fine and very fine roots; many fine and common medium pores; violent effervescence; few fine veins of secondary carbonates; moderately alkaline (pH 8.0); gradual smooth boundary.
C3 RSL No 68498	46-66 cm (18-26 inches), pale brown (10YR 6/3) silt loam, dark brown (10YR 4/3) moist; weak coarse prismatic structure; hard; friable; sticky, plastic; many fine and very fine roots; many fine and very fine tubular pores; violent effervescence; common fine veins of secondary carbonates; mildly alkaline (pH 7.7); gradual smooth boundary.
C4 RSL No. 68499	66-97 cm (26-38 inches), pale brown (10YR 6/3) silt loam, dark brown (10YR 4/3) moist; weak coarse prismatic structure, which breaks to weak medium platy; hard; friable; sticky, plastic; violent effervescence; many very fine roots; many fine and very fine tubular pores; occasional cicada krotovina; mildly alkaline (pH 7.7); gradual smooth boundary.
C5 RSL No. 68500	97-117 cm (38-46 inches), pale brown (10YR 6/3) silt loam, dark brown (10YR 4/3) moist; weak coarse prismatic structure; soft; friable; sticky, plastic; few fine and very fine roots; many fine, very fine and few medium tubular pores; violent effervescence; many thin veins and a few soft pockets of secondary carbonate and/or gypsum; mildly alkaline (pH 7.6); gradual smooth boundary.
C6 RSL No. 68501	117-163 cm (46-64 inches), pale brown (10YR 6/3) silt loam, dark brown (10YR 4/3) moist; massive; soft; friable; sticky, plastic; few fine and very fine roots; many fine and very fine tubular pores; violent effervescence; many thin veins of secondary carbonates; mildly alkaline (pH 7.6).

1/ The Penoyer series is in a coarse-silty, mixed (calcareous), mesic family of Typic Torriorthents. This pedon has an organic carbon content that remains above 0.2 percent to a depth below 125 cm.

CONSECUTIVE PEDON NUMBER C 70 56 C H A R A C T E R I Z A T I C N D A T A

SOIL SERIES ST. GEORGE SILT LOAM SCIL NO. S70 UTAH. 27-11 SAMPLE NO. 0 336-0 342 WASHINGTON CC. AREA

SOIL FAMILY: TYPIC TCRRIFLUVENT,COARSE-SILTY,MIXED(CALC),THRM RIVERSIDE SOIL SURVEY LABCRATORY

SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 1A2A

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	CSI .05- .02	SILTS FSI .02- .002	CLAYS CC. 2- .2U	FINE LT .2U	CARBO NATE 3A1A	INT. II .2- .02	COARSE FRAGMENTS PCT. OF WHOLE SOIL 20	I 75- 20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM															PCT. OF LT 75		
0 336	0- 20	AP	27.8	44.2	28.0	3.0	1.2	0.5	7.1	16.0	20.4	23.8			5	42.5	--A	--	--	--
0 337	20- 33	C 1	13.9	67.3	18.8	--	--	0.3	2.6	11.0	22.5	44.8			TR	35.4	--A	--	--	--
0 338	33- 51	C 2	24.3	61.8	13.9	--	--	0.1	3.1	21.1	24.5	37.3			TR	48.2	--A	--	--	--
0 339	51- 71	C 3	13.8	69.5	16.7	--	--	0.3	3.5	10.0	18.3	51.2			TR	30.8	--A	--	--	--
0 340	71-100	C 4	25.6	58.5	15.9	0.1	--	0.4	7.6	17.5	17.4	41.1			1	41.1	--A	--	--	--
0 341	100-130	C 5	23.2	70.9	5.9	--	0.2	2.2	14.8	6.0	19.8	51.1				30.6	--A	--	--	--
0 342	130-160	C 6	16.9	68.2	14.9	0.1	0.5	2.1	9.8	4.4	16.2	52.0			TR	23.7	--A	--	--	--

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR- BCN 6A1A -PERCENT--	NITRO GEN 6B1A	CARBCNATE AS CACC3 LT 2 6E1B -PERCENT-	19-2 6E1B	EXT. IRON FE 6C2B PCT.	ATTERBERG L I M I T LL 4F1 PCT.	PL 4F2 NO.40	BULK DENSITY EST 1/3 4A1F GRAMS	1/3 BAR 4A1F PER CC	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C -----PERCENT---	1/3 BAR 4B1C	15 BAR 4B2	EXTENSBLTY LEF 4D1 -PERCENT--	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
0 336	0- 20	0.92	0.104	23					1.52	1.71	1.00		25.3	22.5	12.0	4.0	4.0	7.7	8.4	7.5
0 337	20- 33	0.25	0.040	23				1.30			1.00				9.5			7.6	8.0	7.5
0 338	33- 51	0.19		22					1.26	1.31	1.00		31.2	17.4	7.7	1.3	1.3	7.7	7.8	7.6
0 339	51- 71	0.13		21				1.25			1.00				9.8			7.7	7.7	7.6
0 340	71-100	0.12		19					1.24	1.29	1.00		27.9	20.2	8.4	1.3	1.3	7.7	7.9	7.6
0 341	100-130	0.10		18				1.28			1.00				11.9			7.7	7.9	7.6
0 342	130-160	0.07		21					1.32	1.36	1.00		33.3	25.3	11.1	1.0	1.0	7.7	7.8	7.6

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT. PCT.	C E C NA- OAC 5A2A -MEQ/100G	NH4- CAC 5A6A	EC 8A1A MMHO	WATER EXTRACT FROM SATURATED PASTE 8A1 CA 6N1A	MG 6O1A	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1B	B 6T1A PPM	PH SAT. PASTE 8C1B
		--------MEQ/100G--------									----------MEQ/1000 ML----------									
0 336	0- 20	30.1	3.8	0.4	0.7	35.0	100+		15.7	3.02	33.5	10.1	2.9	0.6		6.8	1.9	38.5		7.5
0 337	20- 33	66.8	1.4	0.4	0.3	68.9	100+		9.4	3.09	35.9	5.7	3.1	0.3		3.8	3.0	35.7		7.4
0 338	33- 51	106.4	1.5	0.4	0.3	108.6	100+		7.9	3.45	39.2	3.8	4.3	0.3		4.9	5.9	35.0		7.3
0 339	51- 71	79.1	1.1	0.5	0.3	81.0	100+		8.3	3.50	38.4	3.4	5.8	0.3		3.0	7.3	35.6		7.4
0 340	71-100	60.8	1.2	0.5	0.3	62.8	100+		8.3	3.04	34.8	4.2	5.0	0.2		3.1	5.2	35.5		7.5
0 341	100-130	83.1	0.9	0.3	0.3	84.6	100+		6.7	2.81	34.5	3.8	2.7	0.3		2.8	2.4	37.7		7.4
0 342	130-160	77.5	1.5	0.2	0.3	79.5	100+		8.0	2.73	34.4	4.1	2.1	0.2		2.2	2.3	36.7		7.6

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGBLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1B PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I 7A2E	II 7A2E	III 7A2E	DTA IV 7A2E	PCT. 7A3	L.T. .0002 MM X RAY I 7A2E	II 7A2E	III 7A2E	MINERAL CODE	RELATIVE AMOUNT
0 336	0- 20	52.4	0.2	2	1	0.7		MI 4	MT 2	KK 1						MI MICA	1 TRACE
0 337	20- 33	47.9	0.3	3	1	13.0										MT MONTMORT	2 SMALL
0 338	33- 51	40.5	0.2	3	1	10.9		MI 4	MT 3	KK 3						KK KAOLINIT	3 MODERATE
0 339	51- 71	44.2	0.2	3	1	21.6											4 ABUNDANT
0 340	71-100	41.7	0.3	4	1	13.7		MI 4	MT 2	KK 2	CL 2					CL CHLORITE	5 DOMINANT
0 341	100-130	49.0	0.2	3	1	33.2											6 INDETER.
0 342	130-160	47.6	0.1	1	TR	48.5		MI 4	MT 2	KK 2	CL 2						

SAMPLE PREPARATICN CODES
A=STANCARC PREPARATICN.

ST. GEORGE SILT LOAM
S70Utah-27-11

Location: Washington County, UT. 1,500 feet west and 1,200 feet south of the northeast corner of Sec. 3, T. 42 S., R. 13 W. Date of sampling: September 16, 1970.
Description by: Vear L. Mortensen, Collectors: D. Nettleton, V. Mortensen, T. B. Hutchings, and party.
Classification: Typic Torrifluvent, coarse-silty, mixed (calcareous), thermic.
Vegetation: Irrigated cropland. Climate: Mean annual temperature is about 60° F. Mean summer temperature is about 80°F.; average annual precipitation is 8 to 11 inches. Frost-free period is about 195 days. Parent materials: Mixed alluvium from sedimentary rocks. Topography: River terrace. Slope 0 to 3 percent. Elevation: 2,250 feet. Drainage: Well drained. Soil moisture: Usually dry.

HORIZON	DESCRIPTION
Ap RSL No. 70336	0-20 cm (0-8 inches), light brown (7.5YR 6/4) silt loam, reddish brown (5YR 4/3) moist; moderate fine subangular blocky structure; very hard, firm, sticky, plastic; few fine roots; common fine medium vesicular pores; moderately calcareous, lime is disseminated; mildly alkaline (pH 7.7); abrupt smooth boundary.
C1 RSL No. 70337	20-33 cm (8-13 inches), light reddish brown (5YR 6/4) silt loam, reddish brown (5YR 4/4) moist; moderate fine and very fine subangular blocky structure; hard, friable, slightly sticky, slightly plastic; few fine roots; many fine tubular pores; moderately calcareous, lime is disseminated; mildly alkaline (pH 7.8); diffuse smooth boundary.
C2 RSL No. 70338	33-51 cm (13-20 inches), light reddish brown (5YR 6/4) silt loam, reddish brown (5YR 4/4) moist; weak medium and fine subangular blocky structure; hard, very friable, slightly sticky, slightly plastic; few fine roots; many fine tubular pores; common fine gypsum flakes; strongly calcareous, lime is disseminated; mildly alkaline (pH 7.8); clear smooth boundary.
C3 RSL No. 70339	51-71 cm (20-28 inches), light reddish brown (5YR 6/4) silt loam, yellowish red (5YR 4/5) moist; massive; hard, very friable, slightly sticky, slightly plastic; many fine and medium tubular pores; common fine gypsum flakes; strongly calcareous, lime is disseminated; mildly alkaline (pH 7.8); diffuse smooth boundary.
C4 RSL No. 70340	71-100 cm (28-39 inches), light reddish brown (5YR 6/4) heavy silt loam, reddish brown (5YR 4/4) moist; massive; hard, friable, sticky, plastic; many fine and medium tubular pores; common, fine gypsum flakes; strongly calcareous, lime is disseminated; mildly alkaline (pH 7.8); clear smooth boundary.
C5 RSL No. 70341	100-130 cm (39-51 inches), light reddish brown (5YR 6/4) loam, reddish brown (5YR 4/4) moist; massive; slightly hard, friable, slightly sticky, slightly plastic; many fine and medium tubular pores; common fine gypsum flakes; strongly calcareous, lime is disseminated; moderately alkaline (pH 8.0); diffuse smooth boundary.
C6 RSL No. 70342	130-160 cm (51-64 inches), light reddish brown (5YR 6/4) loam, yellowish red (5YR 4/5) moist; massive structure; hard, very friable, slightly sticky, slightly plastic; many fine tubular pores; many fine gypsum flakes; strongly calcareous, lime is disseminated; moderately alkaline (pH 8.0).

CONSECUTIVE PEDON NUMBER C 70 57 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES ST. GEORGE SILT LOAM SOIL NO. S70 UTAH. 27-12 SAMPLE NO. 0 343-0 348 WASHINGTON CO. AREA

SOIL FAMILY: TYPIC TORRIFLUVENT,COARSE-SILTY,MIXED,(CALC),THRM RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION SAND 2-.05	SILT .05-.002	CLAY .002-LT	VCS 2-1	CS 1-.5	MS .5-.25	FS .25-.10	VFS .1-.05	CSI .05-.02	FSI .02-.002	CO. FINE 2-.2U	FINE LT .2U	CARBO NATE 3A1A.02	1A2A INT. II .2-	COARSE FRAGMENTS PCT. OF WHOLE SOIL	I 75-20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75			
0 343	0- 23	AP	18.5	64.7	16.8	0.2	0.4	0.7	5.3	11.9	27.5	37.2			TR	43.3	--A	--	--	--
0 344	23- 51	C 1	29.7	57.4	12.9	0.1	0.6	0.8	9.4	18.8	27.6	29.8				53.7	--A	--	--	--
0 345	51- 73	C 2	27.5	53.8	18.7	0.3	0.3	1.2	11.6	14.1	14.9	38.9			1	37.4	--A	--	--	--
0 346	73- 97	C 3	15.6	65.5	18.9	0.1	0.1	0.4	3.8	11.2	21.8	43.7			1	35.8	--A	--	--	--
0 347	97-130	C 4	36.6	54.3	9.1	--	0.4	1.6	14.6	20.0	23.1	31.2			TR	53.5	--A	--	--	--
0 348	130-150	C 5	40.4	50.6	9.0	--	0.1	0.9	15.7	23.7	23.3	27.3			TR	59.1	--A	--	--	--

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 681A	CARBONATE AS CACO3 LT 2 6E1B	19-2 6E1B	EXT. IRON FE 6C2B	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST 1/3 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 382	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTENSBLTY LEF 4D1	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
		PERCENT		PERCENT		PCT.	PCT.NO.40		GRAMS PER CC				PERCENT			PERCENT				
0 343	0- 23	0.72	0.077	22						1.40	1.46	1.00	30.8	21.7	9.3	1.4	1.4	7.7	8.0	7.6
0 344	23- 51	0.46	0.052	21						1.35	1.40	1.00	28.3	18.7	7.9	1.2	1.2	7.6	8.0	7.6
0 345	51- 73	0.41		23					1.25			1.00			8.1			7.7	7.8	7.6
0 346	73- 97	0.21		23						1.18	1.22	1.00	35.5	22.7	8.4	1.1	1.1	7.7	7.8	7.6
0 347	97-130	0.13		15					1.25			1.00			10.3			7.7	7.7	7.6
0 348	130-150	0.11		19						1.35	1.38	1.00	29.4	20.5	8.5	0.7	0.7	7.7	7.7	7.6

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6Q2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT.	C E C NA-OAC 5A2A	NH4-CAC 5A6A	EC 8A1A	CA 6N1A	MG 6O1A	WATER EXTRACT FROM SATURATED PASTE 8A1 NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1B	B 6T1A	PH SAT. PASTE 8C1B
		MEQ/100G					PCT.	MEQ/100G		MMHO	MEQ/1000 ML								PPM	
0 343	0- 23	59.8	2.0	0.4	0.3	62.5	100+		9.1	3.14	34.3	8.1	5.3	0.4		5.9	2.6	41.2		7.5
0 344	23- 51	119.9	1.6	0.3	0.4	122.2	100+		8.0	2.87	33.3	5.5	3.5	0.3		4.4	1.5	39.1		7.6
0 345	51- 73	80.2	1.3	0.3	0.4	82.2	100+		8.3	2.65	32.6	4.0	2.5	0.3		3.5	1.4	36.3		7.6
0 346	73- 97	82.2	1.4	0.3	0.4	84.3	100+		8.0	2.56	31.5	4.1	2.2	0.3		2.2	1.5	37.4		7.6
0 347	97-130	125.7	1.2	0.3	0.2	127.4	100+		5.6	2.76	33.4	4.8	2.2	0.3		2.8	0.8	39.8		7.5
0 348	130-150	77.9	1.3	0.4	0.3	79.9	100+		5.9	2.63	31.6	4.4	3.0	0.3		2.3	1.5	38.3		7.6

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGBLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1B PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY DTA I 7A2E	II 7A2E	III 7A2E	IV 7A2E	PCT.	L.T. .0002 MM X RAY I 7A2E	II 7A2E	III 7A2E	MINERAL CODE	RELATIVE AMOUNT
0 343	0- 23	47.1	0.2	2	1	13.6		MI 4	MT 3	KK 3						MI MICA	1 TRACE
0 344	23- 51	45.9	0.1	2	1	15.2										MT MONTMORT	2 SMALL
0 345	51- 73	43.6	0.2	2	1	8.0		MI 4	KK 3	MT 2	CL 1					KK KAOLINIT	3 MODERATE
0 346	73- 97	43.7	0.2	3	1	13.1											4 ABUNDANT
0 347	97-130	45.0	0.2	4	1	29.2		MI 3	MT 2	KK 2	CL 1					CL CHLORITE	5 DOMINANT
0 348	130-150	42.4	0.3	5	1	26.6											6 INDETER.

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.

ST. GEORGE SILT LOAM
S70Utah-27-12

Location: Washington County, UT. Win Stout farm, one mile southwest of Hurricane Airport, near the center of Sec. 16, T. 42 S., R. 13 W. Date of sampling: September 16, 1970.
Description by: Vear L. Mortensen. Collectors: D. Nettleton. T. B. Hutchings, V. Mortensen, and party.
Classification: Typic Torrifluvent, coarse-silty, mixed (calcareous), thermic.
Vegetation: Alfalfa hay field. Climate: Mean annual temperature is about 60° F. Mean summer temperature is about 80° F. Average annual precipitation is 8 to 11 inches; frost-free period is about 195 days. Parent materials: Mixed alluvium from sedimentary rocks. Topography: River terrace. Slope, 0 to 3 percent. Elevation: 3,150 feet. Drainage: Well drained. Soil moisture: Usually dry.

HORIZON	DESCRIPTION
Ap RSL No. 70343	0-23 cm (0-9 inches), light brown (7.5YR 6/4) silt loam, reddish brown (5YR 4/4) moist; moderate medium subangular blocky structure; hard, very friable, slightly sticky, slightly plastic; common fine, few medium and coarse roots; moderately calcareous, lime is disseminated; moderately alkaline (pH 8.0); diffuse smooth boundary.
C1 RSL No. 70344	23-51 cm (9-20 inches), strong brown (7.5YR 5/5) silt loam; yellowish red (5YR 4/5) moist; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky, plastic; common fine, few medium and coarse roots; many fine tubular pores; common gypsum granules; moderately calcareous, lime is disseminated; moderately alkaline (pH 8.1); clear smooth boundary.
C2 RSL No. 70345	51-73 cm (20-29 inches), light reddish brown (5YR 6/4) silt loam, reddish brown (5YR 4/4) moist; massive; slightly hard, friable, slightly sticky, plastic; common fine and few medium roots; many fine and few medium tubular pores; common fine gypsum granules; the C horizons have strata of fine sand 1/4 to 2 inches thick; moderately calcareous, lime is disseminated; moderately alkaline (pH 8.2); gradual smooth boundary.
C3 RSL No. 70346	73-97 cm (29-38 inches), light reddish brown (5YR 6/4) silt loam, yellowish red (5YR 4/6) moist; massive; soft, very friable, slightly sticky, slightly plastic; common fine roots; many fine and very fine tubular pores; common fine gypsum granules; moderately calcareous, lime is disseminated; moderately alkaline (pH 8.0); gradual smooth boundary.
C4 RSL No. 70347	97-130 cm (38-51 inches), reddish yellow (5YR 6/6) silt loam, yellowish red (5YR 4/6 moist; massive; slightly hard, very friable, slightly sticky, slightly plastic; few fine roots; many fine and very fine tubular pores; moderately calcareous, lime is disseminated; moderately alkaline (pH 7.8); gradual smooth boundary.
C5 RSL No. 70348	130-150 cm (51-60 inches), reddish yellow (5YR 6/6) very fine sandy loam, yellowish red (5YR 4/6) moist; massive; soft, very friable, slightly sticky, slightly plastic; few fine roots; moderately calcareous, lime is disseminated; mildly alkaline (pH 7.8).

CONSECUTIVE PEDCN NUMBER C 70 58 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES NAPLENE LOAM (TAXADJUNCT) SOIL NO. S70 UTAH. 27-13 SAMPLE NO. 0 349-0 355 WASHINGTON CO. AREA

SOIL FAMILY: USTIC TORRIFLUVENT,COARSE-SILTY,MXD(CALC),MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2-.05	SILT .05-.002	CLAY LT .002	SANDS VCS 2-1	CS 1-.5	MS .5-.25	FS .25-.10	VFS .1-.05	CSI .05-.02	FSI .02-.002	SILTS CC. 2-.2U	CLAYS FINE LT .2U	CARBONATE 3A1A	INT. II .2-.02	COARSE FRAGMENTS I PCT. OF WHOLE SOIL 75-20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75		
0 349	0- 5	A11	46.5	45.4	8.1	1.4	2.3	1.6	7.1	34.1	27.9	17.5				67.3	4A	--	2	2
0 350	5- 13	A12	47.7	40.8	11.5	1.2	2.4	1.9	8.3	33.9	22.5	18.3				62.7	6A	--	3	3
0 351	13- 33	C 1	36.2	49.6	14.2	2.2	2.0	1.2	5.4	25.4	23.4	26.2			TR	52.9	4A	1	1	1
0 352	33- 63	C 2	34.8	50.7	14.5	0.8	1.0	0.9	5.0	27.1	25.4	25.3			1	56.2	2A	--	1	1
0 353	63- 84	C 3	31.7	51.2	17.1	0.6	0.8	0.9	4.2	25.2	22.2	29.0			2	50.5	--A	--	--	--
0 354	84-112	C 4	31.6	52.0	16.4	1.6	1.1	0.9	4.2	23.8	24.2	27.8			1	51.1	--A	--	--	--
0 355	112-158	C 5	38.3	46.0	15.7	1.9	1.8	1.5	5.6	27.5	24.3	21.7				55.9	3A	1	1	1

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	19-2 6E1B	EXT. IRON FE 6C2B	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST 1/3 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTENSBLTY LEF 4D1	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
		-PERCENT--		-PERCENT-		PCT.	PCT.NO.40		GRAMS PER CC				----PERCENT---			-PERCENT--				
0 349	0- 5	0.45	0.049	10					1.44			0.98			3.4			8.2		7.5
0 350	5- 13	0.25	0.032	11					1.44			0.97			4.2			8.4		7.7
0 351	13- 33	0.23		13						1.46	1.51	0.98	16.3	10.3	5.0	1.1	1.1	8.4		7.8
0 352	33- 63	0.21		14					1.40			0.99			5.3			8.4		7.8
0 353	63- 84	0.23		18						1.37	1.42	1.00	21.7	12.7	6.0	1.2	1.2	8.4		7.8
0 354	84-112	0.21		17					1.40			1.00			6.1			7.7	8.1	7.7
0 355	112-158	0.18		11						1.44	1.49	0.98	24.1	13.8	6.4	1.1	1.1	8.0	8.3	7.9

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT.	C E C NA-OAC 5A2A	NH4-CAC 5A6A	EC 8A1A	WATER EXTRACT FROM SATURATED PASTE 8A1 CA 6N1A	MG 6O1A	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1B	B 6T1A	PH SAT. PASTE 8C1B
		---MEQ/100G---					PCT.	-MEQ/100G		MMHO	----MEQ/1000 ML----								PPM	
0 349	0- 5	12.2	1.3	0.1	0.5	14.1	100+		5.6	0.58										
0 350	5- 13	15.6	1.8	0.1	0.6	18.1	100+		6.7	0.48										
0 351	13- 33	16.8	2.2	0.1	0.6	19.7	100+		6.5	0.42										
0 352	33- 63	17.4	3.2	0.1	0.6	21.3	100+		6.6	0.35										
0 353	63- 84	15.1	3.3	0.1	0.6	19.1	100+		6.8	0.43										
0 354	84-112	51.4	2.2	0.5	0.5	54.6	100+		6.9	3.09	29.8	10.0	4.4	0.7		2.2	2.7	41.9		7.5
0 355	112-158	66.4	4.8	2.5	0.4	74.1	100+		6.9	10.1	35.3	40.4	49.8	0.9		3.2	65.1	68.0		7.7

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGBLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1B PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I 7A2E	II 7A2E	III 7A2E	IV 7A2E	DTA 7A3 PCT.	L.T. .0002 MM X RAY I 7A2E	II 7A2E	III 7A2E
0 349	0- 5		0.1	2				MI	4	KK	3	CL 2	MT 1		
0 350	5- 13		0.1	1											
0 351	13- 33		0.1	2				MI	4	KK	3	CL 2	MT 1		
0 352	33- 63		0.1	2											
0 353	63- 84		0.1	1				MI	4	KK	3	CL 2	MT 1		
0 354	84-112	37.6	0.3	5	1	2.8									
0 355	112-158	37.2	0.6	9	8	4.7		MI	4	KK	3	CL 3	MT 1		

MINERAL CODE
MI MICA
KK KAOLINIT
CL CHLORITE
MT MONTMORT

RELATIVE AMOUNT
1 TRACE
2 SMALL
3 MODERATE
4 ABUNDANT
5 DOMINANT
6 INDETER.

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.

NAPLENE LOAM (taxadjunct) 1/
S70Utah-27-13

Location: Washington County, UT. About 3 1/4 miles east of Virgin, 1,300 feet east and 350 feet south of the northwest corner of Sec. 29, T. 41 S., R. 11 W. Date of sampling: September 17, 1970.
Description by: Vear L. Mortensen. Collectors: D. Nettleton, V. Mortensen, T. B. Hutchings, and party.
Classification: Ustic Torrifluvent, coarse-silty, mixed (calcareous), mesic.
Vegetation: Galleta grass, cheatgrass, rabbitbrush, and cactus. Climate: Mean annual temperature is about 52° F. Mean summer temperature is 70° to 75° F. Average annual precipitation is about 14 inches; frost-free season is 120 to 160 days. Parent materials: Mixed alluvium from sandstone, siltstone, and shale. Topography: Alluvial fan. Slopes are 0 to 3 percent. Elevation: 4,130 feet. Drainage: Well drained. Soil moisture: Usually dry.

HORIZON	DESCRIPTION
A11 RSL No. 70349	0-5 cm (0-2 inches), brown (7.5YR 5/4) light loam, dark reddish brown (5YR 3/4) moist; moderate thin and moderately thick platy structure that parts to moderate fine and very fine granular; slightly hard, friable, nonsticky, slightly plastic; common fine and very fine roots; many very fine and micro tubular and interstitial pores; a surface crust about 1/4 to 1/2 inch thick has vesicular porosity; moderately calcareous, lime is disseminated; strongly alkaline (pH 8.6); clear smooth boundary.
A12 RSL No. 70350	5-13 cm (2-5 inches), brown (7.5YR 5/4) light loam, dark reddish brown (5YR 3/4) moist; moderate fine granular structure; slightly hard, friable, nonsticky slightly plastic; common fine and very fine roots; many very fine and micro tubular and interstitial pores; moderately calcareous, lime is disseminated; strongly alkaline (pH 8.6); clear smooth boundary.
C1 RSL No. 70351	13-33 cm (5-13 inches), reddish brown (5YR 5/4) loam, dark reddish brown (5YR 3/4) moist; massive; slightly hard, friable, slightly sticky, slightly plastic; few fine and very fine roots; few fine and many very fine and micro tubular pores; moderately calcareous, lime is disseminated, but also occurs as a thin coating on the undersides of the few rock fragments; strongly alkaline (pH 8.6); clear smooth boundary.
C2 RSL No. 70352	33-63 cm (13-25 inches), reddish brown (5YR 5/4) silt loam, dark reddish brown (5YR 3/4) moist; massive; slightly hard, friable, slightly sticky, slightly plastic; few fine and very fine roots; few fine and many very fine and micro tubular pores; moderately calcareous, lime is disseminated but also occurs as a thin coating on the undersides of the few pebbles; strongly alkaline (pH 8.6); clear smooth boundary.
C3 RSL No. 70353	63-84 cm (25-33 inches), reddish brown (5YR 5/4) silt loam, dark reddish brown (5YR 3/4) moist; massive; hard, friable, slightly sticky, plastic; few very fine roots; many very fine and micro tubular pores; moderately calcareous, lime is disseminated but also occurs in a few soft nodules and filaments; strongly alkaline (pH 8.7); clear smooth boundary
C4 RSL No. 70354	84-112 cm (33-44 inches), reddish brown (5YR 5/4) heavy loam, dark reddish brown (5YR 3/4) moist; massive; hard, friable, slightly sticky, plastic; few very fine roots; many very fine and micro tubular pores; moderately calcareous, lime is disseminated but also occurs in a few soft nodules and filaments; strongly alkaline (pH 8.6); gradual smooth boundary.
C5 RSL No. 70355	112-158 cm (44-62 inches), reddish brown (5YR 5/4) loam, dark reddish brown (5YR 3/4) moist; massive; hard, friable, slightly sticky, plastic; few very fine roots; many very fine and micro tubular pores; moderately calcareous, lime is disseminated but also occurs in a few soft nodules and filaments; strongly alkaline (pH 8.6).

1/ The Naplene series is in a fine-silty, mixed (calcareous), mesic family of Ustic Torrifluvents. This pedon has less than 18 percent clay in its control section.

CONSECUTIVE PEDON NUMBER C 70 59 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES NAPLENE LOAM SOIL NO. S70 UTAH. 27-14 SAMPLE NO. 0 356-0 362 WASHINGTON CO. AREA

SOIL FAMILY: USTIC TORRIFLUVENT,FINE-SILTY,MXD,(CALC),MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION 2- .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBONATE 3A1A.02	INT. II .2- 75-	1A2A COARSE FRAGMENTS OF WHOLE SOIL PCT. OF LT 75 I 20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM																
0 356	0- 5	A11	23.1	56.6	20.3	0.6	1.1	1.5	8.0	11.9	23.9	32.7			1	41.2	--A	--	--	--
0 357	5- 15	A12	17.9	57.7	24.4	0.7	0.7	1.0	5.5	10.0	20.3	37.4			1	34.1	--A	--	--	--
0 358	15- 36	C 1	20.5	56.5	23.0	0.5	0.9	1.5	7.2	10.4	19.1	37.4			1	34.1	--A	--	--	--
0 359	36- 57	C 2	19.2	52.6	28.2	0.1	0.4	1.0	6.9	10.8	18.8	33.8	27.9	0.3	2	34.6	--A	--	--	--
0 360	57- 78	C 3	22.9	51.3	25.8	0.3	1.0	1.2	7.8	12.6	19.1	32.2			2	37.3	--A	--	--	--
0 361	78- 99	C 4	19.8	55.9	24.3	1.2	1.2	1.0	5.6	10.8	18.7	37.2			2	33.6	--A	--	--	--
0 362	99-135	C 5	14.3	59.3	26.4	0.9	0.8	0.7	3.5	8.4	20.2	39.1			2	31.1	--A	--	--	--

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A -PERCENT--	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B -PERCENT-	19-2 6E1B	EXT. IRON FE 6C2B PCT.	ATTERBERG LIMIT EST LL 4F1 PCT.NO.40	PL 4F2	BULK DENSITY 1/3 BAR 4A1F GRAMS PER CC	15 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C -----PERCENT---	1/3 BAR 4B1C	15 BAR 4B2	EXTENSBLTY LEF 4D1 -PERCENT--	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
0 356	0- 5	0.61	0.065	17						1.44	1.55	1.00	20.5	16.5	8.0	2.5	2.5	8.2		7.7
0 357	5- 15	0.60	0.062	17					1.43			1.00			9.4			8.2		7.6
0 358	15- 36	0.49		18						1.41	1.48	1.00	22.9	15.6	4.6	1.6	1.6	8.3		7.8
0 359	36- 57	0.43		16					1.43			1.00			10.4			8.3		7.8
0 360	57- 78	0.34		17						1.52	1.64	1.00	21.1	17.2	9.5	2.6	2.6	8.3		7.8
0 361	78- 99	0.36		18					1.55			1.00			9.4			8.2	9.2	7.8
0 362	99-135	0.38		19						1.59	1.71	1.00	21.2	18.4	9.9	2.5	2.5	7.9	8.6	7.7

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6D2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT. PCT.	C E C NA+ OAC 5A2A -MEQ/100G	NH4- CAC 5A6A	EC 8A1A MMHO	WATER EXTRACT FROM SATURATED PASTE CA 6N1A	MG 6O1A	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	8A1 SO4 6L1B	B 6T1A PPM	PH SAT. PASTE 8C1B
		MEQ/100G									MEQ/1000 ML									
0 356	0- 5	19.1	1.9	0.1	1.2	22.3	100+		10.0	0.76										
0 357	5- 15	19.4	2.6	0.1	1.5	23.6	100+		11.2	0.41										
0 358	15- 36	14.7	3.1	0.1	1.3	19.2	100+		10.9	0.43										
0 359	36- 57	19.5	4.6	0.1	1.7	25.9	100+		11.5	0.54										
0 360	57- 78	17.9	4.1	0.2	1.8	24.0	100+		11.6	0.79										
0 361	78- 99	19.7	3.6	0.2	1.7	25.2	100+		10.2	1.32	5.3	2.8	2.2	2.4		2.6	8.1			7.8
0 362	99-135	19.8	3.7	0.5	1.5	25.5	100+		11.4	3.32	18.0	8.6	5.4	2.7		1.8	24.8	6.5		7.6

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGEABLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1B PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I 7A2E	II 7A2E	III 7A2E	IV 7A2E	DTA 7A3 PCT.	L.T. .0002 MM X RAY I 7A2E	II 7A2E	III 7A2E	MINERAL CODE	RELATIVE AMOUNT
0 356	0- 5		0.1	1				MI 4	KK 3	CL 2						MI MICA	1 TRACE
0 357	5- 15		0.1	1												KK KAOLINIT	2 SMALL
0 358	15- 36		0.1	1				MI 4	KK 3	MT 2	CL 1					CL CHLORITE	3 MODERATE
0 359	36- 57		0.1	1													4 ABUNDANT
0 360	57- 78		0.2	2				MI 4	KK 3	MT 1	CL 1					MT MONTMORT	5 DOMINANT
0 361	78- 99	49.0	TR	1	1												6 INDETER.
0 362	99-135	49.7	0.2	2	1			MI 4	KK 3	CL 2	MT 1						

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.

NAPLENE LOAM
S70Utah-27-14

Location: Iron County, UT. 600 feet northwest of the New Harmony interchange on I-15 2,100 feet west and 525 feet north of the southeast corner of Sec. 17, T. 38 S., R. 12 W. Date of sampling: September 17, 1970.
Description by: Vear L. Mortensen. Collectors: D. Nettleton, V. Mortensen, T. B. Hutchings, and party.
Classification: Ustic Torrifluvent, fine-silty, mixed (calcareous), mesic.
Vegetation: Sagebrush, juniper, cheatgrass. Climate: Mean annual temperature is about 52° F. Mean summer temperature is 70° to 75°F. Average annual precipitation is 14 to 15 inches. Frost-free period is 120 to 160 days. Parent materials: Mixed alluvium from sedimentary rocks. Topography: Alluvial fan. Slope is about 4 percent. Elevation: 5,200 feet. Drainage: Well drained. Soil moisture: Usually dry.

HORIZON	DESCRIPTION
A11 RSL No. 70356	0-5 cm (0-2 inches), brown (7.5YR 5/4) silt loam, dark reddish brown (5YR 3/4) moist; moderate thin platy structure; slightly hard, friable, slightly sticky, slightly plastic; few very fine and fine roots; common fine vesicular pores; moderately calcareous, lime is disseminated; strongly alkaline (pH 8.8); abrupt smooth boundary.
A12 RSL No. 70357	5-15 cm (2-7 inches), brown (7.5YR 5/4) silt loam, dark reddish brown (5YR 3/4) moist; moderate, moderately thick platy structure; hard, friable, slightly sticky, slightly plastic; few very fine, fine, and medium roots; common fine and very fine vesicular pores; moderately calcareous, lime is disseminated; strongly alkaline (pH 8.8); abrupt smooth boundary.
C1 RSL No. 70358	15-36 cm (7-15 inches), brown (7.5YR 5/4) silt loam, dark reddish brown (5YR 3/4) moist; moderate coarse subangular blocky that parts to moderate medium subangular blocky structure; very hard, friable, sticky, plastic; few fine and medium roots; common fine and few medium tubular pores; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.9); gradual wavy boundary.
C2 RSL No. 70359	36-57 cm (15-22 inches), reddish brown (5YR 5/4) light silty clay loam, dark reddish brown (5YR 3/4) moist; moderate medium subangular blocky structure; very hard, friable, sticky, plastic; common fine and very fine roots; common fine tubular pores; strongly calcareous, lime is disseminated; and veined; strongly alkaline (pH 8.6); gradual wavy boundary.
C3 RSL No. 70360	57-78 cm (22-31 inches), reddish brown (5YR 5/4) silt loam, dark reddish brown (5YR 3/4) moist; moderate medium subangular blocky structure; very hard, friable, sticky, plastic; few fine and very fine roots; common fine tubular pores; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.6); gradual wavy boundary.
C4 RSL No. 70361	78-99 cm (31-39 inches), reddish brown (5YR 5/4) silt loam, dark reddish brown (5YR 3/4) moist; moderate medium subangular blocky structure; very hard, friable, sticky, plastic; few fine and very fine roots; common fine tubular pores; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.6); gradual wavy boundary.
C5 RSL No. 70362	99-135 cm (39-53 inches), brown (7.5YR 5/4) silt loam; dark reddish brown (5YR 3/4) moist; moderate medium subangular blocky structure; very hard, friable, sticky, plastic; few very fine roots; common fine random tubular pores; strongly calcareous, lime is disseminated and veined; strongly alkaline (pH 8.5).

CONSECUTIVE PEDON NUMBER C 67 26 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES MAYFIELD SHALY LOAM (TAXADJUNCT) SOIL NO. S67 UTAH. 20-15 SAMPLE NO. 7 425-7 434 SANPETE CO. AREA

SOIL FAMILY: XERIC TORRIFLUVENT COARSE-LMY,CARBONATIC,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION SAND 2-.05	SILT .05-.002	CLAY LT .002	SANDS VCS 2-1	CS 1-.5	MS .5-.25	FS .25-.10	VFS .1-.05	CSI .05-.02	FSI .02-.002	SILTS CO. 2-.20	CLAYS FINE LT .20	CARBO NATE 3A1A	INT. II .2-.02	1A2A PCT. OF SOIL	COARSE FRAGMENTS I 75-20 WHOLE 20 PCT. OF LT 75	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM																	
7 425	0- 5	A11	38.4	46.9	14.7	2.9	5.6	5.2	12.2	12.5	17.8	29.1			5	37.4	7	TR	7Z	N
7 426	5- 13	A12	31.1	51.9	17.0	5.3	6.0	3.3	7.4	9.1	20.5	31.4			5	34.0	14	3	11Z	N
7 427	13- 28	C 1	34.5	44.7	20.8	6.4	6.8	3.6	7.6	10.1	14.7	30.0			5	29.5	19	TR	19Z	N
7 428	28- 56	C 2	34.7	44.7	20.6	7.9	8.0	3.6	6.5	8.7	13.0	31.7			4	25.5	39	8	31Z	N
7 429	56- 76	C 3	32.3	46.6	21.1	2.3	4.6	3.7	9.1	12.6	16.5	30.1			6	34.9	11	TR	11Z	N
7 430	76-104	C 4	35.6	45.7	18.7	4.2	6.1	4.3	9.2	11.8	15.6	30.1		—	6	33.0	37	23	14Z	N
7 431	104-114	C 5															35	16	19Z	N
7 432	114-142	C 6															21	7	14Z	N
7 433	142-165	C 7															56	20	36Z	N
7 434	165-190	C 8															10	TR	10Z	N

SAMPLE NO.	DEPTH CM.	ORG. MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	19-2 6E1B	EXT. IRON FE 6C2B	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST 1/3 BAR 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTENSBLTY LEF 4D1	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
		-PERCENT--		-PERCENT-		PCT. PCT.NO.40			GRAMS PER CC				-PERCENT---			-PERCENT--				
7 425	0- 5	1.67	0.129	49		0.3			1.34	1.38	0.96		14.6	7.7	1.0	0.9		9.3		
7 426	5- 13	0.63	0.077	50		0.3			1.40	1.46	0.92		16.5	7.8	1.4	1.3		9.5		
7 427	13- 28	0.44		52		0.3			1.24	1.34	0.90		17.9	8.9	2.6	2.3		8.7		
7 428	28- 56	0.44		44		0.3			1.26	1.34	0.77		19.8	5.6	2.1	1.6		8.0		
7 429	56- 76	0.41		45					1.33	1.39	0.94		19.4	9.0	1.5	1.4		8.1		
7 430	76-104	0.30		50					1.35	1.39	0.77		19.1	8.4	1.0	0.7		8.3		
7 431	104-114	0.28							1.35	1.42	0.78		18.4	7.8	1.7	1.3				
7 432	114-142	0.22							1.29	1.31	0.89		20.9	10.7	0.5	0.5				
7 433	142-165								1.10	1.14	0.65		19.2	10.0	1.2	0.8				
7 434	165-190								1.33	1.37	0.95		13.8	9.1	1.0	0.9				

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B3A 6N4C	MG 5B3A 6O4C	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT.	CEC NA-OAC 5A2A	NH4-CAC 5A6A	WATER EXTRACT FROM SATURATED PASTE 8A1 EC 8A1A	CA 6N1B	MG 6O1B	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1A	B 6T1A	PH SAT. PASTE 8C1B
		MEQ/100G					PCT.	-MEQ/100G		MMHO	MEQ/1000 ML								PPM	
7 425	0- 5			1.0	1.8	2.8			8.3	2.51	10.2	2.1	5.4	3.0		12.5	1.3	9.2		7.6
7 426	5- 13			0.9	1.5	2.4			7.0	2.21	4.8	0.4	1.4	2.9		8.8	3.7			7.9
7 427	13- 28			0.7	0.8	1.5			8.0	3.79	26.5	2.4	13.4	1.3		2.5	8.6	37.7		7.5
7 428	28- 56			0.4	0.8	1.2			10.2	4.45	31.0	12.6	9.2	2.5		2.5	9.6	50.2		7.4
7 429	56- 76			2.0	0.4	2.4			12.9	9.0	62.5	27.0	36.8	0.8		2.9	39.7	75.8		7.6
7 430	76-104			2.6	0.4	3.0			6.6	13.2	64.0	61.5	69.2	0.4		2.6	59.8	10.8		7.8
7 431	104-114																			
7 432	114-142																			
7 433	142-165																			
7 434	165-190																			

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 6A PCT.	EXCHANGBLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1A PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY DTA 7A2E I	7A2E II	7A2E III	7A2E IV	7A3 PCT.	L.T. .0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
7 425	0- 5	38.4	0.8	10	2			MI 3	CL 2							MI MICA	1 TRACE
7 426	5- 13	33.3	0.9	12	1			MI 3	CL 2							CL CHLORITE	2 SMALL
7 427	13- 28	37.3	0.2	3	4	0.1		MI 4	CL 2								3 MODERATE
7 428	28- 56	38.7	TR	TR	2	6.0		MI 4	CL 2								4 ABUNDANT
7 429	56- 76	39.6	0.5	4	6	7.0											5 DOMINANT
7 430	76-104	37.3	TR	TR	9	4.0											6 INDETER.
7 431	104-114																
7 432	114-142																
7 433	142-165																
7 434	165-190																

SAMPLE PREPARATION CODES
N=NOT DETERMINED.
Z=NOT ALL FRACTIONS SEPERATED. ADJACENT FRACTIONS INCLUDED HERE.

MAYFIELD SHALY LOAM (taxadjunct) 1/
S67Utah-20-15

Location: Sanpete Soil Survey Area, Utah. Sec. 30, T. 19 S., R. 2 E.; west of Mayfield-Manti road junction 1 1/4 miles, about 250 feet west of the road. Date of sampling: September 1, 1967.
Description by: A. Erickson, D. Erickson, J. Shiozaki, J. Swenson. Collectors: B. Brasher, D. Nettleton.
Classification: Xeric Torrifluvent, coarse-loamy, carbonatic, mesic.
Vegetation: Big sage, cheatgrass, annual weeds, and shadscale. Use: For winter grazing. Climate: Precipitation, 10 inches. Mean annual air temperature, 48°F.; mean summer air temperature, 66°F. Frost-free days, 120. Parent material: Alluvium from shale. Topography: Alluvial cone. Elevation: 5,500 feet. Drainage: Well drained, moderate permeability, medium runoff, no water table. Soil moisture: Dry.

HORIZON	DESCRIPTION
	(0-5 cm)
A11 RSL 67425	0 to 2 inches, light brownish gray (2.5Y 6/2) shaly loam, grayish brown (2.5Y 5/2) moist; coarse fragments occur as a surface mantle; moderate thin platy to moderate fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; few fine and very fine roots; many fine and very fine vesicular pores; strongly calcareous, lime is disseminated; strongly alkaline; (pH 8.6); abrupt smooth boundary.
A12 RSL 67426 (5-13 cm)	2 to 5 inches, light gray (2.5Y 7/2) loam; grayish brown (2.5Y 5/3) moist; moderate thin platy structure; hard, friable, slightly sticky and plastic; common fine, few very fine roots; common fine and very fine pores; strongly calcareous, lime is disseminated; strongly alkaline (pH 9.0); clear smooth boundary.
C1 RSL 67427 (13-28 cm)	5 to 11 inches, light gray (2.5Y 7/2) light silty clay loam, pale brown (10YR 6/3) moist; weak thick platy structure; hard, dry, friable moist, sticky and slightly plastic; few medium and fine roots; common very fine pores; 15 percent coarse fragments; strongly calcareous, lime is disseminated; strongly alkaline; (pH 8.8); clear wavy boundary.
IIC2 RSL 67428 (28-56 cm)	11 to 22 inches, light gray (2.5Y 7/2) shaly loam, light yellowish brown (2.5Y 6/4) moist; single grain; slightly hard, friable, slightly sticky and slightly plastic; few medium and few fine roots; many fine and very fine pores; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.6); clear wavy boundary.
IIIC3 RSL 67429 (56-76 cm)	22 to 30 inches, pale yellow (2.5Y 7/3) silt loam, light yellowish brown (2.5Y 6/3) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; common very fine pores; common gypsum nodules 1 percent coarse fragments; strongly calcareous, lime is flakes, disseminated, strongly alkaline; (pH 8.6); clear smooth boundary.
IVC4 RSL 67430 (76-104 cm)	30 to 41 inches, very pale brown (10YR 7/3) gravelly loam; pale brown (10YR 6/3) moist; massive; hard, friable, slightly sticky and plastic; few very fine roots; few fine and very fine pores; 25 percent coarse fragments, few gypsum nodules; strongly calcareous, lime is disseminated and in fine flakes; strongly alkaline; (pH 8.8); gradual smooth boundary.
IVC5 RSL 67431 (104-114 cm)	41 to 45 inches, very pale brown (10YR 7/3) shaly loam, pale brown (10YR 6/3) moist; massive; slightly hard, friable, slightly sticky and plastic; few very fine roots; common very fine pores; few to common gypsum nodules; 22 percent coarse fragments; strongly calcareous, lime is disseminated; strongly alkaline; (pH 8.6); clear smooth boundary.
IVC6 RSL 67432 (114-142 cm)	45 to 56 inches, very pale brown (10YR 7/3) silt loam; pale brown (10YR 6/3) moist; massive; slightly hard, friable, slightly sticky and plastic; few very fine roots; few fine, few medium pores; 5 to 10 percent coarse fragments, common to few gypsum nodules; strongly calcareous, lime is disseminated and in veins; strongly alkaline (pH 8.6); clear wavy boundary.
IVC7 RSL 67433 (142-165 cm)	56 to 65 inches, very pale brown (10YR 7/3) shaly sandy loam, pale brown (10YR 6/3) moist; massive; slightly hard, loose, nonsticky and slightly plastic; common fine pores; 25 percent shale fragments; strongly calcareous, lime is disseminated and segregated on coarse fragments; strongly alkaline (pH 8.6); clear wavy boundary.
VC8 RSL 67434 (165-190 cm)	65 to 75 inches, very pale brown (10YR 8/3) silt loam, pale brown (10YR 6/3) moist; massive; hard, friable, slightly sticky and plastic; few very fine roots; common very fine pores; common gypsum veining; strongly calcareous, lime is disseminated and in fine flakes; strongly alkaline (pH 8.6)

1/ The Mayfield series is in a fine-loamy, carbonatic, mesic family of Xeric Torrifluvents. This pedon has enough total clay to fit the series but has less than 18 percent noncarbonate clay.

CONSECUTIVE PEDON NUMBER C 67 18 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES LINDYER LOAM SOIL NO. S67 UTAH. 20- 7 SAMPLE NO. 7 341-7 355 SANPETE CO. AREA

SOIL FAMILY: XERIC TORRIFLUVENT,COARSE-SILTY,MIXED(CALC.),MESC RIVERSIDE SOIL SURVEY LABORATORY

SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2-.05	SILT .05-.002	CLAY LT .002	SANDS VCS 2-1	CS 1-.5	MS .5-.25	FS .25-.10	VFS .1-.05	SILTS CSI .05-.02	FSI .02-.002	CLAYS CC. 2-.2U	FINE LT .2U	CARBO NATE 3A1A	1A2A INT. II .2-.02	COARSE FRAGMENTS PCT. OF WHOLE 20	I 75-20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														SOIL	PCT. OF LT 75		
7 341	0- 18	AP1	33.4	42.1	24.5	0.2	0.3	1.0	11.8	20.1	19.8	22.3			6	48.4	TR	TR	--	--
7 342	18- 33	AP2	30.8	43.6	25.6	0.1	0.4	1.0	10.4	18.9	21.0	22.6			7	47.5	TR	TR	--	--
7 343	33- 48	C 1	33.7	48.6	17.7	--	0.2	0.3	6.6	26.6	28.0	20.6			4	59.9	TR	TR	--	--
7 344	48- 58	C 2	30.8	54.6	14.6	--	0.3	0.4	5.0	25.1	32.1	22.5			4	61.2	TR	TR	--	--
7 345	58- 79	3A1 B	12.6	52.8	34.6	--	0.1	0.1	2.0	10.4	11.9	40.9			10	24.0	TR	TR	--	--
7 346	79- 86	4C 1B	13.6	64.9	21.5	--	0.1	0.2	2.5	10.8	31.2	33.7			3	44.1	TR	TR	--	--
7 347	86- 94	5C 2B	25.6	47.9	26.5	--	0.2	1.3	10.3	13.8	21.7	26.2			6	42.4	TR	TR	--	--
7 348	94-102	6C 3B	56.0	31.3	12.7	--	0.3	3.7	26.5	25.5	17.2	14.1			3	59.8	TR	TR	--	--
7 349	102-107	7C 4B	19.0	55.1	25.9	--	0.2	0.4	8.3	10.1	17.3	37.8			6	32.2	TR	TR	--	--
7 350	107-114	8C 5B															TR	TR	--	--
7 351	114-119	9C 6B															TR	TR	--	--
7 352	119-130	XC 7B															TR	TR	--	--
7 353	130-140	1C 8B															--	--	--	--
7 354	140-147	2C 9B															--	--	--	--
7 355	147-155	3C 10B															--	--	--	--

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	19-2 6E1B	EXT. IRON FE 6C2B	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST 1/3 BAR 4A1F	DRY 4A1F	CM 4A1H	3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTENSIBLITY LEF 4D1	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
		-PERCENT--		-PERCENT-		PCT.	PCT.NO.40		GRAMS PER CC				----PERCENT---			-PERCENT--				
7 341	0- 18	0.92	0.092	25		0.2			1.35	1.46	1.00		19.0	10.5		2.6	2.6		9.2	
7 342	18- 33	1.06	0.108	26					1.37	1.49	1.00		19.4	11.4		2.8	2.8		9.2	
7 343	33- 48	0.35		29		0.2			1.34	1.39	1.00		20.8	7.4		1.2	1.2		9.4	
7 344	48- 58	0.29		25					1.37	1.43	1.00		22.7	7.6		1.4	1.4		9.3	
7 345	58- 79	0.24		38		0.2			1.39	1.50	1.00		19.5	13.1		2.6	2.6		9.5	
7 346	79- 86	0.24		32					1.33	1.39	1.00		21.9	9.0		1.5	1.5		9.5	
7 347	86- 94	0.24		33					1.39	1.47	1.00		15.2	10.3		1.9	1.9		9.5	
7 348	94-102	0.15		28					1.42	1.45	1.00		17.4	5.0		0.7	0.7		9.5	
7 349	102-107	0.22		35		0.5			1.33	1.41	1.00		19.5	11.3		2.0	2.0		9.5	
7 350	107-114	0.10		26					1.41	1.43	1.00		13.2	2.6		0.5	0.5			
7 351	114-119	0.22		43					1.39	1.44	1.00		21.9	10.1		1.2	1.2			
7 352	119-130	0.18		22					1.45	1.45	1.00		16.8	2.5						
7 353	130-140			32					1.37	1.49	1.00		23.8	10.5		2.8	2.8			
7 354	140-147			21					1.46	1.53	1.00		13.4	3.9		1.6	1.6			
7 355	147-155			19					1.46	1.48	1.00		17.6	3.7		0.5	0.5			

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B3A 6N4C	MG 5B3A 6O4C	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT.	C E C NA-OAC 5A2A	NH4-CAC 5A6A	WATER EXTRACT FROM SATURATED PASTE EC 8A1A	CA 6N1B	MG 6O1B	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1A	B 6T1A	PH SAT. PASTE 8C1B
		--------MEQ/100G--------					PCT.	-MEQ/100G		MMHO	----------MEQ/1000 ML----------								PPM	
7 341	0- 18			0.9	0.7	1.6			12.3	1.13	4.6	3.8	5.1	0.2		7.3	2.7			8.1
7 342	18- 33			0.9	0.8	1.7			13.0	1.19	2.4	3.7	5.4	0.2		7.5	2.9			8.1
7 343	33- 48			0.8	0.4	1.2			11.1	0.95	1.4	2.2	4.6	0.1		4.4	2.3			8.2
7 344	48- 58			1.1	0.4	1.5			11.2	1.02	1.2	2.2	4.4	0.1		4.2	2.9			8.2
7 345	58- 79			1.7	0.4	2.1			17.4	1.29	1.4	2.6	7.8	0.1		3.8	3.7			8.2
7 346	79- 86			1.5	0.4	1.9			15.9	1.50	1.4	3.1	7.2	0.1		4.2	4.7			8.2
7 347	86- 94			1.5	0.4	1.9			13.8	1.39	1.6	4.7	8.8	0.1		4.5	4.4			8.2
7 348	94-102			0.8	0.2	1.0			7.5	1.31	3.5	2.8	8.4	0.1		4.3	4.0			8.2
7 349	102-107			1.5	0.4	1.9			14.6	1.69	2.5	3.6	9.1	0.2		4.2	6.4			8.2
7 350	107-114																			
7 351	114-119																			
7 352	119-130																			
7 353	130-140																			
7 354	140-147																			
7 355	147-155																			

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGBLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1A PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY DTA I 7A2E	II 7A2E	III 7A2E	IV 7A2E	PCT. 7A3	L.T. .0002 MM X RAY I 7A2E	II 7A2E	III 7A2E	MINERAL CODE	RELATIVE AMOUNT
7 341	0- 18	40.7	0.7	6	2			MI 4	MT 3	KK 3						MI MICA	1 TRACE
7 342	18- 33	42.7	0.7	5	3											MT MONTMORT	2 SMALL
7 343	33- 48	40.1	0.6	6	3			MT 4	KK 2	MI 1						KK KAOLINIT	3 MODERATE
7 344	48- 58	40.4	0.5	8	3												4 ABUNDANT
7 345	58- 79	48.4	1.3	8	6			MT 4	MI 2	KK 2							5 DOMINANT
7 346	79- 86	39.4	1.2	8	5												6 INDETER.
7 347	86- 94	39.2	1.2	8	5												
7 348	94-102	29.7	0.6	7	5												
7 349	102-107	43.8	1.1	8	5			MT 4	KK 2	MI 1							
7 350	107-114																
7 351	114-119																
7 352	119-130																
7 353	130-140															MT MONTMORT	MIKK
7 354	140-147															VR VERMICLT	
7 355	147-155															CL CHLORITE	MTCLMIKKKH
																MI MICA	GITLMCMMVC

LINOYER LOAM
S67Utah-20-7

Location: Sanpete Soil Survey Area, Utah. Sec. 19, T. 19 S., R. 1 E.; 1 1/4 miles west and 1 mile south of Gunnison. Date of sampling: August 30, 1967.
Description by: A. Erickson, J. Swenson, D. Erickson, J. Shiozaki. Collectors: B Brasher, D. Nettleton.
Classification: Xeric Torrifluvent, coarse-silty, mixed (calcareous), mesic.
Vegetation: Barley stubble. Use: Irrigated farming. Climate: Precipitation, 9 inches. Mean annual air temperature, 49°F.; mean summer air temperature, 66°F.; frost-free days, 130. Parent materials: Mixed alluvial from sandstone, shale, limestone. Topography: Alluvial fan. Slope, 1 percent south-facing. Elevation: 5,250 feet. Drainage: Well drained; slow runoff; permeability, moderate; no water table Soil moisture: Dry.

HORIZON	DESCRIPTIONS
	(0-18 cm)
Ap1 RSL 67341	0 to 7 inches, pale brown (10YR 6/3) loam, brown (10YR 5/3) moist; weak thick platy breaking to moderate fine subangular blocky structure; slightly hard, firm, sticky and plastic; few fine roots; few fine and few medium pores; common worm casts; strongly calcareous, lime is disseminated; moderately alkaline; (pH 8.3); clear wavy boundary.
Ap2 RSL 67342 (18-33 cm)	7 to 13 inches, pale brown (10YR 6/3) loam; brown (10YR 4/3) moist; weak medium subangular blocky structure; slightly hard, firm slightly sticky and plastic; few very fine and few fine roots; few fine and few medium pores; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.6); abrupt smooth boundary.
C1 RSL 67343 (33-48 cm)	13 to 19 inches, pale brown (10YR 6/3) loam, dark yellowish brown (10YR 4/4) moist; weak coarse subangular blocky structure; hard, friable, slightly sticky and plastic; few very fine and few fine roots; common very fine, common fine and few medium pores; common worm casts; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.5); abrupt smooth boundary.
IIC2 RSL 67344 (48-58 cm)	19 to 23 inches, pink (7.5YR 7/3) very fine sandy loam, brown (7.5YR 5/3) moist; thin lenses of very pale brown (10YR 7/3) silt loam; weak fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; common very fine, fine, and medium and few large pores; few worm casts; strongly calcareous, lime is disseminated, strongly alkaline (pH 8.5); abrupt smooth boundary.
IIIA1b RSL 67345 (58-79 cm)	23 to 31 inches, very pale brown (10YR 7/3) loam, yellowish brown (10YR 5/4) moist; massive; hard, firm, sticky and plastic; few very fine and few fine roots; common very fine, fine and few medium pores; strongly calcareous, lime is disseminated; strongly alkaline; (pH 8.8); abrupt smooth boundary.
IVC1b RSL 67346 (79-86 cm)	31 to 34 inches, pale brown (10YR 6/3) loam; yellowish brown (10YR 5/4) moist; massive; hard, firm, sticky and plastic; few very fine roots; common fine to very fine pores; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.7); abrupt smooth boundary.
VC2b RSL 67347 (86-94 cm)	34 to 37 inches, pale brown (10YR 6/3) loam, yellowish brown (10YR 5/4) moist; massive; slightly hard, firm, sticky and plastic; few fine roots; common fine and very fine pores; strongly calcareous, lime is disseminated; strongly alkaline; (pH 8.8); abrupt smooth boundary.
VIC3b RSL 67348 (94-102 cm)	37 to 40 inches, pale brown (10YR 6/3) fine sandy loam; yellowish brown (10YR 5/4) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few fine roots; common fine and very fine pores; thin lense of silt loam; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.6); abrupt smooth boundary.
VIIC4b RSL 67349 (102-107 cm)	40 to 42 inches, very pale brown (10YR 7/3) silt loam, yellowish brown (10YR 5/4) moist; massive; hard, firm, sticky and plastic; common fine and very fine pores; thin lense of silty clay loam; strongly calcareous, lime is diseminated; strongly alkaline; (pH 9.0); abrupt smooth boundary.
VIIIC5b 67350 (107-114 cm)	42 to 45 inches, very pale brown (10YR 6/3) fine sandy loam; yellowish brown (10YR 5/4) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; consists of gray and brown lenses; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.5); abrupt smooth boundary.
IXC6b RSL 67351 (114-119 cm)	45 to 47 inches, very pale brown (10YR 7/3) silty clay loam, yellowish brown (10YR 5/4) moist; thin lenses of light reddish brown (5YR 6/4) silt loam; massive; very hard, firm, sticky and plastic; common fine and very fine pores; strongly calcareous; (pH 8.8); abrupt smooth boundary.
XC7b RSL 67352 (119-130 cm)	47 to 51 inches, pink (7.5YR 7/3) loamy fine sand; light brown (7.5YR 6/3) moist; single grain; soft, very friable, nonsticky and nonplastic lenses of silt loam; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.5); abrupt smooth boundary.
XIC8b RSL 67353 (130-140 cm)	51 to 55 inches, pink (7.5YR 7/3) silty clay loam, brown (7.5YR 5/3) moist; thin lenses of reddish brown (5YR 5/4) silty clay loam; massive, hard, firm, sticky and plastic; few fine pores; strongly calcareous, lime is disseminated; strongly alkaline; (pH 8.6); clear smooth boundary.
XIIC9b RSL 67354 (140-147 cm)	55 to 58 inches, pink (7.5YR 7/3) loamy fine sand; light brown (7.5YR 6/3) moist; few fine distinct (5YR 5/4) mottles; massive; soft, very friable, nonsticky and nonplastic; few fine pores; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.5); clear smooth boundary.
XIIIC10b RSL 67355 (147-155 cm)	58 to 61 inches, very pale brown (10YR 7/3) very fine sandy loam, yellowish brown (10YR 5/4) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few fine pores; strongly calcareous, lime is disseminated; strongly alkaline; (pH 8.8); clear smooth boundary.

CONSECUTIVE PEDON NUMBER C 67 19 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES LINDYER LOAM SOIL NO. S67 UTAH. 20-10 SAMPLE NO. 7 356-7 365 SANPETE CO. AREA

SOIL FAMILY: XERIC TORRIFLUVENT,COARSE-SILTY,MIXED(CALC.),MESC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION SANDS 2-.05	SILT .05-.002	CLAY LT .002	VCS 2-1	CS 1-.5	MS .5-.25	FS .25-.10	VFS .1-.05	CSI .05-.02	FSI .02-.002	SILTS CO. 2-.2U	CLAYS FINE LT .2U	CARBONATE 3A1A	INT. II .2-.02	1A2A COARSE FRAGMENTS PCT. OF WHOLE SOIL	I 75-20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75			
7 356	0- 15	AP	30.1	50.6	19.3	0.6	1.0	1.9	10.3	16.3	25.2	25.4			6	48.6	1	TR	1Z	N
7 357	15- 30	AP2	29.5	50.4	20.1	0.5	1.1	2.1	9.8	16.0	23.0	27.4			6	45.5	1	TR	1Z	N
7 358	30- 46	C 1	22.9	61.0	16.1	0.1	0.4	1.2	7.0	14.2	32.1	28.9			4	51.2	TR	TR	--	--
7 359	46- 61	C 2	23.0	61.4	15.6	0.3	0.8	1.1	6.5	14.3	30.7	30.7		--	5	49.7	1	TR	1Z	N
7 360	61- 91	C 3	20.7	60.9	18.4	0.1	0.8	1.3	6.3	12.2	28.4	32.5			5	44.9	TR	TR	--	--
7 361	91-107	C 4	45.3	39.5	15.2	3.2	4.9	6.0	15.2	16.0	20.5	19.0			3	45.7	12	1	11Z	N
7 362	107-119	2C 5	81.1	12.9	6.0	4.9	11.6	20.2	33.9	10.5	7.5	5.4			1	32.0	29	2	27Z	N
7 363	119-137	3C 6	16.5	63.1	20.4	--	0.2	0.3	3.4	12.6	25.0	38.1			5	40.3	TR	TR	--	--
7 364	137-152	3C 7	23.5	58.9	17.6	0.2	0.3	0.6	5.5	16.9	28.7	30.2			4	49.9	TR	TR	--	--
7 365	152-170	3C 8	5.5	63.6	30.9	0.1	0.1	0.1	0.8	4.4	18.7	44.9			8	23.7	TR	TR	--	--

SAMPLE NO.	DEPTH CM.	ORG. CARBON 6A1A	MATTER NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	19-2 6E1B	EXT. IRON FE 6C2B	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST 1/3 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTENSIBILITY LEF 4D1	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
		-PERCENT--		-PERCENT-		PCT.	PCT.NO.40		GRAMS PER CC				----PERCENT---			-PERCENT--				
7 356	0- 15	1.12	0.105	37		0.3				1.41	1.48	0.99		20.9	8.0	1.6	1.6		9.0	
7 357	15- 30	1.15	0.103	37					1.42			0.99			8.4				9.1	
7 358	30- 46	0.25		38		0.4				1.43	1.48	1.00		20.6	7.5	1.2	1.2		9.2	
7 359	46- 61	0.24		40					1.45			0.99			6.5				9.1	
7 360	61- 91	0.24		44		0.4				1.48	1.55	1.00		17.4	7.0	1.6	1.6		9.2	
7 361	91-107	0.14		37					1.48			0.93			6.1				9.3	
7 362	107-119	0.11		31					1.47			0.82			3.3				9.4	
7 363	119-137	0.19		45						1.45	6.97	1.00		21.3	9.0	68.8	68.7		9.3	
7 364	137-152			41					1.45			1.00			7.6				9.3	
7 365	152-170			42					1.45			1.00			17.5				9.3	

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B3A 6N4C	MG 5B3A 6O4C	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT.	C E C NA-OAC 5A2A	NH4-OAC 5A6A	EC 8A1A	WATER EXTRACT FROM SATURATED PASTE CA 6N1B	MG 6O1B	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1A	B 6T1A	PH SAT. PASTE 8C1B
		MEQ/100G					PCT.	-MEQ/100G		MMHO	MEQ/1000 ML								PPM	
7 356	0- 15			0.7	1.5	2.2			10.4	2.00	8.8	5.9	6.4	1.1		8.5	6.6			7.8
7 357	15- 30			0.9	1.1	2.0			10.4	1.98	2.2	5.2	6.5	1.5		8.2	6.2			8.0
7 358	30- 46			0.8	1.1	1.9			9.4	1.56	4.5	4.1	5.0	0.8		4.2	4.0			7.8
7 359	46- 61			0.9	0.7	1.6			7.9	2.82	8.8	10.5	8.6	0.6		3.7	10.7	16.2		7.8
7 360	61- 91			0.8	0.7	1.5			7.8	1.93	4.0	6.6	6.6	0.4		3.7	7.3			8.0
7 361	91-107			0.7	0.6	1.3			8.0	1.21	2.1	2.9	5.6	0.4		3.2	2.7			8.0
7 362	107-119			0.5	0.4	0.9			4.3	0.90	1.6	1.9	3.8	0.3		3.8	1.5			8.4
7 363	119-137			0.9	0.6	1.5			8.8	1.47	1.6	3.2	6.2	0.3		3.9	3.0			8.0
7 364	137-152			1.0	0.6	1.6			8.9	1.30	4.6	2.6	5.6	0.2		3.6	2.5			8.2
7 365	152-170			1.4	0.7	2.1			13.9	1.37	2.4	2.8	6.4	0.1		3.3	2.8			8.0

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGEABLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1A PCT.	REC. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I 7A2E	II 7A2E	III 7A2E	DTA IV 7A2E	7A3 PCT.	LT. .0002 MM X RAY I 7A2E	II 7A2E	III 7A2E	MINERAL CODE	RELATIVE AMOUNT
7 356	0- 15	37.6	0.5	4	2			MI 4	KK 3	MT 2						MI MICA	1 TRACE
7 357	15- 30	36.7	0.7	6	3											KK KAOLINIT	2 SMALL
7 358	30- 46	35.6	0.6	7	2			MT 3	MI 3	KK 3						MT MONTMORT	3 MODERATE
7 359	46- 61	32.5	0.6	8	3												4 ABUNDANT
7 360	61- 91	34.2	0.6	7	3			MI 4	MT 2	KK 2							5 DOMINANT
7 361	91-107	31.5	0.5	7	4												6 INDETER.
7 362	107-119	22.7	0.4	10	3												
7 363	119-137	26.3	0.7	8	4												
7 364	137-152	33.6	0.8	9	3												
7 365	152-170	48.1	1.1	8	4												

SAMPLE PREPARATION CODES
N=NOT DETERMINED.
Z=NOT ALL FRACTIONS SEPERATED. ADJACENT FRACTIONS INCLUDED HERE.

LINOYER LOAM
S67Utah-20-10

Location: Sanpete Soil Survey Area, Utah. Sec. 24, T. 20 S., R. 1 W.; 2 1/2 miles west of Axtell store near Poulson Salt Mine. Date of sampling: August 30, 1969.
Description by. A. Erickson, D. Erickson, J. Shiozaki, J. Swenson. Collectors: B. Brasher, D. Nettleton.
Classification: Xeric Torrifluvent, coarse-silty, mixed (calcareous), mesic.
Vegetation: Barley stubble. Use: Irrigated farming. Climate: Precipitation, 9 inches. Mean annual air temperature, 49°F.; mean summer air temperature, 66°F. Frost-free days 130. Parent materials: Mixed alluvium from limestone, shale and sandstone. Topography: Alluvial fan. Slope, 2 percent east-facing. Elevation: 5,200 feet. Drainage: Well drained; permeability, moderate; medium runoff; no water table. Soil moisture: Dry.

HORIZON	DESCRIPTION
	(0-15 cm)
Ap RSL 67356	0 to 6 inches, pinkish gray (7.5YR 6/2) loam, brown (7.5YR 5/3) moist; moderate fine and medium granular structure; hard, firm, sticky and plastic; common very fine roots; few medium and fine pores; strongly calcareous, lime is disseminated; moderately alkaline (pH 8.3); clear wavy boundary.
Ap2 RSL 67357 (15-30 cm)	6 to 12 inches, light yellowish brown (10YR 6/4) loam; brown (7.5YR 4/3) moist; weak fine subangular blocky structure; hard, firm, slightly sticky and plastic; common fine roots; few fine and medium pores; strongly calcareous, lime is disseminated; moderately alkaline (pH 8.4); clear wavy boundary.
C1 RSL 67358 (30-46 cm)	12 to 18 inches, light brown (7.5YR 6/3) loam, brown (7.5YR 5/3) moist; lenses of light reddish brown (5YR 6/4) silt loam, or silty clay loam; weak fine subangular blocky structure; slightly hard, firm, slightly sticky and plastic; common fine roots; few medium and common fine pores; strongly calcareous, lime is disseminated; moderately alkaline (pH 8.4) clear wavy boundary.
C2 RSL 67359 (46-61 cm)	18 to 24 inches, pink (7.5YR 7/3) silt loam; brown (7.5YR 5/3) moist; weak medium subangular blocky structure; hard, firm, sticky and plastic; common fine roots; few medium common fine and very fine pores; strongly calcareous, lime is disseminated; strongly alkaline, (pH 8.5); clear wavy boundary.
C3 RSL 67360 (61-91 cm)	24 to 36 inches, pink (7.5YR 7/3) loam, brown (7.5YR 5/3) moist; weak medium and fine subangular blocky structure; hard firm, slightly sticky and plastic; few very fine roots; few medium; common fine and very fine pores; a few lenses of silt loam 1 to 3 mm. thick; strongly calcareous, lime is disseminated; strongly alkaline; (pH 8.5) abrupt wavy boundary.
C4 RSL 67361 (91-107 cm)	36 to 42 inches, pink (7.5YR 7/3) loam; brown (7.5YR 5/3) moist; ½-inch layer of yellowish red (5YR 4/6) silt loam; massive; slightly hard, friable, slightly sticky and plastic; few very fine roots; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.5); abrupt wavy boundary.
IIC5 RSL 67362 (107-119 cm)	42 to 47 inches, light brown (7.5YR 6/3) gravelly sandy loam, brown (7.5YR 5/4) moist; single grain; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; layers of silt loam 2mm. to ½ inch thick; strongly calcareous, lime is disseminated; strongly alkaline; (pH 8.5); abrupt smooth boundary.
IIIC6 RSL 67363 (119-137 cm)	47 to 54 inches, pink (7.5YR 7/3) silt loam; brown (7.5YR 5/4) moist; ½ inch thick lense of fine sand; 2mm. thick of yellowish red (5.YR 5/8) silty clay; massive; hard, firm, sticky and plastic; few fine pores; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.8); clear smooth boundary.
IIIC7 RSL 67364 (137-152 cm)	54 to 60 inches, pink (7.5YR 7/3) loam, brown (7.5YR 5/3) moist; massive hard, friable, slightly sticky and slightly plastic; common fine and very fine pores; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.6); clear smooth boundary.
IIIC8 RSL 67365 (152-170 cm)	60 to 67 inches +, pink, (7.5YR 7/3) silt loam; brown (7.5YR 5/3) moist; massive; slightly hard, firm, slightly sticky and plastic; common fine and very fine pores; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.6).

CONSECUTIVE PEDON NUMBER C 71 35 C H A R A C T E R I Z A T I C N D A T A

SOIL SERIES LINOYER VERY FINE SANDY LOAM SOIL NO. S71 UTAH. 20- 6 SAMPLE NO. 1 223-1 229 SANPETE AREA

SOIL FAMILY: XERIC TORRIFLUVENT,CRSE-SLTY,MXD(CALCAR.),MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2-.05 6A1A	SILT .05-.002 6E1B	CLAY .002 LT 6E1B	VCS 2-1	CS 1-.5	MS .5-.25	FS .25-.10	VFS .1-.05	CSI .05-.02	FSI .02-.002	CC 2-.2U	FINE LT .2U	CARBONATE 3A1A	INT. II .2-.02	COARSE FRAGMENTS PCT. OF WHOLE SOIL I 75- 20	II 20-5	III 5-2
			-PERCENT OF LESS THAN 2MM														PCT. OF LT 75		
1 223	0- 7	A11	32.5	57.0	10.5	0.7	0.7	0.8	6.6	23.7	30.3	26.7	8.5	2.0	2	59.0	A		
1 224	7- 15	A12	51.0	39.9	9.1	0.4	0.6	0.8	9.3	39.9	24.0	15.9			1	71.4	A		
1 225	15- 48	C1	43.0	48.2	8.8	0.2	0.6	1.4	9.6	31.2	23.6	24.6			2	62.1	A		
1 226	48- 69	C2	39.5	48.7	11.8	0.2	0.4	1.1	8.8	29.0	31.2	17.5	9.2	2.6	2	66.9	A		
1 227	69-100	C3	42.6	45.3	12.1	0.2	0.3	1.1	8.9	32.1	26.4	18.9			2	64.9	A		
1 228	100-130	C4	50.0	34.5	15.5	1.8	1.7	4.2	17.0	25.3	21.2	13.3			4	56.9	8A	2	3 4
1 229	130-140	C5 CA	50.5	29.0	20.5	2.6	4.3	5.4	17.7	20.5	16.0	13.0			13	47.9	6A	2	1 3

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES CI-CIT FE 6C2B	EXT AL 6G7A	PYROP FE 6C5A	EXT AL 6G5A	ATTERBERG L L 4F1	P L 4F2	M I T EST. 1/3 4A1F	BULK DENSITY 1/3 BAR 4A1F	DRY BAR 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		-PERCENT-		-PERCENT-		-------PERCENT--------				PCT.NO.40		GRAMS PER CC				----PERCENT---			-PERCENT-	
1 223	0- 7	1.01	0.109	19									1.25	1.30	1.00	17.7	13.7	7.4	1.3	1.3
1 224	7- 15	0.44	0.048	18									1.30	1.30	1.00	25.1	13.2	6.0		
1 225	15- 48	0.35	0.044	21									1.30	1.32	1.00	27.2	15.8	7.1	0.5	0.5
1 226	48- 69	0.34		20									1.25	1.26	1.00	34.8	25.5	6.9	0.3	0.3
1 227	69-100	0.29		17									1.23	1.28	1.00	32.8	19.4	7.6	1.3	1.3
1 228	100-130	0.19		21									1.58	1.64	0.95	21.1	15.5	6.3	1.3	1.2
1 229	130-140	0.19		39									1.48	1.53	0.97	21.5	15.1	8.1	1.1	1.1

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6Q2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACIDITY 6H2A	KCL EXT. AL 6G1E	CEC SUM 5A3A	CEC NH4-OAC 5A6A	BASE SATURATION SUM+ ACIDITY	SUM+ AL	NH4-OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA-CL2 8C1E
		-----MEQ/100G-----									----PERCENT----					
1 223	0- 7	21.7	4.2	0.7	4.1	30.7			30.7	13.1	100+		100+		7.9	7.8
1 224	7- 15	21.1	3.2	0.4	2.9	27.6			27.6	10.6	100+		100+		8.0	7.8
1 225	15- 48	22.0	4.8	1.3	1.6	29.7			29.7	12.6	100+		100+		8.0	7.9
1 226	48- 69	19.1	6.6	2.6	0.4	28.7			28.7	12.8	100+		100+		8.0	7.9
1 227	69-100	22.1	10.4	4.2	0.3	37.0			37.0	13.5	100+		100+		7.8	8.0
1 228	100-130	22.1	10.6	4.2	0.2	37.1			37.1	9.5	100+		100+		7.8	8.1
1 229	130-140	20.9	12.2	5.3	0.2	38.6			38.6	6.8	100+		100+		7.7	8.1

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I 7A2E	II 7A2E	III 7A2E	IV 7A2E	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY I 7A2E	II 7A2E	III 7A2E
1 223	0- 7	MT 2	MI 2	KK 2						
1 224	7- 15									
1 225	15- 48									
1 226	48- 69	MT 2	MI 2	KK 2				MI 3	MT 2	
1 227	69-100									
1 228	100-130									
1 229	130-140									

MINERAL CODE	RELATIVE AMOUNT
MT MONTMORT	1 TRACE
MI MICA	2 SMALL
KK KAOLINIT	3 MODERATE
	4 ABUNDANT
	5 DOMINANT
	6 INDETER.

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.

LINOYER VERY FINE SANDY LOAM
S71Utah-20-6

Location: Sanpete County, UT, near Gunnison cemetary, southeast 1/4 of Sec. 9, T. 19 S., R. 1 E. Date of sampling: June 30, 1971.
Description by: J. Swenson. Collectors: J. Swenson, D. Nettleton, M. Olsen, J. Shiozaki.
Classification: Xeric Torrifluvent, coarse-silty, mixed (calcareous), mesic.
Vegetation: Shadscale, annual weeds. Climate: Mean annual temperature is about 47° F. Average annual precipitation is about 9 inches. Frost-free period is about 125 days. Parent material: Alluvium from limestone, sandstone, and shale. Topography: Alluvial fan, south-facing 2 percent slopes. Elevation: 5,250 feet. Drainage: Well drained. Soil moisture: Usually dry.

HORIZON	DESCRIPTION
A11 RSL No. 71223	0-7 cm (0-3 inches), pale brown (10YR 6/3) silt loam, brown (10YR 5/3) moist; moderate thin platy structure; slightly hard, friable, nonsticky, nonplastic; few very fine roots; few very fine and fine pores; moderately calcareous, lime is disseminated; strongly alkaline (pH 8.4); abrupt smooth boundary.
A12 RSL No. 71224	7-15 cm (3-6 inches), pale brown (10YR 6/3) loam, brown (10YR 5/3) moist; moderate medium platy structure; slightly hard, friable, nonsticky and slightly plastic; few fine and few medium roots; common very fine pores; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.6); clear smooth boundary.
C1 RSL 71225	15-48 cm (6-19 inches), very pale brown (10YR 7/3) loam, brown (10YR 5/3) moist; massive; slightly hard, friable, slightly sticky, slightly plastic few fine and very fine roots; few fine and very fine pores; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.6); gradual smooth boundary.
C2 RSL No. 71226	48-69 cm (19-27 inches), very pale brown (10YR 7/3) loam, brown (10YR 5/3) moist; massive; slightly hard, friable, nonsticky, slightly plastic; few very fine roots; few very fine pores; strongly calcareous; lime is disseminated; strongly alkaline (pH 9.0); gradual smooth boundary.
C3 RSL No. 71227	69-100 cm (27-39½ inches), very pale brown (10YR 7/4) loam, yellowish brown (10YR 5/4) moist; massive; slightly hard, friable, nonsticky, slightly plastic; few very fine roots; few fine and very fine pores; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.8); gradual smooth boundary.
C4 RSL No. 71228	100-130 cm (39½-51 inches), very pale brown (10YR 8/3) loam, very pale brown (10YR 7/4) moist; massive; hard, friable, slightly sticky, slightly plastic; few very fine pores; strongly calcareous, lime is disseminated and in veins; strongly alkaline (pH 8.8); clear smooth boundary.
C5ca RSL No. 71229	130-140 cm (51-55 inches), very pale brown (10YR 8/4) loam, very pale brown (10YR 6/4) moist; weak thick platy structure; very hard, friable, slightly sticky, slightly plastic; few fine pores; strongly calcareous, lime is disseminated, in veins and soft rounded masses; strongly alkaline (pH 8.8).

CONSECUTIVE PEDON NUMBER C 67 28 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES RAVOLA LOAM GYPSIC VARIANT SOIL NO. S67 UTAH. 20-13 SAMPLE NO. 7 443-7 453 SANPETE CO. AREA

SOIL FAMILY: XERIC TORRIFLUVENT,FINE-LOAMY,MIXED(CALCR.),MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CC. 2- .2U	FINE LT .2U	CARBONATE 3A1A	1A2A INT. II .2-.02	COARSE FRAGMENTS PCT. OF WHOLE SOIL I 75-20	PCT. OF LT 75 II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM																
7 443	0- 8	A11	34.0	45.0	21.0	0.4	1.3	1.7	12.3	18.3	25.4	19.6			2	53.3	2 TR	2Z	N
7 444	8- 18	A12	32.6	45.6	21.8	0.3	1.0	1.6	12.0	17.7	24.9	20.7			2	52.1	2 TR	2Z	N
7 445	18- 46	C 1	31.0	44.6	24.4	0.3	0.9	1.9	11.9	16.0	21.7	22.9			3	46.7	2 TR	2Z	N
7 446	46- 69	C 2	34.3	45.9	19.8	0.7	2.7	3.5	13.2	14.2	26.2	19.7			1	50.0	1 TR	1Z	N
7 447	69-112	C 3	39.0	42.0	19.0	0.5	2.5	3.5	14.7	17.8	23.9	18.1			1	52.7	3 TR	3Z	N
7 448	112-127	C 4	41.4	40.4	18.2	2.1	5.1	4.5	14.2	15.5	22.1	18.3			2	47.7	7 TR	7Z	N
7 449	127-140	C 5	42.2	40.7	17.1	3.4	6.7	5.0	13.1	14.0	20.3	20.4			1	43.1	16 TR	16Z	N
7 450	140-152	C 6	40.7	41.3	18.0	1.1	3.4	3.3	14.1	18.8	22.7	18.6			1	52.2	1 TR	1Z	N
7 451	152-163	C 7	45.3	36.7	18.0	3.6	5.5	6.3	13.6	12.3	16.5	18.2			1	39.5	24 TR	24Z	N
7 452	163-183	C 8	36.1	43.3	20.6	0.9	2.2	2.9	12.9	17.2	23.6	19.7			2	50.6	2 TR	2Z	N
7 453	0- 0	R															-- --	--	--

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	19-2 6E1B	EXT. IRON FE 6C2B	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST 1/3 BAR 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 382	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTENSIBILITY LEF 4D1	LE 4D1	PH H2O 8C1A	H2O 1/1 8C1A	CACL2 1/10 8C1E
		-PERCENT--		-PERCENT-		PCT.	PCT.NO.40		GRAMS PER CC				----PERCENT---			-PERCENT--				
7 443	0- 8	0.45	0.044	22		0.2				1.55	1.63	0.99		19.6	8.1	1.7	1.7		8.6	
7 444	8- 18	0.41	0.039	23		0.2				1.36	1.46	0.99		16.2	11.3	2.4	2.4		8.0	
7 445	18- 46	0.45		23		0.2				1.23	1.28	0.99		13.9	10.8	1.3	1.3		8.0	
7 446	46- 69	0.39		26		0.2				1.22	1.26	1.00		14.5	8.9	1.1	1.1		8.2	
7 447	69-112	0.34		21		0.2				1.29	1.35	0.99		22.1	8.8	1.5	1.5		8.5	
7 448	112-127	0.21		25		0.2				1.25	1.25	0.97		16.2	10.5	1.1	1.0		8.6	
7 449	127-140	0.16		22		0.2				1.32	1.38	0.91		21.1	11.8	1.5	1.4		8.5	
7 450	140-152			19		0.2				1.29	1.33	1.00		18.1	17.4	1.0	1.0		8.5	
7 451	152-163			21		0.2				1.30	1.31	0.87		16.8	11.4	0.3	0.2		8.5	
7 452	163-183			21		0.2				1.36	1.39	0.99		16.0	11.7	0.7	0.7		8.5	
7 453	0- 0			5															8.0	

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B3A 6N4C	MG 5B3A 6O4C	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT.	C E C NA- OAC 5A2A	NH4- OAC 5A6A	EC 8A1A	WATER EXTRACT FROM SATURATED PASTE 8A1 CA 6N1B	MG 6O1B	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1A	B 6T1A	PH SAT. PASTE 8C1B
		---MEQ/100G---					PCT.	-MEQ/100G		MMHO	----MEQ/1000 ML----								PPM	
7 443	0- 8				0.8	0.8			8.8	1.95	20.8	1.2	0.4	0.6		3.0	0.8			7.6
7 444	8- 18			0.1	0.7	0.8			8.7	2.59	31.0	0.6	0.2	0.5		1.9	0.6	33.3		7.7
7 445	18- 46			0.1	0.8	0.9			8.8	2.58	27.5	2.6	0.2	0.8		1.6	0.7	36.0		7.7
7 446	46- 69			0.4	0.8	1.2			7.9	4.15	26.2	18.5	4.4	1.3		1.5	9.6	48.5		7.7
7 447	69-112			2.3	0.5	2.8			9.5	1.20	31.2	82.0	22.6	1.0		3.1	61.8	56.7		8.1
7 448	112-127			2.2	0.3	2.5			9.6	1.36	35.7	85.0	51.0	0.6		2.5	79.1	11.7		8.2
7 449	127-140			2.2	0.4	2.6			5.4	1.32	31.2	83.0	43.4	0.6		2.0	71.4	10.9		8.2
7 450	140-152			2.0	0.4	2.4			9.6	1.21	34.0	74.0	50.1	2.3		2.3	65.0	97.0		8.2
7 451	152-163			2.4	0.5	2.9			6.8	1.36	31.2	82.0	56.4	2.0		2.6	72.9	10.8		8.2
7 452	163-183			2.7	0.6	3.3			7.6	1.30	32.5	37.5	55.2	2.1		2.8	67.7	10.6		8.3
7 453	0- 0			0.1	0.8	0.9			1.7	2.58	29.3	1.4	0.6	0.6		1.6	0.7	32.9		7.4

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGEABLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1A PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 PCT.	L.T. .0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
7 443	0- 8	35.1		TR	TR	0.1		MI 5	CL 3							MI MICA	1 TRACE
7 444	8- 18	39.9	TR	1	TR	3.0		MI 5	CL 3							CL CHLORITE	2 SMALL
7 445	18- 46	40.4	TR	1	TR	3.0		MI 5	CL 3								3 MODERATE
7 446	46- 69	34.6	0.2	3	1	2.0											4 ABUNDANT
7 447	69-112	43.8	1.3	14	3	8.0		MI 5	CL 3								5 DOMINANT
7 448	112-127	41.2	TR	1	7	7.0											6 INDETER.
7 449	127-140	45.2	0.2	4	6	8.0											
7 450	140-152	46.9			7	8.0											
7 451	152-163	40.1	0.1	2	7	19.0											
7 452	163-183	54.4			9	20.0											
7 453	0- 0	62.8	TR	4	TR	71.0											

SAMPLE PREPARATION CODES
N=NOT DETERMINED.
Z=NOT ALL FRACTIONS SEPERATED. ADJACENT FRACTIONS INCLUDED HERE.

RAVOLA LOAM GYPSIC VARIANT 1/
S67Utah-20-13

Location: Sanpete Soil Survey Area, Utah. Sec. 7, T. 20 S., R. 2 E.; south end of Mayfield fields, 1/2 mile west of canal, near the shale hills. Date of sampling: August 31, 1967.
Description by: A. Erickson, D. Erickson, J. Swenson, J. Shiozaki. Collectors: B. Brasher, D. Nettleton.
Classification: Xeric Torrifluvent, fine-loamy, mixed (calcareous), mesic.
Vegetation: Big sagebrush, yellowbrush, squirreltail. Use: Winter grazing. Climate: Precipitation, 10 inches; mean annual air temperature, 49°F.; mean summer air temperature, 66°F.; frost-free days, 100-120. Parent material: Alluvium from shale. Topography: Alluvial plain. Slope 5 percent, east aspect. Elevation: 5,700 feet. Drainage: Well drained. moderate permeability, medium runoff, no water table. Soil moisture: Dry.
Remarks: Most of the alluvium was derived from the Sampete Fm. It is of upper cretaceous age. Gypsiferous shale from this formation was sampled (RSL 67 453).

HORIZON	
	(0-8 cm)
A11	0 to 3 inches, pale brown (10YR 6/3) silt loam, brown (10YR 5/3) moist;
RSL	weak fine platy structure; hard, friable, slightly sticky and plastic;
67443	few fine roots; common fine pores; strongly calcareous, lime is disseminated;
	strongly alkaline (pH 8.7) clear smooth boundary.
A12	3 to 7 inches, pale brown (10YR 6/3) loam, brown (10YR 4/3) moist; weak thick
RSL	platy structure; hard, friable, sticky and plastic; common fine; few
67444	medium roots; few fine and medium pores; strongly calcareous, lime is
(8-18 cm)	disseminated; strongly alkaline (pH 8.8); clear wavy boundary.
C1	7 to 18 inches, very pale brown (10YR 7/3) loam, light brownish gray
RSL	(10YR 6/2) moist; massive; hard, friable, sticky and plastic; few fine
67445	and medium roots; common medium, fine and very fine and few large pores;
(18-46 cm)	strongly calcareous, lime is disseminated; strongly alkaline (pH 8.7);
	clear smooth boundary.
C2	18 to 27 inches, very pale brown (10YR 7/3) loam, light brownish gray
RSL	(10YR 6/2) moist; massive; slightly hard, friable, slightly sticky and
67446	plastic; few fine roots; few medium common fine pores; common fine
(46-69 cm)	gypsum nodules; strongly calcareous, lime is disseminated; strongly
	alkaline (pH 8.8); clear smooth boundary.
C3	27 to 44 inches, very pale brown (10YR 7/3) loam, pale brown (10YR 6/3)
RSL	moist; massive; slightly hard, friable, sticky and plastic; few very
67447	fine roots; common very fine and few large pores; common fine gypsum
(69-112 cm)	nodules; strongly calcareous, lime is disseminated; strongly alkaline
	(pH 8.8); gradual smooth boundary.
C4	44 to 50 inches, very pale brown (10YR 7/3) loam; brown (10YR 5/3)
RSL	moist; massive; hard, friable, slightly sticky and plastic; few very fine
67448	roots; few medium, large common fine pores; common fine gypsum nodules;
(112-127 cm)	strongly calcareous, lime is disseminated; strongly alkaline (pH 8.8);
	clear wavy boundary.
C5	50 to 55 inches, very pale brown (10YR 7/3) shaly loam, pale brown
RSL	(10YR 6/3) moist; massive; slightly hard, friable, slightly sticky and
67449	slightly plastic; few fine roots; common very fine, few large pores; common
(127-140 cm)	fine gypsum nodules; strongly calcareous, lime is disseminated; strongly
	alkaline (pH 8.8); clear wavy boundary.
C6	55 to 60 inches, very pale brown (10YR 8/2) very fine sandy loam, light
RSL	yellowish brown (10YR 6/4) moist; massive; slightly hard, friable,
67450	slightly sticky and slightly plastic; common very fine, few large pores;
(140-152 cm)	gypsum in veins and flakes, and fine nodules; strongly calcareous, lime
	is disseminated; strongly alkaline (pH 8.6); clear wavy boundary.
C7	60 to 64 inches, very pale brown (10YR 7/3) shaly loam, pale brown (10YR
RSL	6/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic;
67451	common fine, few medium pores; strongly calcareous, lime is disseminated;
(152-163 cm)	strongly alkaline (pH 8.9); clear wavy boundary.
C8	64 to 72 inches, very pale brown (10YR 7/3) very fine sandy loam, pale
RSL	brown (10YR 6/3) moist; massive; slightly hard, friable, slightly sticky
67452	and plastic; few fine and large pores; common fine gypsum nodules and
(163-183 cm)	veins; strongly calcareous, lime is disseminated; strongly alkaline
	(pH 8.6).

1/ The Ravola series is in a fine-loamy, mixed (calcareous), mesic family of Typic Torrifluvents. This pedon has a moisture regime that is marginal to Xeric and contains sizable amounts of gypsum.

CONSECUTIVE PEDCN NUMBER C 71 40 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES WALES LOAM SOIL NO. S71 UTAH. 20- 7 SAMPLE NO. 1 256-1 262 SANPETE AREA

SOIL FAMILY: XERIC TORRIFLUVENT,FINE-LMY,MXD(CALCAR.),MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBONATE 3A1A.02	INT. II .2- .02	1A2A COARSE FRAGMENTS PCT. OF WHOLE SOIL	I 75- 20 PCT. OF LT 75	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM																	
1 256	C- 9	A1	36.9	31.6	31.5	3.3	7.2	6.1	11.8	8.5	10.6	21.0				25.8	1A	—	TR	TR
1 257	9- 17	C1	30.6	39.1	30.3	2.6	6.5	5.2	9.2	7.1	11.6	27.5				24.0	A			
1 258	17- 35	C2	32.2	47.3	20.5	0.3	1.7	3.6	12.8	13.8	20.2	27.1			4	41.8	A			
1 259	35- 58	C3	37.6	42.8	19.6	0.3	2.5	6.1	16.3	12.4	18.7	24.1			5	39.7	A			
1 260	58- 95	C4	54.0	29.7	16.3	1.2	5.8	11.7	24.0	11.3	12.1	17.6			4	34.6	1A	—	1	1
1 261	95-125	C5	35.3	43.3	21.4	1.1	2.5	4.6	13.4	13.7	20.8	22.5			3	42.4	5A	—	3	2
1 262	125-150	C6	28.9	47.2	23.9	1.4	2.2	3.6	9.7	12.0	20.0	27.2			6	37.4	5A	1	2	2

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 681A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES DI-CIT FE 6C2B	EXT PYROP AL 6G7A	FE 6C5A	AL 6G5A	ATTERBERG LIMIT EST. LL 4F1	PL 4F2	1/3 4A1F	BULK DENSITY 1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		PERCENT		PERCENT		PERCENT				PCT.NO.40		GRAMS PER CC				PERCENT			PERCENT	
1 256	C- 9	0.97	0.096	28									1.44	1.47	1.00	19.9	15.8	7.6	0.7	0.7
1 257	9- 17	0.72	0.075	30									1.50	1.55	1.00	27.2	16.1	7.6	1.1	1.1
1 258	17- 35	0.46	0.056	35									1.36	1.41	1.00	19.6	14.3	7.8	1.2	1.2
1 259	35- 58	0.53		37									1.33	1.39	1.00	17.1	12.3	7.5	1.5	1.5
1 260	58- 95	0.46		36									1.34	1.37	0.95	16.9	12.2		0.7	0.7
1 261	95-125	0.51		25									1.30	1.36	0.97	22.7	17.6	7.9	1.5	1.5
1 262	125-150	0.33		33									1.31	1.37	0.97	24.5	17.4	5.3	1.5	1.5

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACIDITY 6H2A	KCL EXT. AL 6G1E	CEC SUM	NH4-OAC 5A3A	5A6A	BASE SATURATION SUM+ ACIDITY	SUM+ AL	NH4-OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA-CL2 8C1E
		MEQ/100G										PERCENT					
1 256	C- 9	17.6	2.4	0.1	2.0	22.1			22.1	8.8				100+		8.2	7.6
1 257	9- 17	21.6	2.4	0.1	2.3	26.4			26.4	8.9				100+		8.4	7.8
1 258	17- 35	22.1	2.5	0.1	1.8	26.5			26.5	8.2				100+		8.3	7.8
1 259	35- 58	20.0	3.0	0.2	0.6	23.8			23.8	7.5				100+		8.4	7.8
1 260	58- 95	21.8	4.6	0.3	0.4	27.1			27.1	6.8				100+			
1 261	95-125	21.7	7.6	0.7	0.6	30.6			30.6	10.5				100+			5.3
1 262	125-150	19.7	9.1	1.4	0.7	30.9			30.9	9.4				100+			

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
1 256	C- 9	MI 3	KK 3					MI 4	KK 3	MT 2	MI MICA	1 TRACE
1 257	9- 17										KK KAOLINIT	2 SMALL
1 258	17- 35	MI 3	KK 3									3 MODERATE
1 259	35- 58											4 ABUNDANT
1 260	58- 95											5 DOMINANT
1 261	95-125											6 INDETER.
1 262	125-150	MI 3	KK 3									

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.

WALES LOAM
S71Utah-20-7

Location: Sanpete County, UT. Japs Valley, 1/4 mile north of Lund's water ponds Sec. 11, T. 19 S., R. 1 1/2 W. Date of sampling: June 30, 1971.
Description by: John Swenson. Collectors: D. Nettleton, J. Swenson, M. Olsen.
Classification: Xeric Torrifluvent, fine-loamy, mixed (calcareous), mesic.
Vegetation: Crested wheatgrass, rabbitbrush. Climate: Mean annual temperature is about 47° F. Mean summer temperature is about 60° F. Average annual precipitation is about 12 inches. Frost-free period is about 100 days. Parent materials: Mixed alluvium from sandstone, shale, and limestone. Topography: Alluvial plain, north-facing 3 percent slopes. Elevation: 6,000. Drainage: Well drained. Soil moisture: Usually dry.

HORIZON:	DESCRIPTION
A1 RSL No. 71256	0-9 cm (0-3½ inches), pale brown (10YR 6/3) clay loam, dark brown (10YR 4/3) moist; moderate medium platy structure that parts to moderate medium granular; hard, friable, slightly sticky, plastic; common very fine, few fine roots; few fine pores; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.6); abrupt smooth boundary.
C1 RSL No. 71257	9-17 cm (3½-7 inches), pale brown (10YR 6/3) clay loam, dark brown (10YR 4/3) moist; moderate thick platy structure; very hard, friable, slightly sticky, plastic; few very fine roots; few very fine pores; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.6); abrupt smooth boundary.
C2 RSL No. 71258	17-35 cm (7-14 inches), pale brown (10YR 6/3) loam, yellowish brown (10YR 5/6) moist; moderate medium subangular blocky structure; very hard, friable, slightly sticky, plastic; few very fine roots; common very fine, few fine pores; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.6); clear smooth boundary.
C3 RSL No. 71259	35-58 cm (14-23 inches), very pale brown (10YR 7/3) loam, brown (10YR 5/3) moist; massive; hard, friable, slightly sticky, slightly plastic; few very fine roots; few medium, common fine, few very fine pores; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.6); gradual smooth boundary.
C4 RSL No. 71260	58-95 cm (23-37½ inches), very pale brown (10YR 7/3) light loam, yellowish brown (10YR 5/6) moist; massive; slightly hard, friable, slightly sticky, slightly plastic; common fine pores; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.6); gradual smooth boundary.
C5 RSL 71261	95-125 cm (37½-49 inches), very pale brown (10YR 7/4) loam, light yellowish brown (10YR 6/4) moist; massive; slightly hard, friable, slightly sticky, plastic; few very fine roots; few medium, common fine pores; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.8); gradual wavy boundary
C6 RSL No. 71262	125-150 cm (49-59 inches), very pale brown (10YR 7/4) loam, brownish yellow (10YR 6/6) moist; massive; slightly hard, friable, slightly sticky, plastic; common fine, few very fine pores; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.8).

CONSECUTIVE PEDON NUMBER C 67 30 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES QUAKER SILTY CLAY LOAM SOIL NO. S67 UTAH. 20- 8 SAMPLE NO. 7 466-7 474 SANPETE CO. AREA

SOIL FAMILY: XERIC TORRIFLUVENT,FINE-SILTY,CARBONATIC,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 1A2A

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CC. 2- .2U	FINE LT .2U	CARBONATE 3A1A	INT. II .2- .02	COARSE FRAGMENTS PCT. OF WHOLE SOIL I 75- 20 PCT. OF LT 75	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM																
7 466	0- 15	AP	9.3	59.1	31.6	0.2	0.3	0.3	2.7	5.8	16.2	42.9			10	24.1	TR TR	--	--
7 467	15- 28	AP2	8.9	59.4	31.7	0.2	0.2	0.2	2.3	6.0	17.7	41.7			11	25.5	TR TR	--	--
7 468	28- 46	C 1	3.0	61.5	35.5	--	0.1	0.1	0.8	2.0	10.4	51.1		--	13	12.9	TR TR	--	--
7 469	46- 69	C 2	0.6	66.0	33.4	--	--	--	0.2	0.4	8.5	57.5				9.0	TR TR	--	--
7 470	69- 99	C 3	1.2	66.6	32.2	--	--	--	0.3	0.9	8.5	58.1			11	9.6	TR TR	--	--
7 471	99-119	C 4	0.3	41.4	58.3	--	--	--	0.1	0.2	3.4	38.0			19	3.7	TR TR	--	--
7 472	119-145	C 5															TR TR	--	--
7 473	145-170	C 6															TR TR	--	--
7 474	170-196	C 7															TR TR	--	--

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	19-2 6E1B	EXT. IRON FE 6C2B	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST 1/3 BAR 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTENSBLTY LEF 4D1	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
		PERCENT		PERCENT		PCT.	PCT.NO.40		GRAMS PER CC				PERCENT			PERCENT				
7 466	0- 15	1.62	0.148	45		0.5				1.31	1.46	1.00		25.4	12.7	3.7	3.7		9.0	
7 467	15- 28	1.52	0.146	46						1.43	1.56	1.00		24.2	13.9	2.9	2.9		9.2	
7 468	28- 46	0.72	0.075	53						1.41	1.52	1.00		24.3	13.0	2.5	2.5		9.3	
7 469	46- 69	0.50		56		0.6				1.39	1.48	1.00		23.4	11.2	2.1	2.1		9.3	
7 470	69- 99	0.40		53						1.37	1.46	1.00		24.4	11.2	2.1	2.1		9.3	
7 471	99-119	0.50		43						1.34	1.55	1.00		25.2	17.2	5.0	5.0		9.3	
7 472	119-145	0.40								1.38	1.62	1.00		26.5	18.9	5.5	5.5			
7 473	145-170									1.37	1.56	1.00		25.9	19.8	4.4	4.4			
7 474	170-196									1.52	1.73	1.00		26.3	19.5	4.4	4.4			

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B3A 6N4C	MG 5B3A 6O4C	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT.	C E C NA+ OAC 5A2A	NH4- CAC 5A6A	EC 8A1A	WATER EXTRACT FROM SATURATED PASTE 8A1 CA 6N1B	MG 6O1B	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1A	B 6T1A	PH SAT. PASTE 8C1B
		MEQ/100G					PCT.	MEQ/100G		MMHO	MEQ/1000 ML								PPM	
7 466	0- 15			2.0	0.9	2.9			13.5	4.71	12.5	13.9	24.3	0.7		13.8	17.0	25.0		7.5
7 467	15- 28			2.0	0.6	2.6			15.1	3.69	7.8	8.5	18.8	0.4		10.8	12.2	19.4		7.8
7 468	28- 46			2.3	1.0	3.3			12.3	3.02	5.2	6.5	15.8	0.3		6.8	12.8	13.4		7.9
7 469	46- 69			1.9	0.7	2.6			9.1	2.78	4.8	5.6	15.8	0.2		6.0	11.4	10.7		7.9
7 470	69- 99			2.4	0.9	3.3			10.5	3.20	4.5	6.8	21.0	0.4		5.2	15.0	13.6		8.0
7 471	99-119			3.8	0.7	4.5			18.2	2.93	2.8	5.7	21.0	0.4		4.9	13.0	13.2		8.0
7 472	119-145																			
7 473	145-170																			
7 474	170-196																			

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGBLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1A PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I 7A2E	II 7A2E	III 7A2E	IV 7A2E	DTA PCT. 7A3	L.T. .0002 MM X RAY I 7A2E	II 7A2E	III 7A2E	MINERAL CODE	RELATIVE AMOUNT
7 466	0- 15	49.3	0.8	6	7	0.1		MT 3	MI 3	KK 3						MT MONTMORT	1 TRACE
7 467	15- 28	49.6	1.1	7	7											MI MICA	2 SMALL
7 468	28- 46	47.2	1.6	13	7											KK KAOLINIT	3 MODERATE
7 469	46- 69	40.5	1.3	14	7			KK 4	MT 3	MI 3							4 ABUNDANT
7 470	69- 99	44.5	1.5	14	9												5 DOMINANT
7 471	99-119	58.5	2.6	14	10												6 INDETER.
7 472	119-145																
7 473	145-170																
7 474	170-196																

QUAKER SILTY CLAY LOAM

S67Utah-20-8

Location: Sanpete Soil Survey Area, Utah. Sec. 26, T. 19 S., R. 1 W.; west of Gunnison 4 miles, 3/8 mile south of the clarion corner and 50 feet east of the road.
Date of sampling: August 30, 1967.
Description by: A. Erickson, D. Erickson, J. Swenson, J. Shiozaki. Collectors: B. Brasher, D. Nettleton.
Classification: Xeric Torrifluvent, fine-silty, carbonatic, mesic.
Vegetation: Barley stubble, Use: Irrigated farming. Climate: Precipitation, 9 inches; mean annual air temperature, 49°F.; mean summer air temperature, 66°F.; frost-free days, 130. Parent material: Mixed alluvium from shale, sandstone, and limestone. Topography: Flood plain. Slope, 1 percent north aspect. Elevation: 5,200 feet. Drainage: Well drained, slow permeability, slow runoff, water table at 63 inches. Soil moisture: Dry.

HORIZON	DESCRIPTION
	(0-15 cm)
Ap RSL 67466	0 to 6 inches, pale brown (10YR 6/3) silty clay loam, brown (10YR 5/3) moist; weak fine granular structure; very hard, firm, sticky and plastic; common fine roots; few medium and fine pores; strongly calcareous, lime is disseminated, moderately alkaline; (pH 8.3); clear smooth boundary
Ap2 RSL 67467 (15-28 cm)	6 to 11 inches, pale brown (10YR 6/3) silty clay loam; brown (10YR 5/3) moist; weak fine subangular blocky structure; hard, firm, sticky and plastic; common fine roots; few fine pores; strongly calcareous, lime is disseminated strongly alkaline; (pH 8.5); abrupt wavy boundary.
C1 RSL 67468 (28-46 cm)	11 to 18 inches, very pale brown (10YR 7/3) silty clay loam, brown (10YR 5/3) moist; weak medium subangular blocky structure; hard, firm, sticky and plastic; few fine roots; few medium and fine pores; strongly calcareous, lime is disseminated, strongly alkaline; (pH 8.5); clear smooth boundary.
C2 RSL 67469 (46-69 cm)	18 to 27 inches, very pale brown (10YR 7/3) silty clay loam, light yellowish brown (10YR 6/4) moist; moderate medium subangular blocky structure hard, firm, sticky and plastic; few fine roots; few fine and medium, common very fine pores; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.5); gradual smooth boundary.
C3 RSL 67470 (69-99 cm)	27 to 39 inches, very pale brown (10YR 7/3.5) silty clay loam, brown (10YR 5.5/3) moist; weak fine subangular blocky strucutre; hard, firm, sticky and plastic; few fine roots; few medium, common fine and very fine pores; strongly calcareous, lime is disseminated; strongly alkaline; (pH 8.5); clear smooth boundary.
C4 RSL 67471 (99-119 cm)	39 to 47 inches, light brown (7.5YR 6/3) silty clay; brown (7.5YR 5/3) moist; massive; very hard, very firm, sticky and very plastic; few fine and very fine roots; few medium; common fine and very fine pores; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.8); gradual smooth boundary.
C5 RSL 67472 (119-145 cm)	47 to 57 inches, light brown (7.5YR 6/3) silty clay, brown (7.5YR 5/3) moist; massive; very hard, very firm, sticky and very plastic; very few, very fine roots; common very fine and micro pores; strongly calcareous, lime is disseminated; strongly alkaline; (pH 8.8); gradual wavy boundary.
C6 RSL 67473 (145-170 cm)	57 to 67 inches, pink (7.5YR 7/3) silty clay loam; light brown (7.5YR 6/3) moist; massive; hard, firm, sticky and plastic; common very fine and micro pores; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.7); gradual wavy boundary.
C7 RSL 67474 (170-196 cm)	67 to 77 inches, pink (7.5YR 7/3), brown (7.5YR 5/3) moist; massive; hard, very firm, sticky and plastic; few very fine and micro pores strongly calcareous, lime is disseminated; strongly alkaline (pH 8.8); gradual wavy boundary.

CONSECUTIVE PEDCN NUMBER C 67 27 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES QUAKER SILT LOAM SOIL NO. S67 UTAH. 20-16 SAMPLE NO. 7 435-7 442 SANPETE CO. AREA

SOIL FAMILY: XERIC TORRIFLUVENT,FINE-SILTY,CARBONATIC,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBONATE 3A1A	INT. II .02	1A2A COARSE FRAGMENTS PCT. OF WHOLE SOIL I 75- 20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75		
7 435	0- 15	AP	13.4	57.7	28.9	0.2	0.4	0.9	5.0	6.9	17.1	40.6			6	27.3	TR	TR	-- --
7 436	15- 43	C 1	11.7	57.3	31.0	--	0.2	0.4	3.8	7.3	17.4	39.9			8	27.4	TR	TR	-- --
7 437	43- 69	C 2	7.7	60.3	32.0	--	0.2	0.4	2.1	5.0	15.6	44.7			8	22.0	TR	TR	-- --
7 438	69- 89	C 3	9.8	56.7	33.5	0.1	0.5	1.1	3.3	4.8	12.5	44.2			9	19.2	TR	TR	-- --
7 439	89- 91	C 4	4.1	60.4	35.5	0.1	0.1	0.2	1.6	2.1	9.1	51.3			8	12.2	TR	TR	-- --
7 440	91-112	C 5	9.4	57.4	33.2	0.1	0.4	0.8	3.1	5.0	14.7	42.7			8	21.6	TR	TR	-- --
7 441	112-132	C 6	13.8	57.4	28.8	0.1	0.5	1.2	5.5	6.5	19.1	38.3			7	29.3	TR	TR	-- --
7 442	132-152	C 7	10.5	58.4	31.1	0.1	0.4	0.9	3.7	5.4	17.8	40.6			8	25.5	TR	TR	-- --

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	19-2 6E1B	EXT. IRON FE 6C2B	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST 1/3 BAR 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTENSBLTY LEF 4D1	LE 4D1	PH H2O 1/1 8C1A	PH H2O 1/10 8C1A	CACL2 8C1E
		-PERCENT--		-PERCENT-		PCT.	PCT.NO.40		GRAMS PER CC				----PERCENT---			-PERCENT--				
7 435	0- 15	0.97	0.095	36		0.5			1.33	1.43	1.00		18.1	10.8		2.4	2.4		8.8	
7 436	15- 43	0.65	0.069	42		0.3			1.30	1.40	1.00		18.2	10.8		2.5	2.5		8.9	
7 437	43- 69	0.62		43		0.3			1.34	1.42	1.00		19.5	11.6		2.0	2.0		9.1	
7 438	69- 89	0.57		43		0.3			1.36	1.44	1.00		20.5	11.6		1.9	1.9		9.3	
7 439	89- 91	0.75		40					1.25	1.36	1.00		25.4	12.5		2.9	2.8		9.3	
7 440	91-112	0.49		41					1.34	1.43	1.00		20.9	11.4		2.2	2.2		9.4	
7 441	112-132	0.42							1.34	1.42	1.00		19.4	10.6		2.0	2.0		9.4	
7 442	132-152								1.35	1.45	1.00		21.9	11.5		2.4	2.4		9.5	

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B3A 6N4C	MG 5B3A 6O4C	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT.	C E C NA- OAC 5A2A	NH4- OAC 5A6A	EC 8A1A	WATER EXTRACT FROM SATURATED PASTE 8A1 CA 6N1B	MG 6O1B	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1A	B 6T1A	PH SAT. PASTE 8C1B
		--------MEQ/100G--------					PCT.	-MEQ/100G		MMHO	----------MEQ/1000 ML----------								PPM	
7 435	0- 15				1.9	1.9			13.0	0.82	5.0	1.8	0.2	1.1		4.4	0.8			7.8
7 436	15- 43				1.1	1.1			12.0	0.40	4.4	1.0	0.2	0.6		3.0	0.5			8.0
7 437	43- 69			0.1	0.7	0.8			12.1	0.38	1.6	1.6	0.2	0.4		2.7	0.2			8.2
7 438	69- 89			0.1	0.8	0.9			12.7	0.43	1.0	2.7	0.2	0.4		3.6	0.4			8.4
7 439	89- 91			0.1	0.8	0.9			14.7	0.44	0.6	3.1	0.4	0.6		3.7	0.3			8.4
7 440	91-112			0.1	0.7	0.8			12.2	0.56	0.4	3.8	0.6	0.5		4.0	0.4			8.6
7 441	112-132			0.2	0.5	0.7			11.5	0.54	0.7	3.4	1.2	0.5		4.1	0.6			8.5
7 442	132-152			1.0	0.6	1.6			12.0	0.89	0.4	2.5	4.4	0.2		4.4	1.1			8.5

SAMPLE NO.	DEPTH CM.	WATER EXCHANGBLE AT SAT. 8A PCT.	NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1A PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I 7A2E	II 7A2E	III 7A2E	IV 7A2E	DTA 7A3 PCT.	L.T. .0002 MM X RAY I 7A2E	II 7A2E	III 7A2E	MINERAL CODE	RELATIVE AMOUNT
7 435	0- 15	52.2		TR	TR			MI 5	MT 2	KK 2						MI MICA	1 TRACE
7 436	15- 43	42.2		TR	TR			MI 4	MT 2	KK 2						MT MONTMORT	2 SMALL
7 437	43- 69	44.8	TR	1	TR			MI 4	MT 2	KK 2						KK KAOLINIT	3 MODERATE
7 438	69- 89	44.8	TR	1	TR			MI 4	KK 3	MT 1							4 ABUNDANT
7 439	89- 91	51.9	TR	1	TR												5 DOMINANT
7 440	91-112	45.0	TR	1	TR												6 INDETER.
7 441	112-132	42.3	0.1	1	1												
7 442	132-152	53.0	0.8	6	4												

QUAKER SILT LOAM
S67Utah-20-16

Location: Sanpete Soil Survey Area, Utah. Sec. 1, T. 17 S., R. 1 W.; in Flat Canyon, about 3 miles north of highway 89. Date of sampling: September 1, 1967.
Description by: A. Erickson, D. Erickson, J. Swenson, J. Shiozaki. Collectors: B. Brasher, D. Nettleton.
Classification: Xeric Torrifluvent, fine-silty, carbonatic, mesic.
Vegetation: Dryland wheat stubble. Use: Dryland farming. Climate: Precipitation, 13 inches. Mean annual air temperature, 48°F.; mean summer air temperature, 65°F. Frost-free days, 120. Parent material: Mixed alluvium from limestone and sandstone. Topography: Alluvial fan. Slope, 3 percent south aspect. Elevation: 5,600 feet. Drainage: Well drained, moderate permeability, medium runoff, no water table. Soil moisture: Dry.

HORIZON	DESCRIPTIONS
	(0-15 cm)
Ap RSL 67435	0 to 6 inches, pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; weak thick platy breaking to weak coarse subangular blocky structure; hard, firm, sticky and plastic; few very fine and few fine roots; common very fine and few fine pores; strongly calcareous, lime is disseminated, moderately alkaline (pH 8.2); abrupt smooth boundary.
C1 RSL 67436 (15-43 cm)	6 to 17 inches, pale brown (10YR 6/3) silt loam; brown (10YR 4/3) moist; weak coarse, subangular blocky structure; hard, firm, sticky and plastic; few very fine roots; common very fine and common fine pores; very strongly calcareous, lime is disseminated; moderately alkaline (pH 8.3); gradual smooth boundary.
C2 RSL 67437 (43-69 cm)	17 to 27 inches, very pale brown (10YR 7/3) silt loam, yellowish brown (10YR 5/4) moist weak medium subangular blocky structure; hard, firm, sticky and plastic; few very fine roots; common very fine, few fine, and few medium pores; very strongly calcareous, lime is in veins and disseminated; moderately alkaline (pH 8.4); gradual smooth boundary.
C3 RSL 67438 (69-89 cm)	27 to 35 inches, very pale brown (10YR 7/3) heavy silt loam, yellowish brown (10YR 5/4) moist; weak medium subangular blocky structure; hard, firm, sticky and plastic; few very fine roots; common very fine pores; very strongly calcareous, lime is disseminated; moderately alkaline (pH 8.4); abrupt smooth boundary.
C4 RSL 67439 (89-91 cm)	35 to 36 inches, pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; massive; hard, firm, sticky and plastic; few very fine roots; common very fine and few fine pores; very strongly calcareous, lime is disseminated; strongly alkaline (pH 8.5); abrupt smooth boundary.
C5 RSL 67440 (91-112 cm)	36 to 44 inches, very pale brown (10YR 7/3) silt loam; yellowish brown (10YR 5/4) moist; weak medium subangular blocky structure; hard, firm, sticky and plastic; few very fine roots; common very fine and few fine pores; very strongly calcareous, lime is in veins and disseminated; strongly alkaline (pH 8.5); gradual smooth boundary.
C6 RSL 67441 (112-132 cm)	44 to 52 inches, pale brown (10YR 6/3) silt loam, brown (10YR 5/3) moist; massive; hard, firm, sticky and plastic; few very fine roots; few very fine and few fine pores; very strongly calcareous, lime is disseminated, strongly alkaline (pH 8.5); gradual smooth boundary.
C7 RSL 67442 (132-152 cm)	52 to 60 inches, pale brown (10YR 6/3) silt loam; yellowish brown (10YR 5/4) moist; massive; hard, firm, sticky and plastic; few very fine roots; few very fine and few fine pores; very strongly calcareous, lime is disseminated; strongly alkaline (pH 8.5)

CONSECUTIVE PEDCN NUMBER C 67 31 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES WOODROW SILTY CLAY LOAM SOIL NO. S67 UTAH. 20- 9 SAMPLE NO. 7 475-7 484 SANPETE CO. AREA

SOIL FAMILY: XERIC TORRIFLUVENT,FINE-SILTY,MXD(CALCR.),MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	CSI .05- .02	FSI .02- .002	CC. 2- .2U	FINE LT .2U	CARBONATE 3A1A	1A2A INT. II .2-.02	-COARSE FRAGMENTS- PCT. OF WHOLE SOIL I 75-20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75		
7 475	0- 15	AP	21.0	48.4	30.6	0.3	0.6	0.9	6.5	12.7	19.6	28.8			5	37.1	TR	TR	-- --
7 476	15- 30	A12	20.2	48.9	30.9	0.1	0.5	0.9	6.2	12.5	19.2	29.7			6	36.3	TR	TR	-- --
7 477	30- 53	C 1	18.4	48.9	32.7	0.1	0.2	0.5	5.0	12.6	20.1	28.8			7	36.5	TR	TR	-- --
7 478	53- 63	C 2	35.7	44.5	19.8	--	0.1	0.8	13.3	21.5	22.8	21.7			3	54.0	TR	TR	-- --
7 479	63- 86	2C 3	1.0	45.2	53.8	--	--	--	0.5	0.5	6.5	38.7			10	7.3	TR	TR	-- --
7 480	86-107	2C 4	10.4	45.3	44.3	0.1	0.1	0.1	2.3	7.8	13.1	32.2			7	22.8	TR	TR	-- --
7 481	107-112	3C 5	15.6	59.0	25.4	--	0.1	--	3.5	12.0	26.5	32.5			3	41.6	TR	TR	-- --
7 482	112-124	4C 6															--	--	-- --
7 483	124-137	5C 7															--	--	-- --
7 484	137-152	6C 8															--	--	-- --

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A -PERCENT--	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	19-2 6E1B -PERCENT-	EXT. IRON FE 6C2B PCT.	ATTERBERG LIMIT LL 4F1 PCT.	PL 4F2 NO.40	BULK DENSITY EST 1/3 BAR 4A1F GRAMS PER CC	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C -----PERCENT----	1/3 BAR 4B1C	15 BAR 4B2	EXTENSBLTY LEF 4D1 -PERCENT--	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
7 475	0- 15	1.46	0.130	28		0.2				1.36	1.53	1.00		23.3	12.0	4.0	4.0		8.7	
7 476	15- 30	1.27	0.120	29					1.40			1.00			13.2				8.8	
7 477	30- 53	0.53	0.058	27						1.47	1.61	1.00		19.1	12.5	3.1	3.1		9.0	
7 478	53- 63	0.30		25		0.2			1.45			1.00			7.7				9.2	
7 479	63- 86	0.51		32						1.39	1.60	1.00		24.9	18.5	4.8	4.8		9.2	
7 480	86-107	0.38		29					1.37			1.00			16.3				9.3	
7 481	107-112	0.27		31					1.36			1.00			10.0				9.4	
7 482	112-124	0.26								1.35	1.54	1.00		23.2	11.1	4.5	4.5			
7 483	124-137	0.18							1.37			1.00			7.6					
7 484	137-152									1.40	1.51	1.00		16.2	7.9	2.6	2.6			

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B3A	MG 5B3A	NA 5B4A	K 5B4A	SUM	BASE SAT. PCT.	C E C NA-OAC 5A2A	NH4-OAC 5A6A	EC 8A1A	WATER EXTRACT FROM SATURATED PASTE 8A1 CA 6N1B	MG 6O1B	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1A	B 6T1A	PH SAT. PASTE 8C1B
		6N4C -------MEQ/100G--------	6O4C	6P2A	6Q2A			-MEQ/100G		MMHO	----------MEQ/1000 ML----------								PPM	
7 475	0- 15			0.3	1.1	1.4			15.3	2.16	10.2	10.1	3.1	0.8		13.9	4.0	3.4		7.4
7 476	15- 30			0.3	0.9	1.2			14.9	1.33	6.2	5.4	2.2	0.4		9.4	1.3			7.6
7 477	30- 53			0.4	0.3	0.7			12.6	1.00	4.8	3.6	2.4	0.4		6.1	0.5			7.8
7 478	53- 63			0.4	0.8	1.2			10.0	0.93	2.5	3.1	3.3	0.3		5.1	0.4			7.8
7 479	63- 86			1.3	0.2	1.5			23.2	0.89	1.4	2.5	4.6	0.2		4.9	0.7			8.0
7 480	86-107			1.2	1.0	2.2			19.2	1.06	1.4	2.6	5.0	0.2		5.3	1.1			7.9
7 481	107-112			1.0	0.6	1.6			12.6	1.18	2.0	3.2	5.8	0.2		5.2	0.8			7.9
7 482	112-124																			
7 483	124-137																			
7 484	137-152																			

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGEABLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1A PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I 7A2E	II 7A2E	III 7A2E	IV 7A2E	DTA PCT. 7A3	L.T. .0002 MM X RAY I 7A2E	II 7A2E	III 7A2E	MINERAL CODE	RELATIVE AMOUNT
7 475	0- 15	45.4	0.2	1	1			MT 3	MI 3	KK 3						MT MONTMORT	1 TRACE
7 476	15- 30	43.8	0.2	1	1											MI MICA	2 SMALL
7 477	30- 53	44.8	0.3	2	1											KK KAOLINIT	3 MODERATE
7 478	53- 63	32.8	0.3	3	2			MT 4	MI 3	KK 2							4 ABUNDANT
7 479	63- 86	56.9	1.0	4	3												5 DOMINANT
7 480	86-107	55.5	0.9	5	4												6 INDETER.
7 481	107-112	36.1	0.8	6	4												
7 482	112-124																
7 483	124-137																
7 484	137-152																

WOODROW SILTY CLAY LOAM
S67Utah-20-9

Location: Sanpete Soil Survey Area, Utah. Sec. 28, T. 20 S., R. 1 E.; north of Axtell store 3/8 mile and 600 feet west of highway 89. Date of sampling: August 30, 1967. Description by: A. Erickson, D. Erickson, J. Swenson, J. Shiozaki. Collectors: B. Brasher, D. Nettleton.
Classification: Xeric Torrifluvent, fine-silty, mixed (calcareous), mesic. *
Vegetation: Morningglory, mouse ear (fallow). Use: Irrigated farming. Climate: precipitation, 9 inches; mean annual air temperature, 49°F.; mean summer air temperature, 66°F. Frost-free days, 130. Parent material: Mixed alluvium from shale, sandstone, and limestone. Topography: Alluvial fan. Slope 2 percent, north aspect. Elevation: 5,200 feet. Drainage: Well drained, slow permeability, medium runoff, no water table Soil moisture: Dry.

HORIZON	DESCRIPTION
	(0-15 cm)
Ap RSL 67475	0 to 6 inches, brown (10YR 5/3) silty clay loam, dark brown (10YR 4/3) moist; weak fine granular structure; hard, firm, sticky and plastic; few medium and common fine roots; few fine pores; strongly calcareous, lime is disseminated; moderately alkaline; (pH 8.2) clear wavy boundary.
A12 RSL 67476 (15-30 cm)	6 to 12 inches, pale brown (10YR 6/3) silty clay loam; dark brown (10YR 4/3) moist; moderate medium subangular blocky structure; hard, firm, sticky and plastic; few fine roots; common medium, few fine and very fine pores; strongly calcareous, lime is disseminated; moderately alkaline (pH 8.4); clear wavy boundary.
C1 RSL 67477 (30-53 cm)	12 to 21 inches, very pale brown (10YR 7/3) silty clay loam; brown (10YR 5/3) moist; moderate medium and fine subangular blocky structure; hard, firm, sticky and plastic; few medium and fine roots; few medium, fine and common very fine pores; strongly calcareous, lime is disseminated; moderately alkaline; (pH 8.4); clear wavy boundary.
C2 RSL 67478 (53-63 cm)	21 to 25 inches, very pale brown (10YR 7/3) loam; brown (10YR 5/3) moist; weak, medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few fine roots; few medium; common very fine and fine pores; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.5); abrupt smooth boundary.
IIC3 RSL 67479 (63-86 cm)	25 to 34 inches, pale brown (10YR 6/3) silty clay, brown (10YR 4/3) moist; reddish yellow (5YR 6/6) silt loam; weak medium prismatic structure; very hard, very firm, sticky and very plastic; few fine roots; few medium and fine; common very fine pores; lense ¼ to ½ inch thick; strongly calcareous, lime is disseminated; strongly alkaline; (pH 8.5); gradual smooth boundary.
IIC4 RSL 67480 (86-107 cm)	34 to 42 inches, very pale brown (10YR 7/3) silty clay; grayish brown (10YR 5/3) moist; stratified with light reddish brown (5YR 6/4) lenses of silt loam; weak medium subangular blocky structure; extremely hard, very firm, sticky and very plastic; few fine roots; few medium, common fine and very fine pores; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.6); abrupt smooth boundary.
IIIC5 RSL 67481 (107-112 cm)	42 to 44 inches, very pale brown (10YR 7/3) silt loam, brown (10YR 5/3) moist; massive; hard, firm, slightly sticky and plastic; few fine roots; few medium; common fine and many very fine pores; strongly calcareous, lime is disseminated; strongly alkaline; (pH 8.6); abrupt smooth boundary.
IVC6 RSL 67482 (112-124 cm)	44 to 49 inches, very pale brown (10YR 7/3) silty clay loam; brown (10YR 5/3) moist; stratified with strong brown (7.5Y 5/6) lense of silt loam 1 mm thick; weak coarse prismatic structure; hard, firm, sticky and plastic; few fine and medium roots; few medium and fine, common very fine pores; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.7); clear smooth boundary.
VC7 RSL 67483 (124-137 cm)	49 to 54 inches, pale brown (10YR 6/3) silt loam; brown (10YR 5/3) moist; ¼-to ½-inch lenses reddish brown (5YR 5/4) of very fine sand; massive; hard, firm, sticky and plastic; few very fine roots; few medium and fine; common very fine pores; strongly calcareous, lime is disseminated; strongly alkaline; (pH 8.7); clear smooth boundary.
VIC8 RSL 67484 (137-152 cm)	54 to 60 inches, pale brown (10YR 6/3) clay loam; brown (10YR 5/3) moist; slightly hard, firm, sticky and plastic; few very fine roots; common fine and very fine pores; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.5).

* The organic carbon accumulation is sufficient for Xerollic subgroup, but Xerollic subgroup for Torrifluvents has not been provided for in Taxonomy.

CONSECUTIVE PEDON NUMBER C 67 29 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES RAVOLA LOAM GYPSIC VARIANT SOIL NO. S67 UTAH. 20-14 SAMPLE NO. 7 454-7 465 SANPETE CO. AREA

SOIL FAMILY: XERIC TORRIFLUVENT,FINE-SILTY,MXD(CALCR.),MESIC RIVERSIDE SOIL SURVEY LABORATORY

SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2-.05	SILT .05-.002	CLAY LT .002	SILTS VCS 2-1	CS 1-.5	MS .5-.25	FS .25-.10	VFS .1-.05	CSI .05-.02	FSI .02-.002	CLAYS CO. 2-.2U	FINE LT .2U	CARBONATE 3A1A.02	INT. II .2-.02	1A2A COARSE FRAGMENTS PCT. OF WHOLE SOIL	I 75-20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75			
7 454	0- 13	A11	23.2	51.7	25.1	1.8	4.2	2.8	6.4	8.0	28.9	22.8				40.4	12	TR	12Z	N
7 455	13- 20	A12	28.1	48.5	23.4	2.2	4.7	3.3	6.8	11.1	28.2	20.3			1	42.9	6	TR	6Z	N
7 456	20- 38	C 1	49.8	30.3	19.9	3.8	12.5	9.5	16.4	7.6	15.8	14.5				31.5	18	TR	18Z	N
7 457	38- 61	C 2	23.4	51.4	25.2	1.6	4.0	2.5	4.9	10.4	28.6	22.8				41.8	12	TR	12Z	N
7 458	61- 81	2C 3	15.4	51.9	32.7	0.6	1.0	0.7	2.3	10.8	27.2	24.7			2	39.5	TR	TR	--	--
7 459	81- 94	2C 4															TR	TR	--	--
7 460	94-122	2C 5															TR	TR	--	--
7 461	122-142	2C 6															2	TR	2Z	N
7 462	142-163	2C 7															2	TR	2Z	N
7 463	163-173	3C 8	29.6	33.5	36.9	4.1	6.5	3.2	5.9	9.9	24.5	9.0				37.7	3	TR	3Z	N
7 464	173-203	3C 9															1	TR	1Z	N
7 465	C- 0	R															--	--	--	--

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	19-2 6E1B	EXT. IRON FE 6C2B	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST 1/3 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 382	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTENSIBLITY LEF 4D1	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
		-PERCENT--		-PERCENT-		PCT.	PCT.NO.40		GRAMS PER CC				----PERCENT---			-PERCENT--				
7 454	0- 13	0.90	0.088	14		0.3				1.35	1.45	0.94		21.9	14.6	2.4	2.2		7.8	
7 455	13- 20	1.08	0.087	15		0.3				1.26	1.30	0.97		16.4	14.0	1.0	1.0		7.9	
7 456	20- 38	0.11		10		0.2				1.19	1.20	0.91		13.7	16.9	0.3	0.3		7.8	
7 457	38- 61	0.45		15		0.3				1.20	1.27	0.94		20.7	13.8	1.9	1.8		7.8	
7 458	61- 81	0.24		20		0.4				1.39	1.49	1.00		18.7	13.5	2.3	2.3		8.0	
7 459	81- 94	0.33								1.19	1.24	1.00		24.0	14.9	1.4	1.4			
7 460	94-122	0.28								1.23	1.28	1.00		24.4	14.9	1.3	1.3			
7 461	122-142	0.22								1.29	1.36	0.99		23.8	15.7	1.8	1.8			
7 462	142-163									1.34	1.41	0.99		22.1	15.5	1.7	1.7			
7 463	163-173			13						1.25	1.28	0.99		19.2	15.7	0.8	0.8		8.8	
7 464	173-203									1.27	1.33	1.00		20.7	14.6	1.6	1.5			
7 465	C- 0			3															7.9	

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B3A	MG 5B3A	NA 5B4A	K 5B4A	SUM	BASE SAT.	C E C NA-OAC 5A2A	NH4-OAC 5A6A	WATER EXTRACT FROM SATURATED PASTE EC 8A1A	CA 6N1B	MG 6O1B	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1A	B 6T1A	PH SAT. PASTE 8C1B
		6N4C	6O4C	6P2A	6Q2A															
		MEQ/100G					PCT.	-MEQ/100G		MMHO	MEQ/1000 ML								PPM	
7 454	0- 13			0.1	0.6	0.7			9.5	2.94	35.7	1.3	0.8	1.1		6.0	1.7	34.4		7.4
7 455	13- 20			0.1	0.4	0.5			7.4	2.78	32.5	1.8	0.7	0.6		3.6	1.1	37.7		7.5
7 456	20- 38			0.1	0.4	0.5			4.0	2.57	30.0	1.6	0.4	0.8		1.5	0.6	36.1		7.5
7 457	38- 61			0.3	0.6	0.9			7.2	3.03	30.5	4.4	3.4	2.4		3.6	2.7	41.2		7.4
7 458	61- 81			2.6	0.4	3.0			7.4	7.3	30.0	24.8	35.5	1.3		4.0	31.5	56.4		7.5
7 459	81- 94																			
7 460	94-122																			
7 461	122-142																			
7 462	142-163																			
7 463	163-173			4.2	0.3	4.5			7.1	15.4	38.8	87.0	77.6	0.6		2.3	95.5	10.0		8.1
7 464	173-203																			
7 465	C- 0			0.3	0.2	0.5			1.9	3.52	120.0	3.4	6.3	3.0		2.3	4.9	39.2		7.6

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGEABLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1A PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I 7A2E	II 7A2E	III 7A2E	DTA IV 7A2E	DTA PCT. 7A3	X RAY I 7A2E	II 7A2E	III 7A2E	MINERAL CODE	RELATIVE AMOUNT
7 454	0- 13	53.7	TR	1	TR	14.0		MI 5 CL 3								MI MICA	1 TRACE
7 455	13- 20	65.4	TR	1	TR	14.0										CL CHLORITE	2 SMALL
7 456	20- 38	142.6	TR	1	TR			MI 5 CL 3									3 MODERATE
7 457	38- 61	50.7	0.1	2	1	14.0											4 ABUNDANT
7 458	61- 81	54.1	0.7	9	7	3.0											5 DOMINANT
7 459	81- 94					24.0											6 INDETER.
7 460	94-122					23.0											
7 461	122-142					24.0											
7 462	142-163					30.0											
7 463	163-173	98.7			10	9.0											
7 464	173-203					16.0											
7 465	C- 0	56.8			1	69.0											
																MT MONTMORT	MI

SAMPLE PREPARATION CODES
N=NOT DETERMINED.
Z=NOT ALL FRACTIONS SEPERATED. ADJACENT FRACTIONS INCLUDED HERE.

RAVOLA LOAM GYPSIC VARIANT 1/
S67Utah-20-14

Location: Sanpete Soil Survey Area, Utah. Sec. 18, T. 20 S., R. 2 E.; about 1 1/2 miles southwest of the south end of Mayfield fields, near the shale hills. Date of sampling: August 31, 1967.
Description By: J. Swenson, D. Erickson. A. Erickson. J. Shiozaki. Collectors: B. Brasher, D. Nettleton.
Classification: Xeric Torrifluvent, fine-silty, mixed (calcareous), mesic.
Vegetation: Big sagebrush, shadscale, cheatgrass, squirreltail, greasewood. Use: Winter grazing. Climate: Precipitation, 10 inches; mean annual air temperature, 49°F.; mean summer air temperature, 66°F.; frost-free days, 100-120. Parent material: Alluvium from shale. Topography: Alluvial plain. Slope 15 percent east aspect. Elevation 5,780 feet. Drainage: Well drained, moderate permeability, medium runoff, no water table. Soil moisture: Dry.
Remarks; Most of the alluvium was derived from the Sampete Fm. It is of upper cretaceous age. Gypsiferous shale from this formation was sampled (RSL 67 465).

HORIZON	DESCRIPTION
	(0-13 cm)
A11 RSL 67454	0 to 5 inches, light reddish brown (5YR 6/3) heavy loam, reddish brown (5YR 5/3) moist; weak thick platy structure; slightly hard, friable, slightly sticky and plastic; few very fine roots; common very fine, few fine and few medium pores; many fine gypsum nodules; strongly calcareous, lime is disseminated; moderately alkaline (pH 8.4); abrupt smooth boundary.
A12 RSL 67455 (13-20 cm)	5 to 8 inches, light reddish brown (5YR 6/3) loam, reddish brown (5YR 5/3) moist; weak medium platy structure; hard, friable, slightly sticky and plastic; few very fine roots; common very fine, few fine pores; many fine gypsum nodules, few medium crystals; strongly calcareous, lime is disseminated; moderately alkaline (pH 8.4); abrupt smooth boundary.
C1 RSL 67456 (20-38 cm)	8 to 15 inches, light reddish brown (5YR 6/3) fine gravelly loam, reddish brown (5YR 5/3) moist; massive; slightly hard very friable, nonsticky and nonplastic; few very fine and few fine roots; common very fine and few fine pores; many fine and medium gypsum crystals and nodules; strongly calcareous, lime is disseminated; (pH 8.2); clear wavy boundary.
C2 RSL 67457 (38-61 cm)	15 to 24 inches, light reddish brown (5YR 6/3) loam, reddish brown (5YR 5/3) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine and few fine roots; common very fine, few fine and few medium pores; thin silt loam discontinuous strata 1/4 to 3/4 inch thick in places composed of thin laminar layers; many fine gypsum nodules; strongly calcareous, lime is disseminated; moderately alkaline (pH 8.2); clear smooth boundary.
IIC3 RSL 67458 (61-81 cm)	24 to 32 inches, reddish brown (5YR 5/3) clay loam, reddish brown (5YR 4/3) moist; weak coarse subangular blocky structure; very hard, firm, sticky and plastic; few very fine and few fine roots; common very fine, few fine and medium pores; many coarse gypsum nodules; strongly calcareous, lime is disseminated and in veins; moderately alkaline; (pH 8.4); abrupt smooth boundary.
IIC4 RSL 67459 (81-94 cm)	32 to 37 inches, light reddish brown (5YR 6/3) heavy silt loam; reddish brown (5YR 4/3) moist; weak fine subangular blocky structure; hard, friable, sticky and plastic; few very fine and few fine roots; few very fine and few fine pores; many fine gypsum nodules and veins along pores; and cracks; layer of silt loam ½ to 3/4 inch thick at the bottom of this horizon. strongly calcareous, lime is disseminated and in veins; moderately alkaline (pH 8.4); abrupt smooth boundary.
IIC5 RSL 67460 (94-122 cm)	37 to 48 inches, light reddish brown (5YR 6/3) silt loam reddish brown (5YR 5/3) moist; massive; hard, friable, slightly sticky and plastic; few very fine roots; common very fine, few fine pores; many fine gypsum nodules, few flakes; thin silt loam layer 1/4 to 3/4 inch thick at lower boundary; lime is disseminated; moderately alkaline (pH 8.4) clear smooth boundary.
IIC6 RSL 67461 (122-142 cm)	48 to 56 inches, light reddish brown (5YR 6/4) heavy loam, reddish brown (5YR 4/3) moist; massive; hard, firm, slightly sticky and plastic; few very fine roots; common very fine, few fine, and few medium pores; many fine gypsum nodules; strongly calcareous, lime is disseminated; moderately alkaline (pH 8.4); clear smooth boundary.
IIC7 RSL 67462 (142-163 cm)	56 to 64 inches, reddish brown (5YR 4/3) loam, reddish brown (5YR 4/3) moist; massive; hard friable, slightly sticky and plastic; few very fine roots; common very fine and few fine pores; many fine gypsum nodules and veins; strongly calcareous, lime is disseminated; moderately alkaline (pH 8.4); gradual smooth boundary.
IIIC8 RSL 67463 (163-173 cm)	64 to 68 inches, reddish brown (5YR 5/3) sandy loam, reddish brown (5YR 4/3) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; few fine pores; many fine gypsum nodules and veins; strongly calcareous, lime is disseminated; moderately alkaline (pH 8.4); gradual smooth boundary.
IIIC9 RSL 67464 (173-203 cm)	68 to 80 inches +, reddish brown (5YR 5/3) heavy loam, reddish brown (5YR 4/3) moist; massive; slightly hard, friable, sticky and plastic; few very fine roots; few very fine and few fine pores; many fine gypsum nodules and veins strongly calcareous, lime is disseminated; strongly alkaline (pH 8.6).

1/ The Ravola series is in a fine-loamy, mixed (calcareous), mesic family of Typic Torrifluvents. This pedon has a moisture regime that is marginal to Xeric and contains sizable amounts of gypsum.

CONSECUTIVE PEDON NUMBER C 70 37 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES ABRAHAM LOAM SOIL NO. S68 UTAH. 14-24 SAMPLE NO. 0 234-0 237 DELTA AREA

SOIL FAMILY: AQUIC XEROFLUVENT,COARSE-SILTY,MXD(CALC.),MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION SAND 2- .05 .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBO NATE 3A1A	INT. II .2- .02	1A2A COARSE FRAGMENTS PCT. OF WHOLE 20 I 75- 75	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														SOIL	PCT. OF LT 75	
0 234	0- 20	AP															--	-- --	--
0 235	20- 84	C 1															--	-- --	--
0 236	84-135	C 2															--	-- --	--
0 237	135-160	C 3															--	-- --	--

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR-BON 6A1A -PERCENT--	NITRO GEN 681A	CARBONATE AS CACO3 LT 2 -PERCENT- 6E1B	19-2 6E1B	EXT. IRON FE 6C2B PCT.	ATTERBERG LIMIT LL 4F1 PCT.NO.40	PL 4F2	BULK DENSITY EST 1/3 BAR 4A1F GRAMS PER CC	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C ----PERCENT---	1/3 BAR 4B1C	15 BAR 4B2	EXTENSBLTY LEF 4D1 -PERCENT--	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
0 234	0- 20	0.55		27											9.4			8.2	8.9	8.0
0 235	20- 84	0.18		22											5.9			8.1	8.7	8.0
0 236	84-135	0.22		27											8.7			8.3	8.9	8.3
0 237	135-160	0.22		32											10.7			8.3	9.1	8.3

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT. PCT.	C E C NA- OAC 5A2A -MEQ/100G	NH4- CAC 5A6A	EC 8A1A MMHO	WATER EXTRACT FROM SATURATED PASTE 8A1 CA 6N1A	MG 6O1A	NA 6P1A	K 6Q1A -MEQ/1000 ML	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1B	B 6T1A PPM	PH SAT. PASTE 8C1B
0 234	0- 20	16.1	8.5	2.9	1.8	29.3	100+		14.7	3.67	7.3	13.9	20.9	1.0		3.0	18.7	10.4		7.8
0 235	20- 84	19.9	5.3	5.7	1.8	32.7	100+		12.5	9.1	29.0	29.4	79.2	2.4		3.0	55.3	73.2		7.9
0 236	84-135	22.0	7.4	14.5	1.6	45.5	100+		16.4	19.3	26.3	35.1	159.0	1.4		5.5	120.0	102.5		7.9
0 237	135-160	19.7	7.5	15.3	1.2	43.7	100+		18.5	13.5	20.8	24.8	137.0	0.9		4.9	91.8	95.0		7.9

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGBLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1B PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY DTA 7A2E I	7A2E II	7A2E III	7A2E IV	7A3 PCT.	L.T. .0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
0 234	0- 20	43.7	2.0	14	6												1 TRACE
0 235	20- 84	35.6	2.9	23	15	0.2											2 SMALL
0 236	84-135	45.9	7.2	44	29	0.3											3 MODERATE
0 237	135-160	57.6	7.4	40	29	0.2											4 ABUNDANT
																	5 DOMINANT
																	6 INDETER.

ABRAHAM LOAM
S68Utah-14-24

Location: Millard County, UT. 1/2 mile south of the Oasis church. About 2,575 feet north, 2,420 feet east of the S. W. corner of Sec. 3, T. 18 S., R. 7 W. Date of sampling: November 1968.
Description by: L. Woodward and G. Crandall. Collectors: G. Crandall and D. Beckstrand.
Classification: Aquic Xerofluvent, coarse-silty, mixed (calcareous), mesic.
Vegetation: Irrigated cropland. Climate: Mean annual temperature, 49° to 52° F. Average annual precipitation, 6 to 8 inches. Parent material: Lake sediments and alluvium from mixed parent material. Topography: Deltas and flood plains on slopes of 0 to 1 percent. Elevation: 4,580 feet. Drainage: Somewhat poorly drained. Soil moisture: Usually moist below 40 to 60 inches (seepage).

HORIZON	DESCRIPTION
Ap RSL No. 70234	0-20 cm (0-8 inches), light brownish gray (10YR 6/2) loam, dark grayish brown (10YR 4/2) moist; weak coarse platy structure that parts to weak fine platy; slightly hard, very friable, slightly sticky, slightly plastic; many fine and common medium roots; common fine tubular pores; strongly calcareous; strongly alkaline (pH 8.5); abrupt smooth boundary.
C1 RSL 70235	20-84 cm (8-33 inches), light brownish gray (10YR 6/2) very fine sandy loam, grayish brown (10YR 5/2) moist; few, fine distinct, light olive brown (2.5Y 5/4) mottles; massive; slightly hard, very friable, slightly sticky, slightly plastic; common fine and few medium roots; common fine tubular pores; strongly calcareous; strongly alkaline (pH 8.5); clear smooth boundary.
C2 RSL No. 70236	84-135 cm (33-53 inches), light gray (10YR 7/2) very fine sandy loam, grayish brown (10YR 5/2) moist; common, fine, distinct, olive brown (2.5Y 4/4) mottles; massive; soft, very friable, nonsticky, nonplastic; few fine and medium roots; few fine tubular pores; strongly calcareous; strongly alkaline (pH 8.5); clear smooth boundary.
C3 RSL No. 70237	135-160 cm (53-63 inches), light gray (10YR 7/2) silt loam, grayish brown (10YR 5/2) moist; few, fine, distinct, olive brown (2.5Y 4/4) mottles; massive; hard, friable, slightly sticky, slightly plastic; few fine roots; few fine tubular pores; strongly calcareous; strongly alkaline (pH 8.6).

CONSECUTIVE PEDON NUMBER C 70 38 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES ABRAHAM SILTY CLAY LOAM SOIL NO. S68 UTAH. 14-63 SAMPLE NO. 0 238-0 243 DELTA AREA

SOIL FAMILY: AQUIC XEROFLUVENT,COARSE-SILTY,MXD(CALC.),MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	CSI .05- .02	FSI .02- .002	SILTS CC. 2- .2U	CLAYS FINE LT .2U	CARBONATE 3A1A	1A2A INT. II .2- .02	COARSE FRAGMENTS PCT. OF WHOLE SOIL I 75- 20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75		
0 238	0- 30	A 1															--	--	--
0 239	30- 61	C 1															--	--	--
0 240	61- 91	C 2															--	--	--
0 241	91- 99	C 3															--	--	--
0 242	99-122	C 3															--	--	--
0 243	122-152	C 3															--	--	--

SAMPLE NO.	DEPTH CM.	ORG. MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 IRON 6E1B	LT 2 6E1B	19-2 6C2B FE	EXT. ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST 1/3 BAR 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTENSBLTY LEF 4D1	LE 4D1	PH H2O 8C1A	H2O 1/1 8C1A	H2O 1/10 8C1E	CACL2
		PERCENT		PERCENT		PCT.	PCT.NO.40		GRAMS PER CC				PERCENT			PERCENT					
0 238	0- 30	0.46		28											9.9			8.3	8.8	8.3	
0 239	30- 61	0.08		15											3.3			8.4	8.9	8.3	
0 240	61- 91	0.06		14											2.8			8.6	9.1	8.3	
0 241	91- 99	0.08		14											3.7			8.3	8.9	8.2	
0 242	99-122	0.28		26											8.9			8.2	8.9	8.2	
0 243	122-152	0.27		26											10.2			8.1	8.8	8.2	

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT.	C E C NA-OAC 5A2A	NH4-CAC 5A6A	EC 8A1A	WATER EXTRACT FROM SATURATED PASTE 8A1 CA 6N1A	MG 6O1A	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1B	B 6T1A	PH SAT. PASTE 8C1B
		MEQ/100G					PCT.	MEQ/100G		MMHO	MEQ/1000 ML								PPM	
0 238	0- 30	26.0	2.4	23.8	2.6	54.8	100+		17.1	30.0	34.8	7.5320.0	3.2		10.9237.0		120.0			7.8
0 239	30- 61	18.9	1.3	14.4	0.7	35.3	100+		8.9	26.3	32.0	9.2280.0	1.1		6.6198.0		97.0			8.0
0 240	61- 91	15.3	2.2	9.4	0.5	27.4	100+		7.1	20.0	30.8	18.8194.0	0.7		2.8142.0		86.8			7.8
0 241	91- 99	17.8	3.6	10.7	0.7	32.8	100+		8.3	24.3	34.8	34.4216.0	0.9		4.3200.0		71.5			7.8
0 242	99-122	24.5	8.5	26.4	1.1	60.5	100+		17.2	31.4	38.9	55.9318.0	1.2		5.2298.0		96.0			7.9
0 243	122-152	33.1	8.6	23.6	1.2	66.5	100+		18.9	32.7	41.1	59.5307.0	1.5		4.7299.0		81.0			7.9

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGBLE NA 5B4B MEQ.	NA 5O2 PCT.	SAR 5E	GYPSUM AMT. 6F1B PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I 7A2E	II 7A2E	III 7A2E	IV 7A2E	DTA 7A3 PCT.	L.T. .0002 MM X RAY I 7A2E	II 7A2E	III 7A2E	MINERAL CODE	RELATIVE AMOUNT
0 238	0- 30	44.6	9.5	56	70	0.7											1 TRACE
0 239	30- 61	30.4	5.9	66	62	0.4											2 SMALL
0 240	61- 91	30.7	3.4	48	39	0.2											3 MODERATE
0 241	91- 99	32.3	3.7	45	37	0.3											4 ABUNDANT
0 242	99-122	53.3	9.5	55	46	0.6											5 DOMINANT
0 243	122-152	57.0	6.1	32	43	1.3											6 INDETER.

ABRAHAM SILTY CLAY LOAM
S68Utah 14-63 (161)

Location: Millard County, UT. 3 miles north of Sugarville church, northeast 1/4 of Sec. 20, T. 15 S., R. 7 W. Date of sampling: November 1968.
Description by: G. Crandall, D. Beckstrand. Collectors: G. Crandall, D. Beckstrand.
Classification: Aquic Xerofluvent, coarse-loamy, mixed (calcareous), mesic.
Vegetation: Greasewood, seepweed, halogeton. Climate: Mean annual temperature, 49° to 52° F. Average annual precipitation, 6 to 8 inches. Parent material: Lake sediments and alluvium from mixed parent material. Topography: Deltas and flood plains, on slopes of 0 to 1 percent. Elevation: 4,580 feet. Drainage: Somewhat poorly drained. Soil moisture: Usually moist below 40 to 60 inches (seepage).
Remarks: Sampled by 12-inch increments.

HORIZON	DESCRIPTION
A11 RSL No. 70238	0-13 cm (0-5 inches), grayish brown (10YR 5/2) silty clay loam, dark grayish brown (10YR 4/2) moist; weak fine subangular blocky structure; soft, friable, slightly sticky, slightly plastic; few fine and very fine roots; many very fine and fine vesicular pores; strongly calcareous, very strongly alkaline (pH 9.4); gradual wavy boundary.
A12 RSL No. 70238	13-30 cm (5-12 inches), light brownish gray (10YR 6/2), silt loam, grayish brown (10YR 5/2) moist; weak fine subangular blocky structure; soft, friable, slightly sticky, slightly plastic; few fine and very fine roots; few fine and very fine tubular pores; strongly calcareous; strongly alkaline (pH 8.8); clear wavy boundary.
C1 RSL No. 70239	30-61 cm (12-24 inches), light brownish gray (10YR 6/2) loamy very fine sand, grayish brown (10YR 5/2) moist; many fine, distinct, yellowish brown (10YR 5/8) mottles; massive; soft, very friable, nonsticky, nonplastic; few very fine roots; few fine and very fine tubular pores; moderately calcareous, moderately alkaline (pH 8.2); clear wavy boundary.
C2 RSL No. 70240	61-91 cm (24-36 inches), same as the C1 horizon except very fine sandy loam, and strongly alkaline (pH 8.8).
C3 RSL No. 70241 70242 70243	91-152 cm (36-60 inches), light brownish gray (10YR 6/2) silt loam; grayish brown (10YR 5/2) moist; many, distinct, yellowish brown (10YR 5/8) mottles; soft, friable, slightly sticky, slightly plastic; few fine and very fine roots; common fine and very fine tubular pores; strongly calcareous; strongly alkaline (pH 8.5).

CONSECUTIVE PEDON NUMBER C 67 14 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES EPHRAIM SILTY CLAY LOAM SOIL NO. S67 UTAH. 20- 3 SAMPLE NO. 7 305-7 314 SANPETE CO. AREA

SOIL FAMILY: AQUIC XEROFLUVENT,FINE-SILTY,CARBONATIC,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SANC 2- .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBONATE 3A1A	1A2A INT. II .2- .02	COARSE FRAGMENTS PCT. OF WHOLE SOIL I 75-	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75		
7 305	0- 25	A11	15.4	47.3	37.3	0.5	1.0	1.5	6.2	6.2	11.3	36.0			7	21.4	TR	TR	--	--
7 306	25- 46	A12	9.7	47.8	42.5	0.1	0.2	0.8	3.6	5.0	10.2	37.6			8	17.5	TR	TR	--	--
7 307	46- 63	C 1	8.5	47.7	43.8	--	0.1	0.6	3.0	4.8	9.0	38.7			11	15.8	TR	TR	--	--
7 308	63- 84	C 2	7.0	55.9	37.1	--	0.1	0.4	1.7	4.8	11.0	44.9			12	17.0	TR	TR	--	--
7 309	84-104	C 3	3.2	55.2	41.6	--	0.1	0.1	0.6	2.4	11.0	44.2			11	13.9	TR	TR	--	--
7 310	104-117	2A1 B	0.8	52.0	47.2	--	0.1	--	0.2	0.5	6.2	45.8			17	6.8	TR	TR	--	--
7 311	117-132	2C 1B	7.7	57.0	35.3	0.1	0.2	0.5	2.2	4.7	13.3	43.7			12	19.5	TR	TR	--	--
7 312	132-142	2C 2B	1.2	48.4	50.4	--	0.1	0.1	0.4	0.6	3.1	45.3			16	4.0	TR	TR	--	--
7 313	142-150	3A1 B	19.1	46.3	34.6	--	0.4	0.9	6.7	11.1	13.8	32.5			12	29.8	TR	TR	--	--
7 314	150-178	3C 1B	23.6	48.9	27.5	--	0.3	0.7	7.5	15.1	19.4	29.5			10	40.3	TR	TR	--	--

SAMPLE NO.	DEPTH CM.	ORG. MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	19-2 6E1B	EXT. IRON FE 6C2B	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST 1/3 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTENSBLTY LEF 4D1	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
		-PERCENT--		-PERCENT-		PCT.	PCT.-NO.40		GRAMS PER CC				----PERCENT---			-PERCENT--				
7 305	0- 25	2.21	0.197	35		0.6				1.30	1.45	1.00		22.0	16.2	3.7	3.7		8.7	
7 306	25- 46	0.82	0.091	35						1.39	1.54	1.00		22.2	15.4	3.5	3.5		8.9	
7 307	46- 63	0.49	0.061	42		0.3				1.44	1.60	1.00		21.8	15.5	3.6	3.6		9.1	
7 308	63- 84	0.37		50						1.57	1.73	1.00		19.6	12.0	3.3	3.3		9.2	
7 309	84-104	0.27		42		0.9				1.59	1.81	1.00		20.3	14.1	4.4	4.4		9.2	
7 310	104-117	0.43		51						1.40	1.55	1.00		21.4	13.3	3.5	3.4		9.2	
7 311	117-132	0.25		51						1.50	1.65	1.00		19.4	11.0	3.2	3.2		9.3	
7 312	132-142			47						1.53	1.75	1.00		20.6	14.1	4.6	4.6		9.3	
7 313	142-150			45						1.17	1.77	1.00		17.4	11.0	14.8	14.8		9.3	
7 314	150-178			44						1.56	1.67	1.00		17.4	8.9	2.3	2.3		9.4	

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B3A 6N4C	MG 5B3A 6O4C	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT.	C E C NA- OAC 5A2A	NH4- CAC 5A6A	EC 8A1A MMHO	WATER EXTRACT FROM SATURATED PASTE 8A1 CA 6N1B	MG 6O1B	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1A	B 6T1A	PH SAT. PASTE 8C1B
		MEQ/100G					PCT.	-MEQ/100G			MEQ/1000 ML								PPM	
7 305	0- 25			0.5	3.0	3.5				1.48	6.4	4.7	0.8	2.0		9.9	9.4			7.6
7 306	25- 46			0.3	1.6	1.9				0.61	3.5	5.2	0.6	0.4		5.2	0.7			7.8
7 307	46- 63			0.9	0.2	1.1				0.48	2.1	2.0	0.4	0.2		4.2	0.5			7.8
7 308	63- 84			1.1	0.1	1.2				0.57	2.2	2.4	1.0	0.2		4.3	0.6			7.8
7 309	84-104			1.1	0.6	1.7				0.60	2.1	3.0	0.9	0.2		3.8	0.4			7.8
7 310	104-117																			
7 311	117-132																			
7 312	132-142																			
7 313	142-150																			
7 314	150-178																			

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGEABLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1A PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I 7A2E	II 7A2E	III 7A2E	DTA IV 7A2E	PCT. 7A3	L.T. .0002 MM X RAY I 7A2E	II 7A2E	III 7A2E	MINERAL CODE		RELATIVE AMOUNT
7 305	0- 25	56.2	0.5		TR			MI	4	MT	3	KK	2			MI	MICA	1 TRACE
7 306	25- 46	48.1	0.3		TR											MT	MONTMORT	2 SMALL
7 307	46- 63	47.6	0.9		TR			MI	4	MT	3	KK	2			KK	KAOLINIT	3 MODERATE
7 308	63- 84	44.0	1.1		1													4 ABUNDANT
7 309	84-104	50.2	1.1		1			MT	4	MI	3	KK	2					5 DOMINANT
7 310	104-117																	6 INDETER.
7 311	117-132																	
7 312	132-142																	
7 313	142-150																	
7 314	150-178																	

EPHRAIM SILTY CLAY LOAM
S67Utah-20-3

Location: Sanpete Soil Survey Area, Utah. Sec. 17, T. 17 S., R. 3 E.; 1 1/2 miles north of Manti-Ephraim Airport. Date of sampling: August 31, 1967.
Description by: A. Erickson, J. Swenson, J. Shiozaki, D. Erickson. Collectors: B. Brahser, D. Nettleton.
Classification: Aquic Xerofluvent, fine-silty, carbonatic, mesic.
Vegetation: Annual weeds and alfalfa. Use: Irrigated alfalfa. Climate: Precipitation, 12 inches. Mean annual air temperature is 48°F.; mean summer air temperature, 65°F; frost-free days, 120. Parent materials: Mixed alluvium from limestone and shale. Topography: Alluvial plain. Slope, 1 percent west-facing. Elevation: 5,500 feet. Drainage: Somewhat poorly drained; medium runoff; permeability, slow; no water table within 60 inches at time of sampling. Soil moisture: Moist.

HORIZON	DESCRIPTION
	(0-25 cm)
A11 RSL 67305	0 to 10 inches, light brownish gray (10YR 6/2) silty clay loam, dark grayish brown (10YR 4/2) moist; moderate coarse granular structure; hard, friable, slightly sticky and plastic; common medium and fine roots; common medium and fine pores; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.8); gradual smooth boundary.
A12 RSL 67306 (25-46 cm)	10 to 18 inches, light brownish gray (10YR 6/2) silty clay loam; brown (10YR 6/3) moist; moderate medium angular blocky structure; very hard, firm, sticky and plastic; few fine roots; common fine and very fine pores; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.8); clear smooth boundary.
C1 RSL 67307 (46-63 cm)	18 to 25 inches, light gray (10YR 7/2) silty clay loam, pale brown (10YR 6/3) moist; moderate medium angular blocky structure; very hard, firm, sticky and plastic; few fine roots; common very fine, few fine and medium pores; strongly calcareous, lime is disseminated, strongly alkaline (pH 8.9); clear wavy boundary.
C2 RSL 67308 (63-84 cm)	25 to 33 inches, very pale brown (10YR 7/3) light silty clay, pale brown (10YR 6/3) moist; moderate medium subangular blocky structure; very hard, firm, sticky and plastic; few fine and very fine roots; few fine, common very fine pores; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.8); clear wavy boundary.
C3 RSL 67309 (84-104 cm)	33 to 41 inches, light gray (10YR 7/2) silty clay, pale brown (10YR 6/3) moist; common, medium distinct, very dark gray (N 3/0) strong coarse prismatic structure; very hard, firm, sticky and plastic; few fine roots; many very fine and few fine pores; strongly calcareous, lime is disseminated and in flakes; strongly alkaline (pH 8.8) clear smooth boundary.
IIA1b RSL 67310 (104-117 cm)	41 to 46 inches, pale brown (10YR 6/3) heavy silty clay loam; brown (10YR 5/3) moist; common, coarse, distinct, very dark gray (N 3/0) mottles; moderate coarse prismatic structure; very hard, firm, sticky and plastic; few fine roots; many very fine, common fine pores; strongly calcareous, lime is disseminated and in flakes; strongly alkaline (pH 9.0); clear wavy boundary.
IIC1b RSL 67311 (117-132 cm)	46 to 52 inches, pale brown (10YR 6/3) silty clay, brown (10YR 5/3) moist; common fine distinct yellow (2.5Y 7/8) mottles; weak, coarse prismatic structure; very hard, firm, sticky and plastic; few fine roots; many very fine, few fine pores; strongly calcareous, lime is disseminated; strongly alkaline (pH 9.0); clear wavy boundary.
IIC2b RSL 67312 (132-142 cm)	52 to 56 inches, pale brown (10YR 6/3) silty clay, yellowish brown (10YR 5/3) moist; weak coarse prismatic structure; very hard, firm, sticky and plastic; few fine roots; common fine and very fine, few medium pores; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.9); clear wavy boundary.
IIIA1b RSL 67313 (142-150 cm)	56 to 59 inches, light brownish gray (10YR 6/2) silty clay loam, brown (10YR 5/3) moist; weak, very coarse prismatic structure; very hard, friable, sticky and plastic; few fine roots; many very fine and few fine pores; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.8); clear wavy boundary.
IIIC1b RSL 67314 (150-178 cm)	59 to 70 inches, very pale brown (10YR 7/3) silt loam; pale brown (10YR 6/3) moist; few fine faint brownish yellow (10YR 6/3) mottles; weak medium prismatic structure; very hard friable, sticky and slightly plastic; few fine and very fine roots; common fine and very fine pores; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.9).

CONSECUTIVE PEDON NUMBER C 67 15 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES EPHRAIM SILTY CLAY LOAM SOIL NO. S67 UTAH. 20- 4 SAMPLE NO. 7 315-7 324 SANPETE CO. AREA

SOIL FAMILY: AQUIC XEROFLUVENT FINE-SILTY,CARBONATIC,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 1A2A

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .20	FINE LT .20	CARBO NATE 3A1A	INT. II .2-.02	COARSE FRAGMENTS PCT. CF SOIL	I 75- WHOLE	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM															PCT. OF LT 75		
7 315	0- 15	A11	15.7	54.4	29.9	0.8	0.8	1.2	5.1	7.8	16.9	37.5			9	27.9	TR	TR	--	--
7 316	15- 33	A12	12.2	57.7	30.1	0.1	0.4	0.6	3.6	7.5	17.0	40.7			11	27.1	TR	TR	--	--
7 317	33- 53	C 1	9.7	58.0	32.3	--	0.2	0.4	2.7	6.4	13.0	45.0			12	21.4	TR	TR	--	--
7 318	53- 76	C 2	8.5	58.8	32.7	--	0.1	0.2	1.7	6.5	16.6	42.2			12	24.4	TR	TR	--	--
7 319	76- 84	2A1 B	2.2	49.4	48.4	0.1	0.1	0.1	0.4	1.5	5.9	43.5			16	7.7	TR	TR	--	--
7 320	84- 89	2C 1B	1.1	54.2	44.7	--	0.1	--	0.3	0.7	6.7	47.5			15	7.6	TR	TR	--	--
7 321	89- 94	3A1 B	5.1	53.7	41.2	--	0.1	0.1	1.1	3.8	10.4	43.3			14	15.0	TR	TR	--	--
7 322	94-104	3C 1B	25.4	45.2	29.4	0.1	1.1	2.1	10.1	12.0	13.4	31.8			9	32.3	TR	TR	--	--
7 323	104-130	4A1 B	13.6	44.4	42.0	--	0.3	0.7	4.3	8.3	13.5	30.9			9	24.9	TR	TR	--	--
7 324	130-157	4C 1B	20.6	51.0	28.4	0.1	0.5	1.0	6.2	12.8	19.8	31.2			10	37.0	TR	TR	--	--

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	19-2 6E1B	EXT. IRON FE 6C2B	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST 1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTENSBLTY LEF 4D1	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
		PERCENT		PERCENT		PCT.	PCT.NO.40		GRAMS PER CC			PERCENT			PERCENT				
7 315	0- 15	2.06	0.182	47		0.4			1.25	1.38	1.00		27.0	12.5	3.4	3.4		9.0	
7 316	15- 33	0.89	0.089	51					1.26	1.38	1.00		26.2	10.8	3.1	3.1		9.1	
7 317	33- 53	0.62	0.067	54		0.4			1.32	1.43	1.00		24.8	14.6	2.7	2.7		9.2	
7 318	53- 76	0.62		51					1.56	1.65	1.00		20.9	14.0	1.9	1.9		9.3	
7 319	76- 84	0.90		48				1.40			1.00			15.0				9.1	
7 320	84- 89	0.68		50		0.5		1.50			1.00			13.6				9.2	
7 321	89- 94	0.81		50				1.50			1.00			13.2				9.2	
7 322	94-104	0.57		44				1.50			1.00			9.5				9.2	
7 323	104-130			36					1.51	1.70	1.00		20.9	14.4	4.0	4.0		9.2	
7 324	130-157			49					1.21	1.82	1.00		16.1	9.0	14.6	14.6		9.2	

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B3A 6N4C	MG 5B3A 6O4C	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT.	C E C NA-OAC 5A2A	NH4-OAC 5A6A	EC 8A1A	WATER EXTRACT FROM SATURATED PASTE 8A1 CA 6N1B	MG 6O1B	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1A	B 6T1A	PH SAT. PASTE 8C1B
		MEQ/100G					PCT.	MEQ/100G		MMHO	MEQ/1000 ML								PPM	
7 315	0- 15			0.4	4.5	4.9			15.3	1.32	8.1	4.4	0.2	2.6		14.0	0.9			7.4
7 316	15- 33			0.3	0.8	1.1			13.3	0.78	3.9	3.3	0.3	0.6		6.9	0.6			7.6
7 317	33- 53			0.1	0.5	0.6			13.6	0.57	2.6	2.6	0.5	0.3		5.4	0.7			7.8
7 318	53- 76			0.1	0.4	0.5			14.2	0.63	2.4	3.7	0.5	0.1		5.3	0.6			7.9
7 319	76- 84			0.1	0.6	0.7			20.6	0.66	2.1	4.6	0.6	0.2		5.1	0.6			7.9
7 320	84- 89			0.1	0.6	0.7			19.1	0.60	2.3	4.4	0.6	0.2		5.1	0.5			7.9
7 321	89- 94			0.1	0.6	0.7			18.6	0.59	0.2	4.6	0.5	0.2		4.9	0.5			7.9
7 322	94-104			0.1	0.5	0.6			13.7	0.59	1.3	4.6	0.5	0.1		5.1	0.4			7.9
7 323	104-130			0.1	0.8	0.9			17.5	0.53	1.1	3.8	0.4	0.1		4.0	0.4			8.0
7 324	130-157			0.1	0.3	0.4			11.2	0.52	1.1	3.5	0.4	0.1		3.6	0.6			8.1

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGBLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1A PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I 7A2E	II 7A2E	III 7A2E	DTA IV 7A2E	7A3 PCT.	L.T. .0002 MM X RAY I 7A2E	II 7A2E	III 7A2E	MINERAL CODE	RELATIVE AMOUNT
7 315	0- 15	46.7	0.4	3	TR												1 TRACE
7 316	15- 33	39.1	0.3	2	TR											MT MONTMORT	2 SMALL
7 317	33- 53	50.5	TR	1	TR			MT	4	MI	2	KK	2			MI MICA	3 MODERATE
7 318	53- 76	49.0	TR	1	TR											KK KAOLINIT	4 ABUNDANT
7 319	76- 84	56.1	TR	TR	TR												5 DOMINANT
7 320	84- 89	54.9	TR	TR	TR			MT	4	MI	2	KK	2				6 INDETER.
7 321	89- 94	52.8	TR	TR	TR												
7 322	94-104	44.0	TR	1	TR												
7 323	104-130	49.5	TR	TR	TR												
7 324	130-157	41.5	TR	1	TR												

EPHRAIM SILTY CLAY LOAM
S67Utah 20-4

Location: Sanpete Soil Survey Area, Utah. Sec. 18, T. 17 S., R. 3 E.; northwest corner of the Manti-Ephraim Airport. Date of sampling: August 29, 1967.
Description by: J. Swenson, A. Erickson, D. Erickson, J. Shiozaki. Collectors: B. Brasher, D. Nettleton.
Classification: Aquic Xerofluvent, fine-silty, carbonatic, mesic.
Vegetation: Rabbitbrush, cheatgrass. Climate: Precipitation 12 inches. Mean annual air temperature, 48°F.; mean summer air temperature, 65°F. Frost-free days, 120. Parent materials: Mixed alluvium from limestone and shale. Topography: Alluvial plain. Slope, 2 percent west-facing. Elevation: 5,500 feet. Drainage: Somewhat poorly drained; medium runoff; permeability, slow; no water table within 60 inches at time of sampling. Soil moisture: Moist.

HORIZON	DESCRIPTION
	(0-15 cm)
A11 RSL 67315	0 to 6 inches, light brownish gray (10YR 6/2) silty clay loam, grayish brown (10YR 5/2) moist; weak medium platy structure; slightly hard, firm, slightly sticky and plastic; few medium, few fine roots; few large common medium and fine pores; strongly calcareous, lime is disseminated; moderately alkaline; (pH 8.2); clear smooth boundary.
A12 RSL 67316 (15-33 cm)	6 to 13 inches, light gray (10YR 7/2) silty clay loam; grayish brown (10YR 5/2) moist; weak medium subangular blocky structure; hard, firm, sticky and plastic; few medium and few fine roots; many very fine and fine, few medium and coarse pores; very strongly calcareous, lime is disseminated and in fine flakes and fine nodules; moderately alkaline (pH 8.4); clear smooth boundary.
C1 RSL 67317 (33-53 cm)	13 to 21 inches, very pale brown (10YR 8/3) silty clay loam, pale brown (10YR 6/3) moist; weak medium subangular blocky structure; hard, firm, sticky and plastic; few fine and few medium roots; common very fine and few fine pores; very strongly calcareous, lime is disseminated; moderately alkaline ; clear smooth boundary.
C2 RSL 67318 (53-76 cm)	21 to 30 inches, light gray (10YR 7/2) silty clay loam; grayish brown (10YR 5/2) moist; few fine distinct yellowish brown (10YR 5/4) mottles; weak medium subangular blocky structure; very hard, firm, sticky and plastic; many very fine, many fine, few medium and few large pores; few worm casts and krotovinas; very strongly calcareous, lime is disseminated and in fine flakes and veins; strongly alkaline; (pH 8.7); abrupt smooth boundary.
IIA1b RSL 67319 (76-84 cm)	30 to 33 inches, light gray (10YR 7/2) light silty clay, grayish brown (10YR 5/2) moist; few fine distinct, reddish brown (5YR 4/4) mottles; weak medium prismatic; structure; hard, very firm, sticky and very plastic; few very fine roots; many very fine, many fine and few medium pores; very strongly calcareous, lime is disseminated; strongly alkaline; (pH 8.6); abrupt smooth boundary.
IIC1b RSL 67320 (84-89 cm)	33 to 35 inches, very pale brown (10YR 7/3) silty clay loam, grayish brown (2.5Y 5/2) moist; few medium distinct yellowish brown (10YR 5/4) mottles; weak medium, prismatic structure; hard, firm, sticky and plastic; few fine roots; many very fine, many fine and few medium pores; very strongly calcareous, lime is disseminated; moderately alkaline (pH 8.4); abrupt smooth boundary.
IIIA1b RSL 67321 (89-94 cm)	35 to 37 inches, very pale brown (10YR 6/3) silty clay, grayish brown (2.5Y 5/2) moist; few fine distinct dark gray (2.5Y 4/0) mottles; weak medium prismatic structure; hard, very firm, sticky and plastic; few fine roots; many very fine and many fine pores; very strongly calcareous, lime is disseminated; strongly alkaline: (pH 8.5); abrupt smooth boundary.
IIIC1b RSL 67322 (94-104 cm)	37 to 41 inches, light brownish gray (2.5Y 6/2) silty clay loam, dark grayish brown (2.5Y 4/2) moist; few fine distinct yellowish brown (10YR 5/4) mottles; massive; hard, firm, sticky and plastic; few very fine roots; many very fine and many fine pores; very strongly calcareous, lime is disseminated; moderately alkaline; (pH 8.4); abrupt smooth boundary.
IVA1b RSL 67323 (104-130 cm)	41 to 51 inches, light brownish gray (2.5Y 6/2) silty clay; grayish brown (2.5Y 5/2) moist; moderate medium prismatic structure; very hard, very firm, sticky and very plastic; few very fine roots; many very fine and many fine pores; very strongly calcareous, lime is disseminated; strongly alkaline; (pH 8.6); abrupt smooth boundary.
IVC1b RSL 67324 (130-157 cm)	51 to 62 inches, light gray (10YR 7/2) silty clay loam, pale brown (10YR 6/3) moist; massive; very hard, firm, sticky and plastic; many very fine pores; very strongly calcareous, lime is disseminated and finely veined segregation; strongly alkaline; (pH 8.6)

CONSECUTIVE PEDCN NUMBER C 67 16 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES EPHRAIM SILTY CLAY LOAM SOIL NO. S67 UTAH. 20- 5 SAMPLE NO. 7 325-7 333 SANPETE CO. AREA

SOIL FAMILY: AQUIC XEROFLUVENT,FINE-SILTY,CARBONATIC,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBONATE 3A1A	1A2A INT. II .2- .02	COARSE FRAGMENTS PCT. OF WHOLE SOIL I 75- 20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75		
7 325	0- 13	AP1	9.9	54.6	35.5	0.5	0.6	0.7	3.4	4.7	12.9	41.7			10	19.9	TR TR	--	--
7 326	13- 28	AP2	8.4	53.9	37.7	0.3	1.0	1.4	3.1	2.6	12.6	41.3			10	16.8	TR TR	--	--
7 327	28- 46	C 1	5.5	52.5	42.0	0.3	0.6	0.9	1.7	2.0	8.7	43.8			13	11.6	TR TR	--	--
7 328	46- 53	2A11B	2.2	50.1	47.7	--	0.2	0.1	0.4	1.5	8.0	42.1			15	9.8	TR TR	--	--
7 329	53- 63	2A12B	1.6	52.6	45.8	--	--	--	0.4	1.2	14.7	37.9			15	16.2	TR TR	--	--
7 330	63-104	2A13B	4.3	46.3	49.4	0.1	0.2	0.2	0.8	3.0	10.3	36.0			13	13.9	TR TR	--	--
7 331	104-124	2C 1B	6.7	45.4	47.9	0.1	0.1	0.2	1.3	5.0	9.7	35.7			17	15.6	TR TR	--	--
7 332	124-147	2C 2B															TR TR	--	--
7 333	147-185	2C 3B															TR TR	--	--

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A -PERCENT--	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B -PERCENT-	19-2 6E1B	EXT. IRON FE 6C2B PCT.	ATTERBERG LIMIT LL 4F1 PCT.	PL 4F2 NO.40	BULK DENSITY EST 1/3 4A1F GRAMS PER CC	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C ----PERCENT----	1/3 BAR 4B1C	15 BAR 4B2	EXTENSBLTY LEF 4D1 -PERCENT--	LE 4D1	PH H2O 1/1 8C1A	PH H2O 1/10 8C1A	PH CACL2 8C1E
7 325	0- 13	2.14	0.178	40		0.4			1.35	1.52	1.00		25.5	19.7	4.0	4.0		8.8		
7 326	13- 28	1.78	0.156	42					1.35	1.51	1.00		24.5	20.4	3.8	3.8		9.0		
7 327	28- 46	0.90	0.092	48		0.4			1.34	1.51	1.00		26.2	14.7	4.1	4.1		9.1		
7 328	46- 53	0.87	0.082	44					1.45	1.70	1.00		25.4	17.4	5.4	5.4		9.2		
7 329	53- 63	0.81		47		0.4			1.43	1.64	1.00		25.6	16.5	4.7	4.7		9.3		
7 330	63-104	0.71		36					1.44	1.71	1.00		25.3	16.9	5.9	5.9		9.3		
7 331	104-124	0.27		40		0.4			1.46	1.72	1.00		24.0	16.0	5.6	5.6		9.3		
7 332	124-147								1.55	1.72	1.00		20.3	13.4	3.5	3.5				
7 333	147-185								1.47	1.60	1.00		22.3	15.9	2.9	2.9				

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B3A 6N4C	MG 5B3A 6O4C	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT. PCT.	C E C NA-OAC 5A2A -MEQ/100G	NH4-CAC 5A6A	EC 8A1A MMHO	WATER EXTRACT FROM SATURATED PASTE CA 6N1B	MG 6O1B	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1A	B 6T1A PPM	PH SAT. PASTE 8C1B
		MEQ/100G									MEQ/1000 ML									
7 325	0- 13			0.8	0.7	1.5			18.3	1.18	6.8	4.6	0.6	1.7		11.9	1.1			7.7
7 326	13- 28			0.3	2.4	2.7			17.5	1.18	6.5	4.6	0.8	1.7		11.7	1.3			7.7
7 327	28- 46			0.8	0.3	1.1			17.3	0.97	4.2	5.0	0.8	0.8		8.6	0.4			7.7
7 328	46- 53			1.1	0.2	1.3			19.6	0.87	3.5	4.7	1.2	0.5		6.9	0.5			7.8
7 329	53- 63			0.3	1.0	1.3			19.8	0.76	2.5	4.2	1.2	0.3		5.6	0.5			7.9
7 330	63-104			0.5	0.8	1.3			21.5	1.28	0.5	8.2	2.4	0.2		4.8	1.7			8.3
7 331	104-124			0.5	0.5	1.0			18.3	0.97	1.6	6.8	2.1	0.1		3.8	1.3			8.2
7 332	124-147			0.3	0.4	0.7			12.2	0.79	1.3	4.6	1.6	0.1		4.0	1.0			7.9
7 333	147-185			0.3	0.4	0.7			14.1	0.65	1.8	3.3	1.2	0.1		2.6	0.7			8.2

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGBLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1A PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I 7A2E	II 7A2E	III 7A2E	IV 7A2E	DTA 7A3 PCT.	L.T. .0002 MM X RAY I 7A2E	II 7A2E	III 7A2E	MINERAL CODE	RELATIVE AMOUNT
7 325	0- 13	53.3	0.8	4	TR			MI	4	MT	3	KK	2			MI MICA	1 TRACE
7 326	13- 28	53.3	0.3	1	TR											MT MONTMORT	2 SMALL
7 327	28- 46	51.7	0.8	4	TR			MT	4	MI	3	KK	2			KK KAOLINIT	3 MODERATE
7 328	46- 53	55.7	1.0	5	1												4 ABUNDANT
7 329	53- 63	68.0	0.2	1	1			MT	4	MI	3	KK	2				5 DOMINANT
7 330	63-104	56.6	0.4	2	1												6 INDETER.
7 331	104-124	55.4	0.4	2	1			MT	4	MI	2	KK	2				
7 332	124-147	47.5	0.2	2	1												
7 333	147-185	53.9	0.2	2	1												

EPHRAIM SILTY CLAY LOAM

S67Utah 20-5

Location: Sanpete Soil Survey Area, Utah. Sec. 18, T. 17 S., R. 3 E.; 1/8 mile south of the southwest corner of the Manti-Ephraim Airport. Date of sampling: August 31, 1967. Description by: J. Swenson, A. Erickson, D. Erickson. J. Shiozaki. Collectors: B. Brasher, D. Nettleton.
Classification: Aquic Xerofluvent, fine-silty, carbonatic, mesic.
Vegetation: Barley. Use: Irrigated crops. Climate: Precipitation, 12 inches. Mean annual air temperature is 48°F.; mean summer air temperature, 65°F. Frost-free days, 120. Parent materials: Mixed alluvium from limestone and shale. Topography: Alluvial plain. Slope, 1 percent, west-facing. Elevation: 5,500 feet. Drainage: Somewhat poorly drained. Runoff is slow; permeability, slow; no water table within 60 inches at time of sampling. Soil moisture: Moist.

HORIZONS:	DESCRIPTION
	(0-13 cm)
Ap1 RSL 67325	0 to 5 inches, light brownish gray (10YR 6/2) silty clay loam, grayish brown (10YR 5/2) moist; weak coarse granular structure; hard, firm, sticky and plastic; common fine and very fine roots; many fine and very fine; few medium pores; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.6); clear smooth boundary.
Ap2 RSL 67326 (13-28 cm)	5 to 11 inches, light brownish gray (10YR 6/2) silty clay, grayish brown (10YR 5/2) moist; weak coarse subangular blocky structure; hard, firm, sticky and plastic; common fine and very fine roots; many fine and very fine, few medium pores; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.6); abrupt smooth boundary.
C1 RSL 67327 (28-46 cm)	11 to 18 inches, light gray (10YR 6/1) silty clay, gray (10YR 5/1) moist; moderate fine subangular blocky structure; very hard, very firm, sticky and plastic; few fine and very fine roots; few fine, common fine and very fine pores; very strongly calcareous, lime is disseminated and in veins; strongly alkaline (pH 8.8); abrupt smooth boundary.
IIA11b RSL 67328 (46-53 cm)	18 to 21 inches, light brownish gray (10YR 7/1) silty clay; gray (10YR 5/1) moist; weak medium prismatic structure; very hard, very firm, sticky and plastic; few fine and very fine roots; few medium, fine and very fine pores; very strongly calcareous, lime is disseminated and in fine veins and flakes; strongly alkaline (pH 8.8); clear smooth boundary.
IIA12b RSL 67329 (53-63 cm)	21 to 25 inches, light gray (10YR 7/1) silty clay, gray (10YR 5/1) moist; moderate medium angular blocky structure; very hard, very firm, very sticky and very plastic; few fine and very fine roots; few medium and fine pores; strongly calcareous, lime is disseminated and in fine veins; strongly alkaline (pH 8.6); abrupt smooth boundary.
IIA13b RSL 67330 (63-104 cm)	25 to 41 inches, light gray (10YR 6/1) silty clay, gray (10YR 5/1) moist; moderate medium prismatic structure; very hard, very firm, very sticky and very plastic; few fine and very fine roots; few medium, few fine and very fine pores; very strongly calcareous, lime is disseminated, strongly alkaline (pH 8.8); abrupt smooth boundary.
IIC1b RSL 67331 (104-124 cm)	41 to 49 inches, light gray (10YR 7/2) light silty clay, light brownish gray (2.5Y 6/2) moist; moderate medium subangular blocky structure; very hard, very firm, very sticky and plastic; few fine and very fine roots; many very fine, few fine discontinuous pores; very strongly calcareous, lime is disseminated and in fine flakes, veins; strongly alkaline (pH 8.8); clear smooth boundary.
IIC2b RSL 67332 (124-147 cm)	49 to 58 inches, white (10YR 8/2) light silty clay loam, light brownsih gray (10YR 6/2) moist; weak fine subangular blocky structure; hard, friable, sticky and plastic; few fine roots; many fine and very fine pores; very strongly calcareous, lime is disseminated and in fine veins, flakes and nodules; strongly alkaline (pH 8.8); gradual wavy boundary.
IIC3b RSL 67333 (147-185 cm)	58 to 73 inches +, white (10YR 8/2) silty clay loam, very pale brown (10YR 7/3) moist; massive; very hard, very friable, sticky and plastic; few fine roots; many medium, few fine and very fine pores; very strongly calcareous, lime is disseminated, and in fine flakes, veins, and nodules; strongly alkaline (pH 8.6).

CONSECUTIVE PEDON NUMBER C 67 17 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES EPHRAIM SILTY CLAY LOAM SOIL NO. S67 UTAH. 20- 6 SAMPLE NO. 7 334-7 340 SANPETE CO. AREA

SOIL FAMILY: AQUIC XEROFLUVENT,FINE-SILTY,CARBONATIC,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	CSI .05- .02	FSI .02- .002	SILTS CC. 2- .2U	CLAYS FINE LT .2U	CARBONATE 3A1A	INT. II .2- .02	1A2A COARSE FRAGMENTS PCT. OF WHOLE SOIL I 75- 20	II 20-5	III 5-2.
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75		
7 334	0- 13	AP	9.4	51.1	39.5	0.2	0.4	0.6	3.4	4.8	12.5	38.6			12	19.5	TR	TR	--	--
7 335	13- 25	AP2	7.5	50.1	42.4	0.2	0.4	0.4	2.8	3.7	10.6	39.5			13	16.2	TR	TR	--	--
7 336	25- 48	2A11B	6.0	46.5	47.5	0.2	0.2	0.3	1.7	3.6	9.5	37.0			13	14.3	TR	TR	--	--
7 337	48- 76	2A12B	13.5	43.7	42.8	0.1	0.4	1.0	4.5	7.5	12.9	30.8			15	23.4	TR	TR	--	--
7 338	76-104	2C 1B	8.9	50.8	40.3	--	0.1	0.3	2.2	6.3	13.2	37.6			20	21.3	TR	TR	--	--
7 339	104-119	2C 2B															TR	TR	--	--
7 340	119-165	2C 3B															TR	TR	--	--

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	19-2 6E1B	EXT. IRON FE 6C2B	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST 1/3 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTENSIBLITY LEF 4D1	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
		-PERCENT--		-PERCENT-		PCT.	PCT.	NO.40	GRAMS PER CC				----PERCENT---			-PERCENT--				
7 334	0- 13	1.71	0.154	44		0.4				1.40	1.55	1.00		22.2	14.8	3.5	3.4		8.7	
7 335	13- 25	1.33	0.123	46					1.42			1.00			14.7				8.8	
7 336	25- 48	0.74	0.073	42		0.3				1.44	1.61	1.00		21.2	15.2	3.8	3.8		8.9	
7 337	48- 76	0.65		42					1.60			1.00			14.4				8.9	
7 338	76-104	0.31		57		0.4				1.67	1.81	1.00		17.2	14.7	2.7	2.7		9.0	
7 339	104-119	0.23		59						1.65	1.77	1.00		16.9	10.0	2.4	2.4			
7 340	119-165	0.16		53					1.65			1.00			6.6					

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 583A 6N4C	MG 583A 604C	NA 584A 6P2A	K 584A 6Q2A	SUM	BASE SAT.	C E C NA- OAC 5A2A	NH4- OAC 5A6A	EC 8A1A	WATER EXTRACT FROM SATURATED PASTE CA 6N1B	MG 6O1B	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1A	B 6T1A	PH SAT. PASTE 8C1B
		--------MEQ/100G--------					PCT.	-MEQ/100G		MMHO	----------MEQ/1000 ML----------								PPM	
7 334	0- 13			0.2	1.2	1.4			19.6	0.68	4.6	2.6	0.4	0.4		6.5	0.7			7.7
7 335	13- 25			0.1	0.7	0.8			19.6	0.63	3.3	3.0	0.4	0.1		4.8	1.5			7.9
7 336	25- 48			0.1	0.6	0.7			22.0	0.93	3.6	4.1	0.5	0.1		3.3	4.7			7.9
7 337	48- 76			0.2	0.5	0.7			18.5	1.84	11.6	12.1	0.9	0.1		2.7	8.7			7.9
7 338	76-104			0.2	0.3	0.5			13.3	2.73	7.2	12.4	1.8	0.1		2.2	8.3	23.0		8.1
7 339	104-119																			
7 340	119-165																			

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGEABLE NA 584B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1A PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	DTA 7A2E IV	7A3 PCT.	L.T. .0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE		RELATIVE AMOUNT
7 334	0- 13	45.9	0.2	1	TR			MT 4	MI 3	KK 3						MT	MONTMORT	1 TRACE
7 335	13- 25	50.2	TR	TR	TR											MI	MICA	2 SMALL
7 336	25- 48	51.1	TR	TR	TR											KK	KAOLINIT	3 MODERATE
7 337	48- 76	50.9	0.2	1	TR													4 ABUNDANT
7 338	76-104	49.3	0.1	1	1			MT 4	MI 2	KK 2								5 DOMINANT
7 339	104-119																	6 INDETER.
7 340	119-165																	

EPHRAIM SILTY CLAY LOAM

S67Utah-20-6

Location: Sanpete Soil Survey Area, Utah. Sec. 18, T. 17 S., R. 3 E.; west of the road on the west side of the Manti-Ephraim Airport. Date of sampling: August 29, 1967. Description by: J. Shiozaki, A. Erickson, D. Erickson. Collectors: B. Brasher D. Nettleton.

Classification: Aquic Xerofluvent, fine-silty, carbonatic, mesic.

Vegetation: Rabbitbrush, cheatgrass, mustard, and morningglory. Use: Irrigated farming. Climate: Precipitation, 12 inches. Mean annual air temperature, 48°F.; mean summer air temperature, 65°F.; frost-free days, 120. Parent materials: Alluvium from limestone and shale. Topography: Alluvial plain. Slope 1 percent north aspect. Elevation: 5,500 feet. Drainage: Somewhat poorly drained; medium runoff; permeability, slow; no water table within 60 inches at time of sampling. Soil moisture: Moist.

HORIZON	DESCRIPTION
	(0-13 cm)
Ap RSL 67334	0 to 5 inches, light brownish gray (2.5Y 6/2) silty clay loam, dark grayish brown (10YR 4/2) moist; moderate fine subangular blocky structure; very hard, firm, sticky and plastic; common fine and medium, few large roots; few medium common fine and very fine pores; very strongly calcareous, lime is disseminated; strongly alkaline (pH 8.8); clear smooth boundary.
Ap2 RSL 67335 (13-25 cm)	5 to 10 inches, light brownish gray (2.5Y 6/2) silty clay loam, dark grayish brown (2.5Y 4/2) moist; moderate medium subangular blocky structure; very hard, firm, sticky and plastic; common fine and very fine roots; few medium and large, common fine and very fine pores; very strongly calcareous, lime is disseminated; strongly alkaline (pH 8.8); abrupt smooth boundary.
IIA11b RSL 67336 (25-48 cm)	10 to 19 inches, light brownish gray (2.5Y 6/2) silty clay, grayish brown (2.5Y 5/2) moist; weak subangular blocky structure; very hard, firm, sticky and plastic; few medium, fine and very fine roots; few medium; common fine and very fine pores; strongly calcareous, lime is disseminated; strongly alkaline (pH 8.8) gradual wavy boundary.
IIA12b RSL 67337 (48-76 cm)	19 to 30 inches, grayish brown (2.5Y 5/2) silty clay; grayish brown (2.5Y 5/2) moist; moderate medium subangular blocky structure; very hard, firm, sticky and plastic; few medium and fine roots; common fine and very fine pores; strongly calcareous, lime is disseminated and in flakes; strongly alkaline (pH 8.8); gradual smooth boundary.
IIC1b RSL 67338 (76-104 cm)	30 to 41 inches, very pale brown (10YR 7/3) silty clay loam, pale brown (10YR 6/3) moist; common medium (10YR 5/8) mottles; moderate medium subangular blocky structure; very hard dry, firm moist, sticky and plastic wet; few fine and very fine roots; common very fine and micro pores; strongly calcareous, lime is disseminated and splotchy; strongly alkaline (pH 8.9); clear smooth boundary.
IIC2b RSL 67339 (104-119 cm)	41 to 47 inches, very pale brown (10YR 8/3) heavy silty clay loam; pale brown (10YR 6/2) moist; moderate medium subangular blocky structure; very hard, dry, firm moist, sticky and plastic wet; few fine roots; common fine and very fine and few medium pores; less than 5 percent coarse fragments; strongly calcareous, lime is disseminated and in splotches; strongly alkaline (pH 9.0); gradual smooth boundary.
IIC3b RSL 67340 (119-165 cm)	47 to 65 inches +, very pale brown (10YR 8/3) loam, pale brown (10YR 6/3) moist; distinct, common medium olive yellow (2.5Y 6/6) mottles: weak medium subangular blocky structure; hard dry, friable moist, slightly sticky and slightly plastic wet; few fine roots; few medium, common fine and very fine pores; thin layer of sandy material (2mm.); strongly calcareous, lime is disseminated and splotches; strongly alkaline (pH 9.0).

CONSECUTIVE PEDON NUMBER C 70 35 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES ANCO SILTY CLAY LOAM SOIL NO. S68 UTAH. 14-25 SAMPLE NO. 0 222-0 228 DELTA AREA

SOIL FAMILY: AQUIC XEROFLUVENT,FIN-SLTY,MXC(CALC)MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION SAND 2- .05 .05	SILT .05- .002 .002	CLAY LT .002	VCS 2-1	CS 1- .5	MS .5- .25 .25	FS .25- .10	VFS .1- .05 .05	CSI .05- .02 .02	FSI .02- .002 .002	CO. 2- .2U .2U	FINE LT .2U	CARBO NATE 3A1A	INT. II .2- .02	1A2A COARSE FRAGMENTS PCT. OF WHOLE SOIL I 75- 20	II 20-5 PCT. OF	III 5-2 LT 75
			PERCENT OF LESS THAN 2MM																
0 222	0- 18	AP															--	--	--
0 223	18- 41	C 1															--	--	--
0 224	41- 53	C 2															--	--	--
0 225	53- 84	C 3															--	--	--
0 226	84-104	2C 4															--	--	--
0 227	104-124	3C 5															--	--	--
0 228	124-155	3C 6															--	--	--

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A -PERCENT--	NITROGEN 6B1A	CARBONATE AS CACO3 6E1B -PERCENT-	EXT. IRON FE 6E1B	ATTERBERG LIMIT EST LL 6C2B PCT.	PL 4F1 PCT.NO.40	4F2	BULK DENSITY 1/3 BAR 4A1F GRAMS PER CC	DRY 4A1F	4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C ----PERCENT---	1/3 BAR 4B1C	15 BAR 4B2	EXTENSBLTY LEF 4D1 -PERCENT--	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
0 222	0- 18	1.23		33											14.4			8.2	8.9	8.0
0 223	18- 41	0.88		37											17.3			8.2	8.9	8.0
0 224	41- 53	0.45		41											18.4			8.3	9.0	8.0
0 225	53- 84	0.32		40											16.0			8.1	8.9	8.0
0 226	84-104	0.20		31											8.5			8.4	9.1	8.1
0 227	104-124	0.30		31											23.3			8.3	9.3	8.1
0 228	124-155	0.10		35											18.3			8.2	8.1	8.1

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6D2D	NA 6P2A	K 6Q2A	SUM	BASE SAT. PCT.	C E C NA- OAC 5A2A -MEQ/100G	NH4- CAC 5A6A	EC 8A1A MMHO	WATER EXTRACT FROM SATURATED PASTE 8A1 CA 6N1A	MG 6O1A	NA 6P1A	K 6Q1A	CO3 6I1A -MEQ/1000 ML	HCO3 6J1A	CL 6K1A	SO4 6L1B	B 6T1A PPM	PH SAT. PASTE 8C1B
0 222	0- 16	19.7	11.6	3.1	2.6	37.0	100+		21.3	3.24	5.7	6.9	20.5	1.1		10.3	14.8			7.8
0 223	18- 41	21.3	12.6	2.5	2.5	38.9	100+		22.3	2.30	4.8	6.3	13.6	1.2	0.5	10.3	6.9			7.8
0 224	41- 53	20.8	13.1	2.6	2.2	38.7	100+		24.2	2.12	3.4	5.1	12.1	0.9		6.6	8.9			7.8
0 225	53- 84	20.2	11.4	3.0	2.2	36.8	100+		22.4	2.69	5.6	6.7	14.1	1.2		4.3	11.4			7.8
0 226	84-104	15.5	7.2	3.4	2.5	28.6	100+		15.6	3.55	4.4	7.5	25.3	1.5		3.1	24.1			8.1
0 227	104-124	21.0	17.9	7.1	3.1	49.1	100+		33.7	2.50	1.8	3.4	19.0	0.9	0.4	4.7	10.0			8.1
0 228	124-155	19.9	13.1	5.6	2.8	41.4	100+		23.7	3.28	2.8	6.0	24.5	1.1		4.2	16.7			9.2

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGBLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1B PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY DTA 7A2E I	7A2E II	7A2E III	7A2E IV	7A3 PCT.	L.T. .0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
0 222	0- 18	54.3	2.0	9	8												1 TRACE
0 223	18- 41	63.6	1.6	7	6												2 SMALL
0 224	41- 53	66.5	1.8	7	6												3 MODERATE
0 225	53- 84	72.2	2.0	9	6												4 ABUNDANT
0 226	84-104	47.1	2.2	14	10												5 DOMINANT
0 227	104-124	90.2	5.4	16	12												6 INDETER.
0 228	124-155	66.4	4.0	17	12												

ANCO SILTY CLAY LOAM
S68Utah-14-25

Location: Millard County, UT. 4.6 miles east and 0.6 mile south of Deseret Junction. 330 feet north, 330 feet east from center of Sec. 6, T. 18 S., R. 6 W. Date of sampling: November 1968.
Description by: L. Woodward and G. Crandall. Collectors: G. Crandall and D. Beckstrand.
Classification: Aquic Xerofluvent, fine-silty, mixed (calcareous), mesic.
Vegetation: Irrigated cropland. Climate: Mean annual temperature, 49° to 52° F. Average annual precipitation, 6 to 8 inches. Parent material: Lake sediments and alluvium from mixed parent material. Topography: Deltas and flood plains, on slopes of 0 to 1 percent. Elevation: 4,590 feet. Drainage: Somewhat poorly drained. Soil moisture: Usually moist below 40 inches (seepage).

HORIZON	DESCRIPTION
Ap RSL No. 70222	0-18 cm (0-7 inches), light brownish gray (10YR 6/2) silty clay loam, dark grayish brown (10YR 4/2) moist; weak thick platy structure that parts to weak fine granular; hard, friable, slightly sticky, plastic; common medium and fine roots; few fine tubular pores; strongly calcareous; moderately alkaline (pH 8.4); clear smooth boundary.
C1 RSL No. 70223	18-41 cm (7-16 inches), light brownish gray (10YR 6/2) silty clay loam, dark grayish brown (10YR 4/2) moist; few fine, faint brown to dark brown (10YR 4/3) mottles; weak thick platy structure that parts to weak fine blocky; hard, firm, sticky, very plastic; common fine roots; few fine tubular pores; strongly calcareous; moderately alkaline (pH 8.4); clear smooth boundary.
C2 RSL No. 70224	41-53 cm (16-21 inches), light brownish gray (10YR 6/2) heavy silty clay loam, grayish brown (10YR 5/2) moist; few fine, faint, brown to dark brown (10YR 4/3) mottles; massive; hard, firm, very sticky, very plastic; few fine roots; few fine tubular pores; strongly calcareous; moderately alkaline (pH 8.4); gradual smooth boundary.
C3 RSL No. 70225	53-84 cm (21-33 inches), light gray (10YR 7/2) silt loam, grayish brown (10YR 5/2) moist; common, fine, faint brown to dark brown (10YR 4/3) mottles; massive; hard, friable, slightly sticky, slightly plastic; few fine roots; few fine tubular pores; strongly calcareous; moderately alkaline (pH 8.4); abrupt smooth boundary.
IIC4 RSL No. 70226	84-104 cm (33-41 inches), light brownish gray (2.5Y 6/2) loamy fine sand, grayish brown (2.5Y 5/2) moist; common, medium, distinct, dark yellowish brown (10YR 4/4) mottles; massive; soft, loose, nonsticky, nonplastic; few fine roots; interstitial pores; strongly calcareous; moderately alkaline (pH 8.4); abrupt smooth boundary.
IIIC5 RSL No. 70227	104-124 cm (41-49 inches), light gray (10YR 7/2) silty clay loam, grayish brown (10YR 5/2) moist; common, medium distinct, dark yellowish brown (10YR 3/4) mottles; massive; firm, sticky, very plastic; few fine roots; few fine tubular pores; strongly calcareous; moderately alkaline (pH 8.4); abrupt smooth boundary.
IIIC6 RSL No. 70228	124-155 cm (49-61 inches), light gray (10YR 7/2) silt loam, grayish brown (10YR 5/2) moist; massive; very friable, slightly sticky, slightly plastic; few fine roots; few fine tubular pores; strongly calcareous; moderately alkaline (pH 8.4).

CONSECUTIVE PEDCN NUMBER C 70 39 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES ANCC SILTY CLAY LOAM SOIL NO. S68 UTAH. 14-62 SAMPLE NO. 0 244-0 249 DELTA AREA

SOIL FAMILY: AQUIC XEROFLUVENT,FINE-SILTY,MIXED(CALC),MESIC RIVERSIDE SOIL SURVEY LABORATORY

SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2-.05	SILT .05-.002	CLAY LT .002	SANDS VCS 2-1	CS 1-.5	MS .5-.25	FS .25-.10	VFS .1-.05	SILTS CSI .05-.02	FSI .02-.002	CLAYS CO. 2-.2U	FINE LT .2U	CARBONATE 3A1A	INT. .2-.02	1A2A COARSE FRAGMENTS PCT. OF WHOLE SOIL I 75-20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75		
0 244	0- 10	A11															--	--	--
0 245	10- 18	A12															--	--	--
0 246	18- 43	C 1															--	--	--
0 247	43- 66	C 2															--	--	--
0 248	66-122	C 3															--	--	--
0 249	122-152	C 4															--	--	--

SAMPLE NO.	DEPTH CM.	ORG. MATTER CARBON 6A1A -PERCENT--	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 -PERCENT- 6E1B	19-2 6E1B	EXT. IRON FE 6C2B PCT.	ATTERBERG LIMIT LL 4F1 PCT.	PL 4F2 NO.40	BULK DENSITY EST 1/3 BAR 4A1F GRAMS PER CC	1/3 BAR 4A1F	ORY 4A1H 3B2	CM WATER CONTENT 1/10 BAR 4B1C -----PERCENT---	1/3 BAR 4B1C	15 BAR 4B2	EXTENSBLTY LEF 4D1 -PERCENT--	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
0 244	0- 10	0.64		18										5.6			8.1	8.5	8.2
0 245	10- 18	0.62		25										12.4			8.4	9.1	8.5
0 246	18- 43	0.55		31										13.2			8.3	9.0	8.3
0 247	43- 66	0.39		34										17.7			7.9	8.3	8.0
0 248	66-122	0.34		37										21.3			7.7	8.4	7.9
0 249	122-152	0.18		20										10.2			7.8	8.5	7.8

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT.	C E C NA-OAC 5A2A	NH4-CAC 5A6A	EC 8A1A	WATER EXTRACT FROM SATURATED PASTE 8A1 CA 6N1A	MG 6O1A	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1B	B 6T1A	PH SAT. PASTE 8C1B
		MEQ/100G					PCT.	MEQ/100G		MMHO	MEQ/1000 ML								PPM	
0 244	0- 10	36.8	4.4	10.6	2.5	54.3	100+		10.2	27.2	58.2	41.4212.0		5.8		10.4251.0		66.0		7.7
0 245	10- 18	17.1	8.9	27.1	2.8	55.9	100+		19.9	34.4	22.3	46.4397.0		4.1		10.0371.0		65.0		7.9
0 246	18- 43	15.4	10.4	33.9	1.9	61.6	100+		22.4	31.1	32.1	55.6383.0		2.6		6.2393.0		66.7		7.8
0 247	43- 66	51.0	13.0	33.0	1.5	98.5	100+		25.7	35.7	51.2	64.0339.0		1.9		4.3371.0		67.5		7.6
0 248	66-122	32.7	16.6	23.9	1.2	74.4	100+		29.5	25.2	63.3	72.6209.0		1.1		3.4297.0		56.4		7.5
0 249	122-152	22.1	9.2	10.2	1.0	42.5	100+		16.4	24.0	97.3	96.4138.0		1.0		3.3324.0		39.3		7.4

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGBLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1B PCT.	KEQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I 7A2E	II 7A2E	III 7A2E	IV 7A2E	DTA PCT. 7A3	L.T. .0002 MM X RAY I 7A2E	II 7A2E	III 7A2E	MINERAL CODE	RELATIVE AMOUNT
0 244	0- 10	35.6	3.1	30	30	2.3											1 TRACE
0 245	10- 18	51.5	6.7	33	68	0.1											2 SMALL
0 246	18- 43	63.9	9.4	42	58	0.1											3 MODERATE
0 247	43- 66	73.2	8.2	32	45	4.1											4 ABUNDANT
0 248	66-122	81.4	6.9	23	25	0.8											5 DOMINANT
0 249	122-152	43.5	4.2	26	14	0.4											6 INDETER.

ANCO SILTY CLAY LOAM
S68Utah-14-62(162)

Location: Millard County, UT. 1/2 mile west of Topaz chicken ranch, 50 feet south, 100 feet east of intersection. Northwest 1/4 of Sec. 23, T. 16 S., R. 8 W. Date of sampling: November 1968.
Description by: G. Crandall and D. Beckstrand. Collectors: G. Crandall and D. Beckstrand.
Classification: Aquic Xerofluvent, fine-silty, mixed (calcareous), mesic.
Vegetation: Greasewood. Climate: Mean annual temperature, 49° to 52° F. Average annual precipitation, 6 to 8 inches. Parent material: Lake sediments and alluvium from mixed parent material. Topography: Deltas and flood plains on slopes of 0 to 1 percent. Elevation: 4,585 feet. Drainage: Somewhat poorly drained. Soil moisture: Usually moist below 40 inches (seepage).

HORIZON	DESCRIPTION
A11 RSL No. 70244	0-10 cm (0-4 inches), light gray (10YR 7/2) heavy silt loam, grayish brown (10YR 5/2) moist; weak thin platy structure; slightly hard, very friable, slightly sticky, slightly plastic; common fine roots; few fine and many very fine tubular pores; strongly calcareous; moderately alkaline (pH 8.4); clear wavy boundary.
A12 RSL No. 70245	10-18 cm (4-7 inches), pale brown (10YR 6/3) silty clay loam, dark grayish brown (10YR 4/2) moist; weak medium subangular blocky structure; hard, firm, sticky and plastic; common fine roots; few fine and common very fine tubular pores; strongly calcareous, very strongly alkaline (pH 9.2); clear wavy boundary.
C1 RSL No. 70246	18-43 cm (7-17 inches), light gray (10YR 7/2) silty clay loam, grayish brown (10YR 5/2) moist, weak medium angular blocky structure; hard, firm, sticky, plastic; common fine and few medium roots; common fine and many very fine tubular pores; strongly calcareous, strongly alkaline (pH 9.0); clear smooth boundary.
C2 RSL No. 70247	43-66 cm (17-26 inches), light gray, (10YR 7/2) silty clay loam, grayish brown (10YR 5/2) moist; weak medium angular blocky structure; hard, firm, slightly sticky, plastic; few fine roots; many very fine tubular pores; few salt or gypsum flecks, strongly calcareous; moderately alkaline (pH 8.2); clear smooth boundary.
C3 RSL No. 70248	66-122 cm (26-48 inches), very pale brown (10YR 7/3) silty clay loam, brown (10YR 5/3) moist; common, fine, distinct, yellowish brown (10YR 5/6) mottles; massive; very hard, firm, sticky, plastic; few fine roots; few fine, common very fine tubular pores; few salt or gypsum flecks; strongly calcareous; moderately alkaline (pH 8.3); abrupt wavy boundary.
C4 RSL No. 70249	122-152 cm (48-60 inches), light gray (10YR 7/2) silty clay loam, grayish brown (10YR 5/2) moist; massive; slightly hard, firm, sticky, plastic; few fine roots; common fine and very fine tubular pores; strongly calcareous; moderately alkaline (pH 8.4).

CONSECUTIVE PEDON NUMBER C 68 45 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES VANET GRAVELLY LOAM SOIL NO. S68 UTAH. 9- 3 SAMPLE NO. 8 260-8 266 PAUNSAUGUNT AREA

SOIL FAMILY: TYPIC USTOCHREPT,LOAMY-SKELETAL,CARB.,FRGD,SHLW RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBONATE	1A2A INT. .2- OF WHOLE SOIL	COARSE FRAGMENTS PCT. 75- 20	I 20-5	II 5-2	III PCT. OF LT 75
			PERCENT OF LESS THAN 2MM																	
8 260	0- 3	A1	37.1	46.1	16.8	0.7	0.6	0.8	11.4	23.6	27.3	18.8				59.6	38A	2Z	16Z	N
8 261	3- 18	B2	29.4	46.3	24.3	1.0	1.0	0.9	8.9	17.6	22.2	24.1				46.5	61A	33	28Z	N
8 262	18- 28	B3	31.7	45.7	22.6	3.6	3.9	2.0	7.9	14.3	17.0	28.7			9	36.9	49A	24	25Z	N
8 263	28- 36	C 1CA	31.1	46.7	22.2	3.2	3.8	2.4	8.1	13.6	14.9	31.8			14	34.2	51A	24	27Z	N
8 264	36- 53	2C 2CA	33.4	43.1	23.5	4.8	5.5	3.3	8.2	11.6	12.9	30.2			19	29.8	55*	16	29Z	N
8 265	53- 81	2C 3CA	48.0	44.4	7.6	6.6	8.1	4.0	11.2	18.1	17.5	26.9			5	43.4	59*	13	42Z	N
8 266	81- 86	R															--G	--G	--G	--G

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES DI-CIT FE 6C2B	EXT AL 6G7A	PYROP FE 6C5A	EXT AL 6G5A	ATTERBERG LIMIT LL 4F1	PL 4F2	EST. 1/3 BAR 4A1F	BULK DENSITY 1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		PERCENT		PERCENT		PERCENT				PCT.NO.40 GRAMS PER CC						PERCENT			PERCENT	
8 260	0- 3	2.04	0.122	4		0.9				27	23	1.00			0.81			8.5		
8 261	3- 18	1.57	0.104	10		1.0				34	22		1.07	1.21	0.62		36.9	11.5	4.2	2.5
8 262	18- 28	2.26	0.136	50		0.5							0.90	0.99	0.75		39.0	12.2	3.2	2.4
8 263	28- 36	2.23	0.134	61		0.4				41	30		0.96	1.01	0.73		34.1	12.9	1.7	1.2
8 264	36- 53	1.76		74		0.3							0.99	1.02	0.69		40.5	14.4	1.0	0.7
8 265	53- 81	0.16		64		0.3						1.00			0.65			3.1		
8 266	81- 0			100+		0.1						2.20			1.00					

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B3A 6N4C	MG 5B3A 6O4C	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI-DITY 6H2A	KCL EXT. AL 6G1E	CEC SUM 5A3A	NH4-OAC 5A6A	BASE SATURATION SUM+ ACI-DITY	SUM+ AL	NH4-OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA-CL2 8C1E
		MEQ/100G									PERCENT					
8 260	0- 3			0.1	0.8	0.9	0.2392.7		1.1	21.4					7.9	7.5
8 261	3- 18			0.1	2.2	2.3	429.2		2.3	22.7					7.9	7.6
8 262	18- 28			0.1	0.2	0.3	213.4		0.3	17.5					8.0	7.7
8 263	28- 36			0.1	0.1	0.2	147.0		0.2	14.2					8.1	7.7
8 264	36- 53			0.1	0.1	0.2	100.3		0.2	9.4					8.1	7.8
8 265	53- 81			TR	0.1	0.1	120.7		0.1	2.3					8.5	7.9
8 266	81- 0						56.9			0.8					9.0	8.0

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
		PERCENT										
8 260	0- 3	MT 3	KK 3	MI 1							MT MONTMORT	1 TRACE
8 261	3- 18	KK 4	MT 2	MI 1							KK KAOLINIT	2 SMALL
8 262	18- 28										MI MICA	3 MODERATE
8 263	28- 36	KK 4	MT 2	MI 2								4 ABUNDANT
8 264	36- 53											5 DOMINANT
8 265	53- 81											6 INDETER.
8 266	81- 0											

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
N=NOT DETERMINED.
Z=NOT ALL FRACTIONS SEPERATED. ADJACENT FRACTIONS INCLUDED HERE.
*=THE 75-250MM FRACTION IS INCLUDED.
G=GROUND WHOLE. HORIZON INDURATED OR GRAVEL TOO SOFT TO BE SEPARATED. ALL DATA FOR WHOLE SOIL.

VANET GRAVELLY LOAM
S68Utah-9-3

Location: Paunsaugunt Soil Survey Area, Utah, East Road, S. E. 1/4 of S. E. 1/4 of Sec. 36, T. 37 S., R. 4 1/2 W. Garfield County, UT. Date of sampling: June 12, 1968.
Description by: R. Mitchell. Collectors: J. Carley, G. Crandall, A. Erickson, R. Mitchell, D. Nettleton, A. Southard, L. Stott.
Classification: Typic Ustochrept, loamy-skeletal, carbonatic, frigid, shallow.
Vegetation: Ponderose pine, Douglas-fir, limber pine, manzanita, snowberry, creeping juniper, Oregon-grape and deerbrush. Use: Timber, rangeland, and wildlife. Climate: Precipitation, about 20 inches. The mean annual air temperature is 43 to 49°F., and the average summer air temperature is 59 to 62°F. Parent material: Shale and limestone. Topography: Steep, colluvial side slope of a mesa. Slope, 32 percent, west-facing. Elevation: 8,200 feet. Drainage: Well drained. Runoff is medium to rapid. Permeability is moderate to the bedrock. Soil moisture: Moist.

HORIZON	DESCRIPTION
	(0-4 cm)
A1 RSL 68260	0 to 1½ inches, brown (7.5YR 4/4) gravelly loam, dark brown (7.5YR 3/3) when moist crushed; weak fine platy structure that parts to weak fine granular; soft, friable, slightly sticky and slightly plastic; common micro, very fine, and few fine roots; many very fine pores; 35 percent angular gravel; non-effervescent; neutral (pH 7.4); abrupt smooth boundary.
B2 RSL 68261 (4-18 cm)	1½ to 7 inches, yellowish red (5YR 4/6) gravelly light clay loam, yellowish red (5YR 3/6) when moist crushed; moderate medium subangular blocky structure that breaks to moderate fine subangular blocky; hard, firm, sticky and plastic; common micro, very fine and fine and few medium roots; common very fine and fine pores; common thin clay films in ped faces and pores; 20 percent gravel; strongly effervescent; mildly alkaline (pH 7.5); abrupt wavy boundary.
B3 RSL 68262 (18-28 cm)	7 to 11 inches, reddish brown (5YR 4/4) gravelly loam, dark reddish brown (5YR 3/4) when moist crushed; weak fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; common micro, very fine, fine, and few medium and coarse roots; 40 percent gravel; strongly effervescent; mildly alkaline (pH 7.5); abrupt wavy boundary.
C1ca RSL 68263 (28-36 cm)	11 to 14 inches, brown (7.5YR 5/4) gravelly loam, brown (7.5YR 4/2) when moist crushed; massive; soft, friable, slightly sticky and slightly plastic; abundant micro, very fine, and common medium, fine, and coarse roots; (root mat.); 35 percent gravel; violently effervescent; mildly alkaline (pH 7.6); abrupt wavy boundary.
IIC2ca RSL 68264 (36-53 cm)	14 to 21 inches, pink (5YR 7/4) very gravelly silt loam, light reddish brown (5YR 6/4) when moist crushed; massive; few fine roots; few fine pores; 40 percent gravel; 10 percent cobbles, violently effervescent; moderately alkaline (pH 8.0); clear wavy boundary.
IIC3ca RSL 68265 (53-81 cm)	21 to 32 inches, pink (5YR 8/4) very gravelly light loam, reddish yellow 5YR 6/6) when moist; massive; slightly hard, friable; nonsticky and nonplastic; very few very fine roots; few very fine tubular pores; 60 percent gravel and 5 percent cobbles; violently effervescent; moderately alkaline (pH 8.0) ; abrupt wavy boundary.
R RSL 68266 (81-86 cm)	32 to 34 inches, fractured limestone.

CONSECUTIVE PEDON NUMBER C 68 46 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES VANET GRAVELLY LOAM SOIL NO. S68 UTAH. 9- 4 SAMPLE NO. 8 267-8 272 PAUNSAUGUNT AREA

SOIL FAMILY: TYPIC USTOCHREPT,LOAMY-SKELETAL,CARB.,FRGD,SHLW RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBONATE 3A1A	1A2A INT. II .2- .02	COARSE FRAGMENTS PCT. OF WHOLE SOIL	I 75- 20 PCT. OF LT 75	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM																	
8 267	0- 3	A1	44.9	37.9	17.2	4.2	3.2	4.1	18.1	15.3	19.4	18.5			1	44.9	40A	—	40Z	N
8 268	3- 15	B2	36.7	41.2	22.1	3.3	2.6	2.7	13.8	14.3	19.2	22.0			2	41.7	40A	10	30Z	N
8 269	15- 36	C 1CA	37.1	37.5	25.4	3.0	3.0	2.9	13.9	14.3	15.8	21.7			11	38.9	71A	61	10Z	N
8 270	36- 48	C 2CA	34.6	39.7	25.7	2.6	3.5	2.7	12.3	13.5	15.8	23.9			16	36.7	73A	62	11Z	N
8 271	48- 74	2C 3CA	40.7	39.5	19.8	2.5	4.9	3.7	14.8	14.8	16.4	23.1		—	14	40.3	95A	92	3Z	N
8 272	74- 91	R	--	--													--G	--G	--G	--G

SAMPLE NO.	DEPTH CM.	ORG. MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES DI-CIT FE 6C2B	EXT AL 6G7A	PYROP FE 6C5A	EXT AL 6G5A	ATTERBERG LL 4F1	PL 4F2	BULK DENSITY EST. 1/3 BAR 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		PERCENT		PERCENT		PERCENT				PCT.NO.40		GRAMS PER CC				PERCENT			PERCENT	
8 267	0- 3	3.20	0.186	18		0.7				NP	NP	0.90			0.82			10.7		
8 268	3- 15	2.13	0.124	18		0.7				36	25		0.93	1.00	0.96		26.8	11.3	2.4	2.3
8 269	15- 36	2.99	0.160	42		0.5				52	36	1.00			0.51			18.3		
8 270	36- 48	3.38	0.157	58		0.4						1.00			0.49			22.2		
8 271	48- 74	1.21		66		0.3						1.00			0.15					
8 272	74- 91	0.76		65		0.8						2.20			1.00			7.4		

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B3A 6N4C	MG 5B3A 6O4C	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI-DITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4-OAC 5A6A	BASE SATURATION SUM+ ACI-DITY	SUM+ AL	NH4-OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA-CL2 8C1E
		MEQ/100G									PERCENT					
8 267	0- 3			TR	0.7	0.7			0.7	19.1					7.9	7.5
8 268	3- 15														7.9	7.5
8 269	15- 36														7.9	7.6
8 270	36- 48			0.1	0.1	0.2			0.2	21.7					8.0	7.7
8 271	48- 74			0.1	0.1	0.2			0.2	7.0					8.1	7.8
8 272	74- 91						TR		TR	5.5					8.3	7.8

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE		RELATIVE AMOUNT
		PERCENT											
8 267	0- 3	KK 3	MT 2	MI 2							KK	KAOLINIT	1 TRACE
8 268	3- 15	MT 3	KK 3	MI 2							MT	MONTMORT	2 SMALL
8 269	15- 36	KK 4	MT 3	MI 2							MI	MICA	3 MODERATE
8 270	36- 48												4 ABUNDANT
8 271	48- 74												5 DOMINANT
8 272	74- 91												6 INDETER.

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
N=NOT DETERMINED.
Z=NOT ALL FRACTIONS SEPERATED. ADJACENT FRACTIONS INCLUDED HERE.
G=GROUND WHOLE. HORIZON INDURATED OR GRAVEL TOO SOFT TO BE SEPARATED. ALL DATA FOR WHOLE SOIL.

VANET GRAVELLY LOAM
S68Utah-9-4

Location: Paunsaugunt Soil Survey Area, Utah, N. E. 1/4 of Sec. 8, T. 34 S., R. 4 W. Garfield County, UT. Date of sampling: June 12, 1968.
Description by: R. Mitchell. Collectors: J. Carley, G. Crandall, A Erickson, R. Mitchell, D. Nettleton, A. Southard, L. Stott.
Classification: Typic Ustochrept, loamy-skeletal, carbonatic, frigid, shallow.
Vegetation: Ponderosa pine, limber pine, Rocky Mountain juniper, manzanita, bitterbrush, prostrate juniper, Oregon-grape, snowberry, Indian ricegrass, squirreltail, Poa secunda, and occasional Douglas-fir and spruce. Use: Timber, range and wildlife. Climate: Precipitation, 18 to 20 inches. Mean annual air temperature is 43 to 49°F., and the average summer air temperature is 59 to 62°F. Parent material: Limestone and shale. Topography: Moderately steep side slope of a mesa. Slope, 25 percent, west-facing. Elevation: 8,200 feet. Drainage: Well drained. Runoff is medium to rapid. Permeability is moderate to the bedrock. Soil moisture: Moist.

HORIZON	DESCRIPTION
	(3-0 cm)
01	1 to 0 inches, pine litter.
A1 RSL 68267 (0-3 cm)	0 to 1 inch, brown (7.5YR 5/2), gravelly loam, dark brown (7.5YR 3/2) when moist; weak very fine granular structure; soft, very friable, nonsticky and nonplastic; common fine roots; many very fine interstitial pores; 20 percent gravel; very slightly effervescent; mildly alkaline (pH 7.5); clear smooth boundary.
B2 RSL 68268 (3-15 cm)	1 to 6 inches, reddish brown (5YR 5/3) gravelly light clay loam, reddish brown (5YR 4/3) when moist; weak medium subangular blocky structure that breaks to weak fine granular; slightly hard, friable, slightly sticky and slightly plastic; common fine and medium roots; common fine interstitial and a few tubular pores; common thin clay films on ped faces; 20 percent gravel; slightly effervescent; moderately alkaline (pH 8.0); clear smooth boundary.
C1ca RSL 68269 (15-36 cm)	6 to 14 inches, pinkish gray (7.5YR 6/2) gravelly heavy loam, dark brown (7.5YR 3/2) when moist; weak medium subangular blocky structure that breaks to weak fine granular; soft, friable, nonsticky and slightly plastic; common fine, medium and coarse roots; common fine and coarse interstitial pores; 35 percent gravel and 10 percent cobbles; strongly effervescent; moderately alkaline (pH 8.2); diffuse irregular boundary.
C2ca RSL 68270 (36-48 cm)	14 to 19 inches, pinkish gray (7.5YR 6/2) and common large distinct reddish yellow (5YR 6/3) mottles; gravelly loam, dark brown (7.5YR 3/2) and yellowish red (5YR 5/8) when moist; weak fine granular structure; soft, friable, nonsticky and slightly plastic; common fine, medium and coarse roots; common fine and coarse interstitial pores; 30 percent gravel and 20 percent cobbles; violently effervescent; moderately alkaline (pH 8.2); clear wavy boundary.
IIC3ca RSL 68271 (48-74 cm)	19 to 29 inches, reddish yellow (5YR 6/3) and pinkish white (7.5YR 8/2) very cobbly silt loam, yellowish red (5YR 5/8) and pink (7.5YR 7/4) when moist; massive; hard, firm, slightly sticky and slightly plastic; 60 percent cobbles, 10 percent stones and 20 percent gravel; violently effervescent; moderately alkaline (pH 8.4); abrupt irregular boundary.
R RSL 68272 (74-91 cm)	29 to 36 inches, reddish yellow (5YR 7/8) fractured and weathered limestone that breaks to very cobbly loam, reddish yellow (5YR 6/8) when moist; massive; extremely hard, extremely firm, slightly sticky and nonplastic; 70 percent cobble sized fragments of limestone; 20 percent gravel; violently effervescent; moderately alkaline (pH 8.4).

CONSECUTIVE PEDON NUMBER C 67 3 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES BLUFFDALE SILTY CLAY LOAM (TAXADJUNCT) SOIL NO. S67 UTAH. 18- 2 SAMPLE NO. 7 211-7 219 SALT LAKE CO. AREA

SOIL FAMILY: CALCIXEROLLIC XEROCHREPT,FINE-SILTY,MIXED,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2-.05	SILT .05-.002	CLAY LT .002	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 SANDS VCS 2-1	CS 1-.5	MS .5-.25	FS .25-.10	VFS .1-.05	CSI .05-.02	FSI .02-.002	SILTS CO. 2-.2U	CLAYS FINE LT .2U	CARBONATE 3A1A	1A2A INT. .2-.02	COARSE FRAGMENTS PCT. OF WHOLE SOIL	I 75-20 PCT. OF LT 75	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM																	
7 211	0- 18	AP1	12.6	53.1	34.3	0.2	0.4	0.8	4.2	7.0	18.4	34.7			2	27.5	TR	TR	--	--
7 212	18- 30	AP2	12.0	52.0	36.0	0.2	0.3	0.8	4.3	6.4	17.5	34.5			2	26.1	TR	TR	--	--
7 213	30- 61	B2 T	2.1	55.5	42.4	0.1	0.1	0.1	0.7	1.1	11.3	44.2			10	12.8	TR	TR	--	--
7 214	61- 91	B3 T	3.3	55.9	40.8	0.1	0.1	0.3	1.5	1.3	14.6	41.3			5	16.6	TR	TR	--	--
7 215	91-122	2C 1	3.5	62.0	34.5	0.1	0.1	0.2	0.9	2.2	14.6	47.4		--	3	17.3	TR	TR	--	--
7 216	122-173	2C 2															TR	TR	--	--
7 217	173-185	3C 3															29	11	18Z	N
7 218	185-193	4C 4															12	TR	12Z	N
7 219	193-216	5C 5															--	--	--	--

SAMPLE NO.	DEPTH CM.	ORG. MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	19-2 6E1B	EXT. IRON FE 6C2B	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST 1/3 BAR 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTENSBLTY LEF 4D1	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
		PERCENT		PERCENT		PCT.	PCT.	NO.40	GRAMS PER CC				PERCENT			PERCENT				
7 211	0- 18	1.06	0.108	7		0.6				1.35	1.47	1.00		21.3	11.8	2.9	2.9		8.7	
7 212	18- 30	0.88	0.097	9		0.5				1.37	1.48	1.00		20.7	13.1	2.6	2.6		8.9	
7 213	30- 61	0.29	0.047	29		0.4				1.54	1.69	1.00		22.7	13.6	3.1	3.1		9.0	
7 214	61- 91	0.19		16		0.6				1.33	1.48	1.00		23.9	16.0	3.6	3.6		9.0	
7 215	91-122			14		0.8				0.95	1.00	1.00		55.7	16.2	1.7	1.7		8.9	
7 216	122-173			11						1.04	1.10	1.00		48.9	15.2	1.9	1.9		8.1	
7 217	173-185			TR						1.53	1.56	0.81		15.4	4.6	0.6	0.5		7.7	
7 218	185-193			TR						1.42	1.47	0.93		20.9	3.1	1.2	1.1		7.5	
7 219	193-216			TR					1.42			1.00							8.2	

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B3A 6N4C	MG 5B3A 6O4C	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT.	CEC NA-OAC 5A2A	NH4-OAC 5A6A	EC 8A1A	WATER EXTRACT FROM SATURATED PASTE CA 6N1B	MG 6O1B	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1A	B 6T1A	PH SAT. PASTE 8C1B
		MEQ/100G					PCT.	MEQ/100G		MMHO	MEQ/1000 ML								PPM	
7 211	0- 18			1.0	2.4	3.4			18.3	2.15	7.8	7.4	5.6	1.1		9.8	9.3			7.5
7 212	18- 30			1.1	1.6	2.7			18.4	1.20	3.5	3.2	4.9	0.7		7.5	2.1			7.9
7 213	30- 61			0.9	0.7	1.6			14.3	1.12	2.5	3.1	4.4	0.4		3.2	2.9			8.0
7 214	61- 91			1.1	0.4	1.5			16.7	1.25	2.4	4.1	4.4	0.1		2.7	3.5			8.0
7 215	91-122			0.1	0.4	0.5			20.9	1.91	4.0	6.1	8.6	0.1		2.3	5.4	12.6		7.9
7 216	122-173									2.16	27.5	4.6	1.3	0.1		1.2	5.5	44.2		7.7
7 217	173-185																			
7 218	185-193																			
7 219	193-216																			

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGBLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1A PCT.	REQ. 6P3A MEC.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 PCT.	L.T. .0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
7 211	0- 18	45.1	0.7	4	2			MI 4	KK 3	MT 2						MI MICA	1 TRACE
7 212	18- 30	49.2	0.9	5	3											KK KAOLINIT	2 SMALL
7 213	30- 61	55.8	0.7	5	3			MT 3	MI 3	KK 3						MT MONTMORT	3 MODERATE
7 214	61- 91	57.0	0.8	5	2												4 ABUNDANT
7 215	91-122	60.2			4												5 DOMINANT
7 216	122-173	68.7			TR	2.0											6 INDETER.
7 217	173-185					2.0											
7 218	185-193					0.1											
7 219	193-216					0.1											

SAMPLE PREPARATION CODES
N=NOT DETERMINED.
Z=NOT ALL FRACTIONS SEPERATED. ADJACENT FRACTIONS INCLUDED HERE.

BLUFFDALE SILTY CLAY LOAM (taxadjunct) 1/
S67Utah-18-2

Location: Salt Lake Soil Survey Area, Utah. Sec. 4, T. 3 S., R. 1 W.; about 2,210 feet east, 1,870 feet north of the southwest corner. About 2,800 West and 9,200 South. Date of sampling: August 22, 1967.
Description by: L. Harvey, M. E. Olsen. L. Woodward. Collectors: B. Brasher, D. Nettleton.
Classification: Calcixerollic Xerochrept, fine-silty, mixed, mesic.
Vegetation: Wheat stubble. Use: Irrigated agriculture. Climate: Precipitation, 14 inches. Mean annual air temperature, 49°F. Mean summer air temperature, 71°F. Frost-free days, 130 to 150. Parent material: Mixed lake sediments. Topography: Low lake terrace. Slope, 1 percent, east-facing. Elevation: 4,495 feet. Drainage: Moderately well drained. Runoff is very slow; permeability, slow. Soil moisture: Dry.

HORIZON	DESCRIPTION
	(0-18 cm)
Ap1 RSL 67211	0 to 7 inches, light brownish gray (10YR 6/2) light silty clay loam, dark grayish brown (10YR 4/2) moist; weak coarse subangular blocky breaking to moderate fine granular structure; hard, friable, sticky and plastic; many fine roots; few fine pores; strongly calcareous, lime is disseminated; abrupt smooth boundary.
Ap2 RSL 67212 (18-30 cm)	7 to 12 inches, light brownish gray (10YR 6/2) light silty clay loam, dark grayish brown (10YR 4/2) moist; weak coarse breaking to fine subangular blocky structure; hard, friable, sticky and plastic; many fine roots; few fine pores; thin patchy clay films; strongly calcareous, lime is finely segregated; abrupt wavy boundary.
B2t RSL 67213 (30-61 cm)	12 to 24 inches, light gray (10YR 7/2) light brownish gray (10YR 6/2) aggregate, heavy silty clay loam, grayish brown (10YR 5/2) crushed, brown (10YR 4/3) aggregate moist; many medium and fine prominent yellowish brown (10YR 5/8) mottles; weak medium prismatic breaking to moderate medium angular blocky structure; very hard, firm, sticky and plastic; many fine roots; few fine pores; moderate continuous clay films; strongly calcareous, lime is in splotches; abrupt wavy boundary.
B3t RSL 67214 (61-91 cm)	24 to 36 inches, light gray (10YR 7/2) crushed and light brownish gray (10YR 6/2) aggregate, heavy silty clay loam, grayish brown (10YR 5/2) moist; many medium and fine yellowish brown (10YR 5/8) mottles; strong angular blocky structure; very hard, firm, sticky and plastic; many fine roots; few fine pores; thin continuous to patchy clay films; strongly calcareous, lime is in splotches; tongues of B3 material extend into the C material; abrupt wavy boundary.
IIC1 RSL 67215 (91-122 cm)	36 to 48 inches, light gray (5Y 7/2) light silty clay loam, olive gray (5Y 5/2) moist; moderate thick platy breaking to moderate angular blocky structure; very hard, firm, sticky and plastic; many fine roots; few fine pores; strongly calcareous, lime is in splotches and veins; clear smooth boundary.
IIC2 RSL 67216 (122-173 cm)	48 to 68 inches, white (5Y 8/2) silt loam, white (5Y 8/2) moist; thick platy breaking to moderate angular blocky structure; hard, firm, sticky and plastic; common fine roots; few fine pores; strongly calcareous, lime is segregated in veins; abrupt smooth boundary.
IIIC3 RSL 67217 (173-185 cm)	68 to 73 inches, light gray (5Y 7/2) gravelly sand, olive gray (5Y 5/2) moist; many prominent yellowish brown (10YR 5/8) mottles; massive breaking to single grain; weakly cemented; very few fine roots; noncalcareous; abrupt wavy boundary.
IVC4 RSL 67218 (185-193 cm)	73 to 76 inches, white (5Y 8/2) sand, light olive gray (5Y 6/2) moist; single grain; slightly hard, very friable, nonsticky and nonplastic; no roots; noncalcareous; abrupt smooth boundary.
VC5 RSL 67219 (193-216 cm)	76 to 85 inches, light yellowish brown (10YR 6/4) very gravelly sand; many large yellowish brown (10YR 5/8) mottles, yellowish brown (10YR 5/4) moist; single grain; loose, nonsticky and nonplastic; no roots; noncalcareous.

1/ The Bluffdale series is in a fine, mixed, mesic family of Calcixerollic Xerochrepts. This pedon has slightly less noncarbonate clay.

CONSECUTIVE PEDCN NUMBER C 67 4 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES BLUFFDALE SILTY CLAY LOAM (TAXADJUNCT) SOIL NO. S67 UTAH. 18- 3 SAMPLE NO. 7 220-7 229 SALT LAKE CO. AREA

SOIL FAMILY: CALCIXEROLLIC XEROCHREPT,FINE-SILTY,MIXED,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION 2- .05 (SAND)	.05- .002 (SILT)	LT .002 (CLAY)	VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	CSI .05- .02	FSI .02- .002	CO. 2- .2U	FINE LT .2U	CARBONATE 3A1A	1A2A INT. II .2-.02	PCT. OF WHOLE SOIL	COARSE FRAGMENTS I 75-20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75			
7 220	0- 23	AP	10.5	57.6	31.9	0.3	0.3	0.5	2.9	6.5	19.2	38.4				27.7	TR	TR	--	--
7 221	23- 41	B1	5.6	53.4	41.0	0.2	0.2	0.2	1.3	3.7	14.4	39.0			4	19.0	TR	TR	--	--
7 222	41- 58	B2 T	3.6	54.1	42.3	0.1	0.1	0.2	1.0	2.2	13.2	40.9			6	16.1	TR	TR	--	--
7 223	58- 84	B3 CA	2.5	53.6	43.9	--	0.1	0.1	0.6	1.7	11.7	41.9			7	13.8	TR	TR	--	--
7 224	84-109	2C 1CA	5.7	66.0	28.3	0.1	0.1	0.2	0.8	4.5	19.0	47.0			5	24.1	TR	TR	--	--
7 225	109-147	2C 2	6.2	69.2	24.6	--	0.1	0.2	0.7	5.2	22.6	46.6			3	28.2	TR	TR	--	--
7 226	147-196	2C 3															TR	TR	--	--
7 227	196-208	2C 4															TR	TR	--	--
7 228	208-241	3C 5															5	TR	5Z	N
7 229	241- 0	3C 6	40.5	46.7	12.8	0.3	0.5	0.8	9.8	29.1	32.0	14.7				67.6	TR	TR	--	--

SAMPLE NO.	DEPTH CM.	ORG. MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	19-2 6E1B	EXT. IRON FE 6C2B	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST 1/3 BAR 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTENSIBLITY LEF 4D1	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
		-PERCENT--		-PERCENT-		PCT.	PCT.NO.40		GRAMS PER CC				----PERCENT---			-PERCENT--				
7 220	0- 23	1.80	0.164	3		0.6			1.38	1.52	1.00		24.9	15.0		3.3	3.3		8.7	
7 221	23- 41	0.53	0.064	13		0.6			1.40	1.57	1.00		25.0	15.5		3.9	3.9		9.1	
7 222	41- 58	0.37		21		0.5			1.35	1.48	1.00		27.2	16.5		3.1	3.1		9.2	
7 223	58- 84	0.20		23		0.6			1.45	1.62	1.00		27.6	15.3		3.8	3.8		9.2	
7 224	84-109			22		0.4			0.99	1.06	1.00		52.2	14.2		2.3	2.3		9.1	
7 225	109-147			16		0.4			1.08	1.16	1.00		50.9	14.6		2.4	2.4		9.1	
7 226	147-196								0.99	1.08	1.00		60.9	15.0		2.9	2.9		9.1	
7 227	196-208								1.25	1.31	1.00		31.1	10.5		1.6	1.6		9.1	
7 228	208-241								1.44	1.47	0.97		18.3	3.9		0.7	0.7		8.5	
7 229	241- 0			7					1.47	1.53	1.00		25.1	6.4		1.3	1.3		9.1	

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B3A 6N4C	MG 5B3A 6O4C	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT.	CEC NA- DAC 5A2A	NH4- CAC 5A6A	EC 8A1A	WATER EXTRACT FROM SATURATED PASTE 8A1 CA 6N1B	MG 6O1B	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1A	B 6T1A	PH SAT. PASTE 8C1B
		MEQ/100G					PCT.	-MEQ/100G		MMHO	MEQ/1000 ML								PPM	
7 220	0- 23			1.1	3.3	4.4			26.1	1.67	6.0	2.4	5.6	1.3		10.0	4.5			7.6
7 221	23- 41			1.0	2.3	3.3			20.6	0.96	2.7	2.0	3.8	0.6		4.6	2.0	3.8		7.9
7 222	41- 58			1.0	1.8	2.8			17.9	1.01	2.8	2.0	4.0	0.4		4.0	2.4			7.8
7 223	58- 84			1.1	1.2	2.3			16.7	0.97	2.4	1.6	4.6	0.4		3.1	2.3	5.0		7.9
7 224	84-109			0.9	1.1	2.0			18.5	1.25	2.6	2.2	5.2	0.3		2.2	3.5			7.9
7 225	109-147			0.9	0.6	1.5			20.8	1.08	1.8	1.7	5.3	0.1		2.2	3.6			8.1
7 226	147-196																			
7 227	196-208																			
7 228	208-241																			
7 229	241- 0			1.2	0.3	1.5			10.5	1.14	1.6	1.6	6.2	0.1		2.6	3.4			7.9

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGEABLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1A PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I 7A2E	II 7A2E	III 7A2E	DTA IV 7A2E	DTA 7A3 PCT.	L.T. .0002 MM X RAY I 7A2E	II 7A2E	III 7A2E	MINERAL CODE	RELATIVE AMOUNT
7 220	0- 23	54.5	0.8	3	3			MT 3	MI 3	KK 3						MT MONTMORT	1 TRACE
7 221	23- 41	54.3	0.8	4	2											MI MICA	2 SMALL
7 222	41- 58	65.6	0.7	4	3			MI 4	MT 3	KK 3						KK KAOLINIT	3 MODERATE
7 223	58- 84	58.3	0.8	5	3												4 ABUNDANT
7 224	84-109	45.4	0.7	4	3												5 DOMINANT
7 225	109-147	65.2	0.6	3	4			MT 3	MI 3	KK 2							6 INDETER.
7 226	147-196																
7 227	196-208																
7 228	208-241																
7 229	241- 0	37.7	1.0	9	5			MT 4	KK 3	MI 2							

SAMPLE PREPARATION CODES
N=NOT DETERMINED.
Z=NOT ALL FRACTIONS SEPERATED. ADJACENT FRACTIONS INCLUDED HERE.

BLUFFDALE SILTY CLAY LOAM (taxadjunct) 1/
S67Utah-18-3

Location: Salt Lake Soil Survey Area, Utah, N. E. 1/4 of Sec. 32, T. 2 S., R. 1 W.; 1 3/4 miles west of West Jordan at about 8,000 south and 3,400 west, 100 feet west of old Bingham Highway. Date of sampling: August 22, 1967.
Description by: H. Broderick and J. Kingsbury. Collectors: B. Brasher, D. Nettleton.
Classification: Calcixerollic Xerochrept, fine-silty, mixed, mesic.
Vegetation: Wheat stubble. Use: Irrigated agriculture. Climate: Precipitation, 14 inches. Mean annual air temperature, 50°F.; mean summer air temperature, 71°F.
Parent material: Alluvium from sedimentary rocks. Topography: Low lake terrace. Slope, 2 percent, east-facing. Elevation: 4,400 feet. Drainage: Well drained. Runoff and permeability are slow. No water table. Soil moisture: Dry.

HORIZON	DESCRIPTION
	(0-23 cm)
Ap RSL 67220	0 to 9 inches, light brownish gray (10YR 5.5/2) silty clay loam, very dark grayish brown (10YR 3/2) moist; moderate fine granular structure; hard, firm, sticky and plastic; common fine and medium roots; many fine medium and large pores; slightly calcareous; mildly alkaline (pH 7.8); clear smooth boundary.
B1 RSL 67221 (23-41 cm)	9 to 16 inches, light brownish gray (10YR 6/2) heavy silty clay loam, dark grayish brown (10YR 4/2) moist; weak medium prismatic breaking to moderate medium subangular blocky structure; very hard, firm, very sticky and very plastic; common fine and medium roots; common fine and medium pores; moderately calcareous; mildly alkaline (pH 7.8); thin continuous clay films; clear wavy boundary.
B2t RSL 67222 (41-58 cm)	16 to 23 inches, light brownish gray (10YR 6/2) silty clay, dark grayish brown (10YR 4/2) moist; few fine distinct yellowish brown (10YR 5/6) mottles; moderate medium prismatic breaking to moderate fine subangular blocky structure; very hard, firm, very sticky and very plastic; common fine and medium roots; common fine pores; moderately calcareous; mildly alkaline (pH 7.8); thin continuous clay films; clear wavy boundary.
B3ca RSL 67223 (58-84 cm)	23 to 33 inches, light brownish gray (10YR 6/2) silty clay, dark grayish brown (10YR 4/2) moist; common fine distinct yellowish brown (10YR 5/6) mottles; weak coarse breaking to weak fine subangular blocky structure; very hard, firm, very sticky and very plastic; common fine roots; common fine pores; strongly calcareous; moderately alkaline (pH 7.9); thin patchy clay films; clear wavy boundary.
IIC1ca RSL 67224 (84-109 cm)	33 to 43 inches, white (2.5Y 8/2) silty clay, light brownish gray (2.5Y 6/2) moist; common fine distinct yellowish brown (10YR 5/6) mottles; moderate medium angular blocky structure; hard, firm, sticky and plastic; few fine roots; few fine pores; strongly calcareous; moderately alkaline (pH 8.0); clear wavy boundary.
IIC2 RSL 67225 (109-147 cm)	43 to 58 inches, white (2.5Y 8/2) light silty clay loam, light brownish gray (2.5Y 6/2) moist; common fine distinct yellowish brown (10YR 5/6) mottles; massive laminated lake sediments; hard, friable, sticky and plastic; common fine roots; many very fine pores; strongly calcareous, moderately alkaline (pH 7.8); gradual wavy boundary.
IIC3 RSL 67226 (147-196 cm)	58 to 77 inches, white (2.5Y 8/2) silt loam, light brownish gray (2.5Y 6/2) moist; few fine distinct yellowish brown (10YR 5/6) mottles; massive stratified lake sediments; hard, friable; slightly sticky and plastic; few fine roots; few fine pores; moderately calcareous; moderately alkaline (pH 7.9). clear smooth boundary.
IIC4 RSL 67227 (196-208 cm)	77 to 82 inches, very pale brown (10YR 7/3) and light yellowish brown (2.5Y 6/3) very fine sandy loam, light brownish gray (10YR 6/2) and light yellowish brown (2.5Y 6/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; strongly calcareous, lime is disseminated, clear smooth boundary.
IIIC5 RSL 67228 (208-241 cm)	82 to 95 inches, reddish yellow (7.5YR 6/6) and pale yellow (2.5Y 7/3) very fine sandy loam, strong brown (7.5YR 5/6) and light yellowish brown (2.5Y 6/3) moist; many large prominent yellowish red (5YR 4/8) mottles; massive; slightly hard, very friable, nonsticky and nonplastic; about 10 percent gravel; noncalcareous.
IIIC6 RSL 67229	95 inches +, like horizon above; separated for sampling purposes. (241 cm)

1/ The Bluffdale series is in a fine, mixed, mesic family of Calcixerollic Xerochrepts. This pedon has slightly less noncarbonate clay.

CONSECUTIVE PEDON NUMBER C 67 7 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES CHIPMAN SILTY CLAY LOAM SOIL NO. S67 UTAH. 18- 4 SAMPLE NO. 7 243-7 249 SALT LAKE CO. AREA

SOIL FAMILY: TYPIC CALCIAQUOLL,FINE-SILTY,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SANC 2-.05	SILT .05-.002	CLAY LT .002	SANDS VCS 2-1	CS 1-.5	MS .5-.25	FS .25-.10	VFS .1-.05	SILTS CSI .05-.02	FSI .02-.002	CLAYS CO. 2-.20	FINE LT .20	CARBONATE 3A1A	INT. II .2-.02	COARSE FRAGMENTS I 75-20 PCT. OF WHOLE SOIL	II 20-5 PCT. OF LT 75	III 5-2
			SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1												1A2A				
			PERCENT OF LESS THAN 2MM																
7 243	0- 13	AP	15.4	47.1	37.5	0.4	0.7	1.0	4.8	8.5	14.4	32.7			4	26.1	TR	TR	--	--
7 244	13- 41	A12	16.3	50.9	32.8	0.4	0.7	1.1	5.2	8.9	16.4	34.5			6	28.6	TR	TR	--	--
7 245	41- 66	C 1CA	15.2	47.1	37.7	0.6	1.1	1.5	5.4	6.6	14.3	32.8			14	24.0	TR	TR	--	--
7 246	66- 91	C 2CA	11.2	45.7	43.1	0.5	0.8	1.1	3.7	5.1	13.0	32.7			19	20.3	TR	TR	--	--
7 247	91-122	C 3	13.3	42.8	43.9	1.6	3.2	2.0	3.1	3.4	13.3	29.5			4	18.4	TR	TR	--	--
7 248	122-152	C 4															TR	TR	--	--
7 249	152-213	C 5															TR	TR	--	--

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A -PERCENT--	NITROGEN 6B1A	CARBONATE AS CACO3 6E1B -PERCENT- LT 2	19-2	EXT. IRON FE 6C2B PCT.	ATTERBERG LIMIT LL 4F1 PCT.NO.40	PL 4F2	BULK DENSITY EST 1/3 BAR 4A1F GRAMS PER CC	4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C ----PERCENT---	1/3 BAR 4B1C	15 BAR 4B2	EXTENSBLTY LEF 4D1 -PERCENT--	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
7 243	0- 13	3.04	0.256	12		0.4			1.14	1.28	1.00		37.0	18.4	3.9	3.9		8.2		
7 244	13- 41	2.86	0.239	15					1.06	1.18	1.00		43.9	29.5	3.6	3.6		8.2		
7 245	41- 66	1.51	0.110	31		0.1			1.06	1.15	1.00		43.1	24.8	2.8	2.8		8.4		
7 246	66- 91	1.40	0.095	37					1.07	1.19	1.00		41.9	23.7	3.6	3.6		8.5		
7 247	91-122	1.11	0.071	17		0.3			1.18	1.39	1.00		38.6	21.1	5.6	5.6		8.4		
7 248	122-152	0.33	0.036						1.32	1.54	1.00		34.1	17.6	5.3	5.3				
7 249	152-213	2.36	0.102						1.22	1.38	1.00		42.0	13.9	4.2	4.2				

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B3A 6N4C	MG 5B3A 6O4C	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT. PCT.	C E C NA+OAC 5A2A -MEQ/100G	NH4+CAC 5A6A	EC 8A1A MMHO	WATER EXTRACT FROM SATURATED PASTE 8A1 CA 6N1B	MG 6O1B	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1A	B 6T1A PPM	PH SAT. PASTE 8C1B
		MEQ/100G						MEQ/100G			MEQ/1000 ML									
7 243	0- 13			8.7	3.1	11.8			28.0	11.1	30.8	36.2	62.8	5.7		5.2	47.4	87.4		7.6
7 244	13- 41			14.7	2.8	17.5			24.9	16.6	28.2	62.0	88.0	5.4		8.0	87.9	13.0		7.7
7 245	41- 66			10.8	1.4	12.2			18.0	17.5	33.0	70.5	88.0	3.9		3.3	10.8	11.4		7.6
7 246	66- 91			7.5	1.2	8.7			17.3	12.0	31.2	46.5	55.0	2.9		3.1	68.7	93.2		7.6
7 247	91-122			5.2	1.7	6.9			26.6	7.9	28.0	33.2	33.2	2.1		5.5	25.0	76.3		7.6
7 248	122-152																			
7 249	152-213																			

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGBLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1A PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	DTA 7A2E IV	7A3 PCT.	L.T. .0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
7 243	0- 13	64.2	4.7	17	11	2.0		MI 3	MT 2	KK 2						MI MICA	1 TRACE
7 244	13- 41	77.2	7.9	32	13	1.0										MT MONTMORT	2 SMALL
7 245	41- 66	65.0	5.1	28	12	1.0		MI 3	MT 2	KK 2						KK KAOLINIT	3 MODERATE
7 246	66- 91	74.8	3.4	20	9	0.1											4 ABUNDANT
7 247	91-122	70.1	2.9	11	6	0.1		MT 3	MI 3	KK 3							5 DOMINANT
7 248	122-152																6 INDETER.
7 249	152-213																

CHIPMAN SILTY CLAY LOAM
S67Utah-18-4

Location: Salt Lake Soil Survey Area, Utah. Sec. 23, T. 2 S., R. 1 W.; about 1,275 feet east, 2,125 feet north of the southwest corner. 100 feet south of 6,400 south and 200 feet west of Jordan River, Bateman farm. Date of sampling: August 22, 1967.
Description by: J.L. Harvey, M. E. Olsen, L. Woodward. Collectors: B. Brasher, D. Nettleton.
Classification: Typic Calciaquoll, fine-silty, mesic.
Vegetation: Fallow. Use: Irrigated agriculture. Climate: Precipitation, 14 inches. Mean annual air temperature, 49°F.; mean summer air temperature, 71°F. Frost-free days, 120 to 140. Parent material: Mixed alluvium. Topography: Flood Plain. Slope, 0 to 1 percent. Elevation: 4,275 feet. Drainage: Poorly drained. Runoff is slow; permeability is slow; 48-inch water table. Soil moisture: Moist.

HORIZON	DESCRIPTION
	(0-13 cm)
Ap RSL 67243	0 to 5 inches, gray (10YR 5/1) silty clay loam, very dark gray (10YR 3/1) moist; moderate medium subangular blocky structure breaking to moderate fine granular; hard, friable, sticky and plastic; many medium and fine roots; moderately calcareous, lime is veined; clear wavy boundary.
A12 (13-41 cm) RSL 67244	5 to 16 inches, gray (10YR 5/1) silty clay loam, very dark gray (10YR 3/1) moist; weak coarse subangular blocky structure; hard, friable, sticky and plastic; moderately calcareous, lime is veined; gradual wavy boundary.
C1ca RSL 67245 (41-66 cm)	16 to 26 inches, gray (10YR 5/1) silty clay loam, very dark gray (10YR 3/1) moist; weak coarse subangular blocky structure breaking to weak granular; hard, friable, sticky and plastic; common medium and fine roots; strongly calcareous, lime is veined; clear wavy boundary.
C2ca RSL (66-91 cm) 67246	26 to 36 inches, gray (10YR 6/1) silty clay loam, very dark gray (10YR 3/1) moist; weak medium subangular blocky structure; common medium and fine roots; strongly calcareous, lime is disseminated; gradual wavy boundary.
C3 RSL 67247 (91-122 cm)	36 to 48 inches, gray (10YR 5/1) silty clay, very dark gray (10YR 3/1) moist; weak medium subangular blocky structure; very hard, firm, sticky and plastic; few medium and fine roots; strongly calcareous, lime is veined; clear wavy boundary.
C4 RSL 67248 (122-152 cm)	48 to 60 inches, gray (2.5Y 6/1) silty clay, dark gray (2.5Y 4/1) moist; massive; extremely hard, very firm, very sticky and very plastic; few medium and fine roots; strongly calcareous, lime is veined; abrupt wavy boundary.
C5 RSL 67249 (152-213 cm)	60 to 84 inches, gray (5Y 6/1) silt loam, dark gray (5Y 4/1) moist; massive; very hard, friable, sticky and slightly plastic; very few medium and fine roots; moderately calcareous, lime is disseminated.

CONSECUTIVE PEDON NUMBER C 67 8 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES MAGNA SILTY CLAY LOAM SOIL NO. S67 UTAH. 18-12 SAMPLE NO. 7 250-7 258 SALT LAKE CO. AREA

SOIL FAMILY: TYPIC CALCIAQUELL,FINE,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2-.05	SILT .05-.002	CLAY LT .002	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 SANDS VCS 2-1	CS 1-.5	MS .5-.25	FS .25-.10	VFS .1-.05	CSI .05-.02	FSI .02-.002	SILTS CO. 2-.2U	CLAYS FINE LT .2U	CARBONATE 3A1A	INT. II .2-.02	1A2A COARSE FRAGMENTS I PCT. OF WHOLE SOIL	II 75-20 PCT. OF LT 75	III 20-5	III 5-2
			PERCENT OF LESS THAN 2MM																	
7 250	0- 18	A11	15.2	54.4	30.4	0.7	1.2	1.2	4.3	7.8	20.7	33.7			3	31.4	TR	TR	--	--
7 251	18- 30	A12	13.7	52.7	33.6	0.6	1.2	1.1	4.1	6.7	18.0	34.7			4	27.5	TR	TR	--	--
7 252	30- 46	A13	9.6	39.4	51.0	0.3	0.7	1.1	3.3	4.2	13.1	26.3			11	19.4	TR	TR	--	--
7 253	46- 76	C 1CA	9.9	43.2	46.9	1.3	1.8	1.3	2.4	3.1	11.0	32.2			2	15.5	TR	TR	--	--
7 254	76-102	C 2CA	17.3	49.4	33.3	0.2	0.4	0.2	3.4	13.1	20.9	28.5				37.0	TR	TR	--	--
7 255	102-117	C 3	10.2	58.4	31.4	0.5	0.6	0.2	2.0	6.9	26.9	31.5			--	35.3	TR	TR	--	--
7 256	117-127	2C 4															TR	TR	--	--
7 257	127-150	3C 5															9	TR	9Z	N
7 258	150-211	4C 6															73	8	65Z	N

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	19-2 6E1B	EXT. IRON FE 6C2B	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST 1/3 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 482	EXTENSBLTY LEF 4D1	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
		PERCENT		PERCENT		PCT.	PCT.NO.40		GRAMS PER CC				PERCENT			PERCENT				
7 250	0- 18	4.32	0.326	11		0.3				0.92	1.04	1.00		49.5	19.9	4.2	4.2		8.6	
7 251	18- 30	3.47	0.269	11					1.07			1.00			20.4				8.8	
7 252	30- 46	1.62	0.138	18		0.2				1.23	1.45	1.00		36.5	23.9	5.6	5.6		9.0	
7 253	46- 76	0.67	0.049	9					1.40			1.00			19.5				8.7	
7 254	76-102	0.35	0.040	1					1.40			1.00			14.8				8.0	
7 255	102-117	0.27		1		0.5				1.51	1.77	1.00		27.2	19.5	5.4	5.4		8.4	
7 256	117-127														4.4					
7 257	127-150														1.6					
7 258	150-211														1.8					

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B3A 6N4C	MG 5B3A 6O4C	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT. PCT.	C E C NA-OAC 5A2A	NH4-OAC 5A6A	EC 8A1A	WATER EXTRACT FROM SATURATED PASTE 8A1 CA 6N1B	MG 6O1B	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1A	B 6T1A	PH SAT. PASTE 8C1B
		MEQ/100G						MEQ/100G		MMHO	MEQ/1000 ML								PPM	
7 250	0- 18			0.7	3.7	4.4			29.6	1.30	8.5	2.4	1.4	2.2		2.8	1.6	3.5		7.6
7 251	18- 30			0.9	3.4	4.3			29.1	1.00	6.2	2.6	2.7	1.4		5.3	1.0			7.7
7 252	30- 46			1.4	2.5	3.9			25.4	1.50	3.8	2.5	7.0	0.7		5.3	5.5			7.6
7 253	46- 76			3.3	2.1	5.4			26.8	6.1	20.5	20.0	29.9	0.9		6.8	51.8	39.5		7.2
7 254	76-102			4.0	1.1	5.1			21.4	9.9	30.8	37.2	47.2	1.4		7.7	27.0	70.1		7.2
7 255	102-117			5.6	1.0	6.6			18.9	9.0	25.0	28.8	40.8	0.8		7.0	48.1	58.4		7.3
7 256	117-127																			
7 257	127-150																			
7 258	150-211																			

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGEABLE NA 5B4B MEQ.	NA 5O2 PCT.	SAR 5E	GYPSUM AMT. 6F1A PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY DTA I 7A2E	II 7A2E	III 7A2E	IV 7A2E	7A3 PCT.	L.T. .0002 MM X RAY I 7A2E	II 7A2E	III 7A2E	MINERAL CODE	RELATIVE AMOUNT
7 250	0- 18	70.9	0.6	2	1			MI 3	MT 2	KK 2						MI MICA	1 TRACE
7 251	18- 30	68.2	0.7	2	1											MT MONTMORT	2 SMALL
7 252	30- 46	77.1	0.9	3	4			MI 4	KK 3	MT 2						KK KAOLINIT	3 MODERATE
7 253	46- 76	68.2	1.3	5	7	0.1											4 ABUNDANT
7 254	76-102	60.8	1.1	5	8	0.1											5 DOMINANT
7 255	102-117	66.0	2.9	15	8	0.1		MT 4	MI 3	KK 3							6 INDETER.
7 256	117-127																
7 257	127-150																
7 258	150-211																

SAMPLE PREPARATION CODES
N=NOT DETERMINED.
Z=NOT ALL FRACTIONS SEPERATED. ADJACENT FRACTIONS INCLUDED HERE.

MAGNA SILTY CLAY LOAM

S67Utah-18-12

Location: Salt Lake Soil Survey Area, Utah. Sec. 26, T. 2 S., R. 1 W.; about 2,210 west 1,020 south of the northeast corner. 500 feet southeast of Midvale Sewage Plant. Date of sampling: August 25, 1967.
Description by: J. L. Harvey, M. E. Olsen, L. Woodward. Collectors: B. Brasher, D. Nettleton.
Classification: Typic Calciaquoll, fine, mesic.
Vegetation: Wiregrass, saltgrass. Use: Idle. Climate: Precipitation, 14 inches. Mean annual air temperature, 49°F.; mean summer air temperature, 71°F. Frost-free days, 120-140. Parent material: Mixed alluvium. Topography: Flood plain. Slope, 1 percent. Elevation: 4,300 feet. Drainage: Poorly drained. Runoff is slow; permeability, slow; 48-inch water table.

HORIZON	DESCRIPTION
	(0-18 cm)
A11 RSL 67250	0 to 7 inches, gray (10YR 5/1) silty clay loam, very dark gray (10YR 3/1) moist; moderate fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; many medium and fine roots; moderately calcareous, lime is disseminated; gradual smooth boundary.
A12 RSL 67251 (18-30 cm)	7 to 12 inches, gray (10YR 5/1) light silty clay loam, very dark gray (10YR 3/1) moist; weak medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; many medium and fine roots; moderately calcareous, lime is disseminated; clear wavy boundary.
A13 RSL 67252 (30-46 cm)	12 to 18 inches, gray (10YR 6/1) light silty clay, dark gray (10YR 4/1) moist; weak medium subangular blocky structure; hard, firm, sticky and plastic; many medium and fine roots; strongly calcareous, lime is veined; clear wavy boundary.
C1ca RSL 67253 (46-76 cm)	18 to 30 inches, gray (10YR 6/1) light silty clay, dark gray (10YR 4/1) moist; few fine distinct light yellowish brown (10YR 6/4) mottles; massive; extremely hard, very firm, very sticky and very plastic; strongly calcareous, lime is veined; clear wavy boundary.
C2ca RSL 67254 (76-102 cm)	30 to 40 inches, light brownish gray (2.5Y 6/2) silty clay loam, dark gray (2.5Y 4/1) moist; common fine distinct yellowish brown (10YR 5/8) mottles; massive; extremely hard, firm, sticky and plastic; moderately calcareous, lime is disseminated; gradual wavy boundary.
C3 RSL 67255 (102-117 cm)	40 to 46 inches, light olive gray (5Y 6/2) silty clay loam, gray (5Y 4/1) moist; common medium distinct strong brown (7.5YR 5/6) mottles; massive; very hard, very firm, sticky and plastic; noncalcareous; abrupt wavy boundary.
IIC4 (117-127 cm) RSL 67256	46 to 50 inches, light gray (10YR 7/1) loamy sand, gray (10YR 5/1) moist; single grain; hard, very friable, nonsticky and nonplastic; noncalcareous; abrupt wavy boundary.
IIIC5 RSL (127-150 cm) 67257	50 to 59 inches, coarse sand, brownish yellow (10YR 6/6) and light brownish gray (10YR 6/2) moist; single grain; loose, nonsticky and nonplastic; noncalcareous.
IVC6 RSL 67258 (150-211 cm)	59 to 83 inches, very gravelly loamy sand, brown (7.5YR 4/2) moist; single grain; loose, nonsticky and nonplastic; 50 percent gravel; noncalcareous.

CONSECUTIVE PEDON NUMBER C 68 39 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES SHOWALTER GRAVELLY LOAM SOIL NO. S68 UTAH. 9- 9 SAMPLE NO. 8 216-8 224 PAUNSAUGUNT AREA

SOIL FAMILY: TYPIC ARGIBOROLL LOAMY-SKELETAL,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBO NATE 3A1A.02	INT. II .2-	1A2A COARSE FRAGMENTS PCT. OF WHOLE 20	I 75- 20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														SOIL	PCT. OF LT 75		
8 216	0- 13	A1	47.1	30.6	22.3	1.7	4.8	7.3	18.4	14.9	14.8	15.8				40.0	23A	8	15Z	N
8 217	13- 25	B1	47.1	28.3	24.6	1.0	4.4	8.0	19.0	14.7	14.2	14.1				39.5	12A	2	10Z	N
8 218	25- 43	B21T	50.7	24.0	25.3	0.9	5.4	9.3	21.0	14.1	12.6	11.4				37.9	16A	6	10Z	N
8 219	43- 56	2B22T	49.7	22.4	27.9	1.4	5.8	8.8	20.0	13.7	12.3	10.1				37.1	53*	34	12Z	N
8 220	56- 76	2B23T	56.4	19.9	23.7	4.1	10.2	10.8	20.7	10.6	10.9	9.0				32.1	71*	45	19Z	N
8 221	76- 91	2B3 CA	58.3	21.0	20.7	5.8	10.5	10.8	21.7	9.5	9.0	12.0			5	29.7	78*	45	25Z	N
8 222	91-122	3C 1CA	48.0	30.8	21.2	1.4	5.0	7.0	17.9	16.7	14.4	16.4			6	41.5	20A	8	12Z	N
8 223	122-142	3C 2	64.6	20.5	14.9	2.2	6.0	10.1	30.5	15.8	11.1	9.4			1	43.6	22*	9	6Z	N
8 224	0- 25	A1+B1															13A	--	13Z	TR

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES DI-CIT FE 6C2B	EXT AL 6G7A	PYROP FE 6C5A	EXT AL 6G5A	ATTERBERG LIMIT LL 4F1	PL 4F2	EST. 1/3 BAR 4A1F	BULK DENSITY 1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		PERCENT		PERCENT		PERCENT				PCT.NO.40		GRAMS PER CC				PERCENT			PERCENT	
8 216	0- 13	1.32	0.115			0.8				31	19		1.26	1.38	0.88		21.8	9.5	3.1	2.7
8 217	13- 25	1.15	0.097			0.9							1.33	1.54	0.94		22.5	11.3	5.0	4.7
8 218	25- 43	0.56	0.053			0.9				34	18		1.46	1.66	0.90		22.9	10.9	4.4	3.9
8 219	43- 56	0.49				0.9							1.49	1.72	0.61		23.1	13.0	4.9	2.9
8 220	56- 76	0.42		TR		0.8							1.34	1.52	0.44		26.9	12.1	4.3	1.8
8 221	76- 91			17		0.4							1.32	1.43	0.36		21.9	9.6	2.7	0.9
8 222	91-122			25		0.3							1.24	1.33	0.90		29.2	9.8	2.4	2.1
8 223	122-142			9		0.4				27	23		1.34	1.41	0.87		23.5	8.1	1.7	1.5
8 224	0- 25	1.20										1.30			0.93			9.4		

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6Q2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI-DITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	C E C NH4-OAC 5A6A	BASE SATURATION SUM+ ACI-DITY	SUM+ AL	NH4-OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA-CL2 8C1E
		MEQ/100G									PERCENT					
8 216	0- 13	18.7	2.9	0.2	1.2	23.0	1.6		24.6	22.1	93		100+		7.4	7.0
8 217	13- 25	20.6	2.8	0.3	0.7	24.4	0.8		25.2	24.2	97		100+		7.4	7.0
8 218	25- 43	18.8	3.0	0.2	0.6	22.6	TR		22.6	23.8			95		7.3	7.0
8 219	43- 56	20.7	3.4	0.3	0.6	25.0	1.0		26.0	27.9	96		90		7.5	7.0
8 220	56- 76	25.8	3.9	0.4	0.5	30.6	0.2		30.8	27.6	99		100+		7.7	7.5
8 221	76- 91			0.1	0.5	0.6			0.6	19.1					8.1	7.6
8 222	91-122			0.2	0.5	0.7			0.7	21.7					8.3	7.7
8 223	122-142			0.2	0.4	0.6			0.6	20.8					8.4	7.8
8 224	0- 25															

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY DTA I 7A2E	II 7A2E	III 7A2E	IV 7A2E	7A3 7A3 PERCENT	L.T. 0.0002 MM X RAY I 7A2E	II 7A2E	III 7A2E
8 216	0- 13	MT 2	MI 2	KK 2					
8 217	13- 25								
8 218	25- 43	MT 5	KK 3	MI 2					
8 219	43- 56								
8 220	56- 76								
8 221	76- 91								
8 222	91-122								
8 223	122-142	MT 5	KK 1						
8 224	0- 25								

MINERAL CODE	RELATIVE AMOUNT
MT MONTMORT	1 TRACE
MI MICA	2 SMALL
KK KAOLINIT	3 MODERATE
	4 ABUNDANT
	5 DOMINANT
	6 INDETER.

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
N=NOT DETERMINED.
Z=NOT ALL FRACTIONS SEPERATED. ADJACENT FRACTIONS INCLUDED HERE.
*=THE 75-250MM FRACTION IS INCLUDED.

SHOWALTER GRAVELLY LOAM
S68Utah-9-9

Location: Paunsaugunt Soil Survey Area, Utah, S. W. 1/4 of Sec. 22, T. 35 S., R. 4 W. Tom Best Spring Road, Garfield County, UT. Date of sampling: June 14, 1968.
Described by: R. Mitchell. Collectors: K. Donaldson, A. Erickson, R. Mitchell, V. Mortenson, D. Nettleton.
Classification: Typic Argiboroll, loamy-skeletal, mixed.
Vegetation: Black sagebrush and rabbitbrush (Many areas are reseeded to introduced grasses). Use: Rangeland. Climate: Precipitation, 14 to 16 inches. The mean annual air temperature is 40 to 43°F., and the summer air temperature is 59 to 62°F. Parent material: Mixed volcanic alluvium and some quartzite and chert. Topography: Nearly level concave pediment surface. Slope, 2 percent, south-facing. Elevation: 7,900 feet. Drainage: Well drained. Runoff is medium. Permeability is slow. Soil moisture: Moist.
Remarks: A composite sample (RSL 68224) of the A1 was collected from 20 equally spaced sites along intersecting transects around the sample pit.

HORIZON	DESCRIPTION
	(0-13 cm)
A1 RSL 68216	0 to 5 inches, dark brown (10YR 4/3) gravelly loam, very dark brown (10YR 2/3) when moist; weak medium granular structure that breaks to single grain; soft, friable, slightly sticky and slightly plastic; many medium, fine, very fine and micro roots; common fine, very fine and micro pores; 15 percent subrounded gravel; noneffervescent; neutral (pH 7.5); abrupt smooth boundary.
B1 RSL 68217 (13-25 cm)	5 to 10 inches, same colors as above, heavy loam; weak medium prismatic structure that breaks to weak fine subangular blocky; hard, friable, slightly sticky and slightly plastic; many medium, fine, very fine and micro roots; common fine, very fine and micro pores; thin common clay films on ped faces and in pores; 5 percent each subrounded gravel and cobbles; noneffervescent; neutral (pH 7.0); abrupt smooth boundary.
B21t RSL 68218 (25-43 cm)	10 to 17 inches, brown (7.5YR 4/4) gravelly heavy clay loam, dark reddish brown (5YR 3/4) when moist; moderate medium prismatic structure that breaks to moderate medium subangular blocky; hard, friable, slightly sticky and slightly plastic; common fine and very fine roots; common fine, very fine and micro pores; moderately thick common clay films on ped faces and in pores; organic staining on ped faces; 15 percent subangular to subrounded gravel; noneffervescent; neutral (pH 7.0); gradual wavy boundary.
IIB22t RSL 68219 (43-56 cm)	17 to 22 inches, Yellowish red (5YR 5/6) gravelly light clay, reddish brown (5YR 4/4) when moist; strong medium subangular blocky structure; very hard, firm, sticky and plastic; few fine roots and pores; 30 percent subangular and subrounded gravel and 15 percent subangular and subrounded cobbles; some cobbles are moderately weathered; noneffervescent; neutral (pH 7.0); gradual wavy boundary.
IIB23t RSL 68220 (56-76 cm)	22 to 30 inches, yellowish red and pinkish white (5YR 5/6) and (5YR 8/2) gravelly heavy clay loam, reddish brown (5YR 5/4 and 5YR 7/2) when moist; moderate medium and fine subangular blocky structure; very hard, firm, slightly sticky and slightly plastic; few fine and very fine roots and pores; common moderately thick clay films on ped faces and in pores; 35 percent subangular and subrounded gravel and 10 percent subangular and subrounded cobbles; cobbles have carbonate coating on underneath sides; noneffervescent; mildly alkaline (pH 7.5); clear wavy boundary.
IIB3ca RSL 68221 (76-91 cm)	30 to 36 inches, light yellowish brown (10YR 6/4) mottled with pale yellow (5Y 8/2) very gravelly sandy clay loam, dark brown (7.5YR 4/4) when moist crushed; moderate medium subangular blocky structure; very hard, friable, slightly sticky and slightly plastic; few fine roots; few fine and very fine pores; few thin clay films on some ped faces and in pores; 50 percent subangular and subrounded gravel, 20 percent subangular and subrounded cobbles; cobbles have lime coatings on underneath side; noneffervescent and some violently effervescent in spots; mildly alkaline (pH 7.5); clear wavy boundary.
IIIC1ca RSL 68222 (91-122 cm)	36 to 48 inches, pinkish white (7.5YR 8/2) and brown (7.5YR 5/4) gravelly loam, pink (7.5YR 7/4) and brown (7.5YR 4/4) when moist; moderate medium platy structure; slightly hard, slightly sticky and slightly plastic; very few very fine roots; common fine tubular pores; 20 percent gravel coated with carbonates; 70 percent of this horizon has segregated carbonates with colors of pinkish white when dry; violently effervescent; moderately alkaline (pH 8.0); gradual wavy boundary.
IIIC2 RSL 68223 (122-142 cm)	48 to 56 inches, brown (7.5YR 5/4) gravelly light loam, brown (7.5YR 4/4) when moist; massive; slightly hard, friable, nonsticky and slightly plastic; very few very fine roots; few fine tubular pores; common carbonate fragments with pinkish white (7.5YR 8/2) colors when dry and pink (7.5YR 4/4) when moist; carbonate coatings on bottoms of some coarse fragments; 25 percent gravel and 5 percent cobbles; strongly effervescent; moderately alkaline (pH 8.0).

CONSECUTIVE PEDON NUMBER C 68 40 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES SHOWALTER GRAVELLY LOAM SOIL NO. S68 UTAH. 9-10 SAMPLE NO. 8 225-8 231 PAUNSAUGUNT AREA

SOIL FAMILY: TYPIC ARGIBOROLL LOAMY-SKELETAL,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SIZE, CLASS. AND PARTICLE DIAMETER (MM) 1B1B,3A1 SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	CSI .05- .02	FSI .02- .002	SILTS CO. 2- .2U	CLAYS FINE LT .2U	CARBONATE 3A1A	1A2A INT. II .2- .02	-COARSE FRAGMENTS- PCT. OF WHOLE SOIL I 75- 20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75		
8 225	0- 5	A11	62.2	29.4	8.4	2.6	8.2	12.2	23.2	16.0	15.4	14.0				44.0	12A 4	8Z	N
8 226	5- 15	A12	50.4	33.1	16.5	1.4	5.2	9.2	19.0	15.6	16.1	17.0				42.4	12A 3	9Z	N
8 227	15- 28	B1	54.8	22.7	22.5	1.7	6.9	11.3	19.9	15.0	11.8	10.9				37.7	40* 23	12Z	N
8 228	28- 58	B2T	50.2	21.6	28.2	5.0	11.2	9.2	14.5	10.3	10.2	11.4				28.5	74* 50	20Z	N
8 229	58- 76	B3	83.4	8.9	7.7	20.7	25.4	14.0	17.8	5.5	4.7	4.2				18.8	80* 52	25Z	N
8 230	76-102	C 1	80.4	9.7	9.9	21.7	26.9	13.4	13.4	5.0	5.4	4.3				16.8	87* 63	21Z	N
8 231	102-122	C 2	68.0	14.4	17.6	12.8	15.8	12.8	18.8	7.8	6.9	7.5				24.3	79* 40	32Z	N

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A -PERCENT-	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B -PERCENT-	2-20 6E1B	SESQUIOXIDES DI-CIT EXT FE 6C2B -PERCENT-	AL 6G7A	PYROP EXT FE 6C5A	AL 6G5A	ATTERBERG LIMIT LL 4F1 PCT.	PL 4F2 NO.40	BULK DENSITY EST. 1/3 BAR 4A1F GRAMS PER CC	DRY 4A1F	4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C -PERCENT-	1/3 BAR 4B1G	15 BAR 4B2	EXTNSBLTY LEF 4D1 -PERCENT-	LE 4D1
8 225	0- 5	1.34	0.106			0.9				NP	NP	1.31	1.35	0.94		23.3			1.0	0.9
8 226	5- 15	0.94	0.090			0.9						1.45	1.56	0.93		23.3	7.0		2.5	2.3
8 227	15- 28	0.59	0.059			0.9						1.40	1.53	0.74		24.8	9.8		3.0	2.2
8 228	28- 58	0.57				0.9				40	23	1.27	1.42	0.42		30.6	14.5		3.8	1.5
8 229	58- 76	0.16		TR		0.6						1.23	1.33	0.36		34.7	5.6		2.6	0.9
8 230	76-102			TR		0.7				NP	NP	1.30		0.23			6.6			
8 231	102-122			TR		0.8						1.30		0.35			10.2			

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B3A 6N4C	MG 5B3A 6O4C	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACIDITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4-OAC 5A6A	BASE SATURATION SUM+ ACIDITY	SUM+ AL	NH4-OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA-CL2 8C1E
		MEQ/100G									PERCENT					
8 225	0- 5			TR	0.9	0.9	2.4		3.3	11.2					6.8	6.1
8 226	5- 15			0.1	0.6	0.7	1.4		2.1	15.4					7.0	6.5
8 227	15- 28			0.1	0.6	0.7	2.1		2.8	18.7					6.9	6.6
8 228	28- 58			0.1	0.4	0.5	2.5		3.0	28.0					7.0	6.6
8 229	58- 76			0.4	0.5	0.9	0.8		1.7	14.8					7.5	7.1
8 230	76-102			0.3	0.5	0.8	1.0		1.8	16.6					7.2	6.8
8 231	102-122			0.3	0.6	0.9	0.8		1.7	22.6					7.1	6.6

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE		RELATIVE AMOUNT
8 225	0- 5	MI 2	KK 2								MI	MICA	1 TRACE
8 226	5- 15										KK	KAOLINIT	2 SMALL
8 227	15- 28												3 MODERATE
8 228	28- 58	MT 4	KK 1								MT	MONTMORT	4 ABUNDANT
8 229	58- 76												5 DOMINANT
8 230	76-102	MT 4	KK 1										6 INDETER.
8 231	102-122												

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
N=NOT DETERMINED.
Z=NOT ALL FRACTIONS SEPERATED. ADJACENT FRACTIONS INCLUDED HERE.
*=THE 75-250MM FRACTION IS INCLUDED.

SHOWALTER GRAVELLY LOAM
S68Utah-9-10

Location: Paunsaugunt Soil Survey Area, Utah. 500 feet north and 500 feet west of the S. E. corner of Sec. 28, T. 35 S., R. 4 W., Garfield County, UT. Date of sampling: June 14, 1968.
Description by: R. Mitchell. Collectors: K. Donaldson, A. Erickson, R. Mitchell V. Mortenson, D. Nettleton.
Classification: Typic Argiboroll, loamy-skeletal, mixed.
Vegetation: Black sagebrush, rabbitbrush, and reseeded wheat grasses. Use: Rangeland
Climate: Precipitation, 14 to 16 inches. Mean annual air temperature is 40° to 43°F., and the average summer air temperature is 59° to 62°F. Parent material: Mixed volcanic alluvium and some quartzite and chert. Topography: Nearly level, concave pediment surface. Slope, 1 percent, south-facing. Elevation: 8,000 feet. Drainage: Well drained. Runoff is medium, and permeability is slow. Soil moisture: Moist.

HORIZON	DESCRIPTION
	(0-5 cm)
A11 RSL 68225	0 to 2 inches, brown (10YR 5/3) gravelly light loam, dark brown (10YR 3/3) when moist; weak coarse platy structure that parts to weak fine granular; slightly hard, friable, nonsticky and nonplastic; common fine roots; many fine vesicular pores; 15 percent gravel; noneffervescent; neutral (pH 7.0); abrupt smooth boundary.
A12 RSL 68226 (5-15 cm)	2 to 6 inches, brown (7.5YR 4/2) gravelly loam, dark brown (7.5YR 3/2) when moist; weak fine granular structure; soft, friable, slightly sticky and nonplastic; many fine and very fine roots; common fine interstitial and tubular pores; 15 percent gravel; noneffervescent; mildly alkaline (pH 7.5); clear smooth boundary.
B1 RSL 68227 (15-28 cm)	6 to 11 inches, brown (7.5YR 4/4) gravelly clay loam, dark brown (7.5YR 3/2) when moist; weak medium subangular blocky structure that parts to weak medium granular; slightly hard, friable, slightly sticky and slightly plastic; common very fine and a few fine roots; common fine interstitial and tubular pores; a few thin clay films on ped faces and in pores; 35 percent gravel and 5 percent cobbles; noneffervescent; mildly alkaline (pH 7.5); clear smooth boundary.
B2t RSL 68228 (28-58 cm)	11 to 23 inches, reddish brown (5YR 5/4) gravelly light clay, reddish brown (5YR 4/4) when moist; moderate medium subangular blocky structure; hard, firm, sticky and plastic; common very fine roots; few fine and coarse interstitial pores; many moderately thick clay films in ped faces and in pores; organic staining on some ped faces; 45 percent gravel and 10 percent cobbles; noneffervescent; moderately alkaline (pH 7.8); gradual wavy boundary.
B3 RSL 68229 (58-76 cm)	23 to 30 inches, yellowish brown (10YR 5/4) very gravelly sandy clay loam, dark yellowish brown (10YR 4/4) when moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and nonplastic; few very fine roots; common coarse interstitial pores; few thin clay films in pores; 60 percent gravel and 10 percent cobbles; noneffervescent; moderately alkaline (pH 7.8); diffuse wavy boundary.
C1 RSL 68230 (76-102 cm)	30 to 40 inches, yellowish brown (10YR 5/4) very gravelly loamy coarse sand, dark yellowish brown (10YR 4/4) when moist; massive; loose, nonsticky and nonplastic; very few very fine roots; common coarse interstitial pores; 60 percent gravel and 20 percent cobbles; noneffervescent and very slightly effervescent in spots, moderately alkaline (pH 8.0); diffuse wavy boundary.
C2 RSL 68231 (102-122 cm)	40 to 48 inches, same as the C1 horizon (separated for sampling).

CONSECUTIVE PEDCN NUMBER C 70 55 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES KOLOB SILT LOAM (taxadjunct) SOIL NO. S70 UTAH. 27-10 SAMPLE NO. 0 330-0 335 WASHINGTON CO. AREA

SOIL FAMILY: TYPIC ARGIBOROLL,FINE-LOAMY,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2-.05	SILT .05-.002	CLAY LT .002	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 SANDS VCS 2-1	CS 1-.5	MS .5-.25	FS .25-.10	VFS .1-.05	SILTS CSI .05-.02	FSI .02-.002	CLAYS CO. 2-.2U	FINE LT .2U	CARBONATE 3A1A.02	INT. .2-.02	1A2A COARSE FRAGMENTS PCT. OF WHOLE SOIL I 75-20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75		
0 330	0- 15	A1	27.7	42.3	30.0	0.7	0.7	0.7	10.7	14.9	18.8	23.5	16.3	13.7		42.5	13A 7	5	TR
0 331	15- 25	B1T	28.6	35.4	36.0	0.3	0.2	0.3	10.7	17.1	16.5	18.9	16.0	20.0		43.1	3A --	3	TR
0 332	25- 46	B21T	32.1	36.7	31.2	0.6	0.4	0.5	12.1	18.5	17.2	19.5	16.9	14.3		46.0	25A 10	12	2
0 333	46- 71	B22T	26.1	43.8	30.1	2.1	0.5	0.5	8.5	14.5	19.0	24.8				40.6	53A 20	28	5
0 334	71- 99	B23T	28.9	42.9	28.2	2.8	0.8	0.6	9.2	15.5	19.4	23.5				42.6	49A 16	26	6
0 335	99-132	B24T	9.2	60.2	30.6	--	--	0.2	2.3	6.7	15.8	44.4	21.7	8.9	2	24.2	41A 9	26	7

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES DI-CIT EXT FE 6C2B	AL 6G7A	PYROP EXT FE 6C5A	AL 6G5A	ATTERBERG LL 4F1	PL 4F2	BULK DENSITY 1/3 BAR 4A1F	DRY 4A1F	CM 4A1H	3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		PERCENT		PERCENT		PERCENT				PCT.NO.40		GRAMS PER CC				PERCENT			PERCENT	
0 330	0- 15	5.12	0.318			1.3	0.2					0.91	1.04	0.95		27.8	26.0	6.8	4.6	4.3
0 331	15- 25	1.65	0.132			1.1	0.1					1.17	1.38	0.98		27.2	25.1	16.5	5.7	5.6
0 332	25- 46	0.77	0.068	1		1.1	0.1					1.40	1.62	0.85		28.7	25.4	13.6	5.0	4.2
0 333	46- 71	0.85		4		1.3	0.1					1.28	1.43	0.65		26.3	23.5	12.4	3.8	2.4
0 334	71- 99	0.78		8		1.2	0.1					1.36	1.43	0.67		24.5	23.0	12.3	1.7	1.1
0 335	99-132	0.35		8		1.5	0.1					1.31	1.43	0.74		29.5	26.5	12.0	3.0	2.2

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6Q2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACIDITY 6H2A	KCL EXT. AL 6G1E	CEC SUM 5A3A	NH4-OAC 5A6A	BASE SATURATION SUM+ ACIDITY	SUM+ AL	NH4-OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CACL2 8C1E
		MEQ/100G									PERCENT					
0 330	0- 15	35.6	1.5	0.4	1.3	38.8			38.8	38.6			100+		7.1	6.7
0 331	15- 25	27.2	1.3	0.2	1.3	30.0			30.0	29.8			100+		7.4	7.1
0 332	25- 46	27.7	1.1	0.3	1.0	30.1			30.1	24.6			100+		7.8	7.4
0 333	46- 71	27.0	0.9	0.3	1.0	29.2			29.2	21.9			100+		7.9	7.5
0 334	71- 99	30.5	0.8	0.2	0.9	32.4			32.4	22.5			100+		7.9	7.4
0 335	99-132	32.2	0.7	0.2	0.8	33.9			33.9	21.6			100+		7.9	7.5

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE		RELATIVE AMOUNT
0 330	0- 15	MI 4	KK 2					MI 5			MI	MICA	1 TRACE
0 331	15- 25							MI 4	MT 2	KK 1	KK	KAOLINIT	2 SMALL
0 332	25- 46	MI 4	MT 2	KK 2				MI 4	MT 2				3 MODERATE
0 333	46- 71										MT	MONTMORT	4 ABUNDANT
0 334	71- 99	MI 4	KK 2	MT 1									5 DOMINANT
0 335	99-132							MI 4	MT 3	KK 2			6 INDETER.

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.

KOLOB SILT LOAM (taxadjunct) 1/
S70Utah-27-10

Location: Washington County, UT. 1 mile east of Lava Point in Zion National Park. In S. W. 1/4 of the S. E. 1/4, Sec. 30, T. 39 S., R. 10 W. Date of sampling:
Description by: Vear L. Mortensen. Collectors: D. Nettleton, V. Mortensen, T. B. Hutchings, and party.
Classification: Typic Argiboroll, fine-loamy, mixed.
Vegetation: Gambel oak, snowberry, yarrow, tall native bluegrass. Climate: Mean annual temperature, 45° to 50°F.; mean summer temperature, 65 to 70°F.; average annual precipitation, 16 to 18 inches; frost-free season, 90 to 120 days. Parent material: Residuum from limestone. Topography: Steep mountain slopes. Elevation: 7,200 feet. Drainage: Well drained. Soil moisture: Usually moist.

HORIZON:	DESCRIPTION
01	11-8 cm (4 1/2-3 inches), oak leaves and twigs (not sampled).
A2	8-0 cm (3 inches to 0), decayed leaves and twigs (not sampled).
A1 RSL No. 70330	0-15 cm (0-6 inches), dark brown (7.5YR 3/2) heavy silt loam, dark reddish brown (5YR 2/2) moist; moderate medium granular structure; hard, friable, sticky, plastic; many fine, few medium and coarse roots; mildly alkaline; (pH 7.6); clear smooth boundary.
B1t RSL No. 70331	15-25 cm (6-10 inches), dark brown (7.5YR 4/2) clay loam, dark brown (7.5YR 3/2) moist; moderate medium subangular blocky structure; very hard, very firm, sticky, plastic; few fine medium and coarse roots; common very fine and fine, few medium interstitial pores; few thin clay films in pores; mildly alkaline (pH 7.8); clear smooth boundary.
B21t RSL No 70332	25-46 cm (10-18 inches), reddish brown (5YR 5/3) heavy clay loam, dark reddish brown (5YR 3/3) moist; strong medium subangular blocky structure; extremely hard, extremely firm, very sticky, very plastic; few fine medium and large roots; common very fine and fine few medium tubular pores; common moderately thick clay films on faces of peds; 15 percent gravel; mildly alkaline (pH 7.6) gradual wavy boundary.
B22t RSL No. 70333	46-71 cm (18-28 inches), reddish brown (5YR 5/4) gravelly heavy clay loam, reddish brown (5YR 4/3) moist; moderate medium subangular blocky structure; very hard, very firm, very sticky, very plastic; few fine medium and coarse roots; common very fine and fine, few medium interstitial pores; common thin clay films on faces of peds; 40 percent gravel; mildly alkaline (pH 7.8); clear wavy boundary.
B23t RSL No 70334	71-99 cm (28-39 inches), reddish brown (5YR 5/4) very gravelly clay loam, dark brown (7.5YR 3/4) moist; moderate fine subangular blocky structure; very hard, firm, very sticky, very plastic; few fine medium and large roots; common very fine, few fine interstitial pores; common thin clay films on faces of peds; 70 percent gravel and cobble; moderately alkaline; (pH 8.0); clear, smooth boundary.
B24t RSL No. 70335	99-132 cm (39-52 inches), brown (7.5YR 5/4) very gravelly clay loam dark brown (7.5YR 4/4) moist; moderate fine subangular blocky structure; hard, firm, sticky, plastic; few fine roots; few very fine and fine pores; few thin clay films in pores; 70 percent gravel and cobble; moderately alkaline (pH 8.0).
R	132 cm (52 inches), fractured limestone bedrock with clay loam similar to the above horizon extending into cracks.

1/ The Kolob series is in a clayey-skeletal, montmorillonitic family of Typic Argiborolls. This pedon has less clay and a mixed mineralogy.

CONSECUTIVE PEDON NUMBER C 69187 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES DALCAN EXTREMELY STONY LOAM (TAXADJUNCT) SOIL NO. S69 UTAH. 27-11 SAMPLE NO. 9 958-9 961 WASHINGTON CO AREA

SOIL FAMILY: PACHIC ARGIBOROLL,LOAMY-SKELETAL,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	CSI .05- .02	FSI .02- .002	CO. 2- .2U	FINE LT .2U	CARBONATE 3A1A.02	1A2A INT. -COARSE FRAGMENTS- II .2- OF WHOLE SOIL 75- 20 PCT.	I 20-5 PCT.	II 5-2 OF LT 75	III
			PERCENT OF LESS THAN 2MM																
9 958	0- 10	A1	46.7	34.7	18.6	2.4	2.9	2.2	20.8	18.4	17.1	17.6				51.6	27*	—	9	2
9 959	10- 23	B1 T	45.0	34.1	20.9	0.6	1.4	1.6	20.4	21.0	17.6	16.5				55.0	35*	—	3	1
9 960	23- 41	B21T	40.3	33.5	26.2	0.5	1.1	1.3	17.9	19.5	17.1	16.4				51.0	51*	—	12	2
9 961	41- 69	B22T	32.1	28.3	39.6	1.9	2.9	1.9	12.7	12.7	12.6	15.7				35.3	57*	--	22	3

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A -PERCENT-	NITROGEN 6B1A	CARBONATE AS CACO3 6E1B -PERCENT- LT 2	2-20 6E1B	SESQUIOXIDES CI-CIT EXT FE 6C2B	AL 6G7A	PYROP EXT FE 6C5A	AL 6G5A	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST. 1/3 BAR 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
						PERCENT				PCT.NO.40		GRAMS PER CC				PERCENT			PERCENT	
9 958	0- 10	1.25	0.100			1.9	0.1						1.29	1.37	0.85	26.8	22.1	7.5	2.0	1.7
9 959	10- 23	1.17	0.101			2.2	0.2					1.37			0.78			9.0		
9 960	23- 41	1.09	0.088			2.3	0.2						1.37	1.55	0.65	27.4	22.5	11.6	4.2	2.6
9 961	41- 69	0.90	0.082			3.0	0.2					1.37			0.60			17.4		

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACIDITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	C E C NH4-OAC 5A6A	BASE SATURATION SUM+ ACIDITY	SUM+ AL	NH4-OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA-CL2 8C1E
		MEQ/100G									PERCENT					
9 958	0- 10	11.8	3.5	0.1	0.3	15.7	3.5		19.2	17.1	82		92		6.4	5.9
9 959	10- 23	14.0	4.5	0.1	0.3	18.9	3.5		22.4	20.7	84		91		6.4	6.0
9 960	23- 41	15.4	5.7	0.2	0.3	21.6	4.1		25.7	23.8	84		91		6.4	6.0
9 961	41- 69	20.3	8.4	0.5	0.3	29.5	4.6		34.1	33.2	87		89		6.3	6.1

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
9 958	0- 10	MI 3									MI MICA	1 TRACE
9 959	10- 23											2 SMALL
9 960	23- 41	MI 3										3 MODERATE
9 961	41- 69											4 ABUNDANT
												5 DOMINANT
												6 INDETER.

SAMPLE PREPARATION CODES
*=THE 75-250MM FRACTION IS INCLUDED.

DALCAN EXTREMELY STONY LOAM (taxadjunct) 1/
S69 Utah 27-11

Location: Washington County, UT. Lower Kolob - Zion National Park, approximately 400 feet north of the south 1/4 corner of Sec. 26, T. 39 S., R. 11 W. Date of sampling: October 20-23, 1969.
Description by. Vear Mortensen. Collected by: K. Flach, M. Olsen, V. Mortensen, and party.
Classification: Pachic Argiboroll, loamy-skeletal, mixed.
Vegetation: Black sage, scrub oak, ponderosa pine, serviceberry, cheatgrass, bluegrass.
Climate: Mean annual air temperature, 45°F.; average annual precipitation, 16 to 18 inches; frost-free period, 90 to 110 days. Parent material: Basalt.
Topography: Lava flow. Elevation: 76,700 feet. Drainage: Well drained, slow permeability, medium runoff.

HORIZON	DESCRIPTION
A1 0-10 cm RSL No. 69958	0 to 4 inches, dark brown (7.5YR 4/3) cobbly heavy loam, very dark brown (7.5YR 2/2) moist; weak very thick platy structure; soft, friable, slightly sticky and slightly plastic; few medium and fine and common very fine roots; few fine and very fine, and many micro vesicular pores; 40 percent cobble and stone; neutral (pH 6.6); clear smooth boundary.
B1t 10-23 cm RSL No. 69959	4 to 9 inches, dark brown (7.5YR 3/3) cobbly silty clay loam, very dark brown (7.5YR 2/2) moist; moderate fine prismatic structure that parts to moderate fine subangular blocky; hard, firm, sticky and plastic; few medium, fine and very fine roots; many very fine and micro tubular pores; 40 percent cobble and stone; clay films on ped faces; neutral (pH 6.6); clear wavy boundary.
B21t 23-41 cm RSL No. 69960	9 to 16 inches, dark brown (7.5YR 3/3) very cobbly heavy clay loam, dark brown (7.5YR 3/2) moist; moderate fine prismatic structure that parts to moderate fine angular blocky; very hard, very firm, sticky and very plastic; few fine and very fine roots; many very fine and micro tubular pores; 55 percent cobble and stone; clay slickensides on ped faces; neutral (pH 6.7); gradual wavy boundary.
B22t 41-69 cm RSL No. 69961	16 to 27 inches, dark brown (7.5YR 4/4) crushed (7.5YR 3/2 ped exteriors) very cobbly clay, dark brown (7.5YR 3/2) moist; strong medium and fine prismatic structure that breaks to moderate medium and fine angular blocky; extremely hard, extremely firm, very sticky and very plastic; few very fine roots; many micro tubular pores; 65 percent cobble and stone; clay slickensides on ped faces; neutral (pH 6.8); abrupt wavy boundary.
R 69 cm	27 inches, basalt bedrock, fractured.

1/ The Dalcan series is in a clayey-skeletal, montmorillonitic family of Pachic Argiborolls. This pedon has a control section with less than 35 percent clay.

CONSECUTIVE PEDON NUMBER C 69186 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES DALCAN EXTREMELY STONY LOAM SOIL NO. S69 UTAH. 27-10 SAMPLE NO. 9 952-9 957 WASHINGTON CO AREA

SOIL FAMILY: PACHIC ARGIBOROLL,CLAYEY-SKELETAL,MONT. RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2-.05	SILT .05-.002	CLAY LT .002	SIZE, CLASS AND PARTICLE DIAMETER (MM) 181B,3A1 SANDS VCS 2-1	CS 1-.5	MS .5-.25	FS .25-.10	VFS .1-.05	SILTS CSI .05-.02	FSI .02-.002	CLAYS CC. 2-.2U	FINE LT .2U	CARBONATE 3A1A	INT. II .2-.02	1A2A COARSE FRAGMENTS PCT. OF WHOLE SOIL I 75-20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75		
9 952	0- 13	A1	41.5	39.5	19.0	1.3	2.0	3.4	19.7	15.1	20.7	18.8				49.5	10A --	7	3
9 953	13- 23	B1 T	36.1	37.9	26.0	0.7	1.7	3.2	16.9	13.6	16.8	21.1				41.8	39* 3	3	3
9 954	23- 36	B21T	34.9	33.2	31.9	1.9	2.7	3.4	15.3	11.6	13.6	19.6				35.3	37* --	3	1
9 955	36- 53	B22T	10.5	22.2	67.3	0.3	0.9	1.1	4.3	3.9	4.4	17.8				11.0	42* --	5	TR
9 956	53- 74	C	33.3	34.0	32.7	6.9	7.4	4.1	8.9	6.0	8.5	25.5				19.3	69* 31V	5	4
9 957	74- 0	R															-- --	--	--

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES DI-CIT EXT FE 6C2B	AL 6G7A	PYROP EXT FE 6C5A	AL 6G5A	ATTERBERG LL 4F1	PL 4F2	1/3 BAR 4A1F	BULK DENSITY EST. 1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		PERCENT		PERCENT		PERCENT				PCT.NO.40			GRAMS PER CC			PERCENT			PERCENT	
9 952	0- 13	1.83	0.115			1.6	0.1						1.30	1.36	0.95	30.8	28.4	8.3	1.5	1.4
9 953	13- 23	1.47	0.112			2.0	0.1						1.31	1.41	0.76	25.9	21.0	10.7	2.5	1.9
9 954	23- 36	1.13	0.088			2.9	0.2						1.22	1.40	0.78	29.9	27.3	15.1	4.7	3.6
9 955	36- 53	0.74	0.060			2.8	0.3						1.04	1.78	0.78	58.1	52.5	32.3	19.6	14.0
9 956	53- 74	0.45				2.5	0.2						0.90	1.29	0.57	71.9	64.6	25.1	12.7	6.5
9 957	74- 0																			

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI-DITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4-OAC 5A6A	BASE SATURATION SUM+ ACI-DITY	SUM+ AL	NH4-OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA-CL2 8C1E
		MEQ/100G									PERCENT					
9 952	0- 13	13.3	3.7	0.1	0.6	17.7	4.5		22.2	19.1	80		93		6.5	6.1
9 953	13- 23	15.0	4.7	0.4	0.4	20.5	5.1		25.6	21.7	80		94		6.3	5.8
9 954	23- 36	16.5	6.3	0.4	0.4	23.6	6.4		30.0	28.0	79		84		6.1	5.7
9 955	36- 53	33.1	17.7	0.7	0.5	52.0	5.7		57.7	50.6	90		100+		6.0	5.9
9 956	53- 74	28.1	14.8	1.2	0.3	44.4	4.7		49.1	45.8	90		97		5.8	5.8
9 957	74- 0															

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
9 952	0- 13	MI 2									MI MICA	1 TRACE
9 953	13- 23	MI 3	KK 1								KK KAOLINIT	2 SMALL
9 954	23- 36	MI 3	KK 1									3 MODERATE
9 955	36- 53										MT MONTMORT	4 ABUNDANT
9 956	53- 74	MT 3										5 DOMINANT
9 957	74- 0											6 INDETER.

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
*=THE 75-250MM FRACTION IS INCLUDED.
V=NOT WEIGHED. VALUE CALCULATED FROM A VOLUME ESTIMATE.

DALCAN EXTREMELY STONY LOAM

S69 Utah 27-10

Location: Washington County, UT. 1/2 mile west of Lava Point, about 1,650 feet south of the northeast corner of Sec. 24, T. 39 S., R. 11 W. Date of sampling: Oct. 1969.
Description by: Vear Mortensen. Collected by: K. Flach, M. Olsen, V. Mortensen, and party.
Classification: Pachic Argiboroll, clayey-skeletal, montmorillonitic.
Vegetation: Ponderosa pine, white fir, sagebrush, snowberry, bluegrass. Climate: Mean annual air temperature, 43°F.; average annual precipitation, 16 to 18 inches; frost-free period, 9 to 110 days. Parent materials: Basalt. Topography: Old lava flow. Elevation: 7,900 feet. Drainage: Well drained, slow permeability, medium runoff.

HORIZON	DESCRIPTION
A1 0-13 cm RSL No. 69952	0 to 5 inches, dark brown (7.5YR 3/2) very cobbly loam, very dark brown (7.5YR 2/2) moist; moderate medium granular structure; slightly hard, friable, sticky and plastic; common fine and few medium roots; common very fine and fine pores; 50 percent cobble and stone; slightly acid (pH 6.4); clear smooth boundary.
B1t 13-23 cm RSL No. 69953	5 to 9 inches, dark brown (7.5YR 3/2) cobbly clay loam; dark reddish brown (5YR 3/2) moist; moderate fine subangular blocky structure; hard, firm, sticky and plastic; few fine and medium roots; common very fine and fine pores; 40 percent cobble and stone: slightly acid (pH 6.4); abrupt smooth boundary.
B21t 23-36 cm RSL No. 69954	9 to 14 inches, reddish brown (5YR 4/3) cobbly clay; dark reddish brown (5YR 3/3) moist; moderate medium prismatic structure that parts to strong coarse subangular blocky; extremely hard, extremely firm, very sticky and very plastic; few fine, medium and large roots; few very fine and fine pores; many thick clay films on ped faces; 40 percent cobble and stone; neutral (pH 6.6); clear smooth boundary.
B22t 36-53 cm RSL No. 69955	14 to 21 inches, reddish brown (5YR 5/3) very cobbly clay; reddish brown (5YR 4/3) moist; strong coarse prismatic structure that parts to strong coarse subangular blocky; extremely hard, extremely firm; very sticky and very plastic; 60 percent cobble and stone; neutral (pH 6.8); clear wavy boundary.
C 53-74 cm RSL No. 69956	21 to 29 inches, reddish brown (5YR 5/3) very cobbly clay; reddish brown (5YR 4/3) moist; weak medium prismatic structure; extremely hard, extremely firm, very sticky and very plastic; neutral (pH 6.8); clear wavy boundary.
R 74 cm RSL No. 69957	29 inches, basalt bedrock.

CONSECUTIVE PEDON NUMBER C 69188 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES DETRA (08) FINE SANDY LOAM SOIL NO. S69 UTAH. 27-12 SAMPLE NO. 9 962-9 967 WASHINGTON CO AREA

SOIL FAMILY: PACHIC ARGIBOROLL,FINE-LOAMY,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CC. 2- .2U	FINE LT .2U	CARBO NATE 3A1A.02	INT. II .2-	COARSE FRAGMENTS PCT. CF WHOLE SOIL	I 75- 20 PCT. OF LT 75	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM																	
9 962	0- 8	A11	54.7	32.1	13.2	0.8	0.8	2.4	29.8	20.9	18.7	13.4				62.0	--A	--	--	--
9 963	8- 20	A12	54.7	28.5	16.8	0.3	0.3	1.1	29.5	23.5	18.0	10.5				65.5	--A	--	--	--
9 964	20- 35	B1 T	53.9	27.0	19.1	0.2	0.2	1.0	28.4	24.1	16.7	10.3				64.4	--A	--	--	--
9 965	35- 70	B21T	53.1	29.1	17.8	0.2	0.1	0.8	28.2	23.8	19.6	9.5				67.0	--A	--	--	--
9 966	70-112	B22T	44.7	26.4	28.9	0.1	0.1	0.6	22.5	21.4	15.6	10.8				55.6	--A	--	--	--
9 967	112+	R	53.4	32.6	14.0	--	0.3	0.7	27.4	25.0	18.9	13.7				66.1	--A	--	--	--

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITRO GEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES DI-CIT FE 6C2B	EXT AL 6G7A	PYROP FE 6C5A	EXT AL 6G5A	ATTERBERG L I M I T LL 4F1	PL 4F2	EST. 1/3 BAR 4A1F	BULK DENSITY 1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		-PERCENT-		-PERCENT-		PERCENT				PCT.NO.40		GRAMS PER CC				PERCENT			-PERCENT-	
9 962	0- 8	2.76	0.189			0.4	0.1						1.25	1.33	1.00	26.3	21.2	7.5	2.1	2.1
9 963	8- 20	1.35	0.120			0.7	0.1						1.32	1.42	1.00	16.9	14.3	6.8	2.5	2.5
9 964	20- 35	1.10	0.086			0.7	0.1						1.43	1.56	1.00	17.3	14.8	7.2	2.9	2.9
9 965	35- 70	0.64	0.064			0.8	0.1						1.52	1.66	1.00	16.5	13.8	7.0	3.0	3.0
9 966	70-112	0.36				1.1	0.1						1.62	1.86	1.00	22.5	20.4	10.7	4.7	4.7
9 967	112+	1.38				0.7	0.1					1.28			1.00			5.7		

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI-DITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4-DAC 5A6A	BASE SATURATION SUM+ ACI-DITY	SUM+ AL	NH4-CAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA-CL2 8C1E
		MEQ/100G									PERCENT					
9 962	0- 8	13.2	1.9	0.1	0.9	16.1	3.2		19.3	17.4	83		93		6.3	5.9
9 963	8- 20	11.9	1.9	0.1	1.0	14.9	1.6		16.5	16.1	90		93		6.6	6.2
9 964	20- 35	11.9	1.6	0.1	0.8	14.4	0.8		15.2	15.2	95		95		6.6	6.2
9 965	35- 70	10.6	1.0	0.1	0.5	12.2	0.4		12.6	14.0	97		87		6.7	6.3
9 966	70-112	16.2	1.2	0.1	0.5	18.0	TR		18.0	17.1	100+		100+		6.9	6.6
9 967	112+	15.1	1.6	0.1	0.9	17.7	0.8		18.5	13.2	96		100+		7.0	6.8

CLAY MINERALOGY

SAMPLE NO	DEPTH CM.	LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
9 962	0- 8	MI 3	KK 2								MI MICA	1 TRACE
9 963	8- 20	MI 3	KK 2								KK KAOLINIT	2 SMALL
9 964	20- 35											3 MODERATE
9 965	35- 70	MI 3	KK 2									4 ABUNDANT
9 966	70-112											5 DOMINANT
9 967	112+	MI 3	KK 2									6 INDETER.

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.

DETRA (C8) FINE SANDY LOAM
S69 Utah 27-12

Location: Washington County, UT. South of deer exclosure on cable mountain road. Date of Sampling: October 20-23, 1969.
Description by: Vear Mortensen. Collectors: K. Flach, M. Olsen, V. Mortensen, and party.
Classification: Pachic Argiboroll, fine-loamy, mixed.
Vegetation: Big sagebrush, squaw-apple, oak, pinyon. Climate: Mean annual air temperature, 47°F.; average annual precipitation, 16 to 18 inches; frost-free period, 90 to 110 days. Parent material: Limestone and sandstone. Topography: Mountain slope. Elevation: 2,128 feet. Drainage: Well drained, moderate permeability, slow runoff,

HORIZON	DESCRIPTION
A11 0-8 cm RSL No. 69962	0 to 3 inches, dark brown (7.5YR 3/2) very fine sandy loam; very dark brown (10YR 2/2) moist; moderate medium granular structure; soft, friable, slightly sticky and slightly plastic; many fine and common medium roots; many fine vesicular pores; mildly alkaline (pH 7.6); clear smooth boundary.
A12 8-20 cm RSL No. 69963	3 to 8 inches, dark brown (7.5YR 3/2) fine sandy loam; very dark brown (10YR 2/2) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many fine and common medium roots; many fine vesicular pores; mildly alkaline (pH 7.6); clear smooth boundary.
B1t 20-35 cm RSL No. 69964	8 to 14 inches, dark brown (7.5YR 3/2) light sandy clay loam, very dark brown (7.5YR 2/2) moist; moderate medium subangular blocky structure; hard, firm, sticky and plastic; common fine, few medium roots; common fine, few medium pores; mildly alkaline (pH 7.8); clear smooth boundary.
B21t 35-70 cm RSL No. 69965	14 to 28 inches, dark brown or brown (7.5YR 4/2) light sandy clay loam, dark brown (7.5YR 3/2) moist; moderate coarse prismatic structure; very hard, firm, sticky and plastic; common fine roots; common fine few medium pores; few thin clay films on peds; mildly alkaline (pH 7.8); clear wavy boundary.
B22t 70 - 112 cm RSL No. 69966	28 to 44 inches, yellowish red (5YR 4/6) clay, yellowish red (5YR 4/6) moist; strong coarse prismatic structure that parts to moderate blocky; extremely hard, extremely firm, very sticky and very plastic; common fine roots; few fine pores; few slickensides on ped surfaces; moderately alkaline (pH 8.0); abrupt irregular boundary.
R 112 cm RSL No. 69967	44 inches, limestone bedrock with clay extending into cracks.

CONSECUTIVE PEDON NUMBER C 68 35 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES GUBEN GRAVELLY LOAM SOIL NO. S68 UTAH. 9- 1 SAMPLE NO. 8 187-8 194 PAUNSAUGUNT AREA

SOIL FAMILY: TYPIC CALCIBOROLL LOAMY-SKELETAL,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	CSI .05- .02	FSI .02- .002	SILTS CO. 2- .2U	CLAYS FINE LT .2U	CARBONATE 3A1A	1A2A INT. II .2- .02	COARSE FRAGMENTS PCT. OF WHOLE SOIL I 75- 20	PCT. OF LT 75 II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM																
8 187	0- 3	A11	61.3	24.5	14.2	3.7	9.7	14.0	20.8	13.1	14.0	10.5				37.7	26A	9	17Z N
8 188	3- 10	A12	58.0	26.3	15.7	3.4	8.8	12.0	20.1	13.7	13.8	12.5				38.1	19A	5	14Z N
8 189	10- 25	B1	55.0	26.6	18.4	2.6	8.6	11.7	19.1	13.0	12.4	14.2				35.4	14A	2	12Z N
8 190	25- 36	B2	54.6	23.2	22.2	1.6	8.4	12.6	19.3	12.7	11.3	11.9			3	34.1	36*	21	9Z N
8 191	36- 56	B3 CA	46.0	26.1	27.9	1.8	7.0	9.7	16.6	10.9	10.9	15.2			15	30.9	55*	20	11Z TR
8 192	56-102	C 1CA	54.3	23.7	22.0	8.8	13.7	9.7	13.8	8.3	8.9	14.8			16	24.6	58*	31	19Z N
8 193	102-112	C 2CA	69.3	18.3	12.4	10.9	14.3	14.3	20.9	8.9	7.3	11.0			7	26.7	68*	23	39Z N
8 194	112-137	C 3	80.9	11.5	7.6	8.2	16.6	19.8	28.1	8.2	5.2	6.3				26.6	74*	34	34Z N

SAMPLE NO.	DEPTH CM.	ORG. MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES DI-CIT FE 6C2B	EXT AL 6G7A	PYROP FE 6C5A	EXT AL 6G5A	ATTERBERG LL 4F1	PL 4F2	1/3 4A1F	BULK DENSITY EST. 1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		PERCENT		PERCENT		PERCENT				PCT. NO.40 GRAMS PER CC						PERCENT			PERCENT	
8 187	0- 3	2.17	0.176	1						30	24		1.16	1.29	0.86		28.6	8.7	3.6	3.1
8 188	3- 10	1.36	0.125	2									1.17	1.27	0.91		30.2	8.0	2.8	2.5
8 189	10- 25	1.10	0.114	4									1.13	1.22	0.93		26.4	9.1	2.6	2.4
8 190	25- 36	0.68	0.068	8						33	19		1.28	1.37	0.79		23.6	10.5	2.3	1.8
8 191	36- 56	0.84		37									0.99	1.01	0.68		40.7	13.7	0.7	0.4
8 192	56-102	0.63		51									1.26	1.27	0.61		27.4	13.9	0.3	0.2
8 193	102-112	0.44		38									1.11	1.12	0.53		30.6	10.1	0.3	0.2
8 194	112-137	0.12		7						NP	NP	1.25			0.42			6.0		

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B3A 6N4C	MG 5B3A 6O4C	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACIDITY 6H2A	KCL EXT. AL 6G1E	SUM 5A3A	NH4-OAC 5A6A	BASE SATURATION SUM+ ACIDITY	SUM+ AL	NH4-OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA-CL2 8C1E
		MEQ/100G									PERCENT					
8 187	0- 3			TR	1.5	1.5	0.2		1.7	19.3					7.5	7.3
8 188	3- 10			0.1	1.0	1.1			1.1	19.2					7.9	7.6
8 189	10- 25			0.1	0.5	0.6			0.6	19.8					8.0	7.5
8 190	25- 36			0.1	0.2	0.3			0.3	19.0					7.9	7.6
8 191	36- 56			0.1	0.2	0.3			0.3	15.0					8.0	7.7
8 192	56-102			0.1	0.1	0.2			0.2	11.0					8.1	7.7
8 193	102-112			0.3	0.1	0.4			0.4	12.0					8.3	7.8
8 194	112-137			0.4	0.1	0.5			0.5	14.8					8.2	7.7

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III
8 187	0- 3	MT 4	KK 3	MI 2						
8 188	3- 10	MT 4	MI 2	KK 2						
8 189	10- 25									
8 190	25- 36	MT 5	KK 2							
8 191	36- 56									
8 192	56-102									
8 193	102-112									
8 194	112-137	MT 4								

MINERAL CODE
MT MONTMORT
KK KAOLINIT
MI MICA

RELATIVE AMOUNT
1 TRACE
2 SMALL
3 MODERATE
4 ABUNDANT
5 DOMINANT
6 INDETER.

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
N=NOT DETERMINED.
Z=NOT ALL FRACTIONS SEPERATED. ADJACENT FRACTIONS INCLUDED HERE.
*=THE 75-250MM FRACTION IS INCLUDED.

GUBEN GRAVELLY LOAM
S68Utah-9-1

Location: Paunsaugunt Soil Survey Area, Utah. S. E. 1/4 of Sec. 21, T. 35 S., R. 4 W., Tom Best Spring Road, Garfield County, UT. Date of sampling: June 10, 1968.
Description by: R. Mitchell. Collectors: A. Erickson, R. Mitchell, D. Nettleton, A. Southard, L. Stott.
Classification: Typic Calciboroll, loamy-skeletal, mixed.
Vegetation: Black Sagebrush, rabbitbrush and reseeded wheatgrass. Use: Rangeland. Climate: Precipitation, 14 to 16 inches. Mean annual air temperature is 40 to 43°F., and the mean summer air temperature is 59 to 62°F. Parent material: Mixed volcanic alluvium and some quartzite and chert. Topography: Nearly level to convex pediment surface. Slope, 2 percent, east-facing. Elevation: 8,000 feet. Drainage: Well drained. Runoff is medium. Permeability is moderate. Soil moisture: Moist.

HORIZON	DESCRIPTION
A11 RSL 68187	(0-3 cm) 0 to 1 inch, grayish brown (10YR 5/2) gravelly loam, very dark grayish brown (10YR 3/2) when moist; weak fine granular structure; soft, friable, slightly sticky and slightly plastic; common fine roots; common fine interstitial pores; 30 percent gravel; slightly effervescent; neutral (pH 7.0); abrupt smooth boundary.
A12 RSL 68188	(3-10 cm) 1 to 4 inches, brown (10YR 4/3) gravelly loam, dark brown (10YR 3/3) when moist, crushed; weak medium platy structure that parts to weak very fine granular; soft, very friable, nonsticky and nonplastic; many very fine and fine roots; few very fine pores; 30 percent gravel; slightly effervescent; neutral (pH 7.0); clear smooth boundary.
B1 RSL 68189	(10-25 cm) 4 to 10 inches, brown (10YR 4/3) gravelly heavy loam, dark brown (10YR 3/3) when moist crushed; weak medium and coarse subangular blocky structure that breaks to weak fine subangular blocky; slightly hard, friable, slightly sticky and slightly plastic; very fine and fine roots; few very fine pores; common thin clay films as bridging; 30 percent gravel; slightly effervescent; neutral (pH 7.0); clear smooth boundary.
B2 RSL 68190	(25-36 cm) 10 to 14 inches, brown (10YR 5/3) gravelly light sandy clay loam dark brown (10YR 4/3) when moist, crushed; weak coarse and medium subangular blocky structure that breaks to weak fine subangular blocky; common very fine and fine roots; few very fine pores; few thin clay films in pores; 30 percent gravel and 5 percent cobbles; violently effervescent; mildly alkaline (pH 7.5); gradual wavy boundary.
B3ca RSL 68191	(36-56 cm) 14 to 22 inches, grayish brown and light gray (10YR 5/2 and 7/2) very gravelly sandy clay loam, dark grayish brown (10YR 4/2) when moist, crushed; weak medium angular and subangular blocky structure that breaks to weak fine subangular blocky; slightly hard, friable, slightly sticky and slightly plastic; common fine and very fine roots; few very fine pores; few thin clay films as bridges; 50 percent gravel and 20 percent cobbles; violently effervescent; mildly alkaline (pH 7.5); gradual wavy boundary.
C1ca RSL 68192	(56-102 cm) 22 to 40 inches, light gray (10YR 7/2) very cobbly sandy clay loam, brown (10YR 5/3) when moist, crushed; massive; loose, friable, nonsticky and nonplastic; few fine roots; 10 percent cobbles and 50 percent gravel; violently effervescent; moderately alkaline (pH 7.7); clear smooth boundary.
C2ca RSL 68193	(102-112 cm) 40 to 44 inches, white (10YR 8/2) very gravelly light loam, light gray (10YR 7/2) when moist; weak to moderate fine platy structure; intermittently laminar and weakly to strongly cemented; slightly sticky and slightly plastic; few fine roots; in fractures; few fine tubular pores; 50 percent gravel and 10 percent cobbles; violently effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.
C3 RSL 68194	(112-137 cm) 44 to 54 inches, light gray (10YR 7/2) very gravelly sandy loam, grayish brown (10YR 5/2) when moist; single grain; loose, nonsticky and nonplastic; few very fine roots; common medium and large interstitial pores; 50 percent gravel and 15 percent cobbles; strongly effervescent; moderately alkaline.

CONSECUTIVE PEDON NUMBER C 68 36 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES GUBEN GRAVELLY LOAM SOIL NO. S68 UTAH. 9- 2 SAMPLE NO. 8 195-8 200 PAUNSAUGUNT AREA

SOIL FAMILY: TYPIC CALCIBCROLL LOAMY-SKELETAL,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	CSI .05- .02	FSI .02- .002	CO. 2- .2U	FINE LT .2U	CARBO NATE 3A1A	1A2A INT. II .2- .02	-COARSE FRAGMENTS- PCT. GF WHOLE SOIL	I 75- 20 PCT.	II 20-5 OF	III 5-2 LT 75
			PERCENT OF LESS THAN 2MM																	
8 195	0- 8	A1	53.7	30.5	15.8	2.4	5.5	8.6	19.2	17.6	17.2	13.3				45.6	37A	11	26Z	N
8 196	8- 23	B1	52.5	26.9	20.6	3.1	7.9	9.7	18.1	13.7	13.8	13.1				36.9	23A	5	18Z	N
8 197	23- 43	B2	44.6	28.6	26.8	2.0	5.6	7.8	16.3	12.9	13.1	15.5			10	35.2	45*	18	17Z	N
8 198	43- 61	C 1CA	47.3	26.0	26.7	5.4	10.5	9.1	14.7	7.6	9.4	16.6			16	24.3	65*	23	37Z	N
8 199	61- 81	C 2CA	58.1	17.6	24.3	10.6	16.7	12.8	13.4	4.6	6.5	11.1			13	17.0	70*	45	23Z	N
8 200	81-107	C 3	71.8	11.8	16.4	11.9	18.2	18.4	18.2	5.1	4.6	7.2			4	16.7	80*	45	32Z	N

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR- BON 6A1A -PERCENT-	NITRO GEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B -PERCENT-	2-20 6E1B	SESQUIOXIDES FE DI-CIT 6C2B	AL EXT 6G7A	FE PYROP 6C5A	AL EXT 6G5A	ATTERBERG L I M I T LL 4F1	PL 4F2	EST. 1/3 BAR 4A1F	1/3 BAR 4A1F	DRY 4A1H	BULK DENSITY 3B2	CM	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
						PERCENT				PCT.NO.40		GRAMS PER CC					PERCENT			PERCENT	
8 195	0- 8	1.51	0.131	TR								1.16			0.80				7.6		
8 196	8- 23	1.52	0.146	5								1.13			0.89				10.3		
8 197	23- 43	1.09	0.105	25								1.28			0.71				13.9		
8 198	43- 61	0.88		46								1.26			0.53				14.8		
8 199	61- 81	0.64		38								1.11			0.51				11.4		
8 200	81-107	0.20		23								1.25			0.34				6.7		

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 583A 6N4C	MG 583A 6O4C	NA 584A 6P2A	K 584A 6Q2A	SUM	EXT. ACI- DITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4- OAC 5A6A	BASE SATURATION SUM+ ACI- DITY	SUM+ AL	NH4- OAC 5C1	NAF 2 MIN 8C1D	PH H2O 1/1 8C1A	CA- CL2 8C1E
		MEQ/100G									PERCENT					
8 195	0- 8			0.1	0.1	0.2			0.2	18.5					7.6	7.3
8 196	8- 23			0.1	0.4	0.5			0.5	21.8					7.7	7.5
8 197	23- 43			0.1	0.2	0.3			0.3	17.3					8.0	7.7
8 198	43- 61			0.1	0.1	0.2			0.2	13.0					8.0	7.7
8 199	61- 81			0.1	0.2	0.3			0.3	12.5					8.1	7.7
8 200	81-107			0.1	0.2	0.3			0.3	11.5					8.2	7.8

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
8 195	0- 8											1 TRACE
8 196	8- 23											2 SMALL
8 197	23- 43											3 MODERATE
8 198	43- 61											4 ABUNDANT
8 199	61- 81											5 DOMINANT
8 200	81-107											6 INDETER.

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
N=NOT DETERMINED.
Z=NOT ALL FRACTIONS SEPERATED. ADJACENT FRACTIONS INCLUDED HERE.
*=THE 75-250MM FRACTION IS INCLUDED.

GUBEN GRAVELLY LOAM
S68Utah-9-2

Location: Paunsaugunt Soil Survey Area. 200 feet S. and 300 feet W. of the N. E. corner of Sec. 33, T. 35, S., R. 4 W., Garfield County, UT. Date of sampling: June 10, 1968.
Description by: R. Mitchell. Collectors: A. Erickson, R. Mitchell, D. Nettleton, A. Southard, L. Stott.
Classification: Typic Calciboroll, loamy-skeletal, mixed.
Vegetation: Black sagebrush, rabbitbrush and reseeded wheatgrass. Use: Rangeland. Climate: Precipitation, 14 to 16 inches. Mean annual air temperature is 40 to 43°F. and the mean summer air temperature, 59 to 62°F. Parent material: Mixed volcanic alluvium and some quartzite and chert. Topography: Nearly level to convex pediment surface. Slope, 2 percent, east-facing. Elevation: 8,000 feet. Drainage: Well drained. Runoff is medium. Permeability is moderate. Soil moisture: Moist.

HORIZON	DESCRIPTION
A1 RSL 68195	(0-8 cm) 0 to 3 inches, brown (10YR 5/3) gravelly light loam, dark brown (10YR 3/3) when moist; moderate very fine granular structure; soft, friable, nonsticky and nonplastic; common fine roots; many very fine interstitial pores; 20 percent gravel; very slightly effervescent; mildly alkaline (pH 7.5); clear smooth boundary.
B1 RLS 68196	(8-23 cm) 3 to 9 inches, dark grayish brown (10YR 4/2) gravelly loam, dark brown (10YR 3/3) when moist; weak medium subangular blocky structure that breaks to weak fine granular; soft, friable, slightly sticky and slightly plastic; fine and very fine roots; common fine interstitial and a few tubular pores; 20 percent gravel; slightly effervescent; moderately alkaline (pH 8.0); gradual wavy boundary.
B2 RSL 68197	(23-43 cm) 9 to 17 inches, grayish brown (10YR 5/2) gravelly heavy loam, dark grayish brown (10YR 4/2) when moist; weak fine and medium subangular blocky structure; slightly hard, friable; slightly sticky and slightly plastic; common very fine roots; few fine and medium interstitial and tubular pores; few thin clay films in pores and on ped faces; strongly effervescent; moderately alkaline (pH 8.0); clear wavy boundary.
C1ca RSL 68198	(43-61 cm) 17 to 24 inches, pinkish white (7.5YR 8/2) with few medium distinct yellowish red (5YR 5/6) mottles; very gravelly loam, pinkish gray (7.5YR 7/2) and yellowish red (5YR 4/6) when moist, weak coarse platy structure; intermittently weakly cemented, slightly sticky and nonplastic; few fine and very fine roots; few fine and medium interstitial pores; 50 percent gravel and 10 percent cobbles; coarse fragments are coated with carbonates; violently effervescent; moderately alkaline (pH 8.2); clear wavy boundary.
C2ca RSL 68199	(61-81 cm) 24 to 32 inches, pinkish white (7.5YR 8/2) with common large distinct yellowish red (5YR 5/6) mottles, very gravelly sandy loam, pinkish gray (7.5YR 7/2) and yellowish red (5YR 4/6) when moist; massive; soft, friable; nonsticky and nonplastic; few very fine roots; few fine and medium interstitial pores; coarse fragments are coated with carbonates; 50 percent gravel and 5 percent cobbles; violently effervescent; moderately alkaline (pH 8.2); clear wavy boundary.
C3 RSL 68200	(81-107 cm) 32 to 42 inches, pale brown (10YR 6/3) and pinkish white (2.5YR 8/2), very gravelly sandy loam, brown (10YR 5/3) and pinkish gray (7.5YR 7/2) when moist; massive; slightly hard, friable; nonsticky and nonplastic; few very fine roots; few fine and medium pores; 55 percent gravel and 10 percent cobbles; violently effervescent; moderately alkaline (pH 8.2).

CONSECUTIVE PEDCN NUMBER C 68 37 C H A R A C T E R I Z A T I C N D A T A

SOIL SERIES PAHREAH GRAVELLY LOAM SOIL NO. S68 UTAH. 13- 3 SAMPLE NO. 8 201-8 206 PAUNSAUGUNT AREA

SCIL FAMILY: TYPIC CRYOBORCLL LOAMY-SKELETAL,CARBONATIC,SHLW RIVERSIDE SCIL SURVEY LABCRATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SANC 2- .05	SILT .05- .002	CLAY LT .002	VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	CSI .05- .02	FSI .02- .002	CO. 2- .2U	FINE LT .2U	CARBO NATE 3A1A	INT. II .2- .02	1A2A -COARSE FRAGMENTS- PCT. OF WHOLE 20 I 75- 20-5	II 5-2	III
			----------PERCENT OF LESS THAN 2MM----------														SOIL --A	PCT. OF LT 75 --	--
8 201	3- 0	C1+02																	
8 202	0- 5	A1	24.7	53.9	21.4	1.9	1.1	0.9	7.9	12.9	25.0	28.9				43.8	48A	-- 48Z	N
8 203	5- 23	B2	24.7	47.6	27.7	1.5	1.5	0.8	7.2	13.7	20.7	26.9				39.6	74*	44 28Z	N
8 204	23- 38	C 1CA	29.9	44.1	26.0	3.6	3.7	2.4	8.7	11.5	16.6	27.5			3	33.9	78A	49 29Z	N
8 205	38- 58	C 2CA	30.5	42.0	27.5	4.2	4.5	2.7	8.7	10.4	15.9	26.1			8	32.0	74A	43 31Z	N
8 206	58- 76	R															7A	— 7Z	TR

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR- BCN 6A1A -PERCENT-	NITRO GEN 681A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	----SESCUIOXIDES---- DI-CIT FE 6C2B	EXT AL 6G7A	PYROP FE 6C5A	EXT AL 6G5A	ATTERBERG L I M I T LL 4F1	PL 4F2	EST. 1/3 BAR 4A1F	1/3 BAR 4A1F	BULK DENSITY DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 481C	15 BAR 482	EXTNSBLTY LEF 4D1	LE 4D1
				-PERCENT-		------PERCENT-------				PCT.NO.40		GRAMS PER CC				----PERCENT---			-PERCENT-	
8 201	3- 0											0.40		1.00			69.3			
8 202	0- 5	3.87	0.205	4		1.6				39	30	1.16		0.71			11.9			
8 203	5- 23	2.27	0.131	8		1.6				39	26	1.20		0.44			12.6			
8 204	23- 38	3.29	0.186	25		1.2						1.26		0.36			14.5			
8 205	38- 58	3.20	0.205	38		1.0						1.11		0.45			15.5			
8 206	58- 76			78		0.3						1.20		0.97						

SAMPLE NO.	DEPTH CM.	--EXTRACTABLE BASES---- CA 583A 6N4C	MG 583A 6D4C	NA 584A 6P2A	K 584A 6Q2A	SUM	EXT. ACI- DITY 6H2A	KCL EXT. AL 6G1E	--C E C-- SUM 5A3A	NH4- OAC 5A6A	BASE SATURATION SUM+ ACI- DITY	SUM+ AL	NH4- OAC 5C1	-----PH------ NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA- CL2 8C1E
		----------MEQ/100G----------									----PERCENT----					
8 201	3- 0															
8 202	0- 5			0.1	1.3	1.4	2.5		3.9	30.1					7.7	7.3
8 203	5- 23			0.1	1.1	1.2	0.6		1.8	27.7					7.8	7.5
8 204	23- 38			TR	0.7	0.7	TR		0.8	26.1					7.9	7.6
8 205	38- 58			0.1	0.6	0.7	TR		0.7	25.4					8.0	7.6
8 206	58- 76						TR		TR	7.9					7.9	7.6

SAMPLE NO	DEPTH CM.	----------C L A Y M I N E R A L O G Y---------- -----LESS THAN 0.002 MM------ L.T. 0.0002 MM MINERAL -------X RAY------- ---DTA--- -----X RAY---- CODE									RELATIVE AMOUNT
		7A2E I	7A2E II	7A2E III	7A2E IV	7A3 -PERCENT-	7A3	7A2E I	7A2E II	7A2E III	
8 201	3- 0										1 TRACE
8 202	0- 5	KK	4 MI	3 MT	2					KK KACLINIT	2 SMALL
8 203	5- 23	KK	4 MI	3 MT	2					MI MICA	3 MODERATE
8 204	23- 38									MT MONTMORT	4 ABUNDANT
8 205	38- 58										5 DCMINANT
8 206	58- 76										6 INDETER.

SAMPLE PREPARATICN CODES
A=STANCARC PREPARATION.
N=NCT DETERMINED.
Z=NCT ALL FRACTICNS SEPERATEC. ACJACENT FRACTIONS INCLUDED HERE.
*=THE 75-250MM FRACTION IS INCLUDED.

PAHREAH GRAVELLY LOAM
S68Utah-13-3

Location: Paunsaugunt Soil Survey Area, Utah, 100 feet W. of the center of Sec. 31, T. 39 S., R. 4 W., northwest of Cougar Hollow deer exclosure. Date of sampling: June 12, 1968.
Description by: R. Mitchell. Collectors: J. Carley, G. Crandall, A. Erickson, R. Mitchell, D. Nettleton, A. Southard, L. Stott.
Classification: Typic Cryoboroll, loamy-skeletal, carbonatic, shallow.
Vegetation: White fir, Douglas-fir, ponderosa pine, Oregon-grape, snowberry, vetch, locoweed, Kentucky bluegrass, and prairie junegrass. Use: Timber, rangeland, and wildlife. Climate: Precipitation, 20 to 25 inches. The mean annual air temperature is 37 to 44°F., and the average summer air temperature is 54 to 59°F. Parent material: Limestone. Topography: Very steep side slope of a mesa. Slope, 38 percent, east-facing. Elevation: 8,600 feet. Drainage: Well drained. Surface runoff is medium to rapid. Permeability is moderate to moderately rapid to bedrock and slow below.

HORIZON	DESCRIPTION
	(3-0 cm)
01&02	1 inch to 0, conifer duff and needles.
RSL 68201	(0-5 cm)
A1 RSL 68202	0 to 2 inches, brown (7.5YR 4/4) gravelly loam, dark brown (7.5YR 3/2) when moist; weak very fine granular structure; soft, very friable, nonsticky and nonplastic; few fine roots; common very fine interstitial pores; 15 percent gravel and 3 percent cobbles; very slightly effervescent; mildly alkaline (pH 7.5); clear smooth boundary.
B2 RSL 68203 (5-23 cm)	2 to 9 inches, reddish brown, (5YR 5/4) gravelly light clay loam, reddish brown (5YR 4/4) when moist; weak medium subangular blocky structure that breaks to weak fine granular; slightly hard, friable, slightly sticky and slightly plastic; few thin clay films on ped faces; 20 percent gravel and 15 percent cobbles; slightly effervescent, moderately alkaline (pH 8.0); gradual wavy boundary.
C1ca RSL 68204 (23-38 cm)	9 to 15 inches, brown (7.5YR 5/2) gravelly loam, dark brown (7.5YR 3/2) when moist; massive; soft, very friable, nonsticky and nonplastic; many fine, medium and coarse roots; common fine and coarse interstitial pores; 40 percent gravel and 10 percent cobbles; violently effervescent; moderately alkaline (pH 8.0); abrupt wavy boundary.
C2ca RSL 68205 (38-58 cm)	15 to 23 inches, brown (7.5YR 5/2) gravelly light loam, dark brown (7.5YR 3/2) when moist; massive; soft, friable, nonsticky and nonplastic; many fine, medium, and coarse roots; common fine and coarse interstitial pores; 40 percent gravel and 15 percent cobbles; violently effervescent; moderately alkaline (pH 8.0); abrupt wavy boundary.
R RSL 68206 (58-76 cm)	23 to 30 inches, pink (5YR 8/4) and 5YR 8/3) slightly weathered fractured limestone that breaks to a silt loam in spots, reddish yellow (5YR 7/6) and pink (5YR 7/4) when moist; massive; extremely hard, extremely firm, nonsticky and nonplastic; very few fine and medium roots; in fractures; 90 percent coarse fragments of limestone; slightly and violently effervescent in spots; moderately alkaline (pH 8.0).

CONSECUTIVE PEDCN NUMBER C 68 38 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES PAHREAH GRAVELLY LOAM SOIL NO. S68 UTAH. 13- 4 SAMPLE NO. 8 207-8 215 PAUNSAUGUNT AREA

SOIL FAMILY: TYPIC CRYOBORCLL LCAMY-SKELETAL,CARBONATIC,SHLW RIVERSIDE SOIL SURVEY LABCRATORY

SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 1A2A

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SANC 2- .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBO NATE 3A1A	INT. II .2- .02	COARSE FRAGMENTS PCT. OF WHOLE SOIL	I 75- 20 PCT.	II 20-5 OF LT 75	III 5-2
			PERCENT OF LESS THAN 2MM																	
8 207	4- 0	01															--A	--	--	--
8 208	0- 2	A1															--A	--	--	--
8 209	2- 13	B2	27.5	50.3	22.2	4.0	2.9	1.1	6.2	13.3	20.0	30.3				37.9	52A	6	46Z	N
8 210	13- 23	B3	29.2	46.1	24.7	4.7	4.7	2.2	7.4	10.2	14.9	31.2			7	30.0	62A	31	31Z	N
8 211	23- 30	C 1CA	24.1	47.7	28.2	3.6	5.6	2.8	5.9	6.2	11.2	36.5			15	21.0	52A	14	38Z	N
8 212	30- 432C	2CA	25.0	48.1	26.9	5.4	9.3	4.2	3.8	2.3	5.0	43.1			21	9.2	63A	12	51Z	TR
8 213	43- 662C	3CA	35.9	47.7	16.4	10.1	13.1	5.1	4.8	2.8	3.6	44.1			15	8.8	65A	15	50Z	N
8 214	66- 972C	4CA	81.4	14.1	4.5	32.8	23.6	8.6	11.2	5.2	4.3	9.8			4	15.1	71*	--G	--G	--G
8 215	97-109	R															--G	--G	--G	--G

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR- BON 6A1A -PERCENT-	NITRC GEN 681A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES DI-CIT EXT FE 6C2B	PYROP EXT AL 6G7A	FE 6C5A	AL 6G5A	ATTERBERG L I M I T LL 4F1	PL 4F2	EST. 1/3 BAR 4A1F	BULK DENSITY 1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 481C	1/3 BAR 481C	15 BAR 482	EXTNSBLTY LEF 4D1	LE 4D1
		-PERCENT-		-PERCENT-		PERCENT				PCT.NO.40		GRAMS PER CC				-PERCENT-			-PERCENT-	
8 207	3- 0											0.40			1.00					
8 208	0- 0														1.00					
8 209	0- 13	3.43	0.153	15		1.0				44	33		0.73	0.78	0.77	34.0	13.4	2.2	1.7	
8 210	13- 23	3.24	0.184	40		0.7				56	40		0.84	0.89	0.66	33.0	15.7	1.9	1.3	
8 211	23- 30	4.55	0.234	58		0.5							0.70	0.73	0.78	44.0	19.2	1.4	1.1	
8 212	30- 43	3.78	0.167	84		0.2							1.04	1.07	0.60	30.4	15.4	1.0	1.0	
8 213	43- 66	0.18		97		0.1							1.23	1.24	0.54	34.2	2.9	0.3	0.1	
8 214	66- 97			100+		0.1							2.52	2.52	0.30	2.9	2.6			
8 215	97-109			100+		TR						2.20			1.00					

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 583A 6N4C	MG 583A 6D4C	NA 584A 6P2A	K 584A 6Q2A	SUM	EXT. ACI- DITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4- OAC 5A6A	BASE SATURATION SUM+ ACI- DITY	SUM+ AL	NH4- OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA- CL2 8C1E
		MEQ/100G									PERCENT					
8 207	3- 0															
8 208	0- 0															
8 209	0- 13			0.1	0.6	0.7		403.8	0.7	30.7					7.9	7.6
8 210	13- 23			0.1	0.5	0.6		264.9	0.6	24.6					8.0	7.7
8 211	23- 30			0.1	0.3	0.4		185.1	0.4	28.4					7.9	7.7
8 212	30- 43			TR	0.2	0.2	1.6	65.3	1.8	22.2					8.0	7.7
8 213	43- 66			0.1	TR	0.1		56.9	0.1	1.5					8.6	7.9
8 214	66- 97			0.1	TR	0.1		54.6	0.1	0.6					9.1	8.1
8 215	97-109							18.1		1.0					9.1	8.0

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E 1	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
8 207	3- 0											1 TRACE
8 208	0- 0										KK KAOLINIT	2 SMALL
8 209	0- 13	KK	4	MT	3	MI	1				MT MONTMORT	3 MCCERATE
8 210	13- 23	KK	4	MT	3	MI	1				MI MICA	4 ABUNDANT
8 211	23- 30											5 DCMINANT
8 212	30- 43											6 INDETER.
8 213	43- 66											
8 214	66- 97											
8 215	97-109											

SAMPLE PREPARATICN CODES
A=STANCARD PREPARATION.
N=NCT DETERMINED.
Z=NOT ALL FRACTIONS SEPERATED. ACJACENT FRACTIONS INCLUDED HERE.
*=THE 75-250MM FRACTICN IS INCLUDED.
G=GROUND WHCLE. HORIZCN INDURATED OR GRAVEL TOO SOFT TO BE SEPARATED. ALL DATA FOR WHOLE SOIL.

PAHREAH GRAVELLY LOAM
S68Utah-13-4

Location: Paunsaugunt Soil Survey Area, Utah, N. E. 1/4 of Sec. 25, T. 38 S., R. 4 1/4 W., Coyote Hollow, Kane County. Date of sampling: June 12, 1968.
Description by: R. Mitchell. Collectors: J. Carley, G. Crandall, A. Erickson, R. Mitchell D. Nettleton, A. Southard, L. Stott.
Classification: Typic Cryoboroll, loamy-skeletal, carbonatic, shallow.
Vegetation: Ponderosa pine, white fir, Douglas-fir, limber pine, manzanita, creeping juniper, Oregon-grape, and grasses. Use: Timber, rangeland, and wildlife. Climate: Precipitation, 20 to 25 inches. Mean annual air temperature is 37 to 44°F., and the average summer air temperature is 54 to 59°F. Parent material: Limestone.
Topography: Steep colluvial side slope of a mesa. Slope, 40 percent, east-facing.
Elevation: 8,600 feet. Drainage: Well drained. Surface runoff is medium to rapid. Permeability is moderate to moderately rapid to bedrock and slow below. Soil moisture: Moist.

HORIZON	DESCRIPTION
01 RSL 68207	(4-0 cm) 1½ inches to 0, conifer duff, needles, and twigs.
A1 RSL 68208	(0-2 cm) 0 to ½ inch, brown (7.5YR 5/4) gravelly loam, dark brown (10YR 3/3) when moist, crushed; weak very fine granular structure; soft, very friable, nonsticky, slightly plastic; common very fine and fine roots; common very fine pores, 40 percent fine to medium gravel; noneffervescent; mildly alkaline (pH 7.6); clear smooth boundary.
B2 RSL 68209	(2-13 cm) ½ to 5 inches, light brown (7.5YR 6/4) gravelly loam, dark brown (7.5YR 3/3) when moist, crushed; weak medium subangular blocky structure that breaks to weak very fine granular; soft, friable, nonsticky and slightly plastic; common very fine, fine medium and a few coarse roots; few fine pores; few thin clay films in pores; 40 percent fine gravel; strongly effervescent; mildly alkaline (pH 8.0); abrupt wavy boundary.
B3 RSL 68210	(13-23 cm) 5 to 9 inches, brown (7.5YR 4/4) gravelly loam, dark brown (7.5YR 3/4) when moist; weak medium subangular blocky structure that breaks to weak very fine granular; soft, friable, nonsticky and slightly plastic; common very fine, fine, medium, and a few coarse roots; few fine pores; few thin clay films in pores; 40 percent fine gravel; strongly effervescent; mildly alkaline (pH 8.0); abrupt wavy boundary.
C1ca RSL 68211	(23-30 cm) 9 to 12 inches, grayish brown (10YR 5/2) gravelly loam, dark grayish brown (10YR 4/2) when moist, crushed; massive; loose, very friable, nonsticky, nonplastic; many micro and very fine roots; common fine pores; 35 percent fine gravel; violently effervescent; mildly alkaline (pH 8.0); abrupt wavy boundary.
IIC2ca RSL 68212	(30-43 cm) 12 to 17 inches, pinkish white (7.5YR 8/2) very gravelly loam, light brown (7.5YR 6/4) when moist; massive; very hard, firm, nonsticky and slightly plastic; few fine and medium roots in fractures; few fine and coarse interstitial pores; intermittently weakly cemented; reprecipitated carbonates on the bottoms of gravel; 70 percent gravel; violently effervescent; moderately alkaline (pH 8.0); abrupt wavy boundary.
IIC3ca RSL 68213	(43-66 cm) 17 to 26 inches, pink (5YR 7/3) and pinkish white (5YR 8/2) very gravelly loam, light red (2.5YR 6/6) and pink (5YR 7/3) when moist; massive; slightly hard, firm, nonsticky and slightly plastic; few fine, medium and coarse roots; in fractures; few fine tubular pores; very weakly to weakly cemented; reprecipitated carbonates in the bottoms of gravel; 60 percent fine and 20 percent medium gravel; violently effervescent; moderately alkaline (pH 8.2); gradual wavy boundary.
IIC4ca RSL 68214	(66-97 cm) 26 to 38 inches, pinkish white (7.5YR 8/2) very cobbly loam, pinkish gray (7.5YR 7/2) when moist; massive; slightly hard, firm, to friable, nonsticky and nonplastic; few fine and a few coarse roots in fractures; coarse root channels with very dark brown (10YR 2/2) when moist, loam; 70 percent cobbles and 20 percent gravel; violently effervescent, moderately alkaline (pH 8.0); abrupt wavy boundary.
R RSL 68215	38 to 43 inches, fractured limestone. (97-109 cm)

CONSECUTIVE PEDON NUMBER C 71 39 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES TINGEY STONY SILT LOAM SOIL NO. S71 UTAH. 20- 5 SAMPLE NO. 1 250-1 255 SANPETE AREA

SOIL FAMILY: ARGIC CRYOBOROLL,FINE-LOAMY,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CO. 2- .2U	CLAYS FINE LT .2U	CARBONATE 3A1A.02	1A2A INT. II .2-	COARSE FRAGMENTS PCT. OF WHOLE SOIL	I 75- 20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75			
1 250	0- 5	A1	46.3	34.7	19.0	2.0	2.2	4.5	17.7	19.9	17.8	16.9	12.8	6.2		48.7	10A	1	5	4
1 251	5- 22	A3	43.3	32.3	24.4	0.7	1.7	3.7	15.0	22.2	17.0	15.3				48.9	14A	4	7	4
1 252	22- 60	B2 T	37.5	31.1	31.4	1.1	2.0	3.0	11.9	19.5	15.4	15.7	17.9	13.5		42.7	22*	4	3	TR
1 253	60- 90	B31T	37.5	32.3	30.2	0.5	1.2	3.0	12.6	20.0	17.0	15.3				44.9	38*	22	2	4
1 254	90-125	B32T	39.4	34.9	25.7	0.4	1.0	3.0	13.5	21.5	19.1	15.8				49.4	30*	8	5	4
1 255	125-170	C	40.7	33.8	25.5	0.5	1.5	3.4	13.3	22.0	18.2	15.6	13.8	11.7		48.5	35*	15	5	3

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A -PERCENT-	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B -PERCENT-	2-20 6E1B	SESQUIOXIDES CITRATE FE 6C2B -PERCENT-	EXT AL 6G7A	PYROP FE 6C5A	EXT AL 6G5A	ATTERBERG LIMIT LL 4F1 PCT.NO.40	PL 4F2	BULK DENSITY EST. 1/3 BAR 4A1F GRAMS PER CC	DRY 4A1F	4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C -PERCENT-	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1 -PERCENT-	LE 4D1
1 250	0- 5	5.11	0.305	TR		0.8	0.1					1.07	1.13	0.96		16.7	13.9	11.6	1.8	1.8
1 251	5- 22	1.76	0.122			0.8	0.1					1.37	1.43	0.92		14.2	12.1	9.4	1.4	1.3
1 252	22- 60	1.11	0.083			0.9	0.1					1.49	1.60	0.86		15.8	14.6	10.4	2.4	2.1
1 253	66- 90	0.72	0.057			0.9	0.1					1.56	1.66	0.74		16.7	14.6	9.7	2.1	1.5
1 254	90-125	0.48				0.8	0.1					1.47	1.57	0.81		17.4	15.0	8.7	2.2	1.8
1 255	125-170	0.51		1		0.9	0.1					1.48	1.59	0.77		19.6	16.6	8.9	2.4	1.8

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 584A 6N2E	MG 584A 6O2D	NA 584A 6P2A	K 584A 6Q2A	SUM	EXT. ACIDITY 6H2A	KCL EXT. AL 6G1E	CEC SUM 5A3A	NH4-OAC 5A6A	BASE SATURATION SUM+ ACIDITY	SUM+ AL	NH4-OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CACL2 8C1E
		MEQ/100G									PERCENT					
1 250	0- 5	24.0	5.6	0.2	1.3	31.1	3.5		34.6	25.7	90		100+		7.0	6.7
1 251	5- 22	14.8	3.7	0.1	1.2	19.8	1.5		21.3	15.7	93		100+		7.2	6.8
1 252	22- 60	14.4	3.8	0.2	1.4	19.8	1.3		21.1	14.7	94		100+		7.7	7.2
1 253	66- 90	14.0	3.6	0.1	0.8	18.5	0.3		18.8	13.0	98		100+		7.9	7.2
1 254	90-125	12.7	2.9	0.1	0.5	16.2	TR		16.2	11.3			100+		7.8	7.2
1 255	125-170	10.6	2.8	0.1	0.4	13.9	TR		13.9	10.4			100+		8.0	7.5

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
1 250	0- 5	MI 3	KK 3	MT 1				MI 4	KK 1		MI MICA	1 TRACE
1 251	5- 22										KK KAOLINIT	2 SMALL
1 252	22- 60	KK 4	MI 3	MT 1							MT MONTMORT	3 MODERATE
1 253	66- 90											4 ABUNDANT
1 254	90-125											5 DOMINANT
1 255	125-170	KK 5	MI 3	MT 1				MI 4	KK 2			6 INDETER.

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
*=THE 75-250MM FRACTION IS INCLUDED.

TINGEY STONY SILT LOAM
S71Utah-20-5

Location: Sanpete County, UT; Pleasant Creek. Date of sampling: June 29, 1971.
Description by: J. Swenson. Collectors: D. Nettleton, M. Olsen, E. Tuttle, J. Shiozaki.
Classification: Argic Cryoboroll, fine-loamy, mixed.
Vegetation: Gambel oak, birchleaf mountainmahogany. Climate: Mean annual temperature is about 43° F. Mean summer temperature is about 58° F. Average annual precipitation is about 25 inches; frost-free period is about 85 days. Parent material: Alluvium from sandstone. Topography: Mountain slopes, south-facing, 60 percent slopes. Elevation: 7,430 feet. Drainage: Well drained. Soil moisture: Usually moist.

HORIZON	DESCRIPTION
A1 RSL No. 71250	0-5 cm (0-2 inches), dark brown (10YR 4/3) stony loam, very dark grayish brown (10YR 3/2) moist; weak medium, granular structure; slightly hard, friable, slightly sticky, slightly plastic; few fine roots; common fine pores; 5 percent of surface covered by stone; slightly acid (pH 6.4); clear smooth boundary.
A3 RSL No. 71251	5-22 cm (2-9 inches), dark brown (10YR 4/3) loam, dark brown (10YR 3/3) moist; moderate medium subangular structure; hard, friable, slightly sticky, plastic; few fine roots; common fine and very fine pores; slightly acid (pH 6.4); clear smooth boundary.
B2t RSL No. 71252	22-60 cm (9-23½ inches), pale brown (10YR 6/3) stony clay loam, dark brown (10YR 4/3) moist; strong medium angular blocky structure; very hard, firm, sticky, plastic; few fine, medium and coarse roots; few fine pores; common, thin clay films; 20 percent stones and gravel; slightly acid (pH 6.4); gradual smooth boundary.
B31t RSL No 71253	60-90 cm (24-36 inches), pale brown (10YR 6/3) stony clay loam, yellowish brown (10YR 5/4) moist; moderate medium angular blocky structure; very hard, firm, sticky, plastic; few fine medium and coarse roots; few fine pores; 25 percent stones and gravel; slightly acid (pH 6.2); clear smooth boundary.
B32t RSL No. 71254	90-125 cm (36-49 inches), pale brown (10YR 6/3) stony loam, dark brown (10YR 4/3) moist; moderate, medium subangular blocky structure; very hard, firm, sticky plastic; few fine and coarse roots; few fine pores; 25 percent stones and gravel; slightly calcareous, lime is disseminated; mildly alkaline (pH 7.6); gradual wavy boundary.
C RSL No. 71255	125-170 cm (49-67 inches), pale brown (10YR6/3) stony loam, brown (10YR 5/3) moist; massive; hard, friable, slightly sticky, plastic; few fine roots; few fine pores; 25 percent stone and gravel; moderately calcareous, lime is disseminated and in veins; mildly alkaline (pH 7.6).

CONSECUTIVE PEDON NUMBER C 68 33 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES CALLINGS LOAM SOIL NO. S68 UTAH. 9- 7 SAMPLE NO. 8 172-8 179 PAUNSAUGUNT AREA

SOIL FAMILY: BORALFIC CRYOBOROLL LOAMY-SKELETAL,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	CSI .05- .02	FSI .02- .002	CO. 2- .2U	FINE LT .2U	CARBO NATE 3A1A.02	1A2A INT. II .2-	COARSE FRAGMENTS PCT. OF WHOLE SOIL 12A	I 75- 12A	II 20-5 12Z	III 5-2 12Z
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75			
8 172	3- 0	01+02																		N
8 173	0- 8	A11	39.4	45.5	15.1	3.9	7.0	4.9	11.5	12.1	20.6	24.9				39.9	37A	12	25Z	N
8 174	8- 28	A12	39.3	45.8	14.9	4.0	8.1	5.1	10.5	11.6	20.6	25.2				38.7	33A	20	13Z	N
8 175	28- 46	A2	56.3	31.5	12.2	9.1	13.6	7.6	14.2	11.8	13.1	18.4				33.4	72*	59	6Z	TR
8 176	46- 61	B21T	58.0	24.0	18.0	8.7	14.3	8.4	15.7	10.9	9.1	14.9				29.3	78*	59	5Z	TR
8 177	61- 81	B22T	52.8	22.2	25.0	6.2	10.6	7.9	17.5	10.6	8.3	13.9				29.4	79*	57	8Z	TR
8 178	81-114	B3 T	62.1	18.5	19.4	11.0	12.3	7.4	20.2	11.2	7.1	11.4				30.7	90*	68	17Z	TR
8 179	114-140	C	69.4	14.1	16.5	22.2	15.3	6.8	15.5	9.6	6.1	8.0				24.9	83*	56	25Z	TR

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES OI-CIT FE 6C2B	OI-CIT AL 6G7A	PYROP EXT FE 6C5A	PYROP EXT AL 6G5A	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST. 1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		-PERCENT-		-PERCENT-		-PERCENT-				PCT.NO.40		GRAMS PER CC			-PERCENT-			-PERCENT-	
8 172	3- 0											0.40		0.98			50.8		
8 173	0- 8	4.98	0.304			1.0				44	42	0.94		0.83			11.2		
8 174	8- 28	1.69	0.132			1.0						0.98		0.85			8.6		
8 175	28- 46	0.46	0.043			0.8				28	26		1.15	1.20 0.47		24.2	7.8	1.4	0.7
8 176	46- 61	0.37				0.8				32	22	1.16		0.39			9.9		
8 177	61- 81	0.35				0.9							1.18	1.35 0.38		34.8	14.0	4.6	1.6
8 178	81-114	0.33				0.8						1.20		0.20			12.7		
8 179	114-140					0.7				35	26	1.20		0.31			12.1		

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI-DITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4-OAC 5A6A	BASE SATURATION SUM+ ACI-DITY	SUM+ AL	NH4-OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA-CL2 8C1E
		MEQ/100G									PERCENT					
8 172	3- 0															
8 173	0- 8	19.8	2.6	0.1	2.0	24.5	8.0		32.5	27.3	75		90		6.4	6.0
8 174	8- 28	12.5	1.7	0.1	2.0	16.3	6.4		22.7	18.6	72		88		6.3	5.8
8 175	28- 46	8.1	1.8	0.1	1.4	11.4			11.4	12.6			90		6.4	5.9
8 176	46- 61	10.3	3.0	0.1	1.4	14.8			14.8	15.1			98		6.5	6.0
8 177	61- 81	14.5	4.4	0.1	1.5	20.5			20.5	21.1			97		6.3	6.0
8 178	81-114	14.9	4.6	0.1	2.2	21.8			21.8	21.4			100+		6.6	6.2
8 179	114-140	15.9	4.4	0.1	2.4	22.8			22.8	23.1			99		6.7	6.4

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III
8 172	3- 0	MT 2	MI 2	KK 2						
8 173	0- 8	MT 2	MI 2	KK 2						
8 174	8- 28									
8 175	28- 46	MT 2	MI 2	KK 2						
8 176	46- 61	MT 2	MI 2	KK 2						
8 177	61- 81									
8 178	81-114									
8 179	114-140	MT 2	MI 2	KK 2						

CODE		RELATIVE AMOUNT
MT	MONTMORT	1 TRACE
MI	MICA	2 SMALL
KK	KAOLINIT	3 MODERATE
		4 ABUNDANT
		5 DOMINANT
		6 INDETER.

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
N=NOT DETERMINED.
Z=NOT ALL FRACTIONS SEPERATED. ADJACENT FRACTIONS INCLUDED HERE.
*=THE 75-250MM FRACTION IS INCLUDED.

CALLINGS LOAM
S68Utah-9-7

Location: Paunsaugunt Soil Survey Area, Utah, center of Sec. 6, T. 32 S., R. 3 W.; Garfield County, Winnemucca Flats. Date of sampling: June 13, 1968.
Description by: Robert Mitchell. Collectors: J. Carley, G. Crandall, A. Erickson, R. Mitchell, D. Nettleton, A. Southard.
Classification: Boralfic Cryoboroll, loamy-skeletal, mixed.
Vegetation: Aspen, creeping juniper, mountain brome, slender wheatgrass, subalpine needleandthread, vetch, holly, and occasional fir and spruce species. Use: Timber, wildlife, and rangeland. Climate: Precipitation, 25 to 30 inches. Mean annual air temperature is 35° to 38°F., and the average summer air temperature is 50° to 55°F.
Parent material: Alluvium and residuum of intermediate volcanic materials.
Topography: Gently rolling mountaintop. Slope, 8 percent, north-facing. Elevation: 9,800 feet. Drainage: Well drained. Runoff is medium to rapid. Permeability is slow.
Soil moisture: Moist.

HORIZON	DESCRIPTION
	(3-0 cm)
01 & 02	1 inch to 0, aspen litter and duff.
RSL 68172	(0-8 cm)
A11 RSL 68173	0 to 3 inches, very dark gray (10YR 3/1) light loam, black (10YR 2/1) when moist; moderate very fine granular structure; soft, very friable, nonsticky and nonplastic; common fine roots; many very fine interstitial pores; 5 percent gravel; noneffervescent; neutral (pH 6.7); gradual smooth boundary.
A12 RSL 68174 (8-28 cm)	3 to 11 inches, dark brown (7.5YR 8/2) light loam, very dark brown (7.5YR 2/2) when moist; weak fine granular structure; soft, friable, nonsticky and nonplastic; many fine, medium, and a few coarse roots; common fine interstitial pores; 10 percent gravel; noneffervescent; slightly acid (pH 6.5); clear wavy boundary.
A2 RSL 68175 (28-46 cm)	11 to 18 inches, brown (7.5YR 5/2) gravelly light loam (7.5YR 4/2) when moist; weak medium subangular blocky structure to massive; slightly hard, friable, nonsticky and nonplastic; many fine, medium and a few coarse roots; common fine interstitial and a few fine tubular pores; 15 percent gravel and 15 percent cobbles; noneffervescent; slightly acid (pH 6.2); clear wavy boundary.
B21t RSL 68176 (46-61 cm)	18 to 24 inches, reddish brown (5YR 4/4) cobbly heavy clay loam, dark reddish brown (5YR 3/4) when moist; moderate medium subangular blocky structure; slightly hard, friable; slightly sticky and slightly plastic; common very fine, medium and coarse roots; common fine interstitial and a few fine tubular pores; few thin clay films on ped faces; 30 percent cobbles; and 10 percent gravel; noneffervescent; slightly acid (pH 6.5) gradual wavy boundary.
B22t RSL 68177 (61-81 cm)	24 to 32 inches, reddish brown (5YR 4/4) cobbly and gravelly light clay, dark reddish brown (5YR 3/4) when moist; strong medium subangular blocky structure; hard, firm, sticky and plastic; few very fine, medium and coarse roots; few medium interstitial and common fine tubular pores; pinkish gray (7.5YR 7/2) extremely hard precipitate on bottoms of coarse fragments that are noneffervescent; many moderately thick clay films on ped faces; 30 percent cobbles and 30 percent gravel; noneffervescent; slightly acid (pH 6.5); gradual wavy boundary.
B3t RSL 68178 (81-114 cm)	32 to 45 inches, reddish brown (5YR 5/4) very cobbly light clay loam, reddish brown (5YR 4/4) when moist; weak medium subangular blocky structure; slightly hard, firm, slightly sticky and slightly plastic; few very fine roots; common coarse interstitial pores; pinkish gray (7.5YR 7/2) extremely hard precipitate on bottoms of some coarse fragments that is non-effervescent; few thin clay films in pores; 50 percent cobbles and 30 percent gravel; neutral (pH 7.0); gradual wavy boundary.
C RSL 68179 (114-140 cm)	45 to 55 inches, yellowish red (5YR 5/6) very gravelly light clay loam, yellowish red (5YR 4/6) when moist; massive; slightly hard, friable, slightly sticky and slightly plastic; very few very fine roots; few fine and coarse interstitial pores; few thin clay films on some ped faces and in pores; pinkish gray (7.5YR 7/2) extremely hard precipitate that is noneffervescent on bottoms of some coarse fragments; 40 percent fine gravel, 25 percent medium and coarse gravel and 10 percent cobbles; noneffervescent; mildly alkaline (pH 7.5).

CONSECUTIVE PEDON NUMBER C 68 34 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES CALLINGS LOAM SOIL NO. S68 UTAH. 9- 8 SAMPLE NO. 8 180-8 186 PAUNSAUGUNT AREA

SOIL FAMILY: BORALFIC CRYOBOROLL LOAMY-SKELETAL,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBONATE 3A1A.02	INT. II .2-	1A2A COARSE FRAGMENTS PCT. OF WHOLE SOIL 20	I 75- TRA	II 20-5 TR	III 5-2 TRZ	PCT. OF LT 75
			PERCENT OF LESS THAN 2MM																		
8 180	3- 0	01+02																			
8 181	0- 13	A11	38.6	47.6	13.8	6.8	5.8	2.9	10.9	12.2	21.5	26.1				41.1	62A	24	38Z	TR	
8 182	13- 28	A12	38.9	47.5	13.6	6.0	5.9	3.3	11.6	12.1	21.6	25.9				41.5	66*	38	26Z	N	
8 183	28- 51	A2	54.5	33.1	12.4	8.2	7.7	4.4	20.9	13.3	14.2	18.9				41.5	70*	46	22Z	N	
8 184	51- 63	B21T	66.6	17.1	16.3	6.7	8.4	6.7	31.5	13.3	7.0	10.1				41.0	75*	51	17Z	N	
8 185	63- 84	B22T	72.2	13.5	14.3	10.3	13.0	7.3	28.7	12.9	4.8	8.7				35.4	77*	45	24Z	TR	
8 186	84-102	C	76.6	11.0	12.4	26.2	20.9	6.4	15.8	7.3	4.7	6.3				21.9	77*	32	36Z	N	

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A -PERCENT-	NITROGEN 6B1A -PERCENT-	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES DI-CIT FE 6C2B	EXT AL 6G7A	PYROP FE 6C9A	EXT AL 6G5A	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST. 1/3 BAR 4A1F	4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
						------PERCENT-------				PCT.NO.40		GRAMS PER CC				----PERCENT---			-PERCENT-	
8 180	3- 0											0.40			1.00		*****			
8 181	0- 13	3.06	0.200			0.9				38	34		0.93	1.06	0.64	50.4	10.4	4.5	4.5	
8 182	13- 28	1.75	0.129			1.0				22	21		0.96	1.03	0.59	39.0	8.4	2.4	1.4	
8 183	28- 51	0.48	0.043			0.8							1.12	1.19	0.51	32.4	7.7	2.0	1.0	
8 184	51- 63	0.34				0.8				29	22		1.27	1.38	0.41	31.0	9.3	2.8	1.1	
8 185	63- 84	0.24				0.7							1.11	1.17	0.42	35.8	8.5	1.8	0.7	
8 186	84-102					0.6				27	23		1.27	1.33	0.39	29.6	7.2	1.6	0.6	

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACIDITY 6H2A	KCL EXT. AL 6G1E	CEC SUM 5A3A	NH4-OAC 5A6A	BASE SATURATION SUM+ ACIDITY	SUM+ AL	NH4-OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CACL2 8C1E
		MEQ/100G									PERCENT					
8 180	3- 0															
8 181	0- 13	16.3	2.9	0.1	2.1	21.4	10.1		31.5	24.5	68		87		6.0	5.6
8 182	13- 28	10.0	2.0	0.1	1.7	13.8	10.0		23.8	19.5	58		71		5.6	5.0
8 183	28- 51	8.7	2.4	0.1	1.1	12.3			12.3	14.1			87		6.1	5.6
8 184	51- 63	18.9	5.5	0.1	0.8	25.3			25.3	17.1			100+		5.7	5.5
8 185	63- 84	9.2	3.1	0.1	0.8	13.2			13.2	15.2			87		5.8	5.4
8 186	84-102	9.2	3.4	0.1	0.7	13.4			13.4	14.3			94		6.3	5.6

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
8 180	3- 0											1 TRACE
8 181	0- 13	MT 2	MI 2	KK 2							MT MONTMORT	2 SMALL
8 182	13- 28										MI MICA	3 MODERATE
8 183	28- 51	MT 2	MI 2	KK 2							KK KAOLINIT	4 ABUNDANT
8 184	51- 63	MT 3	MI 2									5 DOMINANT
8 185	63- 84											6 INDETER.
8 186	84-102	MT 3	MI 1									

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
Z=NOT ALL FRACTIONS SEPERATED. ADJACENT FRACTIONS INCLUDED HERE.
**=THE 75-250MM FRACTION IS INCLUDED.
N=NOT DETERMINED.

CALLINGS LOAM
S68Utah-9-8

Location: Paunsaugunt Soil Survey Area, Utah, N. E. 1/4 of Sec. 35, T. 31 S., R. 3 W. Garfield County, UT. Date of sampling: June 13, 1968.
Description by: R. Mitchell. Collectors: J. Carley, G. Crandall, A. Erickson, R. Mitchell, D. Nettleton, A. Southard.
Classification: Boralfic Cryoboroll, loamy-skeletal, mixed.
Vegetation: Aspen, subalpine fir, wildrose, Oregon-grape, mountain brome, subalpine needleandthread, and Kentucky bluegrass. Use: Timber, wildlife, and rangeland. Climate: Precipitation, 25 to 30 inches. The mean annual air temperature is 35° to 38°F. The average summer air temperature is 50° to 55°F. Elevations: Very from 9,400 to 10,500 feet. Parent material: Intermediate volcanic materials. Topography: Moderately sloping mountaintop. Slope, 6 percent, north-facing. Elevation: 9,800 feet. Drainage: Well drained. Runoff is medium to rapid. Permeability is slow. Soil moisture: Moist.

HORIZON	DESCRIPTION
	(3-0 cm)
O1&O2	1 inch to 0, aspen duff and litter.
RSL 68180	(0-13 cm)
A11 RSL 68181	0 to 5 inches, dark grayish brown (10YR 4/2) loam, very dark grayish brown (10YR 3/2) when moist; moderate very fine granular structure; soft, very friable; nonsticky and nonplastic; few fine roots; many very fine interstitial pores; 10 percent gravel; noneffervescent; slightly acid (pH 6.5); clear smooth boundary.
A12 RSL 68182 (13-28 cm)	5 to 11 inches, dark grayish brown (10YR 4/2) gravelly loam, very dark grayish brown (10YR 3/2) when moist; weak medium subangular structure that breaks to moderate fine granular; soft, very friable, nonsticky and nonplastic; common fine, medium and coarse roots; common fine interstitial pores; 30 percent gravel and 2 percent cobbles; noneffervescent; medium acid (pH 6.0); clear smooth boundary.
A2 RSL 68183 (28-51 cm)	11 to 20 inches, pale brown (10YR 6/3) gravelly loam, brown (10YR 4/3) when moist, massive; soft, friable, nonsticky and nonplastic; common fine, medium and coarse roots; few fine and coarse interstitial and common fine tubular pores; 30 percent gravel and 5 percent cobbles; noneffervescent; slightly acid (pH 6.2); clear smooth boundary.
B21t RSL 68184 (51-63 cm)	20 to 25 inches, brown (7.5YR 5/4) very gravelly sandy clay loam, brown (7.5YR 4/4) when moist; medium distinct reddish yellow (7.5YR 6/6) iron stains; moderately fine subangular blocky structure, slightly hard, firm, sticky and slightly plastic; few fine and medium roots; common fine pores; common moderately thick clay films on ped faces and in pores; 50 percent gravel and 15 percent cobbles; noneffervescent; slightly acid (pH 6.5); diffuse irregular boundary.
B22t RSL 68185 (63-84 cm)	25 to 33 inches, dark yellowish brown (10YR 4/4) very gravelly light sandy clay loam, yellowish brown (10YR 3/4) when moist; few fine distinct reddish yellow (7.5YR 6/6) iron stains; weak fine subangular blocky structure; slightly hard, firm, slightly sticky and slightly plastic; few fine roots; few fine and coarse interstitial pores; few thin clay films on ped faces; 60 percent gravel and 20 percent cobbles; noneffervescent; neutral (pH 7.2); diffuse irregular boundary.
C RSL 68186 (84-102 cm)	33 to 40 inches, brown (7.5YR 5/4) very gravelly coarse sandy loam, brown (7.5YR 4/4) when moist; weak fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and nonplastic; few fine roots; few fine and coarse interstitial pores; few thin clay films in pores; 60 percent gravel and 20 percent cobbles; noneffervescent, neutral (pH 7.2).

CONSECUTIVE PEDCN NUMBER C 72 8C C H A R A C T E R I Z A T I C N D A T A

SOIL SERIES PCLELINE GRAVELLY LOAM SOIL NO. S72 UTAH. 29- 5 SAMPLE NC. 2 486-2 492 MORGANSE.WEBER AREA

SOIL FAMILY: PACHIC CRYCBOROLL,LOAMY-SKELETAL,MIXED RIVERSIDE SOIL SURVEY LABCRATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SANC 2- .05	SILT .05- .002	CLAY LT .002	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CC. 2- .2U	FINE LT .2U	CARBO NATE 3A1A.02	1A2A INT. 11 .2- WHOLE 20	COARSE FRAGMENTS PCT. OF SOIL	I 75- 20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM															PCT. OF LT 75		
2 486	C- 10	A11	26.8	50.7	22.5	9.4	6.0	2.9	4.4	4.1	22.3	28.4	15.3	7.2		28.7	33A	7	17	9
2 487	1C- 20	A12	23.0	53.1	23.9	5.5	5.2	2.6	4.5	5.2	20.6	32.5				28.3	32A	8	16	8
2 488	20- 38	A13	28.2	49.7	22.1	9.5	6.5	2.9	4.1	5.2	18.9	30.8	14.6	7.5		26.3	44A	13	22	10
2 489	38- 61	A14	31.6	47.3	21.1	12.2	7.2	3.2	4.2	4.8	17.7	29.6				24.7	47A	20	17	10
2 490	61- 91	B21	36.8	43.6	19.6	11.7	11.2	4.3	5.1	4.5	14.2	29.4	12.6	7.0		21.3	70*	35	12	8
2 491	91-122	B22	50.5	32.3	17.2	17.2	15.7	6.1	7.2	4.3	9.0	23.3				16.7	80*	42	20	8
2 492	122-132	R	70.2	22.8	7.0	21.3	21.8	9.6	12.0	5.5	7.4	15.4				18.4	G			

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR- BON 6A1A -PERCENT-	NITRC GEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B -PERCENT-	2-20 6E1B	SESQUIOXIDES DI-CIT EXT FE 6C2B	AL 6G7A	PYROP EXT FE 6C5A	AL 6G5A	ATTERBERG LIMIT EST. LL 4F1	PL 4F2	1/3 4A1F PCT.NO.40 GRAMS PER CC	BULK DENSITY 1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C -PERCENT-	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1 -PERCENT-	LE 4D1
2 486	0- 10	6.06	0.380			1.7	0.3						0.60	0.74	0.90	36.1	32.5		7.2	6.4
2 487	1C- 20	4.28	0.306			1.9	0.3					0.85			0.87					
2 488	20- 38	2.37	0.187			2.3	0.3						1.09	1.17	0.75	34.0	31.8		2.4	1.8
2 489	38- 61	1.85	0.159			2.0	0.3						1.15	1.22	0.72	32.3	30.1		2.0	1.4
2 490	61- 91	1.03	0.114			2.1	0.2						1.27	1.34	0.47	25.5	24.4		1.8	0.8
2 491	91-122	0.78	0.105			2.0	0.2					1.27			0.35					
2 492	122-132	0.39	0.049			3.1	0.2						2.51	2.51	1.00	3.5	3.4			

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6Q2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI- DITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4- OAC 5A6A	BASE SATURATION SUM+ ACI- CITY	SUM+ AL	NH4- OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA- CL2 8C1E
		MEQ/100G									PERCENT					
2 486	0- 10	20.5	3.7	0.7	1.4	26.3	13.4		39.7	32.7	66		80		6.4	6.0
2 487	1C- 20	19.2	3.0	0.6	1.3	24.1	13.3		37.4	28.8	64		84		6.2	5.7
2 488	20- 38	12.8	2.2	0.5	1.0	16.5	11.5		28.0	18.9	59		87		6.1	5.3
2 489	38- 61	11.6	2.1	0.7	0.6	15.0	11.7		26.7	18.3	56		82		5.9	5.0
2 490	61- 91	8.1	1.7	0.7	0.4	10.9	9.7		20.6	14.8	53		74		5.7	4.9
2 491	91-122	7.0	1.3	0.6	0.3	9.2	6.7		15.9	11.9	58		77		5.8	4.9
2 492	122-132	2.8	0.6	0.5	0.1	4.0	2.8		6.8	4.7	59		85		6.1	5.3

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CCDE	RELATIVE AMOUNT
2 486	C- 10	MI 4	KK 3					MI 3	KK 1		MI MICA	1 TRACE
2 487	1C- 20										KK KAOLINIT	2 SMALL
2 488	20- 38	MI 3	KK 2					MI 3	KK 1			3 MCDERATE
2 489	38- 61										MT MONTMORT	4 ABUNDANT
2 490	61- 91	MI 3	MT 2	KK 2				MI 3	KK 2			5 DCMINANT
2 491	91-122											6 INDETER.
2 492	122-132	MI 3										

SAMPLE PREPARATICN CODES
A=STANCARD PREPARATION.
**THE 75-250MM FRACTION IS INCLUDED.
G=GROUND WHCLE. HORIZCN INDURATED OR GRAVEL TOO SOFT TO BE SEPARATED. ALL DATA FOR WHCLE SOIL.

POLELINE GRAVELLY LOAM
S72Utah-29-5

Location: Weber County, UT; North Fork Park in canyon south of Cutler Creek; about 1,000 feet east and 1,100 feet north of the southwest corner, Sec. 35, T. 8 N., R. 1 W. Date of sampling: July 12, 1972.
Description by: L. Campbell, J. Carley, R. Fish. Collectors: D. Nettleton, A. Erickson J. Carley, L. Campbell, R. Fish.
Classification: Pachic Cryoboroll, loamy-skeletal, mixed.
Vegetation: Ninebark, snowberry, Douglas-fir, peavine, slender wheatgrass, mountain brome.
Climate: Average annual precipitation is 25 to 35 inches. Mean annual temperature is 44° to 46° F. Mean summer temperature is 53° to 55° F. Frost-free period is 50 to 70 days. Parent materials: Colluvium and residuum from argillite and phyllite.
Topography: Mountain slope, 60 percent slope, north aspect, convex. Elevation: 6,480 feet. Drainage: Well drained. Soil moisture: Usually moist.

HORIZON	DESCRIPTION
01	3cm -0 (1 inch-0), matted decaying leaves and twigs.
A11 RSL No. 72486	0-10 cm (0-4 inches), brown (10YR 4/3) gravelly loam, dark brown (10YR 3/3) moist; weak fine granular structure; soft, friable, slightly sticky, slightly plastic; many fine and very fine and few medium and coarse roots; 25 percent gravel; slightly acid (pH 6.2); clear smooth boundary.
A12 RSL No. 72487	10-20 cm (4-8 inches), brown (10YR 4/3) gravelly silt loam, dark brown (10YR 3/3) moist; weak medium granular structure; soft, friable, slightly sticky, slightly plastic; many very fine and fine, and few medium and coarse roots; 25 percent gravel; slightly acid (pH 6.2); clear smooth boundary.
A13 RSL No. 72488	20-38 cm (8-15 inches), brown (10YR 4/3) gravelly loam dark brown (10YR 3/3) moist; weak medium subangular blocky structure that parts to weak fine and medium granular; slightly hard, friable, slightly sticky, slightly plastic; many very fine and fine, and few medium and coarse roots; 30 percent gravel; medium acid (pH 6.0); clear wavy boundary.
A14 RSL No. 72489	38-61 cm (15-24 inches), yellowish brown (10YR 5/4) gravelly loam, dark brown (7.5YR 3/2) moist; weak medium and coarse subangular blocky structure; hard, friable, slightly sticky, plastic; common fine and very fine roots; common very fine and fine pores; 40 percent gravel; medium acid (pH 6.0); gradual wavy boundary.
B21 RSL No. 72490	61-91 cm (24-36 inches), yellowish brown (10YR 5/4) very gravelly loam, brown (7.5YR 4/3) moist; hard firm, slightly sticky, slightly plastic; few very fine, fine, and medium roots; common very fine and fine pores; 15 percent cobble, 40 percent gravel; medium acid (pH 6.0); gradual wavy boundary.
B22 RSL No. 72491	91-122 cm (36-48 inches), yellowish brown (10YR 5/4) very gravelly loam, dark yellowish brown (10YR 4/4) moist; weak fine and medium subangular blocky structure; hard, firm, slightly sticky, slightly plastic; few fine and very fine roots; many fine and very fine pores; 10 percent cobble, 50 percent gravel; medium acid (pH 5.8); diffuse irregular boundary.
R RSL No. 72492	122-132 cm (48-52 inches), fractured bedrock.

CONSECUTIVE PEDCN NUMBER C 72 81 C H A R A C T E R I Z A T I C N D A T A

SOIL SERIES POLELINE GRAVELLY LOAM SOIL NO. S72 UTAH. 29- 6 SAMPLE NO. 2 493-2 498 MORGANSE.WEBER AREA

SOIL FAMILY: PACHIC CRYCBORCLL,LOAMY-SKELETAL,MIXED RIVERSIDE SOIL SURVEY LABCRATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SANC 2-.05	SILT .05-.002	CLAY LT .002	SIZE, CLASS ANC PARTICLE DIAMETER (MM) 1B1B,3A1 SANDS VCS 2-1	CS 1-.5	MS .5-.25	FS .25-.10	VFS .1-.05	CSI .05-.02	FSI .02-.002	CC. 2-.2U	FINE CARBO LT .2U	NATE 3A1A	INT. II .2-.02	1A2A -COARSE FRAGMENTS- PCT. OF WHOLE SOIL	I 75-20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75			
2 493	0- 13	A11	35.6	44.2	20.2	10.0	7.0	3.7	7.9	7.0	16.2	28.0				27.6	45A	13	22	10
2 494	13- 43	A12	35.8	43.7	20.5	11.3	6.2	3.2	7.6	7.5	16.1	27.6				27.9	24A	7	17	--
2 495	43- 61	B21	39.9	41.6	18.5	9.4	8.2	4.4	9.1	8.8	15.3	26.3				29.2	51*	28	19	--
2 496	61- 91	B22	42.4	38.4	19.2	12.3	10.4	4.4	8.0	7.3	11.1	27.3				22.7	82*	57	18	--
2 497	91-122	B3	46.2	35.4	18.4	13.5	12.4	5.5	8.6	6.2	8.0	27.4				18.5	91*	69	13	--
2 498	122-137	R	64.6	26.2	9.2	21.9	18.7	7.4	10.3	6.3	6.0	20.2				17.3	G			

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR- BCN 6A1A -PERCENT-	NITRO GEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B -PERCENT-	SESQUIOXIDES DI-CIT FE 6C2B	EXT AL 6G7A	PYROP FE 6C5A -PERCENT-	EXT AL 6G5A	ATTERBERG LIMIT LL 4F1	PL 4F2 PCT.NO.40	BULK DENSITY EST. 1/3 BAR 4A1F GRAMS PER CC	DRY 4A1F	1/3 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C -PERCENT-	15 BAR 4B2	EXTNSBLTY LEF 4D1 -PERCENT-	LE 4D1
2 493	0- 13	5.59	0.391									0.46	0.61	0.88		56.0	52.4		9.9	8.4
2 494	13- 43	3.64	0.249								0.75			0.92						
2 495	43- 61	0.73	0.069									1.20	1.25	0.68		21.9	19.3		1.4	0.9
2 496	61- 91	0.48									1.20			0.32						
2 497	91-122	0.49									1.50			0.15						
2 498	122-137	0.08										2.38	2.40	1.00		6.0	5.9		0.3	0.3

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6Q2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI- DITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4- OAC 5A6A	BASE SATURATION SUM+ ACI- DITY	SUM+ AL	NH4- OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA- CL2 8C1E
		MEQ/100G									PERCENT					
2 493	0- 13	19.1	3.3	0.7	1.3	24.4			24.4	28.0			87		6.3	5.8
2 494	13- 43	16.5	2.5	0.6	1.2	20.8			20.8	22.0			95		6.3	5.7
2 495	43- 61	7.3	1.4	0.5	0.5	9.7			9.7	10.6			92		6.2	5.3
2 496	61- 91	8.8	1.8	0.5	0.4	11.5			11.5	12.0			96		6.0	5.2
2 497	91-122	9.2	1.9	0.6	0.3	12.0			12.0	12.5			96		6.1	5.3
2 498	122-137	4.8	0.6	0.6	0.3	6.3			6.3	6.6			95		6.6	6.1

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	DTA 7A2E IV	7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
2 493	0- 13											1 TRACE
2 494	13- 43										MI MICA	2 SMALL
2 495	43- 61	MI 3	KK 2								KK KAOLINIT	3 MODERATE
2 496	61- 91											4 ABUNDANT
2 497	91-122											5 DCMINANT
2 498	122-137											6 INDETER.

SAMPLE PREPARATICN CODES
A=STANDARD PREPARATION.
*=THE 75-250MM FRACTICN IS INCLUDED.
G=GROUND WHOLE. HORIZCN INDURATED OR GRAVEL TOO SOFT TO BE SEPARATED. ALL DATA FOR WHOLE SOIL.

POLELINE GRAVELLY LOAM
S72Utah-29-6

Location: Weber County, UT; Wolf Creek; about 2,000 feet east and 500 feet north of the southwest corner, Sec. 2, T. 7 N., R. 1 E. Date of sampling: July 12, 1972.
Description by: L. Campbell, J. Carley. Collectors: D. Nettleton, A. Erickson, J. Carley, L. Campbell, R. Fish.
Classification: Pachic Cryoboroll, loamy-skeletal, mixed.
Vegetation: Oak, maple, chokecherry, snowberry. Climate: Average annual precipitation is 25 to 35 inches. Mean annual temperature is 44° to 46° F. Mean summer temperature is 53° to 55° F. Frost-free period is 50 to 70 days. Parent materials: Colluvium and residuum from argillite, phyllite, schist. Topography: Mountain slope, 55 percent slope, west aspect, slightly convex. Elevation: 6,700 feet. Drainage: Well drained. Soil moisture: Usually moist.

HORIZON	DESCRIPTION
01	3 cm -0, (1 inch -0), decaying leaves and twigs.
A11 RSL No. 72493	0-13 cm (0-5 inches), brown (10YR 5/3) gravelly loam, dark brown (7.5YR 3/2) moist; weak fine granular structure; soft, very friable, slightly sticky, slightly plastic; many fine and very fine, and few medium and coarse roots; 30 percent gravel; slightly acid (pH 6.4); clear wavy boundary.
A12 RSL No. 72494	13-43 cm (5-17 inches), brown (10YR 5/3) gravelly loam, dark brown (7.5YR 3/2) moist; weak fine and medium subangular blocky structure that parts to weak fine granular; soft, friable, slightly sticky, slightly plastic; many fine and very fine and few medium and coarse roots; many fine and medium pores; 20 percent gravel; slightly acid (pH 6.2); clear wavy boundary.
B21 RSL No. 72495	43-61 cm (17-24 inches), pale brown (10YR 6/3) gravelly loam, yellowish brown (10YR 5/4) moist; moderate medium subangular blocky structure; hard, friable, slightly sticky, slightly plastic; few fine, medium, and coarse roots; many fine and medium pores; few thin clay films on faces of peds; 30 percent gravel, 5 percent cobble; slightly acid (pH 6.1); gradual wavy boundary.
B22 RSL No. 72496	61-91 cm (24-36 inches), pale brown (10YR 6/3) very gravelly loam, yellowish brown (10YR 5/4) moist; weak fine subangular blocky structure; hard, friable, slightly sticky, slightly plastic; few fine, medium, and coarse roots; many fine and medium pores; few thin clay films on faces of peds; 10 percent cobble, 60 percent gravel; medium acid (pH 5.8); diffuse irregular boundary.
B3 RSL No. 72497	91-122 cm (36-48 inches), pale brown (10YR 6/3) very gravelly sandy loam, yellowish brown (10YR 5/4) moist; weak fine subangular blocky structure; hard, friable, slightly sticky, slightly plastic; few fine roots; 10 percent cobble, 70 percent gravel; medium acid (pH 5.8); abrupt irregular boundary.
R RSL No. 72498	122-137 cm (48-54 inches), fractured argillite, phyllite bedrock.

CONSECUTIVE PEDON NUMBER C 68 43 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES SYRETT GRAVELLY SANDY LOAM SOIL NO. S68 UTAH. 9- 5 SAMPLE NO. 8 249-8 254 PAUNSAUGUNT AREA

SOIL FAMILY: ENTIC HAPLOBOROLL LOAMY-SKELETAL,CARBONATIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBONATE 3A1A	1A2A INT. II .2-.02	COARSE FRAGMENTS PCT. OF WHOLE SOIL	I 75- 20 PCT. OF LT 75	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM																	
8 249	0- 3	A11	41.5	41.1	17.4	3.9	2.8	1.5	12.1	21.2	22.6	18.5			1	52.6	54A	15	39Z	N
8 250	3- 10	A12	33.6	44.2	22.2	3.4	2.2	1.1	9.2	17.7	21.6	22.6			2	46.5	50A	14	36Z	N
8 251	10- 30	A13	33.6	42.7	23.7	4.0	2.2	0.7	8.2	18.5	20.8	21.9			3	45.9	43A	12	31Z	N
8 252	30- 58	2C 1	33.4	43.4	23.2	4.7	2.9	1.3	7.9	16.6	20.1	23.3			6	42.8	45A	18	27Z	N
8 253	58- 97	2C 2C	25.3	53.9	20.8	2.1	3.4	1.8	7.8	10.2	18.0	35.9			10	33.6	70A	43	27Z	N
8 254	97- 0	R															--G	--G	--G	--G

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES DI-CIT FE 6C2B	EXT PYROP AL 6G7A	EXT FE 6C5A	AL 6G5A	ATTERBERG LIMIT EST. LL 4F1	PL 4F2	BULK DENSITY 1/3 BAR 4A1F	4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		PERCENT		PERCENT		PERCENT				PCT.NO.40		GRAMS PER CC				PERCENT			PERCENT	
8 249	0- 3	2.42	0.163	18		0.6				NP	NP		1.13	1.20	0.67		27.6	9.0	2.0	1.3
8 250	3- 10	2.54	0.166	21		0.7							1.10	1.16	0.71		35.9	10.6	1.8	1.2
8 251	10- 30	2.27	0.155	24		0.6				37	26		0.98	1.05	0.78		29.0	11.7	2.3	1.8
8 252	30- 58	2.30	0.149	34		0.5							0.94	1.01	0.78		37.6	12.1	2.4	1.9
8 253	58- 97	0.27		62		0.7							1.17	1.19	0.50		42.4	6.2	0.6	0.3
8 254	97- 0			77		0.4						2.20			1.00					

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 583A 6N4C	MG 583A 6O4C	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACIDITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4-OAC 5A6A	BASE SATURATION SUM+ ACIDITY	SUM+ AL	NH4-OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CACL2 8C1E
		MEQ/100G									PERCENT					
8 249	0- 3			0.1	0.8	0.9		247.9	0.9	19.0					7.9	7.5
8 250	3- 10			0.1	0.6	0.7		270.2	0.7	22.2					7.9	7.6
8 251	10- 30			0.1	0.6	0.7		246.0	0.7	22.7					8.0	7.6
8 252	30- 58			0.1	0.6	0.7		209.0	0.7	19.4					8.0	7.7
8 253	58- 97			0.1	0.1	0.2		293.6	0.2	5.4					8.5	7.9
8 254	97- 0							155.0		2.1					8.7	7.9

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I 7A2E	II 7A2E	III 7A2E	IV 7A2E	DTA 7A3 7A3 PERCENT	L.T. 0.0002 MM X RAY I 7A2E	II 7A2E	III 7A2E	MINERAL CODE	RELATIVE AMOUNT
8 249	0- 3	MT 3	KK 3	MI 2						MT MONTMORT	1 TRACE
8 250	3- 10									KK KAOLINIT	2 SMALL
8 251	10- 30	MT 3	KK 3	MI 2						MI MICA	3 MODERATE
8 252	30- 58										4 ABUNDANT
8 253	58- 97										5 DOMINANT
8 254	97- 0										6 INDETER.

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
N=NOT DETERMINED.
Z=NOT ALL FRACTIONS SEPERATED. ADJACENT FRACTIONS INCLUDED HERE.
G=GROUND WHOLE. HORIZON INDURATED OR GRAVEL TOO SOFT TO BE SEPARATED. ALL DATA FOR WHOLE SOIL.

SYRETT GRAVELLY SANDY LOAM
S68Utah-9-5

Location: Paunsaugunt Soil Survey Area, Utah. N. E. 1/4 of S. W. 1/4 of Sec. 34, T. 36 S., R. 4 W. East Creek, Garfield County, UT. Date of sampling: June 12, 1968.
Description by: R. Mitchell. Collectors: J. Carley, G. Crandall, A. Erickson, R. Mitchell, D. Nettleton, A. Southard. L. Stott.
Classification: Entic Haploboroll, loamy-skeletal, carbonatic.
Vegetation: Ponderosa pine, Rocky Mountain juniper, bitterbrush, rabbitbrush, manzanita, Indian ricegrass, needleandthread grass, and forbs. Use: Timber, rangeland, and wildlife. Climate: Precipitation, about 18 inches. The mean annual soil temperature is less than 47°F., and the mean summer soil temperature is 59°F. or more. Parent material: Limestone. Topography: Gently sloping colluvial toe slopes and benches. Slope, 2 percent, north-facing. Elevation: 8,100 feet. Drainage: Well drained. Runoff is medium. Permeability is moderate to bedrock and slow below. Soil moisture: Moist.

HORIZON	DESCRIPTION
	(0-3 cm)
A11 RSL 68249	0 to 1 inch, brown (7.5YR 5/4) gravelly heavy sandy loam, dark brown (10YR 3/3) moist, crushed; weak very fine granular structure; slightly hard, very friable, slightly sticky and slightly plastic; many micro and very fine roots; common fine pores; 20 percent gravel; slightly effervescent; mildly alkaline (pH 7.5); clear smooth boundary.
	(3-10 cm)
A12 RSL 68250	1 to 4 inches, brown (7.5YR 5/3) gravelly loam, dark brown (10YR 3/3) moist; weak medium subangular blocky structure that breaks to weak fine granular; slightly hard, friable, slightly sticky and slightly plastic; common micro, very fine, and fine roots; common fine pores; 20 percent gravel; strongly effervescent; mildly alkaline (pH 7.5); gradual smooth boundary.
	(10-30 cm)
A13 RSL 68251	4 to 12 inches, brown (7.5YR 5/3) gravelly loam, dark brown (10YR 3/3) moist; weak medium subangular blocky structure that breaks to weak fine granular; soft, friable, slightly sticky and slightly plastic; common micro very fine, medium, and coarse roots; few fine pores; 40 percent gravel; violently effervescent; mildly alkaline (pH 7.5); gradual wavy boundary.
	(30-58 cm)
IIC1 RSL 68252	12 to 23 inches, brown (10YR 5/3) very gravelly loam, dark brown (10YR 4/3) moist; massive; soft, friable, slightly sticky, slightly plastic; common micro and very fine and common fine and medium roots; 60 percent gravel violently effervescent; mildly alkaline (pH 7.5); abrupt wavy boundary.
	(58-97 cm)
IIC2ca RSL 68253	23 to 38 inches, reddish yellow (7.5YR 7/8) gravelly heavy silt loam, reddish yellow (7.5YR 6/8) moist; massive; hard, firm, slightly sticky and slightly plastic; 40 percent gravel; violently effervescent; mildly alkaline (pH 7.5); gradual wavy boundary.
	(97 cm)
R RSL 68254	38 inches, limestone bedrock.

CONSECUTIVE PEDON NUMBER C 68 44 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES SYRETT LOAM SOIL NO. S68 UTAH. 9- 6 SAMPLE NO. 8 255-8 259 PAUNSAUGUNT AREA

SOIL FAMILY: ENTIC HAPLOBOROLL LOAMY-SKELETAL,CARBONATIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBONATE 3A1A	INT. II .2-.02	1A2A COARSE FRAGMENTS PCT. OF WHOLE SOIL	I 75- 20 PCT. OF LT 75	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM																	
8 255	0- 3	A11	36.1	44.8	19.1	6.3	5.3	3.3	9.6	11.6	19.7	25.1			3	37.1	37A	—	37Z	N
8 256	3- 15	A12	33.0	42.3	24.7	4.5	4.8	2.8	8.8	12.1	17.9	24.4			6	35.7	25A	—	25Z	N
8 257	15- 43	A13	29.6	39.4	31.0	3.8	4.6	2.6	8.4	10.2	16.2	23.2			13	31.8	83*	52	21Z	N
8 258	43- 69	2C	34.4	44.2	21.4	3.3	6.4	3.4	7.3	14.0	15.9	28.3			10	34.5	53*	8	35Z	N
8 259	69- 74	R															—G	—G	—G	—G

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES DI-CIT FE 6C2B	EXT AL 6G7A	PYROP FE 6C5A	EXT AL 6G5A	ATTERBERG LL 4F1	L I M I T PL 4F2	EST. 1/3 BAR 4A1F	BULK DENSITY 1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		-PERCENT-		-PERCENT-		PERCENT				PCT.NO.40		GRAMS PER CC				PERCENT			-PERCENT-	
8 255	0- 3	3.69	0.228	44		0.5						1.00			0.82			12.7		
8 256	3- 15	3.06	0.186	46		0.2						1.10			0.88			13.8		
8 257	15- 43	2.80	0.158	56		1.0						1.00			0.35			18.2		
8 258	43- 69	0.79	0.047	83		0.3						1.00			0.70			10.7		
8 259	69- 74			97		0.2						2.20			1.00					

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B3A 6N4C	MG 5B3A 6O4C	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI-DITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4-OAC 5A6A	BASE SATURATION SUM+ ACI-DITY	SUM+ AL	NH4-OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA-CL2 8C1E
		MEQ/100G									PERCENT					
8 255	0- 3			0.1	0.8	0.9	TR		0.9	23.9					7.8	7.5
8 256	3- 15			0.1	0.7	0.8	TR		0.8	25.1					7.8	7.5
8 257	15- 43			0.1	0.3	0.4			0.4	23.4					7.9	7.6
8 258	43- 69														8.2	7.7
8 259	69- 74														8.6	7.8

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
8 255	0- 3											1 TRACE
8 256	3- 15											2 SMALL
8 257	15- 43											3 MODERATE
8 258	43- 69											4 ABUNDANT
8 259	69- 74											5 DOMINANT
												6 INDETER.

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
N=NOT DETERMINED.
Z=NOT ALL FRACTIONS SEPERATED. ADJACENT FRACTIONS INCLUDED HERE.
*=THE 75-250MM FRACTION IS INCLUDED.
G=GROUND WHOLE. HORIZON INDURATED OR GRAVEL TOO SOFT TO BE SEPARATED. ALL DATA FOR WHOLE SOIL.

SYRETT LOAM
S68Utah-9-6

Location: Paunsaugunt Soil Survey Area, Utah, 500 feet N. and 500 feet W. of the S. 1/4 corner of Sec. 24, T. 36 S., R. 4 W. Garfield County, UT. Date of sampling: June 12, 1968.

Described by: R. Mitchell. Collectors: J. Carley, G. Crandall, A. Erickson, R. Mitchell, D. Nettleton, A. Southard, L. Stott.

Classification: Entic Haploboroll, loamy-skeletal, carbonatic.

Vegetation: Ponderosa pine, bitterbrush, manzanita, needleandthread grass, western wheatgrass, and forbs. Use: Timber, range, and wildlife. Climate: Precipitation, about 18 inches. The mean annual soil temperature is less than 47°F., and the mean summer soil temperature is 59°F. or more. Parent material: Limestone. Topography: Gently sloping mesa. Slope 5 percent, north-facing. Elevation: 8,100 feet. Drainage: Well drained. Runoff is medium. Permeability is moderate to bedrock and slow below Soil moisture: Moist.

HORIZON	DESCRIPTION
	(2-0 cm)
01&02	½ inch to 0, intermittent pine litter.
A11 RSL 68255 (0-3 cm)	0 to 1 inch, brown (10YR 5/3) light loam, dark brown (10YR 3/3) when moist; weak very fine granular structure; soft, very friable; nonsticky and nonplastic; few fine roots; common very fine interstitial pores; 10 percent fine gravel; strongly effervescent; mildy alkaline (pH 7.5); clear smooth boundary.
A12 RSL 68256 (3-15 cm)	1 to 6 inches, grayish brown (10YR 5/2) light loam, very dark grayish brown (10YR 3/2) when moist; weak medium subangular blocky structure that breaks to weak fine granular; soft, friable, nonsticky and nonplastic; common fine and medium roots; common fine interstitial and a few tubular pores; 10 percent fine gravel; strongly effervescent; mildly alkaline (pH 7.5); diffuse wavy boundary.
A13 RSL 68257 (15-43 cm)	6 to 17 inches, grayish brown (10YR 5/2) cobbly loam, dark brown (10YR 3/3) when moist; weak medium subangular blocky structure that breaks to weak fine granular, soft, friable, slightly sticky and slightly plastic; common fine medium and coarse roots; common fine and coarse interstitial pores; 30 percent cobbles and 10 percent gravel; violently effervescent; moderately alkaline (pH 8.0); clear wavy boundary.
IIC RSL 68258 (43-69 cm)	17 to 27 inches, pinkish white (7.5YR 8/2) and light red (2.5YR 6/6) very gravelly silt loam, pink (7.5YR 7/4) and red (2.5YR 5/6) when moist; massive; hard, firm, slightly sticky and slightly plastic; few medium and coarse roots in fractures (soil material where root channels are is dark brown (7.5YR 4/2) moist); few medium and coarse interstitial pores; 60 percent gravel and 10 percent cobbles; violently effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.
R RSL 68259 (69-74 cm)	27 to 29 inches, limestone bedrock.

CONSECUTIVE PEDON NUMBER C 68124 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES LUCKY STAR SILT LOAM (TAXADJUNCT) SOIL NO. S68 UTAH. 3- 2 SAMPLE NO. 8 934-8 940 WASATCH A. CACHE AREA

SOIL FAMILY: ABRUPTIC CRYIC PALEBOROLL,LOAMY-SKELETAL,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBO NATE 3A1A	INT. II .2- .02	1A2A PCT. OF WHOLE SOIL	COARSE FRAGMENTS I 75- 20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75			
8 934	0- 10	A11	31.5	53.1	15.4	2.4	3.7	2.3	8.1	15.0	23.8	29.3				44.5	23A	--	20	3
8 935	10- 38	A12	30.6	54.3	15.1	2.3	3.3	2.3	7.6	15.1	27.1	27.2				47.5	34*	11	11	4
8 936	38- 76	A21	54.9	35.3	9.8	4.8	6.1	4.3	14.5	25.2	20.1	15.2				55.5	58A	40	15	3
8 937	76-109	A22	64.1	27.7	8.2	5.0	8.3	5.0	15.3	30.5	16.5	11.2				57.7	65A	50	13	2
8 938	109-140	A+B	65.8	25.1	9.1	3.1	8.8	6.2	17.9	29.8	14.7	10.4				56.8	74*	46	19	2
8 939	140-170	B+A	48.4	20.6	31.0	4.2	5.7	3.6	13.0	21.9	11.7	8.9				43.1	69*	40	12	4
8 940	170-221	B2 T	42.8	22.3	34.9	1.8	4.1	3.4	12.0	21.5	11.6	10.7				41.4	81*	63	15	1

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR-BON 6A1A	NITRO-GEN 6B1A	CARBONATE AS CACO3 LT 2 6F1B	2-20 6E1B	SESQUIOXIDES DI-CIT FE 6C2B	EXT AL 6G7A	PYROP FE 6C5A	EXT AL 6G5A	ATTERBERG L L 4F1	P L 4F2	B.D. EST. 1/3 BAR 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		-PERCENT-		-PERCENT-		PERCENT				PCT.	NO.40	GRAMS PER CC				PERCENT			-PERCENT-	
8 934	0- 10	6.34	0.434			0.7	0.3			56	56	0.80			0.92			18.3		
8 935	10- 38	4.22	0.310			0.8	0.2						0.87	0.90	0.85		32.2	13.2	1.1	1.0
8 936	38- 76	0.32	0.029			0.6	TR						1.10	1.11	0.64		26.1	3.8	0.3	0.2
8 937	76-109	0.23				0.5	0.1			NP	NP	1.15			0.56			3.3		
8 938	109-140	0.19				0.5	TR					1.15			0.45			3.8		
8 939	140-170	0.33				1.0	0.1					1.15			0.51			11.7		
8 940	170-221					1.4	0.1			34	19		1.21	1.44	0.34		34.4	12.7	6.0	1.9

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6Q2D	NA 5B4A 6P2A	K 6Q2A	SUM	EXT. ACI-DITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4-DAC 5A6A	BASE SATURATION SUM+ ACI-DITY	SUM+ AL	NH4+ DAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA+ CL2 8C1E
		MEQ/100G									PERCENT					
8 934	0- 10	33.8	2.9	0.1	1.6	38.4			38.4	39.2			98		6.2	5.9
8 935	10- 38	21.9	2.1	0.1	1.5	25.6	10.4		36.0	29.0	71		88		6.3	5.9
8 936	38- 76	3.6	0.6	0.1	0.2	4.5			4.5	5.0			90		6.3	5.8
8 937	76-109	2.6	0.5	0.1	0.2	3.4			3.4	3.5			97		6.4	5.8
8 938	109-140														6.4	5.7
8 939	140-170														5.9	5.3
8 940	170-221	11.1	4.0	0.1	0.6	15.8			15.8	17.9			88		5.6	4.9

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
8 934	0- 10	MI 2	KK 2								MI MICA	1 TRACE
8 935	10- 38										KK KAOLINIT	2 SMALL
8 936	38- 76											3 MODERATE
8 937	76-109	KK 5	MI 3									4 ABUNDANT
8 938	109-140											5 DOMINANT
8 939	140-170											6 INDETER.
8 940	170-221	MI 3	KK 3									

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
*=THE 75-250MM FRACTION IS INCLUDED.

LUCKY STAR SILT LOAM (taxadjunct) 1/
S68Utah-3-2

Location: Cache Soil Survey Area. 1,200 feet east and 1,500 feet south of the north 1/4 corner. Sec. 20, T. 9 N., R. 3 E.; 7 miles south and 2 3/4 miles west of the Hardware Ranch. Date of sampling: October 8, 1968.
Description by: L. B. Campbell. Collectors: K. W. Flach, M. E. Olsen, L. B. Campbell.
Classification: Abruptic Cryic Paleboroll, loamy-skeletal, mixed.
Vegetation: Aspen with an understory of chokecherry, bearded wheatgrass, western coneflower, bluebell and goldenrod. Use: Range and watershed. Climate: Precipitation, 28 to 30 inches falling mostly as snow. Mean annual air temperature, 38°F. Parent materials: Mixed Colluvium derived from sandstone and quartzite. Topography: Very steep mountain slope, 35 percent, north-facing. Elevation: 7,100 feet. Drainage: Well drained. Runoff is slow to medium. Permeability is moderate. Soil moisture: Moist.

HORIZON	DESCRIPTION
O1 3-0 cm	1 inch to 0, matted decaying leaves, twigs, and grasses (not sampled).
A11 0-10 cm RSL No. 68934	0 to 4 inches, dark grayish brown (10YR 4/1) silt loam, very dark brown (10YR 2/2) moist; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; common fine and medium and few large roots; noncalcareous; slightly acid (pH 6.4) clear wavy boundary.
A12 10-38 cm RSL No. 68935	4 to 15 inches, dark grayish brown (10YR 4/1) silt loam, very dark brown (10YR 2/2) moist; weak fine and medium subangular blocky structure breaking to weak fine granular; soft, very friable, slightly sticky and slightly plastic; common fine and medium and a few large roots; 10 percent cobble and gravel; noncalcareous; slightly acid (pH 6.4); abrupt wavy boundary.
A21 38-76 cm RSL No. 68936	15 to 30 inches, pink (7.5YR 7/4) very gravelly and cobbly sandy loam, brown and dark brown (7.5YR 4/4) moist; weak medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; common fine and medium and a few large roots; 40 percent gravel and cobble; noncalcareous; slightly acid (pH 6.2); gradual wavy boundary.
A22 76-109 cm RSL No. 68937	30 to 43 inches, pink (7.5YR 7/4) very gravelly and cobbly sandy loam, brown to dark brown (7.5YR 4/4) moist; weak medium and fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; few fine medium and large roots; 60 percent gravel and cobble; noncalcareous; slightly acid (pH 6.2); gradual irregular boundary.
A2&B2t 109-140 cm RSL No. 68938	43 to 55 inches, the A2 portion of this horizon occupies 85 percent of the volume and the B2t, 15 percent; the A2 portion is pink (5YR 7/4) very gravelly and cobbly sandy loam, yellowish red (5YR 5/6) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; few fine and medium roots; 80 percent gravel and cobble; noncalcareous; slightly acid (pH 6.1); gradual irregular boundary. The B2t portion is the same as the B2t portion of the 67- to 87-inch horizon described below.
B2t&A2 140-170 cm RSL No. 68939	55 to 67 inches, the B2t portion of this horizon occupies 70 percent of the volume and the A2, 30 percent, the B2t portion is the same as the B2t portion of the 67- to 87-inch horizon described below; the A2 portion is the same as the A2 portion of the 43- to 55-inch horizon described above.
B2t 170-221 cm RSL No. 68940	67 to 87 inches, red (2.5YR 5/6) very cobbly and gravelly clay loam, red, (2.5YR 4/8) moist; moderate fine and medium subangular blocky ped formed by the space available between coarse fragments; extremely hard, very firm, sticky and very plastic; few fine and medium roots; moderate continuous clay films; 80 percent cobble and gravel; 15 percent of volume is A2 horizon material tonguing into this horizon; noncalcareous; medium acid (pH 6.0).

1/ The Lucky Star series is in a loamy-skeletal, mixed family of Cryic Paleborolls. This pedon has a clay increase of more than 20 percent between the B2t and the overlying A2 horizon.

CONSECUTIVE PEDCN NUMBER C 68125 C H A R A C T E R I Z A T I C N D A T A

SOIL SERIES ROUNDY LOAM SOIL NO. S68 UTAH. 26- 1 SAMPLE NO. 8 941-8 950 WASATCH A. CACHE AREA

SOIL FAMILY: ABRUPTIC CRYIC PALEBOROLL,FINE,MONTMORILLONITIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBO NATE 3A1A.02	1A2A INT. II .2-	COARSE FRAGMENTS PCT. OF WHOLE 20	I 75-	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														SOIL	PCT. OF LT 75		
8 941	3- 0	O2	44.8	46.1	9.1	2.8	5.4	4.2	14.8	17.6	23.1	23.0				50.3	7A	--	7Z	N
8 942	0- 15	A11	36.8	47.3	15.9	1.6	1.7	1.9	12.7	18.9	23.8	23.5				51.3	34A	14	15	5
8 943	15- 38	A12	36.5	48.2	15.3	1.4	1.7	1.9	12.1	19.4	25.7	22.5				53.6	26A	5	19	2
8 944	38- 56	A21	39.7	49.1	11.2	1.6	1.7	1.8	12.2	22.4	27.4	21.7				58.5	47A	34	9	4
8 945	56- 74	A22	46.8	43.7	9.5	0.8	0.9	1.3	13.4	30.4	29.2	14.5				69.8	56*	26	4	1
8 946	74-102	B21T	59.4	31.9	8.7	0.1	0.1	0.2	7.4	51.6	23.6	8.3				81.9	9A	--	2	7
8 947	74-102	B21T	32.0	28.0	40.0	0.2	0.1	0.2	2.8	28.7	19.5	8.5				50.6	--A	--	--	--
8 948	102-135	B22T	75.7	17.2	7.1	0.1	1.1	3.7	23.7	47.1	12.5	4.7				77.1	3A	--	1	2
8 949	102-135	B22T	40.4	18.9	40.7	--	--	--	3.7	36.7	12.4	6.5				52.6	--A	--	--	--
8 950	135-173	C+B	66.3	23.1	10.6	0.3	1.1	1.7	14.7	48.5	16.2	6.9				76.6	34A	--	32	2

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR- BON 6A1A	NITRO GEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES DI-CIT FE 6C2B	EXT AL 6G7A	PYROP FE 6C5A	EXT AL 6G5A	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST. 1/3 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		-PERCENT-		-PERCENT-		PERCENT				PCT.NO.40		GRAMS PER CC				PERCENT			-PERCENT-	
8 941	3- 0	15.33	0.921									0.40			0.99			39.6		
8 942	0- 15	5.13	0.361			0.7	0.2			45	43		1.00	1.03	0.84		24.0	13.7	1.0	0.8
8 943	15- 38	2.38	0.179			0.7	0.1						1.01	1.03	0.88		21.5	8.6	0.7	0.6
8 944	38- 56	0.48	0.043			0.6	0.1			NP	NP		1.19	1.22	0.71		19.0	4.4	0.8	0.6
8 945	56- 74	0.17				0.5	0.1						1.37	1.40	0.61		16.5	3.5	0.7	0.4
8 946	74-102	0.19				0.4	0.1						1.52	1.74	0.94		19.8		4.6	4.3
8 947	74-102	0.22				1.0	0.2			52	23		1.44	1.82	1.00		28.2	17.3	8.1	8.1
8 948	102-135	0.10				0.3	0.1					1.46			0.98			3.5		
8 949	102-135	0.26				0.8	0.1						1.46	1.81	1.00		25.7	18.6	7.4	7.4
8 950	135-173					0.6	0.1			NP	NP		1.72	1.74	0.75		9.8	4.9	0.4	0.3

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI- DITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4- OAC 5A6A	BASE SATURATION SUM+ ACI- DITY	SUM+ AL	NH4- OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA- CL2 8C1E
		MEQ/100G									PERCENT					
8 941	3- 0	50.3	4.9	0.1	2.6	57.9			57.9	47.4			100+			6.1
8 942	0- 15	19.0	2.4	0.1	1.2	22.7			22.7	25.2			90		6.2	5.9
8 943	15- 38	19.4	1.8	TR	0.7	21.9			21.9	18.1			100+		6.4	5.8
8 944	38- 56	5.8	0.8	0.1	0.3	7.0			7.0	8.5			82		6.2	5.5
8 945	56- 74	5.3	1.0	TR	0.2	6.5			6.5	7.2			91		6.3	5.5
8 946	74-102	5.7	2.4	0.1	0.1	8.3		0.3	8.3	8.9		97	93		5.4	4.8
8 947	74-102	23.5	11.1	0.1	0.6	35.3		0.4	35.3	34.5		99	100+		5.5	4.8
8 948	102-135							0.3							5.1	4.6
8 949	102-135							0.6							5.3	4.6
8 950	135-173	5.9	2.9	0.1	0.1	9.0		0.3	9.0	10.7		97	84		5.5	4.8

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
8 941	3- 0											1 TRACE
8 942	0- 15	MT	2	MI	2	KK	2				MT MONTMORT	2 SMALL
8 943	15- 38										MI MICA	3 MODERATE
8 944	38- 56	MT	2	MI	2	KK	2				KK KAOLINIT	4 ABUNDANT
8 945	56- 74											5 DOMINANT
8 946	74-102											6 INDETER.
8 947	74-102	MT	4	MI	2	KK	1					
8 948	102-135	MT	5	MI	2	KK	1					
8 949	102-135	MT	5	MI	1	KK	1					
8 950	135-173	MT	2	MI	1	KK	1					

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
N=NOT DETERMINED.
Z=NOT ALL FRACTIONS SEPERATED. ADJACENT FRACTIONS INCLUDED HERE.
*=THE 75-250MM FRACTION IS INCLUDED.

ROUNDY LOAM
S68Utah-26-1

Location: Wasatch Soil Survey Area, Utah. Sec. 24, T. 5 S., R. 5 E. About 12 miles south of Heber and about 8 miles N. W. of Daniels Summit and U. S. Highway 40.
Date of sampling: October 11, 1968.
Description by: L. Woodward, M. E. Olsen. Collectors: K. Flach, M. Olsen, L. Woodward.
Classification: Abruptic Cryic Paleboroll, fine, montmorillonitic.
Vegetation: Aspen with an understory of snowberry, slender wheatgrass, mountain brome, bluebell, western coneflower, and peavine. Aspen site index 63 ± 4.5 site Class III. Use: Range and watershed. Climate: Precipitation, about 35 inches. Mean annual air temperature, about 40°F. Mean summer air temperature, about 55°F. Parent material: Residuum from mixed sedimentary rocks. Topography: Mountain slope, slope about 10 percent with southwest exposure. Elevation: 9,000 feet. Drainage: Well drained. Runoff is slow. Permeability is slow. No water table. Soil moisture: Surface moist, subsoil dry. (Usually moist.)

HORIZON	DESCRIPTION
O2 3-0 cm RSL No. 68941	1 inch to 0, decomposed organic matter, abrupt smooth boundary.
A11 0-15 cm RSL No. 68942	0 to 6 inches, brown (10YR 4/3) loam, very dark brown (10YR 2/2) moist; moderate fine granular structure; soft, very friable, slightly sticky and slightly plastic; many large medium and fine roots; 20 percent gravel, noncalcareous; gradual smooth boundary.
A12 15-38 cm RSL No. 68943	6 to 15 inches, brown (10YR 5/3) loam, very dark brown (7.5YR 2/2) moist; moderate medium granular structure; slightly hard, very fiable, slightly sticky and slightly plastic; common medium, large, and fine roots; 20 percent gravel; noncalcareous; clear wavy boundary.
A21 38-56 cm RSL No. 68944	15 to 22 inches, light brown (7.5YR 6/4) gravelly sandy loam, brown (7.5YR 5/4) moist; massive; hard, very friable, slightly sticky and slightly plastic; few large, medium, and fine roots; 10 percent cobble and 20 percent gravel; gradual wavy boundary.
A22 56-74 cm RSL 68945	22 to 29 inches, same as A21 except has 25 percent cobble and 10 percent gravel; abrupt wavy boundary
B21t 74-102 cm RSL No. 68946 & 68947	29 to 40 inches, yellowish red (5YR 5/6) crushed clay , reddish brown (5YR 4/4) coatings, moist; strong coarse subangular blocky structure breaking to strong medium angular blocky; extremely hard, extremely firm, very sticky and very plastic; few large, medium and fine roots; thick continuous clay skins; 10 percent gravel and cobble; diffuse boundary.
B22t 102-135 cm RSL No. 68948 & 68949	40 to 53 inches, yellowish red (5YR 5/6) crushed clay , (5YR 4/6) coatings, moist; strong medium angular blocky structure; extremely hard, extremely firm, very sticky and very plastic; few medium and fine roots; thick continuous clay skins; 20 percent cobble, noncalcareous; abrupt wavy boundary.
C&B 135-173 cm RSL No. 68950	53 to 68 inches, this horizon is 90 percent C and 10 percent B2 horizon. The C horizon is sandy loam, strong brown moist; massive; soft, very friable, nonsticky and nonplastic; very few fine roots; 20 percent gravel and cobble; noncalcareous.

CONSECUTIVE PEDON NUMBER C 68123 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES LUCKY STAR SILT LOAM SOIL NO. S68 UTAH. 3- 1 SAMPLE NO. 8 924-8 933 WASATCH A. CACHE AREA

SOIL FAMILY: CRYIC PALEBOROLL,LOAMY-SKELETAL,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBONATE 3A1A.02	1A2A INT. II .2- 75- 20-5	COARSE FRAGMENTS PCT. I OF WHOLE 20 SOIL	II PCT. OF LT 75	III 5-2
			PERCENT OF LESS THAN 2MM																
8 924	0- 10	A11	40.5	43.3	16.2	3.8	5.2	3.3	10.9	17.3	20.4	22.9				45.1	28A	--	23	5
8 925	10- 33	A12	42.7	42.4	14.9	4.8	5.0	2.9	10.0	20.0	21.2	21.2	11.7	3.2		48.3	45*	--	24	3
8 926	33- 63	A21	51.1	40.3	8.6	5.7	7.1	3.9	12.2	22.2	21.7	18.6				52.2	84*	--	24	5
8 927	63- 89	A22	56.1	36.6	7.3	5.5	7.0	4.2	14.0	25.4	20.1	16.5	5.2	2.1		55.2	72*	56	7	4
8 928	89-104	A23	58.3	33.9	7.8	6.4	7.4	3.9	14.3	26.3	17.0	16.9				53.2	70A	37	24	9
8 929	104-135	A*B	56.0	30.1	13.9	6.8	7.7	3.9	14.3	23.3	14.1	16.0				47.5	69A	26	37	6
8 930	135-155	B*A	58.9	31.1	10.0	9.1	8.1	4.8	14.7	22.2	15.9	15.2				47.8	52A	--	44	8
8 931	135-155	B*A	47.5	27.1	25.4	7.7	6.6	3.6	10.8	18.8	13.1	14.0	9.8	15.6		39.0	48A	36	10	2
8 932	155-193	B2 T	65.1	26.2	8.7	10.3	8.0	4.3	15.9	26.6	12.8	13.4	5.8	2.9		50.9	43A	--	29	14
8 933	155-193	B2 T	49.4	23.4	27.2	4.8	5.9	4.1	13.8	20.8	11.1	12.3	10.8	16.4		41.3	70A	51	15	4

SAMPLE NO.	DEPTH CM.	ORG. MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES DI-CIT EXT FE 6C2B	AL 6G7A	PYROP EXT FE 6C5A	AL 6G5A	ATTERBERG LIMIT EST. LL 4F1	PL 4F2	BULK DENSITY 1/3 BAR 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		-PERCENT-		-PERCENT-		PERCENT				PCT.NO.40		GRAMS PER CC				PERCENT			-PERCENT-	
8 924	0- 10	7.98	0.523			0.8	0.1			63	61		0.78	0.82	0.90		34.5	18.9	1.7	1.5
8 925	10- 33	5.76	0.424			0.8	0.2						0.74	0.79	0.81		39.3	15.1	2.2	1.8
8 926	33- 63	0.64	0.056			0.6	0.1					1.15			0.30			4.2		
8 927	63- 89	0.25				0.6	0.1			NP	NP		1.15	1.15	0.48		15.1	3.3		
8 928	89-104	0.30				0.6	0.1					1.15			0.49			3.3		
8 929	104-135	0.27				0.7	0.1						1.11	1.16	0.51		32.0	5.2	1.5	0.7
8 930	135-155	0.18				0.5	0.1					1.15			0.68			3.6		
8 931	135-155	0.26				0.9	0.1			30	21		1.18	1.23	0.71		30.0	9.7	1.4	1.4
8 932	155-193	0.15				0.5	TR					1.08			0.77			3.4		
8 933	155-193					1.0	0.2						1.08	1.20	0.51		35.1	10.4	3.6	1.8

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6Q2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACIDITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4+ DAC 5A6A	BASE SATURATION SUM+ ACIDITY	SUM+ AL	NH4+ DAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CACL2 8C1F
		MEQ/100G									PERCENT					
8 924	0- 10	41.2	3.5	0.1	1.2	46.0			46.0	37.7			100+		6.0	5.8
8 925	10- 33	29.1	2.9	0.1	0.8	32.9			32.9	33.3			99		6.1	5.8
8 926	33- 63	4.8	0.7	0.1	0.2	5.8			5.8	6.8			85		6.2	5.6
8 927	63- 89	3.2	0.6	0.1	0.2	4.1			4.1	4.7			87		6.2	5.6
8 928	89-104														6.3	5.6
8 929	104-135														6.5	5.9
8 930	135-155	2.8	0.7	0.1	0.1	3.7			3.7	3.9			95			
8 931	135-155	8.3	2.5	0.1	0.3	11.2			11.2	10.8			100+		6.4	5.6
8 932	155-193	3.3	0.9	TR	0.1	4.3			4.3	3.9			100+			
8 933	155-193	11.2	3.3	0.1	0.3	14.9			14.9	12.8			100+		6.2	5.7

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2F I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2L I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
8 924	0- 10	KK 3	MI 2								KK KAOLINIT	1 TRACE
8 925	10- 33							MT 3	MI 3	KK 1	MI MICA	2 SMALL
8 926	33- 63											3 MODERATE
8 927	63- 89	KK 3	MI 2					MT 3	MI 3	KK 1	MT MONTMORT	4 ABUNDANT
8 928	89-104											5 DOMINANT
8 929	104-135											6 INDETER.
8 930	135-155											
8 931	135-155							MT 3	MI 3	KK 3		
8 932	155-193	KK 3	MI 2					MI 4	MT 1	KK 1		
8 933	155-193							MI 3	MT 1	KK 1		

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
*=THE 75-250MM FRACTION IS INCLUDED.

LUCKY STAR SILT LOAM
S68Utah-3-1

Location: Cache Soil Survey Area, Utah. 2,000 feet west and 1,000 feet north of S. E. corner of Sec. 31, T. 10 N., R. 3 E.; three miles south and 3 1/2 miles west of the Hardware Ranch, Cache County, UT. Date of sampling: October 8, 1968.
Description by: L. B. Campbell. Collectors: K. W. Flach, M. E. Olsen, L. B. Campbell.
Classification: Cryic Paleboroll, loamy-skeletal, mixed.
Vegetation: Aspen with an understory of bearded wheatgrass, snowberry, chokecherry, goldenrod, bluebell, tall larkspur. Use: Rangeland and watershed. Climate: Precipitation, 28 to 30 inches falling mostly as snow. Mean annual air temperature, 38°F. Parent material: Mixed colluvium derived from sandstone and quartzite. Topography: Very steep mountain slopes, 46 percent, east-facing. Elevation: 7,150 feet. Drainage: Well drained. Runoff is slow to medium. Permeability is moderate. Soil moisture: Moist.

HORIZON	DESCRIPTION
A1 3-0 cm	1 inch to 0, matted decaying leaves, twigs, and grasses (not sampled).
A11 0-10 cm RSL No. 68924	0 to 4 inches, very dark grayish brown (10YR 3/2) silt loam, very dark brown (10YR 2/2) when moist; weak very fine granular structure; soft, very friable, nonsticky and slightly plastic; common fine and few medium and large roots; slightly acid (pH 6.4); clear wavy boundary.
A12 10-33 cm RSL No. 68925	4 to 13 inches, very dark grayish brown (10YR 3/2) silt loam, very dark brown (10YR 2/2) when moist; weak medium subangular blocky structure breaking to weak fine granular; soft, very friable, nonsticky and slightly plastic; common fine and few medium roots; 15 percent cobbles; slightly acid (pH 6.3); gradual wavy boundary.
A21 33-63 cm RSL No. 68926	13 to 25 inches, light brown (7.5YR 6/4) very cobbly sandy loam, brown and dark brown (7.5YR 4/4) when moist; weak fine and medium subangular blocky structure; soft, loose, nonsticky and nonplastic; many fine and very fine and a few medium and large roots; 70 percent cobble and gravel containing occasional stones; slightly acid (pH 6.3); clear wavy boundary.
A22 63-89 cm RSL No. 68927	25 to 35 inches, pink (7.5YR 7/4) very cobbly sandy loam, brown and dark brown (7.5YR 4/4) when moist; weak fine and medium subangular blocky structure; soft, loose, nonsticky and nonplastic; few fine, medium, and large roots; 70 percent cobble and gravel; slightly acid (pH 6.2); gradual wavy boundary.
A23 89-104 cm RSL No. 68928	35 to 41 inches, pink (7.5YR 7/4) very cobbly and gravelly sandy loam, brown and dark brown (7.5YR 4/4) when moist; weak fine and medium subangular blocky structure; soft, loose, nonsticky and nonplastic, few fine and medium roots; 75 percent cobble and gravel; slightly acid (pH 6.2); gradual irregular boundary.
A2&B2t 104-135 cm RSL No. 68929	41 to 53 inches, the A2 portion of this horizon occupies 60 percent of the volume and the B2t, 40 percent; the A2 portion is reddish yellow (7.5YR 7/6) very gravelly sandy loam, strong brown (7.5YR 5/6) when moist; weak medium and fine subangular blocky structure; soft, loose, nonsticky and nonplastic; few fine and medium roots; 60 percent gravel; slightly acid (pH 6.4); gradual wavy boundary. The B2t portion is the same as the B2t portion of the 53-to 61-inch horizon described below.
B2t&A2 135-155 cm RSL No. 68930 & 68931	53 to 61 inches; the B2t portion of this horizon occupies 70 percent of the volume and the A2, 30 percent. The B2t portion is light red (2.5YR 6/6) very gravelly clay loam, red (2.5YR 4/6) when moist; moderate medium and fine subangular blocky structure; extremely hard, very firm, sticky and very plastic; few fine and medium roots; many very fine, discontinuous, random tubular pores; moderate continuous clay films on peds and in pores; 60 percent gravel and 10 percent cobble; slightly acid (pH 6.2); The A2 portion is yellowish red (5YR 5/6) very gravelly sandy loam, reddish brown (5YR 5/4) moist; weak medium and fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; few fine and medium roots; 60 percent gravel; slightly acid (pH 6.2); diffuse irregular boundary.
B2t 155-195 cm RSL No. 68932 & 68933	61 to 76 inches, red (2.5YR 5/6) very gravelly clay loam, red (2.5YR 4/6) when moist; moderate medium subangular blocky structure determined by space available between coarse fragments; extremely hard, very firm, sticky and very plastic; few fine roots; many very fine and micro discontinuous random tubular pores; moderate continuous clay films on ped surfaces and in pores; 70 percent cobble and gravel; tongues of A2 horizon (about 15 percent of volume) extend into this horizon from above; slightly acid (pH 6.2).

CONSECUTIVE PEDON NUMBER C 68120 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES BAIRD HOLLOW LOAM (TAXADJUNCT) SOIL NO. S68 UTAH. 26- 3 SAMPLE NO. 8 903-8 908 WASATCH A.CACHE AREA

SOIL FAMILY: CRYIC PALEBOROLL,FINE-LOAMY,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBONATE 3A1A.02	INT. II .2-	1A2A COARSE FRAGMENTS PCT. OF WHOLE SOIL	I 75- 20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75			
8 903	0- 18	A11	45.7	35.8	18.5	7.6	10.1	6.2	11.9	9.9	16.3	19.5				33.4	23A	3	20Z	N
8 904	18- 43	A12	46.7	35.1	18.2	8.7	10.1	6.2	11.6	10.1	15.8	19.3				32.8	27A	3	14	10
8 905	43- 58	A2	57.7	27.5	14.8	12.6	13.9	7.9	13.3	10.0	12.6	14.9				30.4	51*	11	3	2
8 906	58- 94	B+A	57.6	22.5	19.9	13.6	16.8	8.2	11.0	8.0	10.6	11.9				24.7	39*	6	7Z	N
8 907	94-122	B21T	52.9	24.9	22.2	11.5	12.0	7.0	12.7	9.7	12.1	12.8				29.4	38*	3	9	1
8 908	122-163	B22T	39.4	24.6	36.0	6.6	9.1	5.6	10.3	7.8	10.5	14.1				24.4	36*	3	3	4

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A -PERCENT-	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B -PERCENT-	2-20 6E1B	SESQUIOXIDES DI-CIT EXT FE 6C2B	AL 6G7A	PYROP EXT FE 6C5A	AL 6G5A	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST. 1/3 BAR 4A1F	1/3 BAR 4A1F	DRY BAR 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		-PERCENT-		-PERCENT-		PERCENT				PCT.NO.40		GRAMS PER CC				PERCENT			PERCENT	
8 903	0- 18	5.22	0.386			1.1	0.2			48	41		0.99	1.07	0.90		28.0	15.0	2.6	2.4
8 904	18- 43	4.11	0.325			1.0	0.2						1.12	1.20	0.87		26.4	14.5	2.3	2.0
8 905	43- 58	0.52	0.051			1.0	0.1			25	20		1.51	1.78	0.63		14.6	7.5	5.6	3.4
8 906	58- 94	0.34				1.0	0.1						1.47	1.60	0.74		22.1	9.4	2.9	2.1
8 907	94-122	0.22				1.0	0.2			30	19		1.57	1.68	0.73		19.8	10.0	2.3	1.7
8 908	122-163					1.1	0.1						1.50	1.74	0.76		25.8	16.2	5.1	3.7

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI- DITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4- OAC 5A6A	BASE SATURATION SUM+ ACI- DITY	SUM+ AL	NH4- OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA-CL2 8C1E
		MEQ/100G									PERCENT					
8 903	0- 18	22.7	2.8	0.1	2.0	27.6	10.1		37.7	31.6	73		87		6.1	5.7
8 904	18- 43	20.9	2.1	0.1	1.9	25.0	10.1		35.1	28.3	71		88		6.3	5.8
8 905	43- 58	11.5	2.1	0.1	0.7	14.4			14.4	15.8			91		6.4	5.9
8 906	58- 94	13.0	2.8	0.1	0.7	16.6			16.6	18.2			91		6.4	5.9
8 907	94-122	13.4	3.2	0.1	0.6	17.3			17.3	19.3			90		6.4	5.8
8 908	122-163	18.4	5.6	0.1	1.0	25.1			25.1	27.1			93		6.1	5.6

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
8 903	0- 18	MI 3	KK 2	MM 2							MI MICA	1 TRACE
8 904	18- 43										KK KACLINIT	2 SMALL
8 905	43- 58	MI 3	KK 2	MM 2							MM MT/MICA	3 MODERATE
8 906	58- 94											4 ABUNDANT
8 907	94-122	MI 4	MM 3	KK 2								5 DOMINANT
8 908	122-163											6 INDETER.

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
N=NOT DETERMINED.
Z=NOT ALL FRACTIONS SEPERATED. ADJACENT FRACTIONS INCLUDED HERE.
*=THE 75-250MM FRACTION IS INCLUDED.

BAIRD HOLLOW LOAM (taxadjunct) 1/
S68Utah-26-3

Location: Wasatch Soil Survey Area. About 12 miles east of Heber in Sec. 13, T. 4 S., R. 6 E., about 0.7 miles south of 1st cattle guard on Lake Creek Road, and 200 feet east of road by trail. Date of sampling: October 11, 1968.
Description By. L. Woodward, M. E. Olsen. Collectors: K. Flach, M. E. Olsen.
Classification: Cryic Paleboroll, fine-loamy, mixed.
Vegetation: Aspen with an understory of snowberry, mountain brome, slender wheatgrass, bearded wheatgrass, peavine, horsemint, bluebells, and western coneflower. Aspen site index is 64 ± 3.75 Class III. Use: Range, summer grazing. Climate: Precipitation, 30 to 35 inches. Mean annual air temperature is about 38°F. Mean summer air temperature is about 58°F. Parent material: Glacial drift from andesite. Topography: Moraines. Slope, 10 percent, west-facing. Elevation: 7,800 feet. Drainage: Well drained. Runoff is slow; permeability is low. No water table Soil moisture: Moist.

HORIZON	DESCRIPTION
A11 0-18 cm RSL No. 68903	0 to 7 inches, brown (7.5YR 4/2) loam, very dark brown (10YR 2/2) moist; moderate fine granular structure; soft, very friable; slightly sticky and slightly plastic; many fine and few medium and large roots; 20 percent gravel noncalcareous; gradual smooth boundary.
A12 18-43 cm RSL No. 68904	7 to 17 inches, brown (10YR 4/2) loam, very dark brown (7.5YR 2/2) moist; moderate fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; many fine, few medium and large roots; 20 percent gravel; noncalcareous; abrupt wavy boundary.
A2 43-58 cm RSL No. 68905	17 to 23 inches, light brown (10YR 6/4) gravelly clay loam, dark brown (7.5YR 3/2) moist; massive; hard firm, sticky and plastic; few large medium and fine roots; 30 percent gravel; noncalcareous; clear wavy boundary.
B&A * 58-94 cm RSL No. 68906	23 to 37 inches, pinkish gray (7.5YR 6/2) gravelly heavy sandy clay loam, brown (7.5YR 4/3) moist; weak coarse prismatic structure breaking to strong medium subangular blocky extremely hard, very firm, very sticky and plastic; few large, medium, and fine roots; moderate thick patchy clay skins, 25 percent cobble and gravel; noncalcareous; clear wavy boundary.
B21t 94-122 cm RSL No. 68907	37 to 48 inches, brown (7.5YR 5/3) gravelly heavy clay loam, brown (7.5YR 4/2) moist; weak coarse prismatic structure breaking to strong medium subangular blocky; extremely hard, very firm, very sticky and very plastic; few large medium and fine roots; moderately thick continuous clay films; 20 percent gravel; noncalcareous; gradual wavy boundary.
B22t 122-163 cm RSL No. 68908	48 to 64 inches, brown (7.5YR 5/2) gravelly clay, brown (7.5YR 4/2) moist; weak coarse prismatic structure breaking to strong medium angular blocky; extremely hard, very firm, very sticky and very plastic; few fine roots; thick continuous clay skins 20 percent gravel and cobble; noncalcareous.

* 95 percent B2t and 5 percent A2 by volume.

(Gravel and cobble content of this soil varies considerably within short distances. This profile has less coarse fragments than is modal for the series.)

1/ The Baird Hollow series is in a clayey-skeletal, montmorillonitic family of Cryic Paleboralfs. This pedon has less than 35 percent coarse fragments by volume and less than 35 percent clay.

CONSECUTIVE PEDON NUMBER C 71 27 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES CHARCOL GRAVELLY SANDY LOAM SOIL NO. S71 UTAH. 15- 7 SAMPLE NO. 1 166-1 172 MORGAN-SUMMIT AREA

SOIL FAMILY: CRYIC PACHIC PALEBOROLL,LOAMY-SKELETAL,MXD. RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 181B,3A1 TOTAL FRACTION SAND 2-.05	SILT .05-.002	CLAY LT .002	SANDS VCS 2-1	CS 1-.5	MS .5-.25	FS .25-.10	VFS .1-.05	SILTS CSI .05-.02	FSI .02-.002	CLAYS CC. 2-.20	FINE LT .20	CARBONATE 3A1A	INT. II .2-.02	1A2A COARSE FRAGMENTS PCT. OF WHOLE SOIL 20 75-	I 20-5	II 5-2	III PCT. OF LT 75
			PERCENT OF LESS THAN 2MM																	
1 166	0- 13	A11	51.3	34.5	14.2	6.3	8.8	9.8	16.5	9.9	15.6	18.9	10.5	3.7		34.2	47A	14	26	7
1 167	13- 28	A12	51.2	34.2	14.6	6.1	8.8	9.7	15.9	10.7	15.5	18.7				34.8	41A	13	21	7
1 168	28- 56	A13	49.1	36.4	14.5	5.8	7.2	8.7	15.5	11.9	16.7	19.7				37.2	44A	18	20	6
1 169	56- 79	A21	52.4	37.3	10.3	4.3	8.0	10.3	17.6	12.2	17.4	19.9	7.4	2.9		39.2	54A	33	15	6
1 170	79-107	A22	51.1	39.1	9.8	2.8	6.2	9.8	19.1	13.2	19.8	19.3				43.7	47*	22	15	5
1 171	107-140	A+B	48.5	40.0	11.5	5.2	6.4	8.4	16.5	12.0	18.3	21.7				39.3	53*	25	18	6
1 172	140-165	B+A	31.1	39.0	29.9	4.4	5.8	4.5	7.5	8.9	17.5	21.5	16.5	13.4		30.7	75*	50	13	4

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A -PERCENT-	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B -PERCENT-	2-20 6E1B	SESQUIOXIDES DI-CIT EXT FE 6C2B	PYROP EXT AL 6G7A	FE 6C5A	AL 6G5A	ATTERBERG L L 4F1 PCT.NO.40	P L 4F2	I T EST. 1/3 4A1F GRAMS PER CC	BULK DENSITY 1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C -PERCENT-	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1 -PERCENT-	LE 4D1
1 166	0- 13	4.09	0.318										1.06	1.10	0.74	27.7	22.2	10.5	1.2	0.9
1 167	13- 28	3.41	0.273									1.10			0.78			9.7		
1 168	28- 56	2.33	0.212									1.15			0.75			8.3		
1 169	56- 79	0.73	0.074										1.23	1.24	0.65	20.5	16.4	4.6	0.3	0.2
1 170	79-107	0.21										1.30			0.70			3.5		
1 171	107-140	0.16										1.40			0.63			4.2		
1 172	140-165	0.32											1.51	1.63	0.37	21.9	19.7	10.1	2.6	0.9

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI-DITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4-OAC 5A6A	BASE SATURATION SUM+ ACI-DITY	SUM+ AL	NH4-OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA-CL2 8C1E
		MEQ/100G									PERCENT					
1 166	0- 13	19.8	2.4	0.2	1.7	24.1	6.7		30.8	21.8	78		100+		6.7	6.1
1 167	13- 28	17.9	2.2	0.2	1.6	21.9	6.3		28.2	20.5	78		100+		6.5	6.1
1 168	28- 56	15.0	1.9	0.2	1.3	18.4	6.1		24.5	17.5	75		100+		6.5	5.9
1 169	56- 79	6.1	0.9	0.2	0.5	7.7			7.7	7.3			100+		6.6	5.9
1 170	79-107	3.8	0.7	0.1	0.2	4.8			4.8	4.4			100+		6.5	5.7
1 171	107-140	4.4	1.0	0.2	0.2	5.8			5.8	5.2			100+		6.5	5.7
1 172	140-165	11.5	3.1	0.2	0.4	15.2			15.2	16.4			93		6.3	5.8

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
1 166	0- 13	MI 3	KK 3					MI 2			MI MICA	1 TRACE
1 167	13- 28										KK KAOLINIT	2 SMALL
1 168	28- 56											3 MODERATE
1 169	56- 79	KK 4	MI 3					MI 3	MT 1	KK 1	MT MONTMORT	4 ABUNDANT
1 170	79-107											5 DOMINANT
1 171	107-140											6 INDETER.
1 172	140-165	MI 3	KK 2					MT 4	KK 2	MI 1		

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
*=THE 75-250MM FRACTION IS INCLUDED.

CHARCOL GRAVELLY SANDY LOAM
S71Utah-15-7

Location: Morgan County, UT; 3 1/2 miles north and 3/4 mile west of Lost Creek Dam spillway, about 1,160 feet north, 2,040 feet east of southwest corner Sec. 20, T. 6 N., R. 5 E. Date of sampling: June 5, 1971.
Description by: Earl Jensen, J. Carley. Collectors: D. Nettleton, J. Carley, E. Jensen, L. Campbell.
Classification: Cryic Pachic Paleboroll, loamy-skeletal, mixed.
Vegetation: Big sagebrush, snowberry, balsamroot, low sagebrush, cheatgrass, mountain brome, yarrow, geranium, horsemint, lupine, and sweetanice. Climate: Average annual precipitation is 20 to 30 inches. Mean annual temperature is 39° to 45° F. Mean summer temperature is 55° to 57° F. Frost-free period is 65 to 70 days. Parent materials: Local alluvium and residuum from quartzite and sandstone conglomerate. Topography: Mountain slope, 35 percent slope, southeast aspect, concave. Elevation: 7,680 feet. Drainage: Well drained. Soil moisture: Usually moist.

HORIZON	DESCRIPTION
A11 RSL No. 71166	0-13 cm (0-5 inches), dark reddish brown (5YR 3/3) gravelly loam, dark reddish brown (5YR 2/2) moist; weak fine granular structure; soft, very friable, nonsticky, slightly plastic; many very fine and fine, few medium and coarse roots; 30 percent gravel; neutral (pH 6.6); clear smooth boundary.
A12 RSL No. 71167	13-28 cm (5-11 inches), dark reddish brown (5YR 3/3) gravelly loam, dark reddish brown (5YR 3/2) moist; weak coarse subangular blocky structure that parts to weak fine granular; soft, very friable, nonsticky, slightly plastic; common very fine, fine, medium and coarse roots; 25 percent gravel; neutral (pH 6.6); clear smooth boundary.
A13 RSL No. 71168	28-56 cm (11-22 inches), dark reddish brown (5YR 3/4) gravelly loam, dark reddish brown (5YR 3/2) moist; weak medium subangular blocky structure that parts to weak fine granular; soft, friable, nonsticky, slightly plastic; common very fine, fine, medium, and coarse roots; 25 percent gravel; slightly acid (pH 6.4); clear smooth boundary.
A21 RSL No. 71169	56-79 cm (22-31 inches), brown (7.5YR 5/4) very gravelly sandy loam, dark reddish brown (5YR 3/4) moist; weak medium subangular blocky structure; soft, friable, slightly sticky, slightly plastic; common fine and medium, few coarse roots; few very fine pores; common thin clay skins on faces of peds; 35 percent gravel and 20 percent cobble; slightly acid (pH 6.4); abrupt smooth boundary.
A22 RSL No. 71170	79-107 cm (31-42 inches), yellowish red (5YR 5/6) very gravelly sandy loam; reddish brown (5 YR 4/4) moist; weak medium subangular blocky structure; soft, friable, slightly sticky, slightly plastic; few fine medium and coarse roots; common very fine pores; 35 percent gravel, 15 percent cobble; slightly acid (pH 6.2); clear smooth boundary.
A&B RSL No. 71171	107-140 cm (42-55 inches), 80 percent A2, yellowish red (5YR 5/6) very gravelly loam, yellowish red (5YR 4/6) moist; 20 percent B2t red (2.5YR 4/6) moist clay loam; weak medium and coarse subangular blocky structure; soft, friable, slightly sticky, slightly plastic; few fine, medium, and coarse roots; common very fine pores; thin and moderately thick clay films in pores and on faces of peds; 40 percent gravel and 5 percent cobble; slightly acid (pH 6.4); clear smooth boundary.
B&A RSL No. 71172	140-165 cm (55-65 inches), 30 percent A2 horizon, light reddish brown (5YR 6/4) very gravelly sandy loam, reddish brown (5YR 4/4) moist; 70 percent B2t red (2.5YR 4/6), very gravelly clay loam dry, dark red (2.5YR 3/6) moist; moderate medium subangular blocky structure; very hard, extremely firm, sticky, very plastic; few fine, medium and coarse roots; few very fine pores; continuous moderately thick clay films in pores and on faces of peds; 45 percent gravel and 20 percent cobble; slightly acid (pH 6.4).

CONSECUTIVE PEDON NUMBER C 72 78 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES CHARCOL GRAVELLY SANDY LOAM SOIL NO. S72 UTAH. 15- 3 SAMPLE NO. 2 471-2 477 MORGAN&E.WEBER AREA

SOIL FAMILY: CRYIC PACHIC PALEBOROLL,LOAMY-SKELETAL,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION SAND 2-.05	SILT .05-.002	CLAY LT .002	SANDS VCS 2-1	CS 1-.5	MS .5-.25	FS .25-.10	VFS .1-.05	SILTS CSI .05-.02	FSI .02-.002	CLAYS CO. 2-.20	FINE LT .20	CARBO NATE 3A1A	1A2A INT. II .2-.02	COARSE FRAGMENTS PCT. OF WHOLE SOIL	I 75-20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75			
2 471	0- 33	A11	52.5	33.8	13.7	6.9	10.3	10.2	13.9	11.2	15.8	18.0	9.4	4.3		34.3	54A	28	21	5
2 472	33- 53	A12	56.2	31.3	12.5	6.2	11.5	11.7	14.4	12.4	15.0	16.3				35.0	62*	32	15	5
2 473	53- 76	A21	62.4	29.0	8.6	7.5	12.2	12.4	16.1	14.2	14.2	14.8				36.9	80*	46	16	6
2 474	76- 96	A22	71.7	21.9	6.4	7.0	16.6	15.2	18.2	14.7	11.0	10.9	4.4	2.0		35.0	81*	48	19	4
2 475	96-112	A&B	53.9	33.1	13.0	3.0	11.2	10.7	13.9	15.1	12.4	20.7				34.7	79*	38	24	6
2 476	112-137	B2 T	35.0	39.7	25.3	1.7	7.0	6.6	8.7	11.0	13.1	26.6	17.7	7.6		28.8	48A	10	36	2
2 477	137-158	C	75.3	19.2	5.5	4.2	16.3	19.4	21.7	13.7	8.2	11.0				31.8	71A	54	15	3

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR-BON 6A1A	NITRO GEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	19-2 6E1B	EXT. IRON FE 6C2B	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST 1/3 BAR 4A1F	1/3 BAR 4A1H	DRY 3B2	CM WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTENSBLTY LEF 4D1	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
		PERCENT		PERCENT		PCT.	PCT.NO.40		GRAMS PER CC			PERCENT			PERCENT				
2 471	0- 33	3.07				0.8			1.15		0.66			9.2			6.9	7.2	6.4
2 472	33- 53	1.33				0.8				1.18	1.24	0.57	11.6	11.6	6.4	1.7	0.9	7.0		6.5
2 473	53- 76	0.64				0.7			1.30			0.34			4.2			7.0		6.4
2 474	76- 96	0.30				0.7				1.36	1.36	0.31	14.7	13.5	2.6			7.0		6.2
2 475	96-112	0.23				1.6				1.54	1.58	0.31	14.3	11.5	4.1	0.9	0.3	7.4		6.7
2 476	112-137	0.25				3.2				1.83	1.91	0.61	14.0	12.5	7.3	1.4	0.9	6.9		6.6
2 477	137-158	0.19				0.8			1.85			0.37			2.4			7.3		6.6

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT.	C E C NA+ OAC 5A2A	NH4+ OAC 5A6A	EC 8A1A	WATER EXTRACT FROM SATURATED PASTE 8A1 CA 6N1A	MG 6O1A	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1B	B 6T1A	PH SAT. PASTE 8C1B
		MEQ/100G					PCT.	MEQ/100G		MMHO	MEQ/1000 ML								PPM	
2 471	0- 33	19.2	2.0	0.5	1.5	23.2	100+		18.2	0.42	1.9	0.6	0.2	1.0		1.7	0.1			6.9
2 472	33- 53	9.3	1.4	0.4	0.9	12.0	100+		11.8											
2 473	53- 76	7.1	1.3	0.5	0.4	9.3	100+		7.0											
2 474	76- 96	3.1	0.5	0.4	0.1	4.1	100+		3.4											
2 475	96-112	4.4	0.9	0.5	0.1	5.9	100+		4.3											
2 476	112-137	6.5	1.7	0.4	0.1	8.7	100+		7.7											
2 477	137-158	3.1	0.6	0.5	0.1	4.3	100+		2.4											

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGBLE NA 5B4B MEQ.	NA 5O2 PCT.	SAR 5E	GYPSUM AMT. 6F1B PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY DTA 7A2E I	7A2E II	7A2E III	7A2E IV	7A3 PCT.	L.T. .0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
2 471	0- 33	45.8	0.5	3	TR			MI 3	KK 3				MI 3	KK 2		MI MICA	1 TRACE
2 472	33- 53		0.4	3												KK KAOLINIT	2 SMALL
2 473	53- 76		0.5	7													3 MODERATE
2 474	76- 96		0.4	12									MI 1	KK 1			4 ABUNDANT
2 475	96-112		0.5	12													5 DOMINANT
2 476	112-137		0.4	5				KK 4	MI 3				MI 1	KK 1			6 INDETER.
2 477	137-158		0.5	21													

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
*=THE 75-250MM FRACTION IS INCLUDED.

CHARCOL GRAVELLY SANDY LOAM
S72Utah-15-3

Location: Morgan County, UT; Condie Ridge; about 1,400 feet east and 400 feet south of west 1/4 corner. Sec. 22, T. 7 N., R. 5 E. Date of sampling: July 13, 1972.
Description by: L. Campbell, J. Carley. Collectors: D. Nettleton, A. Erickson, J. Carley, L. Campbell.
Classification: Cryic Pachic Paleboroll, loamy-skeletal, mixed.
Vegetation: Big sagebrush, snowberry, slender wheatgrass, buckwheat, ceanothus, lupine, balsamroot, sunflower. Climate: Average annual precipitation is 25 to 35 inches. Mean annual temperature is 40° to 42° F. Mean summer temperature is 55° to 57° F. Frost-free period is 60 to 70 days. Parent materials: Residuum and colluvium from quartzite, sandstone, and conglomerate. Topography: Mountain slope, 40 percent slope, southwest aspect. Elevation: 8,000 feet. Drainage: Well drained. Soil moisture: Usually dry.

HORIZON	DESCRIPTION
A11 RSL No 72471	0-33 cm (0-13 incnes), brown (7.5YR 4/2) gravelly sandy loam, very dark grayish brown (10YR 3/2) moist; weak fine granular structure; soft, very friable, slightly sticky, slightly plastic; many fine and few medium and coarse roots; 40 percent gravel; slightly acid (pH 6.4); clear wavy boundary.
A12 RSL No. 72472	33-53 cm (13-21 inches), brown (7.5YR 5/4) gravelly sandy loam, dark brown (7.5YR 3/3) moist; weak medium subangular blocky structure that parts to weak fine granular; slightly hard, friable, slightly sticky, slightly plastic; common fine and few medium and coarse roots; 35 percent gravel; and 10 percent cobble; slightly acid (pH 6.3); clear wavy boundary.
A21 RSL No. 72473	53-76 cm (21-30 inches), light reddish brown (5YR 6/4) very gravelly sandy loam, dark red (2.5YR 3/6) moist; weak medium subangular blocky structure; slightly hard, very friable, nonsticky, nonplastic; common fine and few medium roots; 10 percent cobble, 50 percent gravel; slightly acid (pH 6.3); gradual wavy boundary.
A22 RSL No. 72474	76-96 cm (30-38 inches), light reddish brown (2.5YR 6/4) very gravelly sandy loam, dark red (2.5YR 3/6) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky, nonplastic; few fine and medium roots; 10 percent cobble, 55 percent gravel; slightly acid (pH 6.2); clear smooth boundary.
A&B RSL No. 72475	96-112 cm (38-44 inches), about 60 percent A2 as described in A22 above and 40 percent B2t material as described in B2t below; gradual smooth boundary.
B2t RSL No. 72476	112-137 cm (44-54 inches), red (2.5YR 4/6) gravelly loam, dark red (10R 3/6) moist; moderate medium subangular blocky structure; very hard, firm, sticky, slightly plastic; few fine and medium roots; common fine and very fine pores; many thin clay films on faces of peds; 35 percent gravel; slightly acid (pH 6.2); abrupt smooth boundary.
C RSL No. 72477	137-158 cm (54-62 inches), red (2.5YR 5/6) very gravelly sandy loam, dark red (2.5YR 3/6) moist; single grained; loose, nonsticky, nonplastic; few fine roots; 55 percent gravel; slightly acid (pH 6.2).

CONSECUTIVE PEDON NUMBER C 72 79 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES CHARCOLGRAVELLY SANDY LOAM SOIL NO. S72 UTAH. 29- 4 SAMPLE NO. 2 478-2 485 MORGAN&E.WEBER AREA

SOIL FAMILY: CRYIC PACHIC PALEBOROLL,LOAMY-SKELETAL,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CC. 2- .2U	FINE LT .2U	CARBONATE 3A1A.02	1A2A INT. II .2- .02 WHCLE SOIL	COARSE FRAGMENTS PCT. OF 20 PCT. OF LT 75 I 75- 20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM																
2 478	C- 10	A11	55.4	29.7	14.9	7.4	12.7	11.0	14.1	10.2	13.2	16.5	10.2	4.7		30.3	28A	9	14	5
2 479	10- 25	A12	56.5	28.5	15.0	6.5	13.2	11.1	14.7	11.0	12.5	16.0				30.5	27A	9	12	6
2 480	25- 51	A13	53.4	31.4	15.2	3.9	13.0	11.0	14.6	10.9	14.7	16.7	9.4	5.8		32.6	41*	18	13	5
2 481	51- 69	A14	53.4	31.4	15.2	5.2	10.9	10.4	14.8	12.1	14.2	17.2				33.8	55*	33	10	4
2 482	69- 99	A2	52.0	32.2	15.8	3.3	9.9	9.9	15.0	13.9	15.3	16.9	9.3	6.5		37.1	63*	45	6	3
2 483	99-122	B21T	54.2	25.0	20.8	7.6	12.4	10.2	12.9	11.1	11.9	13.1				29.8	49A	32	11	6
2 484	122-147	B22T	58.9	25.9	15.2	5.8	13.8	9.5	13.4	16.4	13.1	12.8	7.4	7.8		37.5	49A	29	15	5
2 485	147-183	C	24.2	39.6	36.2	1.5	3.8	3.4	7.1	8.4	14.9	24.7				27.6	G			

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR-BON 6A1A -PERCENT-	NITRO-GEN 681A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES DI-CIT EXT FE 6C2B	PYROP EXT AL 6G7A	FE 6C5A	AL 6G5A	ATTERBERG L I M I T LL 4F1	PL 4F2	EST. 1/3 BAR 4A1F	BULK DENSITY 1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
				PERCENT-		PERCENT				PCT.NO.40		GRAMS PER CC				PERCENT			PERCENT-	
2 478	C- 10	3.64	0.274										0.98	1.08	0.87	13.5	13.5	9.8	3.3	2.8
2 479	10- 25	1.90	0.171									1.08			0.87			7.6		
2 480	25- 51	1.27	0.118										1.18	1.25	0.76	15.9	14.2	6.8	1.9	1.5
2 481	51- 69	1.01	0.101									1.18			0.64			6.5		
2 482	69- 99	0.39	0.047										1.66	1.71	0.48	15.1	12.2	6.0	1.0	0.5
2 483	99-122	0.34											1.42	1.51	0.66	25.1	20.7	7.4	2.1	1.3
2 484	122-147	0.29										1.42			0.66			5.8		
2 485	147-183	0.18											1.84	1.99	1.00	15.5	14.0	10.6	2.6	2.6

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6Q2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI-DITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4-OAC 5A6A	BASE SATURATION SUM+ ACI-DITY	SUM+ AL	NH4-OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA-CL2 8C1E
		MEQ/100G									PERCENT					
2 478	C- 10	15.1	2.1	0.6	2.5	20.3			20.3	19.9			100+		6.5	6.0
2 479	10- 25	10.2	1.5	0.5	1.6	13.8			13.8	14.8			93		6.5	6.0
2 480	25- 51	10.3	1.5	0.4	0.7	12.9			12.9	13.2			98		6.7	6.0
2 481	51- 69	10.3	1.4	0.6	0.5	12.8			12.8	12.5			100+		6.5	5.9
2 482	69- 99	8.1	1.4	0.6	0.3	10.4			10.4	9.0			100+		6.6	5.8
2 483	99-122	10.1	2.2	0.5	0.3	13.1			13.1	12.6			100+		6.6	5.9
2 484	122-147	7.7	1.1	0.5	0.2	9.5			9.5	8.0			100+		6.9	6.2
2 485	147-183	8.3	1.3	0.5	0.2	10.3			10.3	10.2			100+		7.2	6.3

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
2 478	C- 10	MI 3	KK 3					MI 3	KK 2		MI MICA	1 TRACE
2 479	10- 25										KK KAOLINIT	2 SMALL
2 480	25- 51	MI 3	KK 3					MI 3	KK 2			3 MODERATE
2 481	51- 69											4 ABUNDANT
2 482	69- 99	MI 3	KK 3					MI 4	KK 3			5 DOMINANT
2 483	99-122											6 INDETER.
2 484	122-147	MI 3	KK 3					MI 4	KK 3			
2 485	147-183											

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
*=THE 75-250MM FRACTION IS INCLUDED.
G=GROUND WHOLE. HORIZON INDURATED OR GRAVEL TOO SOFT TO BE SEPARATED. ALL DATA FOR WHOLE SOIL.

CHARCOL GRAVELLY SANDY LOAM
S72Utah-29-4

Location: Weber County, UT; Diamond T. Ranch; 1,500 feet north and 1,000 feet east of the south 1/4 corner, Sec. 8, T. 7 N., R. 3 E. Date of sampling: July 13, 1972.
Description by: L. Campbell, J. Carley. Collectors: D. Nettleton, A. Erickson, J. Carley, L. Campbell.
Classification: Cryic Pachic Paleboroll, loamy-skeletal, mixed.
Vegetation: Big sagebrush, basin wildrye, snowberry, geranium. Climate: Average annual precipitation is 25 to 35 inches. Mean annual temperature is 40° to 42° F. Mean summer temperature is 55° to 57° F. Frost-free period is 60 to 70 days. Parent material: Colluvium and residuum from sandstone, quartzite, conglomerate. Topography: Mountain slope, 50 percent slope, south aspect, concave. Elevation: 7,560 feet. Drainage: Well drained. Soil moisture: Usually moist.

HORIZON	DESCRIPTION
A11 RSL No. 72478	0-10 cm (0-4 inches), brown (7.5YR 4/2) gravelly sandy loam, very dark brown (7.5YR 2/2) moist; weak fine granular structure; soft, very friable, slightly sticky, slightly plastic; common fine and few medium and coarse roots; many fine and few medium pores; 20 percent gravel; slightly acid (pH 6.5); abrupt wavy boundary.
A12 RSL No. 72479	10-25 cm (4-10 inches), dark reddish gray (5YR 4/2) gravelly sandy loam, very dark brown (7.5YR 2/2) moist; weak medium and coarse subangular blocky structure that parts to weak fine granular; soft, very friable, slightly sticky, slightly plastic; common fine and few medium and coarse roots; many fine, few medium pores; 20 percent gravel; slightly acid (pH 6.4); clear wavy boundary.
A13 RSL No. 72480	25-51 cm (10-20 inches), reddish brown (5YR 4/3) gravelly sandy loam, dark reddish brown (5YR 3/3) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky, slightly plastic; few fine and medium roots; many fine and few medium pores; 20 percent gravel, 5 percent cobble; slightly acid (pH 6.3); clear wavy boundary.
A14 RSL No. 72481	51-69 cm (20-27 inches), reddish brown (5YR 4/3) gravelly sandy loam, dark reddish brown (5YR 3/3) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky, slightly plastic; few fine and medium roots; many fine pores; 30 percent gravel, 10 percent cobble; slightly acid (pH 6.3); clear wavy boundary.
A2 RSL No. 72482	69-99 cm (27-39 inches), reddish brown (5YR 5/4) very gravelly sandy loam, yellowish red (5YR 4/6) moist; weak medium and coarse subangular blocky structure; slightly hard, very friable, slightly sticky, slightly plastic; few fine roots; many fine pores; 40 percent gravel, 10 percent cobble; slightly acid (pH 6.2); gradual wavy boundary.
B21t RSL No. 72483	99-122 cm (39-48 inches), yellowish red (5YR 5/6) gravelly sandy clay loam, dark red (2.5YR 3/6) moist; weak medium subangular blocky structure; hard, friable, slightly sticky, slightly plastic; few fine roots; many fine pores; common thin clay films on faces of peds; 40 percent gravel; slightly acid (pH 6.2); gradual wavy boundary.
B22t RSL No. 72484	122-147 cm (48-58 inches), yellowish red (5YR 5/6) gravelly loam, red (2.5YR 4/6) moist; weak medium and coarse subangular blocky structure; hard, friable, slightly sticky, slightly plastic; few fine roots; many fine pores; common thin clay films on faces of peds; 35 percent gravel; slightly acid (pH 6.2); clear wavy boundary.
C RSL No. 72485	147-183 cm (58-72 inches), red (2.5YR 4/6) clay loam, red (10R 4/6) moist; moderate medium and coarse subangular blocky structure; very hard, firm, sticky, very plastic; few fine roots; many fine pores; many thin clay films on faces of peds; slightly acid (pH 6.2).

CONSECUTIVE PEDON NUMBER C 66122 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES FLYGARE LOAM SOIL NO. S68 UTAH. 26- 2 SAMPLE NO. 8 917-8 923 WASATCH A. CACHE AREA

SOIL FAMILY: CRYIC PACHIC PALEBOROLL,LOAMY-SKELETAL,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2-.05	SILT .05-.002	CLAY LT .002	SANDS VCS 2-1	CS 1-.5	MS .5-.25	FS .25-.10	VFS .1-.05	SILTS CSI .05-.02	FSI .02-.002	CLAYS CO. 2-.2U	FINE LT .2U	CARBONATE	INT. II .2-.02	1A2A COARSE FRAGMENTS PCT. OF WHOLE SOIL	I 75-20 PCT. OF SOIL	II 20-5	III 5-2 LT 75
			PERCENT OF LESS THAN 2MM												3A1A					
8 917	0- 18	A11	49.3	30.9	19.8	3.8	10.4	7.8	16.3	11.0	13.6	17.3				33.6	10A	8	2Z	N
8 918	18- 48	A12	50.0	31.4	18.6	4.0	9.8	8.0	16.3	11.9	13.2	18.2				34.6	10A	5	5Z	N
8 919	48- 71	A13	50.4	31.9	17.7	3.6	9.6	8.3	16.7	12.2	14.3	17.6				36.1	57*	27	2Z	N
8 920	71- 91	A2	62.3	25.0	12.7	4.5	12.3	11.2	21.8	12.5	10.0	15.0				34.8	40*	9	3Z	N
8 921	91-117	B2 T	58.6	25.2	16.2	6.9	13.4	9.3	17.6	11.4	10.0	15.2				31.4	58*	16	2Z	N
8 922	117-137	B3 T	58.6	26.6	14.8	4.2	11.5	9.7	19.7	13.5	10.9	15.7				35.8	59*	18	1Z	N
8 923	137-152	C	65.7	23.4	10.9	4.2	13.1	11.5	22.7	14.2	10.2	13.2				37.4	66*	26	2Z	N

SAMPLE NO.	DEPTH CM.	ORG. MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES DI-CIT FE 6C2B	EXT AL 6G7A	PYROP FE 6C5A	EXT AL 6G5A	ATTERBERG LL 4F1	PL 4F2	BULK DENSITY EST. 1/3 BAR 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM. 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		-PERCENT-		-PERCENT-		-PERCENT-				PCT.	NO.40	GRAMS PER CC				-PERCENT-			-PERCENT-	
8 917	0- 18	6.11	0.429			0.8	0.2			57	46	0.84	1.01	0.97		34.4	19.7	6.3	6.1	
8 918	18- 48	3.87	0.312			0.8	0.2					1.10	1.15	0.95		21.3	15.7	2.7	2.5	
8 919	48- 71	2.44	0.199			0.8	0.2					1.10	1.17	0.64		19.6	12.2	2.1	1.3	
8 920	71- 91	0.46	0.046			0.8	0.1			25	22	1.34	1.45	0.75		19.7	8.2	2.7	2.0	
8 921	91-117	0.36				0.8	0.1			32	23	1.39	1.47	0.58		21.6	11.0	1.9	1.1	
8 922	117-137	0.23				0.7	0.2					1.38	1.47	0.58		22.3	11.5	2.1	1.2	
8 923	137-152					0.7	0.1			30	26	1.35	1.43	0.50		22.0	10.4	1.9	0.9	

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACIDITY 6H2A	KCL EXT. AL 6G1E	CEC SUM 5A3A	NH4-OAC 5A6A	BASE SATURATION SUM+ ACIDITY	SUM+ AL	NH4-OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CACL2 8C1E
		MEQ/100G									PERCENT					
8 917	0- 18	26.9	3.7	0.1	2.1	32.8	11.4		44.2	38.1	74		86		6.0	5.8
8 918	18- 48	21.8	2.9	0.1	1.6	26.4	8.7		35.1	31.1	75		85		6.1	5.7
8 919	48- 71	18.7	2.6	0.1	1.1	22.5	7.2		29.7	26.5	76		85		6.2	5.7
8 920	71- 91	15.5	2.4	0.1	0.6	18.6			18.6	17.9			100+		6.0	5.6
8 921	91-117	17.8	3.6	0.1	0.8	22.3			22.3	23.8			94		6.1	5.7
8 922	117-137	17.5	3.9	0.1	0.7	22.2			22.2	24.5			91		6.2	5.6
8 923	137-152	17.1	3.9	0.1	0.6	21.7			21.7	22.7			96		6.1	5.6

CLAY MINERALOGY

SAMPLE NO	DEPTH CM.	LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III
8 917	0- 18	MT 2	MI 2	MM 2	KK 1					
8 918	18- 48									
8 919	48- 71									
8 920	71- 91	MT 3	MI 2	MM 2						
8 921	91-117	MT 3	MM 3	MI 2						
8 922	117-137									
8 923	137-152	MT 3	MI 2	MM 2						

MINERAL CODE		RELATIVE AMOUNT
MT	MONTMORT	1 TRACE
MI	MICA	2 SMALL
MM	MT/MICA	3 MODERATE
KK	KAOLINIT	4 ABUNDANT
		5 DOMINANT
		6 INDETER.

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
N=NOT DETERMINED.
Z=NOT ALL FRACTIONS SEPERATED. ADJACENT FRACTIONS INCLUDED HERE.
*=THE 75-250MM FRACTION IS INCLUDED.

FLYGARE LOAM
S68Utah-26-2

Location: Wasatch Soil Survey Area. About 12 miles east of Heber in Sec. 24, T. 4 S., R. 6 E., about 2.0 miles above 1st cattle guard on Lake Creek Road and 500 feet east of camp area and stream, ½ mile below Forest boundary. Date of sampling: June 11, 1968.
Description by: L. Woodward, M. Olsen. Collectors: K. Flach, M. Olsen.
Classification: Cryic Pachic Paleboroll, loamy-skeletal, mixed.
Vegetation: Aspen with an understory of snowberry, mountain brome, slender wheatgrass, bearded wheatgrass, peavine, horsemint, bluebells and western coneflower. Aspen site index is 64 ± 3.75, Class III. Use: Range- summer grazing. Climate: Precipitation, 30 to 35 inches. Mean annual air temperature, about 38°F. Mean summer air temperature, about 58°F. Parent material: Glacial drift from andesite. Topography: Moraines. Slope, 30 percent, west facing. Elevation: 8,200 feet. Drainage: Well drained. Runoff is slow; permeability is moderate. No water table. Soil moisture: Moist.

HORIZON	DESCRIPTION
O1	About ½ inch of aspen leaves and litter.
A11 0-18 cm RSL No. 68917	0 to 7 inches, dark brown (10YR 3/3) light loam, very dark brown (10YR 2/2) moist; moderate fine granular structure; soft, very friable, slightly sticky and slightly plastic; few large and many medium and fine roots; 20 percent gravel; noncalcareous; gradual smooth boundary.
A12 18-48 cm RSL No. 68918	7 to 19 inches, very dark grayish brown (10YR 3/2) light loam, very dark brown (10YR 2/2) moist; moderate fine granular structure; soft, very friable slightly sticky and slightly plastic; few large and common medium and fine roots; 20 percent gravel; noncalcareous; gradual smooth boundary.
A13 48-71 cm RSL No. 68919	19 to 28 inches, grayish brown (10YR 5/2) very cobbly heavy sandy loam; very dark brown (10YR 2/2) moist; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common large medium and fine roots; 25 percent cobble and 20 percent gravel; noncalcareous; abrupt wavy boundary.
A2 71-91 cm RSL No. 68920	28 to 36 inches, light brown (10YR 6/4) very cobbly heavy sandy loam, brown (10YR 4/3) moist; massive; hard, friable, sticky and plastic; few large and medium and common fine roots; 20 percent cobble and 20 percent gravel; abrupt wavy boundary.
B2t 91-117 cm RSL No. 68921	36 to 46 inches, very cobbly sandy clay loam, brown (7.5YR 4/2) moist; moderate medium subangular blocky structure; very hard, firm, sticky and plastic; few large, medium and fine roots; moderately thick patchy clay skins, 35 percent cobble and 5 percent gravel; noncalcareous; clear wavy boundary.
B3t 117-137 cm RSL No. 68922	46 to 54 inches, very cobbly sandy clay loam, brown (7.5YR 4/2) moist; weak medium subangular blocky structure; firm, sticky and plastic; few large medium and fine roots; moderately thick patchy clay skins; 35 percent cobble, 10 percent gravel; noncalcareous; clear wavy boundary.
C 137-152 cm RSL No. 68923	54 to 60 inches, very cobbly sandy loam, dark yellowish brown (10YR 3/4) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; few fine, medium and large roots; 35 percent cobble and 20 percent gravel; noncalcareous.

CONSECUTIVE PEDON NUMBER C 70 31 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES SKYLICK SILT LOAM SOIL NO. S70 UTAH. 20- 7 SAMPLE NO. 0 197-0 202 SANPETE AREA

SOIL FAMILY: CRYIC PACHIC PALEBOROLL,FINE-LOAMY,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBO NATE 3A1A	INT. II .2- .02	1A2A COARSE FRAGMENTS PCT. OF WHOLE SOIL I 75- 20	II 20-5 PCT. OF LT 75	III 5-2
			PERCENT OF LESS THAN 2MM																
0 197	0- 12	A11	28.7	43.5	27.8	3.4	4.2	3.5	8.6	9.0	16.9	26.6				31.1	13A	5	5	3
0 198	12- 42	A12	27.5	43.8	28.7	2.7	4.3	3.6	7.8	9.1	18.1	25.7				31.9	15A	5	7	3
0 199	42- 91	A13	27.5	43.0	29.5	2.0	4.0	3.7	8.2	9.6	16.5	26.5				31.1	15A	7	4	3
0 200	91-115	B21T	32.8	36.9	30.3	3.4	4.6	3.9	10.3	10.6	13.6	23.3				30.6	17A	9	4	3
0 201	115-131	B22T	36.2	32.0	31.8	5.6	5.0	4.0	11.0	10.6	10.9	21.1				28.4	25*	12	6	3
0 202	131-152	B23T	38.9	30.8	30.3	3.4	4.4	5.1	14.7	11.3	11.3	19.5				31.1	69*	35	4	2

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR- BON 6A1A	NITRO GEN 6B1A	CARBONATE AS CACO3 LT 2 6B1B	2-20 6B1B	SESQUIOXIDES DI-CIT FE 6C2B	EXT AL 6G7A	PYROP EXT FE 6C5A	AL 6G5A	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST. 1/3 BAR 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		-PERCENT-		-PERCENT-		PERCENT				PCT.NO.40		GRAMS PER CC				PERCENT			-PERCENT-	
0 197	0- 12	9.58	0.627			1.2	0.2					0.85		0.95				28.6		
0 198	12- 42	5.98	0.445			1.3	0.2						0.85	0.99	0.95	36.9	32.7	22.3	5.2	4.9
0 199	42- 91	4.55	0.349			1.5	0.3					1.18		0.93				21.7		
0 200	91-115	0.99	0.087			1.8	0.2						1.25	1.45	0.91	36.8	33.4	19.3	6.0	5.4
0 201	115-131	0.61	0.057			1.8	0.2						1.19	1.49	0.87	42.3	37.6	20.9	7.8	6.6
0 202	131-152	0.56				2.0	0.2						1.24	1.48	0.49	37.5	34.1	21.2	6.1	2.8

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6Q2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI- DITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4- OAC 5A6A	BASE SATURATION SUM+ ACI- DITY	SUM+ AL	NH4- OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA- CL2 8C1E
		MEQ/100G									PERCENT					
0 197	0- 12	36.8	7.6	0.1	5.1	49.6	21.3		7C.9	60.9	70		81		6.7	6.4
0 198	12- 42	29.7	5.1	0.1	3.7	38.6	12.6		51.2	49.6	75		78		6.5	6.2
0 199	42- 91	31.2	4.1	0.1	2.5	37.9	13.8		51.7	47.3	73		80		6.3	5.9
0 200	91-115	28.1	5.4	0.1	2.3	35.9	7.1		43.0	41.9	83		86		6.2	5.9
0 201	115-131	35.8	6.6	0.2	2.4	45.0	6.1		51.1	48.8	88		92		6.1	6.0
0 202	131-152	41.7	7.3	0.2	2.2	51.4	6.0		57.4	53.5	90		96		6.2	6.0

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
0 197	0- 12											1 TRACE
0 198	12- 42	MM 2									MM MT/MICA	2 SMALL
0 199	42- 91											3 MODERATE
0 200	91-115	MM 2										4 ABUNDANT
0 201	115-131											5 DOMINANT
0 202	131-152											6 INDETER.

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
*=THE 75-250MM FRACTION IS INCLUDED.

SKYLICK SILT LOAM
S70Utah-20-7

Location: Sanpete County, UT. About ½ mile northeast of Mt. Baldy west of Indianola.
Date of sampling: August 13, 1970.
Description by: B. Brasher, D. Nettleton, M. Olsen, J. Swenson, R. Tew, C. McKinlay.
Collectors: B. Brasher, D. Nettleton, M. Olsen, J. Swenson, R. Tew, C. McKinlay.
Classification: Cryic Pachic Paleboroll, fine-loamy, mixed.
Vegetation: Chokecherry, aspen, horsemint, sweetanice, snowberry, blue wildrye, Mountain brome, Columbia needlegrass. Climate: Mean annual temperature is about 44° F. Mean summer temperature is about 57° F. Average annual precipitation is 25 to 30 inches; frost-free period is 75 to 90 days. Parent material: Colluvium and residuum from sandstone and quartzite. Topography: Hillside slopes. East-facing, 30 percent slope. Elevation: 8,200 feet. Drainage: Well drained. Soil moisture: Usually moist.

HORIZON	DESCRIPTION
A11 RSL No. 70197	0-12 cm (0-5 inches), very dark grayish brown (10YR 3/2) silt loam, very dark brown (10YR 2/2) moist; weak fine granular structure; slightly hard, friable, slightly sticky, slightly plastic; many very fine and few fine roots; few fine pores; slightly acid (pH 6.4); clear smooth boundary.
A12 RSL No. 70198	12-42 cm (5-17 inches), very dark grayish brown (10YR 3/2) heavy silt loam, very dark brown (10YR 2/2) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky, slightly plastic; few coarse, common medium, few fine and few very fine roots; few fine pores; slightly acid (pH 6.4); gradual smooth boundary.
A13 RSL No. 70199	42-91 cm (17-36 inches), very dark grayish brown (10YR 3/2) heavy silt loam, very dark brown (10YR 2/2) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky, slightly plastic; few coarse common medium and few fine roots; few fine, few very fine pores; slightly acid (pH 6.4); abrupt smooth boundary.
B21t RSL No. 70200	91-115 cm (36-46 inches), dark grayish brown (10YR 4/2) heavy clay loam very dark grayish brown (10YR 3/2) moist; weak medium prismatic structure that parts to strong medium angular blocky; very hard, very firm, sticky, plastic; few fine, few very fine, few coarse roots; few fine and very fine pores; many moderately thick clay films; neutral (pH 6.8); clear smooth boundary.
B22t RSL No. 70201	115-131 cm (46-52 inches), brown (7.5YR 5/4) heavy clay loam, dark brown (7.5YR 4/2) moist; weak medium prismatic structure that parts to strong medium angular blocky; very hard, very firm, sticky, plastic; few very fine roots; few very fine pores; many moderately thick clay films; 3 percent cobble and stone, and 5 percent gravel; neutral (pH 6.8); clear smooth boundary.
B23t RSL No. 70202	131-152 cm (52-60 inches), brown (7.5YR 5/4) stony clay loam, dark brown (7.5YR 4/2) moist; moderate medium angular blocky structure; very hard, very firm, sticky, plastic; few very fine roots; few fine pores; common moderately thick clay films; 35 percent stones larger than 3 inches; neutral (pH 6.8).

CONSECUTIVE PEDON NUMBER C 70 32 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES SKYLICK SILT LOAM SOIL NO. S70 UTAH. 20- 8 SAMPLE NO. C 203-0 209 SANPETE AREA

SOIL FAMILY: CRYIC PACHIC PALEBCROLL,FINE-LOAMY,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SANC 2- .05	SILT .05- .002	CLAY LT .002	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CC. 2- .2U	FINE LT .2U	CARBO NATE 3A1A	1A2A INT. II .2- .02	COARSE FRAGMENTS- PCT. OF WHOLE 20 I 75-	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														SOIL PCT. OF LT 75		
0 203	0- 13	A11	42.7	35.3	22.0	1.8	3.3	6.1	17.9	13.6	16.4	18.9	6.4	15.6		40.3	--A --	--	--
0 204	13- 43	A12	41.6	35.0	23.4	0.7	2.2	5.8	18.8	14.1	18.0	17.0				43.1	--A --	--	--
0 205	43- 67	A13	42.8	33.4	23.8	0.2	1.7	5.2	18.4	17.3	16.7	16.7				45.2	--A --	--	--
0 206	67-106	B21T	43.8	27.6	28.6	0.1	2.3	6.0	19.9	15.5	14.5	13.1	18.4	10.2		42.1	--A --	--	--
0 207	106-130	B22T	52.4	21.6	26.0	0.1	2.2	5.2	28.9	16.0	11.2	10.4				45.3	42* 11	--	--
0 208	130-164	B23T	53.2	21.5	25.3	1.2	3.3	6.8	23.2	18.7	10.9	10.6				43.9	50* 29	--	2
0 209	164-200	B3 T	52.7	25.2	22.1	1.1	3.2	6.7	24.6	17.1	13.3	11.9	11.3	10.8		45.9	46* 10	4	2

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR- BON 6A1A	NITRO GEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES DI-CIT EXT FE 6C2B	AL 6G7A	PYROP EXT FE 6C5A	AL 6G5A	ATTERBERG L I M I T LL 4F1	PL 4F2	EST. 1/3 BAR 4A1F	BULK DENSITY 1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		-PERCENT-		-PERCENT-		PERCENT				PCT.NO.40		GRAMS PER CC				PERCENT			-PERCENT-	
0 203	0- 13	8.15	0.665			0.9	0.2					0.85	0.98	1.00		50.8	38.3	27.0	4.9	4.9
0 204	13- 43	4.29	0.343			1.0	0.2					0.96	1.08	1.00		40.4	32.9	15.8	4.0	4.0
0 205	43- 67	2.91	0.217			0.9	0.1					1.18	1.30	1.00		36.4	28.1	12.1	3.3	3.3
0 206	67-106	0.46	0.052			1.0	0.1					1.57	1.76	1.00		21.7	18.7	10.6	3.9	3.9
0 207	106-130	0.43				1.1	0.1					1.56	1.75	0.70		22.2	19.4	9.8	3.9	2.7
0 208	130-164	0.38				1.1	0.1					1.45	1.59	0.65		24.0	18.4	9.5	3.1	2.0
0 209	164-200	0.35		3		0.9	0.1					1.47	1.62	0.68		23.2	19.5	8.0	3.3	2.2

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6D2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI- DITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4- OAC 5A6A	BASE SATURATION SUM+ ACI- DITY	SUM+ AL	NH4- OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA- CL2 8C1E
		MEQ/100G									PERCENT					
0 203	0- 13	41.2	4.3	0.1	1.9	47.5			47.5	46.6			100+		6.4	6.2
0 204	13- 43	27.4	3.0	0.1	1.3	31.8			31.8	31.6			100+		6.8	6.4
0 205	43- 67	20.3	2.2	0.1	1.0	23.6			23.6	25.1			94		6.8	6.4
0 206	67-106	13.6	1.7	0.1	0.8	16.2			16.2	16.7			97		6.9	6.5
0 207	106-130	13.6	1.6	0.1	0.6	15.9			15.9	16.8			95		7.0	6.7
0 208	130-164	16.1	1.7	0.1	0.5	18.4			18.4	18.7			98		7.3	7.0
0 209	164-200	22.2	1.6	0.1	0.3	24.2			24.2	14.6			100+		7.9	7.4

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I 7A2E	II 7A2E	III 7A2E	IV 7A2E	DTA -PERCENT- 7A3	7A3	L.T. 0.0002 MM X RAY I 7A2E	II 7A2E	III 7A2E	MINERAL CODE	RELATIVE AMOUNT
0.203	0- 13	MM 3	KK 1								MM MT/MICA	1 TRACE
0 204	13- 43										KK KAOLINIT	2 SMALL
0 205	43- 67											3 MODERATE
0 206	67-106	MM 3	KK 1									4 ABUNDANT
0 207	106-130											5 DOMINANT
0 208	130-164											6 INDETER.
0 209	164-200	MM 3	KK 2									

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
*=THE 75-250MM FRACTION IS INCLUDED.

SKYLICK SILT LOAM
S70Utah-20-8

Location: Sanpete County, UT. 1/4 mile above Buckhorn flat in North Canyon on east side of road; 700 feet east and 900 feet north of southeast corner of Sec. 34, T. 14 S., R. 5 E.
Date of sampling: August 13, 1970.
Description by: B. Brasher, D. Nettleton, M. Olsen, J. Swenson, R. Tew, C. McKinlay.
Collectors: B. Brasher, D. Nettleton, M. Olsen, J. Swenson, R. Tew, C. McKinlay.
Classification: Cryic Pachic Paleboroll, fine-loamy, mixed.
Vegetation: Mountain maple, bromegrass, and aspen. Climate: Mean annual temperature is about 44° F. Mean summer temperature is about 57° F. Average annual precipitation is 25 to 30 inches; frost-free period is 75 to 90 days. Parent materials: Colluvium and residuum from sandstone. Topography: Hillside slopes, northwest-facing, 15 percent slope. Elevation: 7,400 feet. Drainage: Well drained. Soil Moisture: Moist.

HORIZON	DESCRIPTION
A11 RSL No. 70203	0-13 cm (0-5 inches), very dark grayish brown (10YR 3/2) silt loam, very dark brown (10YR 2/2) moist; moderate fine granular structure; slightly hard, friable, slightly sticky, slightly plastic; common very fine roots; few fine and very fine pores; slightly acid (pH 6.4); clear smooth boundary.
A12 RSL No. 70204	13-43 cm (5-17 inches), very dark grayish brown (10YR 3/2) silt loam, very dark brown (10YR 2/2) moist; weak medium subangular blocky structure that parts to moderate fine granular, slightly hard, friable, slightly sticky, slightly plastic; few coarse, few medium, fine, and very fine roots; few fine and very fine pores; slightly acid (pH 6.4); gradual smooth boundary.
A13 RSL No. 70205	43-67 cm (17-26 inches), very dark grayish brown (10YR 3/2) heavy silt loam, very dark brown (10YR 2/2) moist; weak medium subangular blocky structure that parts to moderate fine granular; hard, friable, slightly sticky, slightly plastic; few coarse, medium, fine and very fine roots; few fine, few very fine pores; slightly acid (pH 6.4); gradual smooth boundary.
B21t RSL No. 70206	67-106 cm (26-42 inches), brown (7.5YR 5/4) sandy clay loam, dark brown (7.5YR 4/3) moist; weak medium prismatic structure that parts to strong medium angular blocky; very hard, firm, sticky, plastic; few fine roots; common very fine pores; common moderately thick clay films; slightly acid (pH 6.4); gradual smooth boundary.
B22t RSL No. 70207	106-130 cm (42-51 inches), brown (7.5YR 5/4) heavy clay loam, dark brown (7.5YR 4/3) moist; weak medium prismatic structure that parts to moderate medium angular blocky; very hard, firm, sticky, plastic; few fine roots; common very fine pores; common moderately thick clay films; 25 percent stone larger than 3 inches; slightly acid (pH 6.4); gradual smooth boundary.
B23t RSL No. 70208	130-164 cm (51-64 inches), brown (7.5YR 5/4) sandy clay loam, dark brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; very hard, firm, sticky, plastic; few fine and very fine roots; few fine pores; common moderately thick clay films; 30 percent stones; and gravel, 10 percent is smaller than 3 inches; slightly acid (pH 6.4); gradual wavy boundary.
B3t RSL No. 70209	164-200 cm (64-79 inches), brown (7.5YR 5/4) very stony clay loam, dark brown (7.5YR 4/4) moist; weak medium subangular blocky structure; very hard, firm, sticky, plastic; few very fine roots; few very fine pores; few thin clay films; 45 percent rock fragments, 25 percent is larger than 3 inches; neutral (pH 6.6).

CONSECUTIVE PEDON NUMBER C 68121 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES ELZINGA LOAM SOIL NO. S68 UTAH. 3- 3 SAMPLE NO. 8 909-8 916 WASATCH A. CACHE AREA

SOIL FAMILY: PACHIC PALEBOROLL,LOAMY-SKELETAL,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SANE 2- .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CC. 2- .2U	FINE LT .2U	CARBO NATE 3A1A	INT. II .2- .02	COARSE FRAGMENTS PCT. OF WHOLE 20 I 75- 20-5	II 5-2	III
			PERCENT OF LESS THAN 2MM													SOIL	PCT. OF LT 75		
8 909	0- 23	A11	11.6	67.3	21.1	0.5	0.8	0.6	1.9	7.8	30.5	36.8				39.6	2A —	TR	2
8 910	23- 46	A12	11.3	66.9	21.8	0.2	0.7	0.6	1.7	8.1	30.0	36.9				39.1	4A —	4Z	N
8 911	46- 79	A13	11.6	66.9	21.5	0.2	0.9	0.7	1.7	8.1	31.1	35.8				40.3	3A —	3Z	N
8 912	79-104	A21	11.2	68.5	20.3	0.3	0.7	0.6	1.8	7.8	32.1	36.4				41.1	21* 11	3Z	N
8 913	104-130	A22	13.4	68.8	17.8	0.3	0.7	0.7	2.0	9.7	31.5	37.3				42.5	29* 15	1Z	N
8 914	130-160	A+B	12.0	66.9	21.1	0.2	0.7	0.7	1.9	8.5	29.8	37.1				39.5	61* 12	1	—
8 915	160-183	B21T	9.3	54.2	36.5	0.5	0.5	0.4	1.1	6.8	24.3	29.9				31.8	29* 13	1Z	N
8 916	183-224	B22T	9.2	54.3	36.5	0.3	0.5	0.5	1.5	6.4	23.6	30.7				31.0	55* 26	1Z	N

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR- BON 6A1A	NITRO GEN 681A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES DI-CIT FE 6C2B	EXT AL 6G7A	PYROP FE 6C5A	EXT AL 6G5A	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST. 1/3 BAR 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 481C	1/3 BAR 481C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		-PERCENT-		-PERCENT-		-PERCENT-				PCT.NO.40		GRAMS PER CC				-PERCENT-			-PERCENT-	
8 909	0- 23	6.58	0.498			1.1	0.2			60	43	0.83	0.93	0.99		42.0	20.6	3.9	3.8	
8 910	23- 46	5.03	0.413			1.2	0.2					0.95	1.04	0.98		36.7	17.3	3.1	3.0	
8 911	46- 79	3.54	0.296			1.1	0.2					1.08	1.18	0.99		31.0	13.3	3.0	3.0	
8 912	79-104	1.32	0.130			1.1	0.1					1.34	1.40	0.88		23.8	9.1	1.5	1.3	
8 913	104-130	0.37	0.045			1.0	0.1			23	21	1.55	1.60	0.81		16.6	6.7	1.1	0.9	
8 914	130-160	0.36				1.0	TR					1.67	1.72	0.50		12.3	8.2	1.0	0.5	
8 915	160-183	0.21				1.0	0.1			36	18	1.31	1.47	0.83		37.6	14.9	3.9	3.2	
8 916	183-224					1.2	0.2					1.65	1.77	0.57		19.6	15.2	2.4	1.3	

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 584A 6N2E	MG 584A 6D2D	NA 584A 6P2A	K 584A 6Q2A	SUM	EXT. ACI- DITY 6H2A	KCL EXT. AL 6G1E	CEC SUM 5A3A	NH4- OAC 5A6A	BASE SATURATION SUM+ ACI- DITY	SUM+ AL	NH4- OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA- CL2 8C1E
		MEQ/100G									PERCENT					
8 909	0- 23	37.8	4.3	0.1	1.8	44.0			44.0	37.1	100+		100+		6.1	5.9
8 910	23- 46	25.9	3.7	0.2	1.3	31.1	11.2		42.3	36.3	74		86		6.2	5.8
8 911	46- 79	21.2	3.3	0.2	1.2	25.9	9.9		35.8	30.8	72		84		6.3	5.9
8 912	79-104	12.3	2.2	0.2	0.6	15.3	5.9		21.2	18.5	72		83		6.3	5.8
8 913	104-130	7.6	1.8	0.1	0.3	9.8			9.8	11.2			87		6.4	5.8
8 914	130-160	9.8	2.4	0.2	0.3	12.7			12.7	14.5			88		6.3	5.6
8 915	160-183	16.2	5.0	0.5	0.4	22.1			22.1	21.7			100+		6.4	5.8
8 916	183-224	15.1	4.5	0.7	0.4	20.7			20.7	22.6			92		6.5	6.0

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
8 909	0- 23	MI 2	KK 1	MM 1							MI MICA	1 TRACE
8 910	23- 46										KK KAOLINIT	2 SMALL
8 911	46- 79										MM MT/MICA	3 MODERATE
8 912	79-104											4 ABUNDANT
8 913	104-130	MI 3	KK 2	MM 2								5 DOMINANT
8 914	130-160											6 INDETER.
8 915	160-183	MI 3	KK 2	MM 1								
8 916	183-224											

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
N=NOT DETERMINED.
Z=NOT ALL FRACTIONS SEPERATED. ADJACENT FRACTIONS INCLUDED HERE.
*=THE 75-250MM FRACTION IS INCLUDED.

ELZINGA LOAM
S68Utah-3-3

Location: Cache Soil Survey Area, Utah. 200 feet south of the east 1/4 corner, Sec. 34, T. 10 N., R. 1 W.; 4 miles south of Wellsville, UT in McMurdie Hollow. Date of sampling: October 9, 1968.
Description by: L. B. Campbell. Collectors: K. W. Flach, M. E. Olsen, L. B. Campbell.
Classification: Pachic Paleboroll, loamy-skeletal, mixed.
Vegetation: Big tooth maple with an understory of false-Solomons-seal, snowberry, Oregon-grape, slender wheatgrass, bearded wheatgrass, and blue wildrye. Use: Rangeland and watershed. Climate: Precipitation, 20 to 24 inches; mean annual air temperature 43° to 45°F. Parent material: Residuum and colluvium derived from sandstone. Topography: Mountain slope, 32 percent, north-facing. Elevation: 5,640 feet. Drainage: Well drained. Runoff is slow to medium. Permeability is moderate. Soil moisture: Moist.

HORIZON	DESCRIPTION
O1 8-0 cm	3 inches to 0, matted decaying leaves, twigs, etc. (not sampled).
A11 0-23 cm RSL No. 68909	0 to 9 inches, very dark grayish brown (10YR 3/2) loam, black (10YR 2/1) moist; weak, fine granular structure; soft, friable, nonsticky and nonplastic; many fine and medium and a few large roots; noncalcareous; neutral (pH 6.6); clear wavy boundary.
A12 23-46 cm RSL No. 68910	9 to 18 inches, very dark grayish brown (10YR 3/2) loam, very dark brown (10YR 2/2) moist; weak medium subangular blocky structure breaking to weak fine granular; soft, very friable, nonsticky and nonplastic; common fine and medium and a few large roots; noncalcareous; slightly acid (pH 6.4); gradual wavy boundary.
A13 46-79 cm RSL No. 68911	18 to 31 inches, brown to dark brown (10YR 4/3) loam, very dark brown (10YR 2/2) moist; weak coarse prismatic structure breaking to weak medium and coarse subangular blocky; common fine and medium roots; noncalcareous; slightly acid (pH6.4); gradual wavy boundary.
A21 79-104 cm RSL No. 68912	31 to 41 inches, brown (10YR 5/3) loam, brown to dark brown (7.5YR 4/4) moist; weak medium and fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few fine and medium roots; common very fine and micro pores; 5 percent of volume is cobble; 20 percent of volume is A1 horizon material that has refilled rodent burrows; noncalcareous; slightly acid (pH 6.4); gradual wavy boundary.
A22 104-130 cm RSL No. 68913	41 to 51 inches, pale brown (10YR 6/3) heavy loam, brown to dark brown (7.5YR 4/3) moist; moderate medium and fine subangular blocky structure; slightly hard, friable, slightly sticky and plastic; few fine roots; many micro and very fine pores; 10 percent cobble and gravel; noncalcareous; slightly acid (pH 6.2); gradual irregular boundary.
A2&B2t 130-160 cm RSL No. 68914	51 to 63 inches, the A2 and B2t portions were not separated since pure portions of each were in fine mesh; the A2 portion is pinkish gray (7.5YR 6/2) dry, and the B2t portion brown (7.5YR 5/4) dry; moist crushed sample was brown and dark brown (7.5YR 4/4) very cobbly clay loam; moderate medium subangular blocky structure; very hard, firm, sticky and very plastic; few fine roots; many micro and very fine pores; thin patchy clay films on B2t portion of the peds; 45 percent cobble and stones; noncalcareous; slightly acid (pH 6.2); diffuse irregular boundary.
B21t 160-183 cm RSL No. 68915	63 to 72 inches, brown and dark brown (7.5YR 4/4) gravelly clay, brown to dark brown (7.5YR 4/4) moist; moderate medium prismatic structure breaking to strong medium subangular blocky; extremely hard, very firm, very sticky and very plastic; few fine roots; many very fine and micro pores; moderate continuous clay films on peds and in pores; 20 percent gravel and cobble; 40 percent of ped faces covered with very thin A2 horizon coatings; noncalcareous; slightly acid (pH 6.2); gradual irregular boundary.
B22t 183-224 cm RSL No. 68916	72 to 88 inches, brown (7.5YR 5/4) cobbly clay, dark brown (7.5YR 3/2) moist; moderate medium prismatic structure breaking to strong medium subangular blocky; extremely hard, very firm, very sticky and very plastic; few fine roots; common very fine and micro pores; moderate continuous clay films on ped faces and in pores; 45 percent cobble and gravel; light colored A2 horizon coatings on tops of peds; noncalcareous; slightly acid (pH 6.2).

CONSECUTIVE PEDON NUMBER C 69189 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES KINESAVA FINE SANDY LOAM SOIL NO. S69 UTAH. 27-13 SAMPLE NO. S 968-9 974 WASHINGTON CO AREA

SOIL FAMILY: PACHIC PALEBOROLL,FINE,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION SANC 2- .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CC. 2- .2U	FINE LT .2U	CARBO NATE 3A1A	1A2A INT. II .2- .02	COARSE FRAGMENTS PCT. OF WHOLE SOIL 1 75- 20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75		
9 968	0- 13	A11	67.2	23.6	9.2	0.9	0.7	2.2	37.8	25.6	14.8	8.8				68.8	--A	--	--	--
9 969	13- 41	A12	64.3	24.3	11.4	0.1	0.2	1.2	37.5	25.3	14.8	9.5				70.3	--A	--	--	--
9 970	41- 63	A13	64.0	23.5	12.5	--	0.1	1.0	35.9	27.0	13.8	9.7				69.1	--A	--	--	--
9 971	63- 79	A14	62.0	23.8	14.2	--	0.1	1.0	35.1	25.8	14.5	9.3				69.2	--A	--	--	--
9 972	79- 99	B1 T	49.0	23.4	27.6	--	0.1	0.8	25.8	22.3	12.6	10.8				55.9	--A	--	--	--
9 973	99-125	B21T	39.5	20.0	40.5	--	0.1	0.5	18.8	20.1	9.4	10.6				45.0	--A	--	--	--
9 974	125-150	B22T	9.8	32.6	57.6	--	0.2	0.3	3.5	5.8	7.7	24.9				16.3	3A	--	1	2

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR- BON 6A1A	NITRO GEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES DI-CIT FE 6C2B	EXT AL 6G7A	PYROP EXT FE 6C5A	AL 6G5A	ATTERBERG L I M I T LL 4F1	PL 4F2	BULK DENSITY EST. 1/3 BAR 4A1F	1/3 BAR 4A1H	CM DRY 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		-PERCENT-		-PERCENT-		-PERCENT-				PCT.NO.40		GRAMS PER CC			-PERCENT-			-PERCENT-	
9 968	0- 13	2.60	0.184			0.4	0.1					1.42	1.48	1.00	18.8	15.6	6.2	1.4	1.4
9 969	13- 41	0.90	0.073			0.6	0.1					1.43	1.49	1.00	12.4	8.9	4.6	1.4	1.4
9 970	41- 63	0.55	0.051			0.5	0.1					1.50	1.54	1.00	12.0	9.3	4.5	0.9	0.9
9 971	63- 79	0.44				0.6	0.1					1.61	1.71	1.00	16.5	12.7	5.3	2.0	2.0
9 972	79- 99	0.40				1.0	0.1					1.48	1.84	1.00	28.7	25.5	10.4	7.5	7.5
9 973	99-125	0.25				1.3	0.2					1.50	1.90	1.00	29.5	26.4	17.8	8.2	8.2
9 974	125-150	0.32				1.5	0.2					1.24	1.77	0.98	42.7	38.5	24.8	12.6	12.3

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI- DITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4- OAC 5A6A	BASE SATURATION SUM+ ACI- DITY	SUM+ AL	NH4- OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA- CL2 8C1E
		MEQ/100G									PERCENT					
9 968	0- 13	11.2	1.8	TR	0.8	13.8			13.8	2.7			100+		6.5	6.1
9 969	13- 41	8.3	1.4	TR	0.7	10.4			10.4	9.6			100+		6.8	6.3
9 970	41- 63	7.3	1.2	TR	0.5	9.0			9.0	9.0			100+		6.8	6.3
9 971	63- 79	7.4	1.4	TR	0.4	9.2			9.2	9.5			97		6.5	6.2
9 972	79- 99	13.0	3.6	0.1	0.5	17.2			17.2	17.9			96		6.4	6.0
9 973	99-125	22.2	6.5	0.3	0.6	29.6			29.6	32.0			92		6.2	5.9
9 974	125-150	43.9	8.7	0.6	0.8	54.0			54.0	49.7			100+		7.0	6.8

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
9 968	0- 13	MI 3	KK 2								MI MICA	1 TRACE
9 969	13- 41	MI 3	KK 2								KK KAOLINIT	2 SMALL
9 970	41- 63											3 MODERATE
9 971	63- 79	MI 3	KK 2									4 ABUNDANT
9 972	79- 99											5 DOMINANT
9 973	99-125	MI 3	KK 2									6 INDETER.
9 974	125-150											

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.

KINESAVA FINE SANDY LOAM
S69 Utah 27-13

Location: Washington County, UT. Deer trap Mountain - Zion National Park, approximately 1,800 feet north and 400 feet east of the southwest corner of Sec. 13, T. 41 S., R. 10 W. Date of sampling: October 20-23, 1969.
Description by: Vear Mortensen. Collected by: K. Flach, M. Olsen, V. Mortensen, and party.
Classification: Pachic Paleboroll, fine, mixed.
Vegetation: Gambel oak, pinyon, sagebrush, serviceberry, snowberry, Columbia needlegrass, poas, mountain junegrass, Mountain brome. Climate: mean annual air temperature, 47°F; mean summer temperature, 67°F.; average annual precipitation 16 to 18 inches; frost-free period, 90 to 110 days. Parent materials: Sandstone and limestone. Topography: Mountain slopes. Elevation: Approximately 6,800 feet. Drainage: Well drained, moderate permeability, slow runoff.
moisture:

HORIZON	DESCRIPTION
A11 0-13 cm RSL No. 69968	0 to 5 inches, dark grayish brown (10YR 4/2) fine sandy loam; very dark grayish brown (10YR 3/2) moist; moderate fine granular structure; soft, very friable, nonsticky and nonplastic; many fine and very fine roots; few fine and very fine vesicular pores; mildly alkaline (pH 7.6); clear smooth boundary.
A12 13-41 cm RSL No. 69969	5 to 16 inches, dark brown (7.5YR 4/2) fine sandy loam; dark brown (7.5YR 3/2) moist; slightly hard, very friable, nonsticky and nonplastic; weak medium subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common fine and very fine roots; common medium and few fine tubular pores; mildly alkaline (pH 7.6); gradual wavy boundary.
A13 41-63 cm RSL No. 69970	16 to 25 inches, same as above horizon, except slightly less red.
A14 63-79 cm RSL No. 69971	25 to 31 inches, brown (7.5YR 4/2) heavy fine sandy loam; dark brown (7.5YR 3/3) moist; moderate medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few fine roots; common fine and very fine tubular pores; mildly alkaline (pH 7.6); clear smooth boundary.
B1t 79-99 cm RSL No. 69972	31 to 39 inches, brown (7.5YR 4/3) light sandy clay loam; dark brown (7.5YR 3/3) moist; moderate medium subangular blocky structure; hard, friable, slightly sticky and plastic; few medium and very fine roots; common fine tubular pores; thin clay films on peds; mildly alkaline (pH 7.6); abrupt wavy boundary.
B21t 99-125 cm RSL No. 69973	39 to 49 inches, yellowish red (5YR 5/6) clay, yellowish red (5YR 4/8) moist; moderate coarse prismatic structure that parts to strong coarse blocky; extremely hard, extremely firm, very sticky and very plastic; few medium and very fine roots; few very fine tubular pores; clay pressure faces on peds; mildly alkaline (pH 7.8); abrupt wavy boundary.
B22t 125-150 cm RSL No. 69974	49 to 59 inches, reddish yellow (7.5YR 6/6) clay, strong brown (7.5YR 5/6) moist; moderate coarse blocky structure; extremely hard, extremely firm, very sticky and very plastic; few medium and very fine roots; few very fine tubular pores; clay pressure faces on peds; mildly alkaline (pH 7.8).

CONSECUTIVE PEDON NUMBER C 70 53 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES CAVAL FINE SANDY LOAM (TAXADJUNCT) SOIL NO. S70 UTAH. 27- 8 SAMPLE NO. 0 317-0 322 WASHINGTON CO. AREA

SOIL FAMILY: TYPIC HAPLUSTOLL,SANDY,MIXED,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	CSI .05- .02	FSI .02- .002	CO. 2- .2U	FINE LT .2U	CARBONATE 3A1A.02	1A2A INT. II .2- .02	COARSE FRAGMENTS PCT. OF WHOLE SOIL I 75- 20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75		
0 317	0- 28	A11	86.4	9.2	4.4	0.2	0.9	9.9	57.4	18.0	6.1	3.1			—	58.7	--A --	--	—
0 318	28- 61	A12	82.9	11.9	5.2	0.1	0.4	8.1	55.1	19.2	7.8	4.1				61.8	--A --	--	—
0 319	61- 81	C 1	82.7	12.5	4.8	--	0.4	8.3	57.3	16.7	8.8	3.7				59.2	--A --	--	—
0 320	81-102	C 2	83.4	11.8	4.8	--	0.2	7.1	57.2	18.9	8.3	3.5				62.3	--A --	--	—
0 321	102-109	B1 B	79.6	11.1	9.3	--	0.4	7.4	52.2	19.6	7.9	3.2				60.0	--A --	--	—
0 322	109-150	B2 TB	79.2	6.2	14.6	--	0.3	7.6	55.6	15.7	4.0	2.2				55.1	--A --	--	—

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A -PERCENT-	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES DI-CIT FE 6C2B	EXT AL 6G7A	PYROP FE 6C5A	EXT AL 6G5A	ATTERBERG LIMIT EST. LL 4F1	PL 4F2	1/3 BAR 4A1F	1/3 BAR 4A1F	DRY 4A1H	BULK DENSITY 3B2	CM	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		-PERCENT-		-PERCENT-		PERCENT				PCT.NO.40 GRAMS PER CC							PERCENT			-PERCENT-	
0 317	0- 28	0.72	0.054			0.3	TR					1.59	1.60	1.00			6.5	4.7	2.0	0.2	0.2
0 318	28- 61	0.34	0.033			0.3	TR				1.60			1.00					1.9		
0 319	61- 81	0.22				0.3	TR					1.62	1.64	1.00			6.1	4.2	1.8	0.4	0.4
0 320	81-102	0.19				0.3	TR				1.62			1.00					18.8		
0 321	102-109	0.15				0.6	0.1					1.63	1.67	1.00			9.0	7.2	1.8	0.8	0.8
0 322	109-150					0.6	0.1					1.70	1.77	1.00			13.8	10.9	3.4	1.4	1.4

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6Q2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACIDITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	C E C NH4-OAC 5A6A	BASE SATURATION SUM+ ACIDITY	SUM+ AL	NH4-OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CACL2 8C1E
		MEQ/100G									PERCENT					
0 317	0- 28	4.3	0.5	0.4	0.5	5.7			5.7	4.9			100+		6.7	5.9
0 318	28- 61	4.6	0.4	0.4	0.3	5.7			5.7	4.3			100+		7.2	6.4
0 319	61- 81	4.1	0.5	0.4	0.3	5.3			5.3	3.5			100+		7.2	6.5
0 320	81-102	4.1	0.5	0.4	0.2	5.2			5.2	3.4			100+		7.2	6.4
0 321	102-109	5.7	1.1	0.4	0.3	7.5			7.5	5.7			100+		7.0	6.3
0 322	109-150	7.4	1.9	0.4	0.3	10.0			10.0	8.4			100+		6.4	5.5

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
0 317	0- 28	MI 4	KK 3								MI MICA	1 TRACE
0 318	28- 61										KK KAOLINIT	2 SMALL
0 319	61- 81	MI 4	KK 3									3 MODERATE
0 320	81-102											4 ABUNDANT
0 321	102-109											5 DOMINANT
0 322	109-150	MI 4	KK 3									6 INDETER.

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.

CAVAL FINE SANDY LOAM (taxadjunct) 1/
S70Utah-27-8

Location: Washington County, UT. Cave Valley, approximately 200 feet north and 600 feet west of the center of Sec. 32, T. 39 S., R. 11 W. Date of sampling: September 17, 1970.
Description by: Vear L. Mortensen. Collectors: D. Nettleton, V. Mortensen, T. B. Hutchings, and party.
Classification: Typic Haplustoll, sandy, mixed, mesic.
Vegetation: Big sagebrush, Gambel oak, chokecherry, annual grasses. Climate: Mean annual temperature, 48° to 51°F.; mean summer temperature, 68° to 72°F.; average annual precipitation, 14 to 15 inches; frost-free season, 120-150 days. Parent materials: Wind deposits from sandstone over old basalt flow. Topography: Mountain valley. Slopes are about 3 percent. Elevation: 6,280 feet. Drainage: Well drained. Soil moisture: Usually moist.

HORIZON	DESCRIPTION
A11 RSL No. 70317	0-28 cm (0-11 inches), brown (7.5YR 4/2) fine sandy loam, dark brown (7.5YR 3/2) moist; weak coarse subangular blocky structure; soft, very friable, nonsticky, nonplastic; few fine and very fine roots; few fine and common very fine tubular pores; neutral (pH 6.6); clear smooth boundary.
A12 RSL No. 70318	28-61 cm (11-24 inches), brown (7.5YR 4/3) fine sandy loam, dark brown (7.4YR 3/3) moist; weak medium subangular blocky structure; slightly hard, very friable, nonsticky, nonplastic; few fine and very fine roots; few medium and fine, many very fine and micro tubular pores; neutral (pH 6.6); gradual smooth boundary.
C1 RSL No. 70319	61-81 cm (24-32 inches), brown (7.5YR 5/4) fine sandy loam, dark brown (7.5YR 3/4) moist; massive; hard, very friable, nonsticky, nonplastic; few very fine roots; few medium and fine, many very fine and micro tubular pores; neutral (pH 6.6); gradual smooth boundary.
C2 RSL No. 70320	81-102 cm (32-40 inches), brown (7.5YR 5/4) fine sandy loam, dark brown (7.5YR 3/4) moist; massive; slightly hard, very friable, nonsticky, nonplastic; few very fine roots; few medium and fine, many very fine and micro pores; (pH 6.6); clear smooth boundary.
B1b RSL No. 70321	102-109 cm (40-43 inches), brown (7.5YR 5/4) loamy fine sand, brown (7.5YR 4/3) moist; massive, hard, very friable, nonsticky, nonplastic; few very fine roots; few fine, many very fine, and micro tubular pores; slightly acid (pH 6.4); abrupt smooth boundary.
B2tb RSL No. 70322	109-150 cm (43-60 inches), yellowish red (5YR 5/6) sandy loam, yellowish red (5YR 4/6) moist; moderate very coarse prismatic structure; very hard, friable, slightly sticky, slightly plastic; few very fine roots; along ped faces; few fine and common very fine and micro tubular pores; common moderately thick clay films and organic stains on ped faces and pores; slightly acid (pH 6.4).

1/ The Caval series is in a coarse-loamy, mixed, mesic family of Typic Haplustolls. This pedon is in a sandy family.

CONSECUTIVE PEDON NUMBER C 72 87 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES YEATES HOLLOW STONY LOAM (TAXADJUNCT) SOIL NO. S72 UTAH. 29- 3 SAMPLE NO. 2 533-2 540 MORGAN&E.WEBER AREA

SOIL FAMILY: TYPIC ARGIXEROLL,LOAMY-SKELETAL,MIXED,FRIGID RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .20	FINE LT .20	CARBONATE 3A1A.02	1A2A INT. II .2- .02	COARSE FRAGMENTS PCT. OF WHOLE SOIL 75- 20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75		
2 533	0- 25	A11	32.8	50.9	16.3	6.1	7.4	5.5	7.0	6.8	24.3	26.6	9.9	6.4		34.7	76*	16	11	4
2 534	25- 49	A12	31.0	49.2	19.8	5.1	7.1	4.9	6.2	7.7	22.3	26.9				33.2	84*	56	4	2
2 535	49- 71	B1	28.8	47.0	24.2	4.8	6.7	5.1	5.7	6.5	20.3	26.7	14.3	9.9		29.7	84*	54	5	3
2 536	71- 84	B21T	27.3	45.5	27.2	4.5	5.8	4.5	5.6	6.9	19.9	25.6				29.7	74*	50	3	2
2 537	84-102	B22T	28.7	37.9	33.4	5.2	6.8	4.7	5.8	6.2	16.6	21.3	14.3	19.1		25.8	58*	42V	4	2
2 538	102-124	B23T	53.7	15.9	30.4	12.6	15.6	9.0	10.7	5.8	5.3	10.6				16.7	48A	34	10	4
2 539	124-140	B24T	45.0	28.9	26.1	3.0	6.6	5.2	17.7	12.5	10.4	18.5				33.2	G			
2 540	140-150	R	73.6	19.7	6.7	3.1	23.2	15.7	22.9	8.7	6.4	13.3				26.1	1A	--	1	TR

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES DI-CIT FE 6C2B	EXT AL 6G7A	PYROP EXT FE 6C5A	AL 6G5A	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST. 1/3 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		-PERCENT-		-PERCENT-		PERCENT				PCT.NO.40		GRAMS PER CC				PERCENT			-PERCENT-	
2 533	0- 25	2.63	0.183			1.2	0.1						1.18	1.26	0.42	20.4	17.9	8.5	2.2	0.9
2 534	25- 49	1.02	0.104			1.2	0.1					1.25			0.28			8.0		
2 535	49- 71	0.73	0.082			1.3	0.1						1.35	1.47	0.27	20.5	18.7	8.7	2.9	0.8
2 536	71- 84	0.62	0.069			1.3	0.1					1.51			0.38			10.1		
2 537	84-102	0.52				1.3	0.1						1.51	1.68	0.56	21.1	19.4	12.5	3.6	1.9
2 538	102-124	0.21				1.4	0.1					1.35			0.68			13.0		
2 539	124-140	0.15				1.6	0.1						1.20	1.81	1.00	47.3	41.3	10.6	14.7	14.7
2 540	140-150	0.02				1.2	0.1						1.86	1.88	0.99	12.0	7.9	3.6	0.4	0.3

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6Q2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI-DITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4-OAC 5A6A	BASE SATURATION SUM+ ACI-DITY	SUM+ AL	NH4-OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA-CL2 8C1E
		MEQ/100G									PERCENT					
2 533	0- 25	13.8	2.2	0.5	1.1	17.6			17.6	18.5			95		6.4	5.7
2 534	25- 49	13.7	2.2	0.7	0.7	17.3			17.3	14.6			100+		6.6	5.8
2 535	49- 71	10.2	2.6	0.6	0.5	13.9			13.9	15.1			92		6.5	5.7
2 536	71- 84	14.7	3.1	0.6	0.5	18.9			18.9	16.3			100+		6.4	5.7
2 537	84-102	16.9	5.9	0.6	0.6	24.0			24.0	21.2			100+		6.3	5.6
2 538	102-124	16.7	5.7	0.9	0.4	23.7			23.7	21.7			100+		6.1	5.4
2 539	124-140	14.3	4.0	1.0	0.2	19.5			19.5	17.3			100+		6.4	5.5
2 540	140-150	3.1	0.8	0.6	0.1	4.6			4.6	4.7			98		6.8	5.6

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I 7A2E	II 7A2E	III 7A2E	IV 7A2E	DTA 7A3	7A3	L.T. 0.0002 MM X RAY I 7A2E	II 7A2E	III 7A2E	MINERAL CODE	RELATIVE AMOUNT
						-PERCENT-						
2 533	0- 25	MI 3	KK 2	MT 1				MT 2	MI 1	KK 1	MI MICA	1 TRACE
2 534	25- 49										KK KAOLINIT	2 SMALL
2 535	49- 71	MT 2	MI 2	KK 1				MT 2	MI 2	KK 1	MT MONTMORT	3 MODERATE
2 536	71- 84											4 ABUNDANT
2 537	84-102	MT 2	MI 2	KK 1				MT 2	MI 1	KK 1		5 DOMINANT
2 538	102-124											6 INDETER.
2 539	124-140											
2 540	140-150											

SAMPLE PREPARATION CODES
*=THE 75-250MM FRACTION IS INCLUDED.
V=NOT WEIGHED. VALUE CALCULATED FROM A VOLUME ESTIMATE.
A=STANDARD PREPARATION.
G=GROUND WHOLE. HORIZON INDURATED OR GRAVEL TOO SOFT TO BE SEPARATED. ALL DATA FOR WHOLE SOIL.

YEATES HOLLOW STONY LOAM (taxadjunct) 1/
S72Utah-29-3

Location: Weber County, UT; Evergreen Park Estates, about 600 feet east and 550 feet north of the south 1/4 corner, Sec. 29, T. 7 N., R. 3 E. Date of sampling: July 11, 1972.
Description by: L. Campbell and J. Carley. Collectors: D. Nettleton, A. Erickson, J. Carley L. Campbell.
Classification: Typic Argixeroll, loamy-skeletal, montmorillonitic, frigid.
Vegetation: Sagebrush, bluebunch wheatgrass, muleseardock, yarrow, bitterbrush. Climate: Average annual precipitation is 18 to 24 inches. Mean annual temperature is 42° to 46° F. Mean summer temperature is 58° to 62° F. Frost-free period, 70 to 100 days. Parent material: Alluvium from quartzite and sandstone. Topography: Alluvial fan, 20 percent slope, south aspect, slightly concave. Elevation: 5,940. Drainage: Well drained. Soil moisture: Usually moist.
Remarks: Data for this pedon shows a little less than 35 percent clay in the argillic horizon, but it is included with Yeates Hollow soils. It would classify as a loamy-skeletal family.

HORIZON	DESCRIPTION
A11 RSL No. 72533	0-25 cm (0-10 inches), dark brown (10YR 4/3) stony loam, dark brown (7.5YR 3/3) moist; weak fine and medium subangular blocky structure that parts to weak fine granular; hard, friable, slightly sticky, slightly plastic; common fine, medium and coarse roots; few coarse pores; 30 percent cobble, 5 percent stone and 20 percent gravel; slightly acid (pH 6.3); clear wavy boundary.
A12 RSL No. 72534	25-49 cm (10-19 inches), dark yellowish brown (10YR 4/4) very cobbly loam, dark brown (7.5YR 3/3) moist; weak fine and medium subangular blocky structure; hard, friable, slightly sticky, slightly plastic; common fine and few medium and coarse roots; many fine pores; 5 percent stone, 15 percent cobble and 45 percent gravel; slightly acid (pH 6.3); gradual wavy boundary.
B1 RSL No. 72535	49-71 cm (19-28 inches), brown (7.5YR 5/4) very cobbly loam, dark brown (7.5YR 3/4) moist; weak medium subangular blocky structure; hard, friable, slightly sticky, plastic; few fine and medium roots; many fine and medium pores; 15 percent cobble, 10 percent stone; and 45 percent gravel; slightly acid (pH 6.3); gradual wavy boundary.
B21t RSL No. 72536	71-84 cm (28-33 inches), brown (7.5YR 5/4) very cobbly clay loam, dark brown (7.5YR 4/4) moist; weak medium subangular blocky structure; very hard, firm, sticky, very plastic; few fine and medium roots; many very fine and fine pores; few thin clay films on faces of peds; 10 percent cobble, 10 percent stone and 35 percent gravel; slightly acid (pH 6.2); gradual wavy boundary.
B22t RSL No. 72537	84-102 cm (33-40 inches), brown (7.5YR 5/4) very cobbly clay loam, reddish brown (5YR 4/4) moist; moderate medium subangular blocky structure; extremely hard, very firm, sticky, plastic; few fine roots; common fine pores; common thin clay films on faces of peds; 10 percent cobble, 10 percent stone, and 35 percent gravel; slightly acid (pH 6.1); gradual wavy boundary.
B23t RSL No. 72538	102-124 cm (40-49 inches), brown (7.5YR 5/4) gravelly sandy clay loam, yellowish red (5YR 4/8) moist; moderate coarse subangular blocky structure; extremely hard, very firm, sticky, plastic; few fine roots; common very fine pores; few thin clay films on faces of peds; 40 percent gravel; medium acid (pH 6.0); gradual wavy boundary.
B24t RSL No. 72539	124-140 cm (49-55 inches), red (2.5YR 5/8) heavy loam, red (2.5YR 4/6) moist; moderate, medium and coarse subangular blocky structure; extremely hard, firm, sticky, very plastic; few fine roots; common very fine pores; many thin clay films and common moderately thick organic staining on faces of peds; medium acid (pH 6.0); abrupt wavy boundary.
R RSL No. 72540	140-150 cm (55-59 inches), sandstone bedrock.

1/ The Yeates Hollow series is in a clayey-skeletal, montmorillonitic, frigid family of Typic Argixerolls. This pedon has less than 35 percent clay in its control section.

CONSECUTIVE PEDON NUMBER C 72 82 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES OSTLER LOAM SOIL NO. S72 UTAH. 15- 1 SAMPLE NO. 2 499-2 506 MORGAN&E.WEBER AREA

SOIL FAMILY: TYPIC ARGIXEROLL,FINE,MONTMORILLONITIC,FRIGID RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CC. 2- .2U	FINE LT .2U	CARBONATE 3A1A	INT. II .2- .02	COARSE FRAGMENTS PCT. OF WHOLE SOIL I 75- 20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75		
2 499	0- 10	A11	38.0	36.6	25.4	7.9	5.3	4.3	11.6	8.9	13.3	23.3	16.2	9.2		29.4	2A I	1	--
2 500	10- 20	A12	35.3	36.5	28.2	5.3	5.2	3.8	11.2	9.8	13.6	22.9				30.5	2A —	2	--
2 501	20- 51	B21T	26.8	30.9	42.3	3.9	3.0	2.6	9.0	8.3	11.7	19.2	16.6	25.7		26.0	G		
2 502	51- 79	B22T	32.1	27.4	40.5	4.3	4.3	3.9	10.4	9.2	9.7	17.7				25.5	G		
2 503	79-107	B23T	24.0	33.1	42.9	1.7	2.1	2.2	8.1	9.9	10.1	23.0	32.6	10.3		25.5	G		
2 504	107-137	B3	24.0	39.5	36.5	0.9	1.7	2.4	9.0	10.0	13.2	26.3				29.2	TRA --	TR	--
2 505	137-152	C	26.7	49.3	24.0	--	0.2	0.9	9.5	16.1	14.1	35.2	20.5	3.5		37.8	18A --	18	--
2 506	152-160	R	84.3	10.9	4.8	0.3	5.7	16.6	49.1	12.6	6.1	4.8				43.6	--A --	--	--

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	19-2 6E1B	EXT. IRON FE 6C2B	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST 1/3 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTENSBLTY LEF 4D1	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
		PERCENT		PERCENT		PCT.	PCT.NO.40		GRAMS PER CC				PERCENT			PERCENT				
2 499	0- 10	3.70	0.251			0.4				1.02	1.13	0.99	38.6	34.8		3.5	3.4	6.7	7.1	6.3
2 500	10- 20	2.39	0.178			0.4			1.15			0.99						6.8	7.1	6.3
2 501	20- 51	0.73	0.064			0.5				1.33	1.67	1.00	35.4	31.9		7.9	7.9	6.3	6.9	5.8
2 502	51- 79	0.46				0.5			1.33			1.00						6.4	7.0	6.0
2 503	79-107	0.36				0.5				1.32	1.73	1.00	39.2	34.4		9.4	9.4	7.1	7.1	6.4
2 504	107-137	0.32				0.4			1.30			1.00						7.0	7.0	6.5
2 505	137-152	0.23		6		0.4				1.27	1.61	0.90	48.9	35.5		8.2	7.3	7.6	8.3	7.3
2 506	152-160	0.02		25					2.65			1.00						8.3	8.8	7.8

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT.	C E C NA- OAC 5A2A	NH4- CAC 5A6A	EC 8A1A	CA 6N1A	MG 6O1A	WATER EXTRACT FROM SATURATED PASTE NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1B	B 6T1A	PH SAT. PASTE 8C1B
		MEQ/100G					PCT.	MEQ/100G		MMHO	MEQ/1000 ML								PPM	
2 499	0- 10	48.5	7.7	1.6	18.1	75.9	100+		67.4	0.46	3.2	1.1	0.7	1.1		4.1	0.5			6.6
2 500	10- 20	46.7	7.5	1.5	12.2	67.9	100+		60.9	0.98	3.1	0.9	0.9	0.8		4.4	0.3			6.5
2 501	20- 51	58.4	11.6	3.6	2.7	76.3	100+		61.9	0.26	0.9	0.4	1.3	0.1		1.9	0.3			5.7
2 502	51- 79	49.0	9.7	3.5	1.0	63.2	100+		54.7	0.27	0.8	0.3	1.8	0.1		1.9	0.4			5.9
2 503	79-107	48.0	9.6	3.0	0.9	61.5	100+		48.7	0.42	1.6	0.8	2.4	0.1		2.1	1.2			6.4
2 504	107-137	46.3	8.7	2.2	0.7	57.9	100+		45.8	0.98	4.5	1.3	3.4	0.2		1.4	3.7	4.2		6.7
2 505	137-152	54.8	8.4	2.0	0.6	65.8	100+		40.7	2.41	15.2	6.7	5.4	0.2		2.0	16.0	4.2		7.4
2 506	152-160	24.3	2.0	0.8	0.2	27.3	100+		9.7	0.57	2.8	0.9	2.0	0.1		2.9	0.9			8.0

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGBLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1B PCT.	REC. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I 7A2E	II 7A2E	III 7A2E	IV 7A2E	DTA 7A3 PCT.	L.T. .0002 MM X RAY I 7A2E	II 7A2E	III 7A2E	MINERAL CODE	RELATIVE AMOUNT
2 499	0- 10	45.1	1.6	2	TR			MT 5	MI 2				MI 3			MT MONTMORT	1 TRACE
2 500	10- 20	61.4	1.4	2	1											MI MICA	2 SMALL
2 501	20- 51	68.6	3.5	6	2			MT 5	MI 2				MT 4	MI 3			3 MODERATE
2 502	51- 79	54.7	3.4	6	2												4 ABUNDANT
2 503	79-107	60.1	2.9	6	2			MT 5	MI 2				MT 4	MI 2			5 DOMINANT
2 504	107-137	66.4	2.0	4	2												6 INDETER.
2 505	137-152	62.9	1.7	4	2			MT 4	MI 2				MT 3				
2 506	152-160	57.2	0.7	7	1												

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
G=GROUND WHOLE. HORIZON INDURATED OR GRAVEL TOO SOFT TO BE SEPARATED. ALL DATA FOR WHOLE SOIL.

OSTLER LOAM
S72Utah-15-1

Location: Morgan County, UT, Mountain Green area; about 1,440 feet south and 1,000 feet west of the north 1/4 corner, Sec. 23, T. 5 N., R. 1 E. Date of sampling: July 12, 1972. Description by: L. Campbell, J. Carley. Collectors: D. Nettleton, A. Erickson, J. Carley, L. Campbell, R. Fish.
Classification: Typic Argixeroll, fine, montmorillonitic, frigid.
Vegetation: Oak, bluegrass, snowberry, sunflower. Climate: Average annual precipitation is 18 to 24 inches. Mean annual temperatuare is 43° to 45° F. Mean summer temperature is 59° to 62° F. Frost-free period is 80 to 100 days. Parent material: Colluvium and residuum from tuffaceous sandstone. Topography: Foothill slope, 30 percent slope, west aspect, slightly convex. Elevation: 5,400 feet. Drainage: Well drained. Soil moisture: Usually moist.

HORIZON	DESCRIPTION
01	3 cm-0, (1 inch-0), matted leaves, twigs.
A11 RSL No. 72499	0-10 cm (0-4 inches), dark gray (10YR 4/1) loam, very dark brown (10YR 2/2) moist; weak medium subangular blocky structure that parts to moderate medium granular; slightly hard, friable, slightly sticky, plastic; many very fine and fine roots; slightly acid (pH 6.4); clear wavy boundary.
A12 RSL N. 72500	10-20 cm (4-8 inches), dark gray (10YR 4/1) clay loam, very dark brown (10YR 2/2) moist; weak coarse subangular blocky structure that parts to moderate medium granular; slightly hard, friable, slightly sticky, plastic; many fine and very fine, and a few medium roots; slightly acid (pH 6.4); clear wavy boundary.
B21t RSL No. 72501	20-51 cm (8-20 inches), grayish brown (10YR 5/2) clay, very dark grayish brown (10YR 3/2) moist; moderate medium and coarse prismatic structure; extremely hard, very firm, sticky, very plastic; common fine and few medium roots; many very fine and fine pores; continuous moderately thick clay films on faces of peds; slightly acid (pH 6.1); gradual wavy boundary.
B22t RSL No. 72502	51-79 cm (20-31 inches), grayish brown (10YR 5/2) clay, dark grayish brown (10YR 4/2) moist; weak medium and coarse prismatic structure that parts to moderate coarse subangular blocky; extremely hard, very firm, sticky, very plastic; few fine and medium roots; many very fine and fine pores; many thin clay films on faces of peds; slightly acid (pH 6.1); clear wavy boundary.
B23t RSL No. 72503	79-107 cm (31-42 inches), light brownish gray (10YR 6/2) clay, dark grayish brown (10YR 4/2) moist; moderate coarse subangular blocky structure; extremely hard, very firm, sticky, very plastic; few fine and medium roots; few fine pores; many thin clay films on faces of peds; slightly acid (pH 6.2); gradual wavy boundary.
B3 RSL No. 72504	107-137 cm (42-54 inches), brown (10YR 5/3) clay loam, brown (10YR 5/3) moist; weak medium and coarse subangular blocky structure; very hard, firm, slightly sticky, plastic; few fine and medium roots; few fine pores; few thin clay films on faces of peds; slightly acid (pH 6.3); gradual wavy boundary.
C RSL No. 72505	137-152 cm (54-60 inches), brown (10YR 5/3) loam, dark brown (10YR 4/3) moist; weak coarse subangular blocky structure; very hard, firm, slightly sticky, slightly plastic; few fine and medium roots; few fine pores; 25 percent soft gravel; slightly acid (pH 6.4).
R RSL No. 72506	152-160 cm (60 to 63 inches), fractured tuffaceous sandstone.

CONSECUTIVE PEDON NUMBER C 67 11 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES GAPPMEYER VERY COBBLY LOAM SOIL NO. S67 UTAH. 18-13 SAMPLE NO. 7 278-7 285 SALT LAKE CO. AREA

SOIL FAMILY: BORALFIC ARGIXEROLL,LOAMY-SKELETAL,MIXED,FRIGID RIVERSIDE SOIL SURVEY LABORATORY

SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2-.05	SILT .05-.002	CLAY LT .002	SANDS VCS 2-1	CS 1-.5	MS .5-.25	FS .25-.10	VFS .1-.05	CSI .05-.02	FSI .02-.002	SILTS CO. 2-.2U	CLAYS FINE LT .2U	CARBO NATE 3A1A	INT. II .2-.02	COARSE FRAGMENTS PCT. OF WHOLE SOIL	I 75-20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75			
7 278	0- 10	A11	27.9	52.5	19.6	3.2	2.4	1.5	8.3	12.5	25.0	27.5				43.5	55	13	42Z	N
7 279	10- 25	A12	26.5	52.6	20.9	3.4	1.9	1.2	6.3	13.7	25.4	27.2				43.9	50*	19	27Z	N
7 280	25- 41	A13	28.7	51.5	15.8	2.9	1.9	1.2	7.2	15.5	24.4	27.1				45.5	61	42	19Z	N
7 281	41- 51	A+B	28.1	50.3	21.6	2.7	2.5	1.5	7.6	13.8	25.7	24.6				45.3	68*	51	15Z	N
7 282	51- 66	B1	32.6	42.8	24.6	3.4	3.2	2.0	8.8	15.2	20.1	22.7				41.9	76*	62	12Z	N
7 283	66- 89	B21T	29.5	42.0	28.5	3.3	3.6	1.9	7.7	13.0	19.1	22.9				37.8	75*	55	17Z	N
7 284	89-112	B22T	23.3	49.9	26.8	3.3	2.3	1.2	5.9	10.6	20.6	29.3				35.6	60*	33	20Z	N
7 285	112-127	B3	26.0	51.0	23.0	2.5	2.7	1.4	7.3	12.1	20.6	30.4				38.2	83*	58	22Z	N

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	19-2 6E1B	EXT. IRON FE 6C2B	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST 1/3 BAR 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTENSBLTY LEF 4D1	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
		-PERCENT--		-PERCENT-		PCT.	PCT.NO.40		GRAMS PER CC				----PERCENT---			-PERCENT--				
7 278	0- 10	7.12	0.398	TR		0.8			1.02			0.67			17.1				6.8	
7 279	10- 25	1.92	0.147	TR						1.04	1.10	0.72		24.2	11.4	1.9	1.3		6.9	
7 280	25- 41	0.83	0.073	TR					1.04			0.61			8.2				6.9	
7 281	41- 51	0.74	0.059	TR		1.0			1.04			0.55			8.4				7.0	
7 282	51- 66	0.60	0.056	TR					1.04			0.45			10.0				7.0	
7 283	66- 89	0.60	0.055	TR					0.91			0.49			12.0				7.0	
7 284	89-112	0.48		3		1.0				1.08	1.19	0.62		29.2	11.6	3.2	2.0		7.1	
7 285	112-127								0.95			0.36			9.3				8.1	

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B3A 6N4C	MG 5B3A 6O4C	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT.	C E C NA-OAC 5A2A	NH4-CAC 5A6A	EC 8A1A	WATER EXTRACT FROM SATURATED PASTE 8A1 CA 6N1B	MG 6O1B	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1A	B 6T1A	PH SAT. PASTE 8C1B
		MEQ/100G					PCT.	-MEQ/100G		MMHO	MEQ/1000 ML								PPM	
7 278	0- 10			0.2	2.1	2.3			33.9	0.48	2.1	1.0	0.4	0.6		2.6	7.0			6.6
7 279	10- 25			0.7	0.3	1.0			20.5	0.65	4.1	1.4	0.6	0.4		5.1	2.5			6.4
7 280	25- 41			0.7	0.2	0.9			14.5	0.25	0.8	0.3	0.3	0.2		1.2	1.0			6.4
7 281	41- 51			0.7	0.2	0.9			14.0	0.28	0.8	0.4	0.4	0.2		1.6	0.3			6.3
7 282	51- 66			0.5	0.6	1.1			16.2	0.31	1.4	0.5	0.4	0.2		1.7	0.6			6.5
7 283	66- 89			0.9	0.2	1.1			20.1	0.26	1.0	0.4	0.4	0.2		1.3	0.7			6.6
7 284	89-112			0.9	0.2	1.1			21.1	0.26	1.0	0.4	0.4	0.1		1.2	0.5			6.4
7 285	112-127			1.8	0.6	2.4			17.3	0.45	2.4	1.1	0.7	0.1		3.3	0.9			7.2

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGEABLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1A PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	DTA 7A3 IV PCT.	L.T. .0002 MM X RAY 7A2E I	7A2E II	7A2E III
7 278	0- 10	83.0	0.2	TR	TR			MT 3	MI 3	KK 3				
7 279	10- 25	46.2	0.7	3	TR									
7 280	25- 41	37.1	0.7	5	TR									
7 281	41- 51	38.0	0.7	5	1			MT 3	MI 3	KK 3				
7 282	51- 66	39.5	0.5	3	TR									
7 283	66- 89	45.3	0.9	4	TR									
7 284	89-112	46.4	0.9	4	TR			MT 3	MI 3	KK 3				
7 285	112-127	45.0	1.8	10	1									

MINERAL CODE	RELATIVE AMOUNT
MT MONTMORT	1 TRACE
MI MICA	2 SMALL
KK KAOLINIT	3 MODERATE
	4 ABUNDANT
	5 DOMINANT
	6 INDETER.

SAMPLE PREPARATION CODES
N=NOT DETERMINED.
Z=NOT ALL FRACTIONS SEPERATED. ADJACENT FRACTIONS INCLUDED HERE.
*=THE 75-250MM FRACTION IS INCLUDED.

GAPPMAYER VERY COBBLY LOAM
S67Utah-18-13

Location: Salt Lake Soil Survey Area, Utah. Sec. 36, T. 2 S., R. 3 W. about 1/3 mile N. of S. W. corner. 1 1/4 mile N. of gate on KCPX, TV Tower road. Date of sampling: August 25, 1967.
Description By: B. Brasher, D. Nettleton. Collectors: B. Brasher, D. Nettleton.
Classification: Boralfic Argixeroll, loamy-skeletal, mixed, frigid.
Vegetation: Oakbrush and big sagebrush. Use: Rangeland and wildlife. Climate: Precipitation, 20 to 25 inches. Mean annual air temperature, 45°F.; mean summer air temperature, 63°F. Parent material: Residuum from mixed sedimentary rocks (Oquirrh formation). Topography: Mountain slope, side valley position. Slope, 50 percent, northeast-facing. Elevation: 6,900 feet. Drainage: Somewhat excessively drained. Runoff is rapid; permeability, rapid. Soil moisture: Dry.

HORIZON	DESCRIPTION
	(5-0 cm)
01	2 inches to 0, undecomposed to slightly decomposed litter of oak leaves and grass.
A11 RSL 67278 (0-10 cm)	0 to 4 inches, very dark grayish brown (10YR 3/2) very cobbly loam, very dark brown (10YR 2/2) moist; moderate very fine granular structure; soft, very friable, nonsticky and nonplastic; many fine and medium and few large roots; common fine pores; (50 percent gravel and cobbles) neutral (pH 6.9); separated for sampling purposes.
A12 RSL 67279	4 to 10 inches, same description as the A11 horizon; clear wavy boundary.
	(10-25 cm)
	(25-41 cm)
A13 RSL 67280	10 to 16 inches, dark grayish brown (10YR 5/2) ped, (10YR 4/2) crushed, very gravelly silt loam, very dark grayish brown (10 YR 3/2) moist; moderate fine and medium granular structure; slightly hard, very friable, slightly sticky and slightly plastic; many fine and medium and few large roots; (50 percent gravel and cobbles) neutral (pH 6.6); abrupt wavy boundary.
A&B RSL 67281 (41-51 cm)	16 to 20 inches, pale brown (10YR 6/3) very gravelly silt loam, dark brown (10YR 4/3) moist; moderate fine and medium granular structure; slightly hard, very friable, slightly sticky and slightly plastic; common fine and few medium and large roots; common fine pores; (50 percent gravel and cobbles); clay films are thin and discontinuous in pores and on rocks, many pores are lined with bleached sand; neutral (pH 6.6); abrupt wavy boundary.
B1 RSL 67282 (51-66 cm)	20 to 26 inches, grayish brown (10YR 6/3) ped, (10YR 5/2) crushed, very gravelly light silty clay loam, brown (7.5YR 4/4) ped, (7.5YR 4/3) crushed, moist; moderate medium and fine subangular blocky structure; hard, friable, sticky and plastic; common fine and few medium and large roots; (75 percent gravel and cobbles) clay films are moderately continuous on soil peds and rocks except where A2 coats the peds, peds are coated with bleached sand; neutral (pH 6.8); clear wavy boundary.
B21t RSL 67283 (66-89 cm)	26 to 35 inches, light yellowish brown (10YR 6/4) very gravelly clay loam, dark yellowish brown (10YR 4/4) moist; moderate medium and fine subangular blocky structure; very hard, friable, sticky and plastic; common fine and few medium and large roots; (75 percent gravel and cobbles); thin continuous clay films on rocks; neutral (pH 6.8); separated for sampling purposes.
B22t RSL 67284	35 to 44 inches, same description as the B21t; clear wavy boundary.
	(89-112 cm)
	(112-127 cm)
B3 RSL 67285	44 to 50 inches +, pale brown (10YR 6/3) very gravelly silt loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; common fine and few medium roots; (90 percent gravel and cobbles); neutral (pH 7.2).

(Below 60 inches there are thin lime coatings on the underside of rocks. The matrix is noncalcareous.)

CONSECUTIVE PEDCN NUMBER C 71 38 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES MOUNTAINVILLE VERY STONY LOAM, COOL (TAXADJUCT) SOIL NO. S71 UTAH. 20- 2 SAMPLE NO. 1 242-1 249 SANPETE AREA

SOIL FAMILY: CALCIC ARGIXEROLL,LOAMY-SKELETAL,MIXED,FRIGID RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .20	FINE LT .20	CARBO NATE 3A1A	1A2A INT. II .2- .02	COARSE PCT. OF WHOLE	FRAGMENTS I 75- 20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM													SOIL	PCT. OF LT 75			
1 242	0- 6	A11	34.2	46.6	19.2	1.7	3.1	4.9	13.7	10.8	22.7	23.9	12.9	6.3	2	41.2	11A	—	1	1
1 243	6- 12	A12	32.5	46.2	21.3	1.7	3.4	3.8	12.3	11.3	19.4	26.8			2	37.6	12A	2	1	1
1 244	12- 21	A3	33.6	45.0	21.4	0.9	2.3	4.4	13.9	12.1	20.3	24.7	14.1	7.3	2	40.5	19*	10V	1	TR
1 245	21- 44	B21T	33.8	43.3	22.9	0.1	1.3	3.8	13.7	14.9	20.7	22.6	14.2	8.7	1	44.4	52*	12V	--	--
1 246	44- 66	B22T	36.7	37.2	26.1	0.1	1.8	5.2	15.0	14.6	20.1	17.1				43.6	51*	12V	--	--
1 247	66- 92	B31	42.2	27.7	30.1	0.6	2.5	6.7	20.8	11.6	13.5	14.2	17.1	13.0		36.0	52*	12V	--	--
1 248	92-108	B32CA	34.3	35.6	30.1	1.2	2.8	4.5	12.9	12.9	15.5	20.1			3	36.4	55*	10	5	2
1 249	108-135	C CA	38.5	39.1	22.4	1.7	5.1	5.9	13.5	12.3	16.1	23.0	14.8	7.6	2	36.3	57*	12	4	2

SAMPLE NO.	DEPTH CM.	ORG. MATTER CAR-BON 6A1A	NITRO-GEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES DI-CIT FE 6C2B	EXT PYROP AL 6G7A	FE 6C5A	AL 6G5A	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST. 1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		PERCENT		PERCENT		PERCENT				PCT.NO.40		GRAMS PER CC			PERCENT			PERCENT	
1 242	0- 6	2.25	0.179	22		0.8	0.1					1.39	1.50	0.94	16.6	14.8	8.4	2.6	2.4
1 243	6- 12	1.54	0.136	26		0.9	0.1					1.41	1.51	0.93	18.9	16.6	8.3	2.3	2.1
1 244	12- 21	1.36	0.123	24		0.8	TR					1.37	1.46	0.89	20.3	17.5	8.4	2.1	1.9
1 245	21- 44	1.14	0.112	14		0.8	0.1					1.62	1.72	0.60	19.3	17.9	9.3	2.0	1.2
1 246	44- 66	0.55	0.095	2		1.1	0.1					1.67	1.80	0.60	20.1	18.4	10.0	2.5	1.5
1 247	66- 92	0.56		3		2.9	0.2					1.63	1.81	0.60	21.7	19.6	11.3	3.6	2.1
1 248	92-108	0.49		16		1.3	0.1					1.52	1.66	0.59	24.2	21.6	10.7	3.0	1.7
1 249	108-135	0.42		31		0.8	0.1					1.50	1.56	0.58	23.3	19.5	9.0	1.3	0.8

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6Q2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI-DITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4-OAC 5A6A	BASE SATURATION SUM+ ACI-DITY	SUM+ AL	NH4-OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA-CL2 8C1E
		MEQ/100G									PERCENT					
1 242	0- 6	24.4	2.4	0.1	1.1	28.0	TR		28.0	14.0			100+		7.5	7.4
1 243	6- 12	24.5	2.5	0.1	0.6	27.7	TR		27.7	13.4			100+		7.6	7.5
1 244	12- 21	23.9	2.5	0.1	0.6	27.1	TR		27.1	13.0			100+		7.6	7.6
1 245	21- 44	25.5	3.3	0.1	0.6	29.5	TR		29.5	14.3			100+		7.6	7.6
1 246	44- 66	21.9	5.1	0.2	0.6	27.8			27.8	16.7			100+		7.6	7.6
1 247	66- 92	21.7	6.9	0.1	0.6	29.3			29.3	18.2			100+		8.0	7.5
1 248	92-108	23.0	7.6	0.2	0.4	31.2			31.2	17.3			100+		8.1	7.6
1 249	108-135	22.3	6.6	0.1	0.3	29.3			29.3	12.6			100+		8.4	7.8

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
						PERCENT						
1 242	0- 6	VM 3	MI 3	KK 3				MT 3	MI 3	KK 1	VM VM/MICA	1 TRACE
1 243	6- 12										MI MICA	2 SMALL
1 244	12- 21	VM 3	KK 2								KK KAOLINIT	3 MODERATE
1 245	21- 44							MT 3	MI 3	KK 1		4 ABUNDANT
1 246	44- 66										MT MONTMORT	5 DOMINANT
1 247	66- 92							MI 4	MT 3	KK 2		6 INDETER.
1 248	92-108											
1 249	108-135							MT 3	MI 2	KK 2		

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
*=THE 75-250MM FRACTION IS INCLUDED.
V=NOT WEIGHED. VALUE CALCULATED FROM A VOLUME ESTIMATE.

MOUNTAINVILLE VERY STONY LOAM, COOL (taxadjunct) 1/
S71Utah-20-2

Location: Sanpete County, UT. 3/4 mile north of the Millburn church on the east side of the road, Northeast 1/4 of Sec. 1, T. 13 S., R. 4 W. Date of sampling: June 28, 1971. Description by: J. Swenson. Collectors: J. Swenson, D. Nettleton, M. Olsen, J. Shiozaki. Classification: Calcic Argixeroll, loamy-skeletal, mixed, frigid. Vegetation: Sagebrush, native bluegrass. Climate: Mean annual temperature is about 45° F. Mean summer temperature is about 60° F. Average annual precipitation is about 16 inches. Frost-free period is about 100 days. Parent material: Alluvium from sandstone, limestone, and quartzite. Topography: Alluvial fan; 4 percent, southwest-facing slope. Elevation: 6,400 feet. Drainage: Well drained. Soil moisture: Usually moist.

HORIZON	DESCRIPTION
A11 RSL No. 71242	0-6 cm (0-2½ inches), brown (10YR 5/3) very stony loam, dark brown (10YR 3/3) moist; moderate thin platy structure that parts to moderate fine granular; slightly hard, friable, slightly sticky, slightly plastic; many fine and very fine roots; few medium, common fine pores; about 5 percent of surface covered by stone and cobble; strongly calcareous, lime is disseminated; mildly alkaline (pH 7.6); abrupt smooth boundary.
A12 RSL No. 71243	6-12 cm (2½-5 inches), brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; weak thin platy structure that parts to moderate medium granular; slightly hard, friable, slightly sticky, plastic; few fine, very fine and medium roots; few fine and very fine pores; 5 percent rock fragments; strongly calcareous; lime is disseminated; mildly alkaline (pH 7.6); clear smooth boundary.
A3 RSL No. 71244	12-21 cm (5-8 inches), brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; moderate fine angular blocky structure; hard, friable, sticky, plastic; few fine and very fine roots; few medium, few fine pores; 10 percent rock fragments; strongly calcareous, lime is disseminated; mildly alkaline (pH 7.8); clear smooth boundary.
B21t RSL No. 71245	21-44 cm (8-17 inches), brown (10YR 5/3) stony loam, dark brown (10YR 3/4) moist; strong medium angular blocky structure; very hard, friable, slightly sticky, plastic; few fine and very fine roots; few very fine pores; 30 percent stone; 5 percent gravel; moderately calcareous, lime is disseminated; mildly alkaline (pH 7.8); gradual smooth boundary.
B22t RSL No. 71246	44-66 cm (17-26 inches), brown (10YR 5/3) stony loam, dark brown (10YR 3/3) moist; strong medium angular blocky structure; very hard, friable, slightly sticky, plastic; few very fine roots; few very fine pores; few moderately thick clay films; 40 percent stone, 5 percent gravel; slightly calcareous, lime is disseminated and in fine veins; moderately alkaline (pH 8.0); gradual wavy boundary.
B31 RSL No. 71247	66-92 cm (26-36 inches), brown (7.5YR 4/4) stony clay loam, brown (7.5YR 4/4) moist; moderate medium angular blocky structure; very hard, firm, slightly sticky, plastic; few very fine roots; few fine and very fine pores; few moderately thick clay films on faces of peds; 30 percent stone, 5 percent gravel; moderately calcareous, lime is disseminated and in veins and flakes; moderately alkaline (pH 8.2); gradual wavy boundary
B32ca RSL No. 71248	92-108 cm (36-42½ inches), light brown (7.5YR 6/4) stony clay loam, brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; very hard, firm, sticky, plastic; few very fine roots; few fine and medium pores; 25 percent cobble and stone, 5 percent gravel; strongly calcareous, lime is disseminated and in veins and flakes; moderately alkaline (pH 8.4); gradual wavy boundary.
Cca RSL No. 71249	108-135 cm (42½ -53 inches), pink (7.5YR 7/4) stony loam, reddish yellow (7.5YR 6/6) moist; massive; very hard, friable, slightly sticky, plastic; no roots; few fine pores; 30 percent cobble and stone, 5 percent gravel; strongly calcareous, lime is disseminated, in viens and soft rounded masses; moderately alkaline (pH 8.4).

1/ The Mountainville series is in a loamy-skeletal, mixed, mesic family of Aridic Calcic Argixerolls. This pedon has a mean annual soil temperature of less than 47° F. and a soil moisture regime that borders on aridic.

CONSECUTIVE PEDON NUMBER C 67 1 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES BINGHAM GRAVELLY LOAM (TAXADJUNCT) SOIL NO. S67 UTAH. 18- 5 SAMPLE NO. 7 193-7 201 SALT LAKE CO. AREA

SOIL FAMILY: CALCIC ARGIXERCLL,LCAMY-SKELETAL,MIXED,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2-.05	SILT .05-.002	CLAY LT .002	SANDS VCS 2-1	CS 1-.5	MS .5-.25	FS .25-.10	VFS .1-.05	SILTS CSI .05-.02	FSI .02-.002	CLAYS CO. 2-.2U	FINE LT .2U	CARBONATE 3A1A	INT. II .2-.02	COARSE FRAGMENTS PCT. OF WHOLE SOIL	I 75-20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75			
7 193	0- 13	AP	38.1	45.6	16.3	3.9	5.5	4.5	10.8	13.4	25.1	20.5				45.3	47*	13	25Z	N
7 194	13- 25	A12	35.3	45.1	19.6	3.5	4.6	3.7	9.0	14.5	26.2	18.9				46.7	44*	11	25Z	N
7 195	25- 41	B1	36.8	42.7	20.5	5.2	4.5	3.7	8.2	15.2	22.6	20.1				43.1	39*	6	23Z	N
7 196	41- 63	B2 T	38.2	41.6	20.2	5.2	4.8	4.4	9.1	14.7	23.2	18.4				43.6	57*	19	27Z	N
7 197	63- 86	B3 CA	44.6	35.2	20.2	7.8	6.0	5.4	11.0	14.4	18.1	17.1				39.4	76*	44	28Z	N
7 198	86-117	C 1CA	45.1	36.0	18.9	6.3	4.3	6.1	13.7	14.7	18.0	18.0			2	41.1	68	33	35Z	N
7 199	117-152	2C 2CA	21.6	54.8	23.6	0.8	2.2	2.2	5.4	11.0	25.4	29.4			4	40.0	2	TR	2Z	N
7 200	152-196	3C 3	73.5	17.1	9.4	16.4	13.4	8.9	20.6	14.2	10.0	7.1			1	36.9	75*	38	33Z	N
7 201	196-244	3C 4	78.4	11.7	9.9	16.6	14.2	10.0	23.8	13.8	6.3	5.4				34.8	69*	20	44Z	N

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	19-2 6E1B	EXT. IRON FE 6C2B	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST 1/3 BAR 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTENSBLTY LEF 4D1	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
		PERCENT		PERCENT		PCT.	PCT.NO.40		GRAMS PER CC				PERCENT			PERCENT				
7 193	0- 13	2.27	0.182	TR		0.7			1.09	1.13	0.73		25.5	8.5		1.2	0.9		6.3	
7 194	13- 25	1.14	0.106	TR		0.8			1.36	1.45	0.71		21.2	8.6		2.2	1.5		6.9	
7 195	25- 41	0.80	0.082	TR		0.7			1.26	1.38	0.77		20.6	9.3		3.1	2.3		7.6	
7 196	41- 63	0.62		TR		0.8			1.36	1.48	0.60		19.5	8.8		2.9	1.7		8.5	
7 197	63- 86	0.49		5		0.8			1.11	1.17	0.43		26.0	8.0		1.8	0.7		8.6	
7 198	86-117	0.28		11		0.6			1.24	1.32	0.50		17.3	7.5		2.1	1.0		8.6	
7 199	117-152			18		0.6			1.33	1.46	0.99		32.2	10.4		3.2	3.1		8.9	
7 200	152-196			9		0.9			0.82	0.89	0.52		43.7	4.3		2.8	1.4		9.3	
7 201	196-244			1		1.0			1.44	1.54	0.45		22.3	4.2		2.3	1.0		9.3	

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B3A 6N4C	MG 5B3A 6O4C	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT.	C E C NA-OAC 5A2A	NH4-OAC 5A6A	EC 8A1A	WATER EXTRACT FROM SATURATED PASTE 8A1 CA 6N1B	MG 6O1B	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1A	B 6T1A	PH SAT. PASTE 8C1B
		MEQ/100G					PCT.	MEQ/100G		MMHO	MEQ/1000 ML								PPM	
7 193	0- 13			0.1	3.2	3.3			12.2	1.23	4.2	2.2	0.8	3.7		1.2	3.8			5.4
7 194	13- 25			0.1	1.7	1.8			19.9	1.03	5.8	2.6	1.1	1.0		2.1	1.4			6.2
7 195	25- 41			0.2	1.1	1.3			19.8	0.94	5.2	2.2	1.3	0.4		3.8	1.5			7.3
7 196	41- 63			0.2	1.0	1.2			17.1	1.17	7.4	2.9	1.6	0.5		4.0	1.2			7.4
7 197	63- 86			0.2	0.6	0.8			13.8	1.36	8.6	3.5	1.5	0.4		3.4	1.8	9.6		7.5
7 198	86-117			0.2	0.6	0.8			12.2	3.15	9.2	14.0	2.7	0.4		1.9	6.1	28.9		7.6
7 199	117-152			0.3	0.6	0.9			15.1	1.74	5.8	9.1	2.4	0.4		1.7	4.6	10.5		8.0
7 200	152-196			0.2	0.2	0.4			7.1	0.68	1.2	3.7	1.5	0.2		3.1	0.7			8.4
7 201	196-244			0.2	0.2	0.4			6.9	0.73	1.2	4.2	2.8	0.2		2.5	0.6			8.2

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGBLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1A PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY DTA 7A2E I	7A2E II	7A2E III	7A2E IV	7A3 PCT.	L.T. .0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
7 193	0- 13	36.5	TR	1	TR			MI 3	KK 2	MT 1						MI MICA	1 TRACE
7 194	13- 25	38.0	TR	TR	1											KK KAOLINIT	2 SMALL
7 195	25- 41	38.8	0.1	1	1											MT MONTMORT	3 MODERATE
7 196	41- 63	38.7	0.1	1	1			MI 4	KK 2	MT 1							4 ABUNDANT
7 197	63- 86	35.2	0.1	1	1												5 DOMINANT
7 198	86-117	34.6	0.1	1	1												6 INDETER.
7 199	117-152	50.6	0.2	1	1												
7 200	152-196	27.2	0.2	2	1												
7 201	196-244	29.2	0.1	2	2			MI 4	KK 3	MT 2							

SAMPLE PREPARATION CODES
*=THE 75-250MM FRACTION IS INCLUDED.
N=NOT DETERMINED.
Z=NOT ALL FRACTIONS SEPERATED. ADJACENT FRACTIONS INCLUDED HERE.

BINGHAM GRAVELLY LOAM (taxadjunct) 1/
S67Utah-18-5

Location: Salt Lake Soil Survey Area, Utah. Sec. 2, T. 3 S., R. 2 W. Near gravel pit ⅛ mile south of Bingham highway, 3 1/2 miles N. E. of Copperton. Date of sampling: August 25, 1967.
Description by: L. Harvey, M. Olsen, L. Woodward. Collectors: B. Brasher and D. Nettleton.
Classification: Calcic Argixeroll, loamy-skeletal, mixed, mesic.
Vegetation: Wheat stubble. Use: Dryland farming. Climate: Precipitation, 16 inches. Mean annual air temperature is 53°F.; mean summer air temperature, 73°F. Frost-free days, 160. Parent material: Alluvium from mixed sedimentary rocks. Topography: Lake terraces. Slope, 1½ percent, east-facing. Elevation: 4,880 feet. Drainage: Well drained. Runoff is very slow; permeability, rapid. No water table. Soil moisture: Dry.

HORIZON:	DESCRIPTION
AP RSL 67193	(0-13 cm) 0 to 5 inches, grayish brown (10YR 5/2) gravelly loam, very dark grayish brown (10YR 3/2) moist; moderate medium granular structure; slightly hard, friable, slightly sticky and slightly plastic; few fine roots; 20 percent gravel; noncalcareous; strongly alkaline (pH 8.5) abrupt smooth boundary.
A12 RSL 67194	(13-25 cm) 5 to 10 inches, grayish brown (10YR 5/2) gravelly loam, very dark grayish brown (10YR 3/2) moist; moderate medium granular structure; slightly hard, friable, slightly sticky and slightly plastic; common fine roots; noncalcareous; strongly alkaline (pH 8.5); clear smooth boundary.
B1 RSL 67195	(25-41 cm) 10 to 16 inches, grayish brown (10YR 5/2) gravelly loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common fine roots; 25 percent gravel, cobble and stones; nonclacareous; strongly alkaline (pH 8.5); clear smooth boundary.
B2t RSL 67196	(41-63 cm) 16 to 25 inches, light brownish gray (10YR 6/2) grayish brown (10YR 5/2) aggregate, gravelly sandy clay loam, dark grayish brown (10YR 4/2), very dark grayish brown (10YR 3/2) moist; aggregate; moderate medium subangular blocky structure; hard, firm, sticky and plastic; common fine roots; thin patchy clay films; 30 percent gravel, cobble, and stones; noncalcareous; strongly alkaline (pH 8.5); clear smooth boundary.
B3ca RSL 67197	(63-86 cm) 25 to 34 inches, light brownish gray (10YR 6/2) gravelly sandy clay loam, dark grayish brown (10YR 4/2) moist; moderate subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common roots; 40 percent gravel, cobble and stones; strongly calcareous, lime is coatings on rocks and splotches; strongly alkaline (pH 8.6); clear wavy boundary.
C1ca RSL 67198	(86-117 cm) 34 to 46 inches, light gray (10YR 5/3) very gravelly heavy sandy loam, brown (10YR 5/3) moist; single grain; hard, friable, slightly sticky and slightly plastic; few fine roots; 75 percent gravel, cobble, and stones; strongly calcareous; lime is coated on rocks and segregated in soil; strongly alkaline (pH 8.8); clear wavy boundary.
IIC2ca RSL 67199	(117-152 cm) 46 to 60 inches, light gray (2.5Y 7/2) silt loam, light gray (2.5Y 6/2) moist; common medium prominent brownish yellow (10YR 6/8) mottles; massive; slightly hard, friable, slightly sticky and slightly plastic; very few fine roots; strongly clacareous; strongly alkaline (pH 9.0); abrupt wavy boundary
IIIC3 RSL 67200	(152-196 cm) 60 to 77 inches, very pale brown (10YR 7/4) very gravelly loamy sand, yellowish brown (10YR 5/4) moist; single grain; loose, nonsticky and nonplastic; very few fine roots; strongly calcareous; strongly alkaline (pH 8.9); gradual wavy boundary.
IIIC4 RSL 67201	(196-244 cm) 77 to 96 inches, light yellowish brown (10YR 6/4) very gravelly loamy sand, yellowish brown (10YR 5/6) moist; single grain; loose, nonsticky and nonplastic; moderately calcareous; strongly alkaline (pH 8.8).

1/ The Bingham series is in a fine-loamy over sandy or sandy-skeletal family of Calcic Argixerolls. This pedon lacks the contrasting texture in its control section.

CONSECUTIVE PEDCN NUMBER C 67 2 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES BINGHAM GRAVELLY LOAM (TAXADJUNCT) SOIL NO. S67 UTAH. 18- 6 SAMPLE NO. 7 202-7 210 SALT LAKE CO. AREA

SOIL FAMILY: CALCIC ARGIXEROLL,LOAMY-SKELETAL,MIXED,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION SANC 2-.05	SILT .05-.002	CLAY LT .002	SANDS VCS 2-1	CS 1-.5	MS .5-.25	FS .25-.10	VFS .1-.05	CSI .05-.02	FSI .02-.002	SILTS CO. 2-.2U	FINE CLAYS LT .2U	CARBO NATE 3A1A	1A2A INT. II .2-.02	COARSE FRAGMENTS PCT. OF WHOLE SOIL	I 75-20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75			
7 202	0- 15	AP	42.2	42.0	15.8	6.5	5.5	4.6	11.6	14.0	22.0	20.0				43.1	31	10	21Z	N
7 203	15- 28	A12	37.2	42.2	20.6	3.1	4.9	4.4	11.4	13.4	21.0	21.2				41.4	28	8	20Z	N
7 204	28- 43	B1	38.3	41.0	20.7	3.8	5.2	4.6	11.2	13.5	21.1	19.9				41.5	29	8	21Z	N
7 205	43- 61	B2 T	53.0	30.9	16.1	9.2	7.6	7.1	15.6	13.5	16.3	14.6				38.9	79*	33	27Z	N
7 206	61- 84	B3 T	50.4	34.6	15.0	6.7	6.6	6.5	15.7	14.9	28.8	5.8				53.0	81*	38	34Z	N
7 207	84-114	C 1CA	73.4	11.7	14.9	13.4	11.5	9.7	24.9	13.9	7.3	4.4				34.6	85*	44	32Z	N
7 208	114-155	C 2CA	50.0	25.5	24.5	6.1	11.0	7.8	12.2	12.9	14.3	11.2				33.7	69*	27	23Z	N
7 209	155-190	C 3	62.9	17.0	20.1	17.0	17.3	9.8	11.4	7.4	8.2	8.8				20.8	89*	42	28Z	N
7 210	190-221	C 4	65.3	14.9	19.8	17.3	12.6	7.6	16.3	11.5	8.9	6.0				29.5	84*	34	31Z	N

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR-BON 6A1A	NITRO-GEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	19-2 6E1B	EXT. IRON FE 6C2B	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST 1/3 BAR 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTENSBLTY LEF 4D1	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
		-PERCENT--		-PERCENT-		PCT.	PCT.NO.40		GRAMS PER CC				----PERCENT---			-PERCENT--				
7 202	0- 15	1.24	0.104	TR		0.7				1.50	1.57	0.80		18.5	7.2	1.5	1.2		6.2	
7 203	15- 28	0.77	0.077	TR		0.7			1.50			0.82			8.5				7.4	
7 204	28- 43	0.71		TR		0.7				1.44	1.56	0.82		19.4	8.9	2.7	2.2		8.0	
7 205	43- 61	0.56		TR		0.8				1.49	1.56	0.32		16.1	7.2	1.5	0.5		8.6	
7 206	61- 84	0.39		1		0.8			1.49			0.29			5.6				8.7	
7 207	84-114			5		0.6			1.25			0.27			5.7				8.8	
7 208	114-155			2		0.8			1.25			0.49			9.9				8.6	
7 209	155-190			2		0.8			1.35			0.20			8.5				8.7	
7 210	190-221			2		0.7			1.35			0.27			7.4				8.6	

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B3A 6N4C	MG 5B3A 6O4C	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT.	C E C NA-OAC 5A2A	NH4-CAC 5A6A	EC 8A1A	WATER EXTRACT FROM SATURATED PASTE 8A1 CA 6N1B	MG 6O1B	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1A	B 6T1A	PH SAT. PASTE 8C1B
		--------MEQ/100G--------					PCT.	-MEQ/100G		MMHO	----------MEQ/1000 ML----------								PPM	
7 202	0- 15			0.1	1.9	2.0			15.6	1.68	7.0	3.8	1.2	2.2		0.4	0.8	2.6		5.2
7 203	15- 28			0.2	2.4	2.6			18.8	0.57	1.7	1.0	0.8	1.3		1.4	0.4			6.7
7 204	28- 43			0.3	2.2	2.5			18.4	0.58	2.2	1.1	0.8	1.1		2.4	0.3			7.2
7 205	43- 61			0.2	0.8	1.0			13.8	0.61	3.1	1.3	0.8	0.4		3.4	0.2			7.6
7 206	61- 84			0.2	0.4	0.6			10.3	0.67	3.8	1.5	1.2	0.1		3.2	0.6			7.8
7 207	84-114			0.1	0.2	0.3			8.2	1.36	9.2	3.8	1.5	0.2		1.6	1.2	12.0		7.8
7 208	114-155			0.3	0.7	1.0			16.0	1.92	11.8	7.7	1.9	0.3		2.0	0.6	18.6		7.7
7 209	155-190			0.3	0.5	0.8			13.1	1.96	11.0	9.6	2.0	0.3		2.0	1.9	20.0		7.7
7 210	190-221			0.2	0.5	0.7			12.9	1.81	8.2	9.6	1.8	0.3		2.0	2.1	16.0		7.7

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGBLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1A PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY DTA 7A2E I	7A2E II	7A2E III	7A2E IV	7A3 PCT.	-L.T. .0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
7 202	0- 15	33.4	TR	TR	1			MI 3 KK 2 MT 1								MI MICA	1 TRACE
7 203	15- 28	37.1	0.2	1	1											KK KAOLINIT	2 SMALL
7 204	28- 43	37.0	0.3	1	1											MT MONTMORT	3 MODERATE
7 205	43- 61	34.6	0.2	1	1			MI 4 KK 3 MT 2									4 ABUNDANT
7 206	61- 84	29.3	0.2	2	1												5 DOMINANT
7 207	84-114	28.0	TR	1	1												6 INDETER.
7 208	114-155	39.5	0.2	1	1												
7 209	155-190	36.0	0.2	2	1												
7 210	190-221	35.2	0.1	1	1												

SAMPLE PREPARATION CODES
N=NOT DETERMINED.
Z=NOT ALL FRACTIONS SEPERATED. ADJACENT FRACTIONS INCLUDED HERE.
*=THE 75-250MM FRACTION IS INCLUDED.

BINGHAM GRAVELLY LOAM (taxadjunct) 1/
S67Utah-18-6

Location: Salt Lake Soil Survey Area, Utah. Sec. 11, T. 3 S., R. 2 W.; ½ mile N. of old Bingham Highway, 1/10 mile W. of power line. Date of sampling: August 25, 1967. Description by: J. L. Harvey, M. E. Olsen, L. Woodward. Collectors: B. Brasher, D. Nettleton.
Classification: Calcic Arigixeroll, loamy-skeletal, mixed, mesic.
Vegetation: Fallow. Use: Dryland farming. Climate: Precipitation, 16 inches. Mean annual air temperature is 53°F.; mean summer air temperature, 73°F. Frost-free days, 160. Parent material: Mixed deltaic material. Topography: Smooth lake terrace. Slope, 2 percent, east-facing. Elevation: 4,920 feet. Drainage: Well drained. Runoff is slow; permeability, rapid. No water table. Soil moisture: Dry.

HORIZON	DESCRIPTION
	(0-15 cm)
Ap RSL 67202	0 to 6 inches, grayish brown (10YR 5/2) gravelly loam, very dark grayish brown (10YR 3/2) moist; moderate medium granular stucture; hard, friable, slightly sticky and slightly plastic; few fine roots; 20 percent gravel; noncalcareous; strongly alkaline (pH 8.5); abrupt smooth boundary.
A12 RSL 67203 (15-28 cm)	6 to 11 inches, grayish brown (10YR 5/2) gravelly loam, very dark grayish brown (10YR 3/2) moist; moderate medium granular structure; hard, friable, slightly sticky and slightly plastic; few fine roots; 20 percent gravel; noncalcareous; strongly alkaline (pH 8.5); clear smooth boundary.
B1 RSL 67204 (28-43 cm)	11 to 17 inches, grayish brown (10YR 5/2) gravelly heavy loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few fine roots; 30 percent gravel and cobble; noncalcareous; strongly alkaline (pH 8.5) clear smooth boundary.
B2t RSL 67205 (43-61 cm)	17 to 24 inches, light brownish gray (10YR 6/2) gravelly sandy clay loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure; hard, friable, sticky and plastic; few fine roots; thin patchy clay films; noncalcareous; strongly alkaline (pH 8.6); clear wavy boundary.
B3t RSL 67206 (61-84 cm)	24 to 33 inches, yellowish brown (10YR 5/4) very gravelly sandy clay loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; hard, friable, sticky and plastic; very few fine roots; thin patchy clay films; 40 percent gravel, cobble, and stones; slightly calcareous; strongly alkaline (pH 8.7); clear wavy boundary.
C1ca RSL 67207 (84-114 cm)	33 to 45 inches, light yellowish brown (10YR 6/4) very gravelly sandy loam, brown (10YR 5/3) moist; massive; loose, nonsticky and nonplastic; very few fine roots; 50 percent gravel, cobble, and stones; strongly calcareous, lime is coated on rocks and segregated in soil; strongly alkaline (pH 8.8); clear wavy boundary.
C2ca RSL 67208 (114-155 cm)	45 to 61 inches, light brown (7.5YR 6/4) very gravelly sandy clay loam, brown (7.5YR 4/4) moist; massive; hard, friable, sticky and plastic; very few fine roots; 65 percent gravel, cobble, and stones; strongly calcareous, lime is segregated; strongly alkaline (pH 8.6); gradual wavy boundary.
C3 RSL 67209 (155-190 cm)	61 to 75 inches, light brown (7.5YR 6/4) very gravelly heavy sandy loam, brown (7.5YR 4/4) moist; massive; hard, friable, sticky and plastic; very few fine roots; 65 percent gravel, cobble, and stones; strongly calcareous; strongly alkaline (pH 8.5); clear smooth boundary.
C4 RSL 67210 (190-221 cm)	75 to 87 inches, light brown (7.5YR 6/4) very gravelly sandy clay loam, brown (10YR 5/3) moist; massive; hard, firm, sticky and plastic; 65 percent gravel, cobble and stones; strongly alkaline (pH 8.5).

1/ The Bingham series is in a fine-loamy over sandy or sandy-skeletal family of Calcic Argixerolls. This pedon lacks the contrasting texture in its control section.

CONSECUTIVE PEDON NUMBER C 67 10 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES DRY CREEK LOAM (TAXADJUNCT) SOIL NO. S67 UTAH. 18- 8 SAMPLE NO. 7 268-7 277 SALT LAKE CO. AREA

SOIL FAMILY: CALCIC ARGIXEROLL FINE,MONTMORILLONITIC,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION SANC 2- .05 .05	SILT .002	CLAY LT .002	VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	CSI .05- .02	FSI .02- .002	CO. 2- .2U	FINE LT .2U	CARBO NATE 3A1A.02	INT. II .2- .02 WHOLE	1A2A -COARSE FRAGMENTS- PCT. OF SOIL	I 75- 20 PCT. OF LT 75	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM																	
7 268	0- 13	AP	30.9	42.8	26.3	0.5	0.7	1.1	7.4	21.2	22.3	20.5				49.2	4	TR	4Z	N
7 269	13- 25	A12	21.9	44.5	33.6	0.7	0.5	0.7	4.0	16.0	24.8	19.7				44.0	7	TR	7Z	N
7 270	25- 41	B1	22.2	38.4	39.4	1.3	0.7	0.9	3.7	15.6	21.1	17.3				39.4	19	3	16Z	N
7 271	41- 58	B2 T	27.9	37.4	34.7	1.3	1.5	1.6	6.0	17.5	20.3	17.1				42.1	9	TR	9Z	N
7 272	58- 86	B3 CA	30.1	28.1	41.8	2.2	2.5	2.3	7.7	15.4	14.0	14.1				34.7	54*	15	33Z	N
7 273	86-104	C 1CA	50.3	26.4	23.3	6.4	8.0	7.0	14.6	14.3	12.9	13.5		--	9	36.1	55*	22	22Z	N
7 274	104-137	C 2CA															49*	21	18Z	N
7 275	137-175	C 3CA															29*	5	18Z	N
7 276	175-208	2C 4CA															75*	48	24Z	N
7 277	208-239	3C 5CA															14*	TR	11Z	N

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR- BON 6A1A -PERCENT--	NITRO GEN 6B1A	CARBONATE AS CACO3 LT 2 -PERCENT- 6E1B	19-2 6E1B	EXT. IRON FE PCT. 6C2B	ATTERBERG L I M I T LL 4F1 PCT.NO.40	PL 4F2	BULK DENSITY EST 1/3 BAR 4A1F GRAMS PER CC	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C -----PERCENT---	1/3 BAR 4B1C	15 BAR 4B2	EXTENSBLTY LEF 4D1 -PERCENT--	LE 4D1	-----PH------ H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
7 268	0- 13	1.00	0.090	TR		0.7			1.41	1.50	0.98		16.6	10.2	2.1	2.0		7.0		
7 269	13- 25	0.74	0.087	TR		0.7			1.48	1.66	0.96		22.6	13.2	3.9	3.7		7.7		
7 270	25- 41	0.57		2		0.8			1.38	1.49	0.89		27.0	16.3	2.6	2.3		8.6		
7 271	41- 58			5		0.7			1.46	1.63	0.95		24.1	15.5	3.7	3.5		8.7		
7 272	58- 86	0.38		7		0.6			1.13	1.31	0.67		36.8	18.1	5.1	3.3		8.7		
7 273	86-104			52		0.2			1.03	1.09	0.68		29.8	11.2	1.9	1.3		9.0		
7 274	104-137			25					1.45	1.50	0.66		17.9	10.5	1.1	0.7				
7 275	137-175			20					1.41	1.45	0.82		23.9	9.2	0.9	0.8				
7 276	175-208			21					1.45	1.53	0.38		21.9	6.2	1.8	0.7				
7 277	208-239			25					1.43	1.51	0.92		23.7	10.7	1.8	1.7				

SAMPLE NO.	DEPTH CM.	----EXTRACTABLE BASES--- CA 5B3A 6N4C	MG 5B3A 6O4C	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT.	--C E C-- NA- OAC 5A2A	NH4- CAC 5A6A	EC 8A1A	------WATER EXTRACT FROM SATURATED PASTE 8A1 ----- CA 6N1B	MG 6O1B	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1A	B 6T1A	PH SAT. PASTE 8C1B
		--------MEQ/100G--------					PCT.	-MEQ/100G		MMHO	----------MEQ/1000 ML----------								PPM	
7 268	0- 13			0.2	1.9	2.1			21.0	0.77	3.4	2.1	0.8	0.6		3.5	1.3			6.2
7 269	13- 25			1.1	0.3	1.4			22.5	0.41	1.6	0.8	0.6	0.2		3.2	0.7			7.0
7 270	25- 41			1.3	0.3	1.6			26.0	0.47	2.2	1.1	0.7	0.2		3.0	0.4			7.5
7 271	41- 58			0.9	0.6	1.5			28.7	0.57	2.1	2.2	0.8	0.2		2.7	0.8			7.6
7 272	58- 86			1.2	0.2	1.4			24.1	0.57	2.4	1.6	0.7	0.2		2.8	0.5			7.7
7 273	86-104			0.3	0.5	0.8			16.1	0.90	3.0	6.1	1.4	0.2		3.1	0.9			8.0
7 274	104-137																			
7 275	137-175																			
7 276	175-208																			
7 277	208-239																			

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGBLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	-GYPSUM- AMT. 6F1A PCT.	REQ. 6P3A MEQ.	--LESS THAN 0.002 MM--- ------X RAY-------- I 7A2E	II 7A2E	III 7A2E	IV 7A2E	DTA 7A3 PCT.	-L.T. .0002 MM- ----X RAY----- I 7A2E	II 7A2E	III 7A2E	MINERAL CODE	RELATIVE AMOUNT
7 268	0- 13	40.4	0.2	1	TR			MI 4	KK 3	MT 1						MI MICA	1 TRACE
7 269	13- 25	48.9	1.1	5	1											KK KAOLINIT	2 SMALL
7 270	25- 41	58.2	1.3	5	1											MT MONTMORT	3 MODERATE
7 271	41- 58	63.8	0.8	3	1												4 ABUNDANT
7 272	58- 86	56.1	1.2	5	TR			MT 3	MI 3	KK 3							5 DOMINANT
7 273	86-104	45.4	0.2	1	1			MT 5	MI 3	KK 2							6 INDETER.
7 274	104-137																
7 275	137-175																
7 276	175-208																
7 277	208-239																

SAMPLE PREPARATION CODES
N=NOT DETERMINED.
Z=NOT ALL FRACTIONS SEPERATED. ADJACENT FRACTIONS INCLUDED HERE.
*=THE 75-250MM FRACTION IS INCLUDED.

DRY CREEK LOAM (taxadjunct) 1/
S67Utah-18-8

Location: Salt Lake Soil Survey Area, Utah. Sec. 4, T. 3 S., R. 2 W.; 1,320 feet east and 900 feet south of N. W. corner. 50 feet north of KCPX TV Tower road, 100 feet west of railroad. Date of sampling: August 24, 1967.
Description by: J. L. Harvey, M. E. Olsen, L. Woodward, Collectors: B. Brasher, D. Nettleton.
Classification: Calcic Argixeroll, fine, montmorillonitic, mesic.
Vegetation: Fallow. Use: Dryland farming. Climate: Precipipation, 17 to 19 inches. Mean annual air temperature, 47°F.; mean summer air temperature, 72°F., Frost-free days 140. Parent material: Alluvium from mixed sedimentary rocks. Topography: Alluvial fan. Slope, 5 percent, east-facing. Elevation: 5,300 feet. Drainage: Well drained. Runoff is slow; permeability, moderately slow. Soil moisture: Dry.

HORIZON	DESCRIPTION
	(0-13 cm)
Ap RSL 67268	0 to 5 inches, brown (10YR 5/3) loam, very dark grayish brown (10YR 3/2) moist; moderate medium granular structure; slightly hard, friable, slightly sticky and slightly plastic; common fine roots; noncalcareous; netural (pH 7.3); abrupt smooth boundary.
A12 RSL 67269 (13-25 cm)	5 to 10 inches, brown (10YR 5/3) clay loam, dark brown (10YR 3/3) moist; moderate medium breaking to fine subangular blocky structure; very hard, friable, sticky and plastic; common very fine roots; noncalcareous; neutral (pH 6.9); clear smooth boundary.
B1 RSL 67270 (25-41 cm)	10 to 16 inches, brown (7.5YR 5/4) clay loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; very hard, firm, sticky and plastic; common fine roots; thin continuous clay films; noncalcareous; mildly alkaline (pH 7.4); clear smooth boundary.
B2t RSL 67271 (41-58 cm)	16 to 23 inches, brown (7.5YR 5/4) heavy clay loam, brown (7.5YR 4/4) moist; weak medium prismatic structure breaking to moderate medium subangular blocky; very hard, firm, sticky and plastic; few fine roots; thick continuous clay films; noncalcareous, with pockets that are moderately calcareous; moderately alkaline (pH 8.4); clear irregular boundary.
B3ca RSL 67272 (58-86 cm)	23 to 34 inches, brown (7.5YR 5/4) crushed and (7.5YR 5/5) aggregate, gravelly heavy clay loam, dark brown (7.5YR 3.5/4) crushed, brown (7.5YR 4/5) aggregate moist; strong medium prismatic structure breaking to strong angular blocky; very hard, firm, sticky and plastic; few fine roots; thick nearly continuous clay films; slightly calcareous, lime is in streaks and soft splotches; strongly alkaline (pH 8.6); gradual smooth boundary.
C1ca RSL 67273 (86-104 cm)	34 to 41 inches, pink (7.5YR 8/3) clay loam, light yellowish brown (10YR 6/4) moist; weak medium subangular blocky structure; hard, firm, sticky and plastic; few fine roots; moderate patchy clay films; strongly calcareous, lime is in splotches; strongly alkaline (pH 8.8); gradual smooth boundary.
C2ca RSL 67274 (104-137 cm)	41 to 54 inches, very pale brown (10YR 7/3) clay loam, yellowish brown (10YR 5/4) moist; weak medium subangular blocky structure; hard, firm, sticky and plastic; very few very fine roots; strongly calcareous, lime is in streaks and splotches; very strongly alkaline (pH 9.2); clear boundary.
C3ca RSL 67275 (137-175 cm)	54 to 69 inches, white (10YR 8/2) silt loam, yellowish brown (10YR 5/4) moist; massive; hard, friable, slightly sticky and slightly plastic; strongly clacareous; clear smooth boundary.
IIC4ca RSL 67276 (175-208 cm)	69 to 82 inches very pale brown (10YR 7/3) very gravelly loam, pale brown (10YR 6/3) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; strongly calcareous; clear smooth boundary
IIIC5ca RSL 67277 (208-239 cm)	82 to 94 inches, very pale brown (10YR 8/3) heavy loam, brown (10YR 5/3) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; strongly calcareous.

1/ The Dry Creek series is in a fine, montmorillonitic, mesic family of Typic Palexerolls. This pedon has carbonates at a shallow depth and lacks an abrupt increase of 20 percent or more clay from the A to the B horizon.

CONSECUTIVE PEDON NUMBER C 72 83 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES OSTLER LOAM (TAXADJUNCT) SOIL NO. S72 UTAH. 29- 2 SAMPLE NO. 2 507-2 513 MORGAN&E.WEBER AREA

SOIL FAMILY: PACHIC ARGIXEROLL,FINE,MONTMORILLONITIC,FRIGID RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION 2- .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CC. 2- .2U	CLAYS FINE LT .2U	CARBONATE 3A1A.02	1A2A INT. .2- 75- 20	COARSE FRAGMENTS PCT. OF WHOLE SOIL	I 20-5	II 5-2	III PCT. OF LT 75
			PERCENT OF LESS THAN 2MM																	
2 507	0- 18	A11	36.7	37.8	25.5	1.5	4.2	5.7	15.4	9.9	15.2	22.6	15.0	10.5		33.2	2A	TR	1	1
2 508	18- 46	A12	37.5	37.0	25.5	1.3	3.4	5.6	15.8	11.4	15.6	21.4				35.9	1A	—	1	1
2 509	46- 56	B21T	38.9	31.0	30.1	2.2	6.0	6.9	13.8	10.0	13.3	17.7	14.3	15.8		31.0	3A	—	2	2
2 510	56- 71	B22T	38.4	21.1	40.5	4.6	6.7	6.9	11.8	8.4	8.6	12.5				23.4	6A	—	3	3
2 511	71- 94	B23T	33.8	28.3	37.9	3.5	5.4	5.4	10.7	8.8	11.9	16.4	14.9	23.0		26.5	5A	—	2	2
2 512	94-125	B3	56.6	14.2	29.2	10.2	16.5	11.4	12.9	5.6	5.3	8.9				17.0	13A	4	3	6
2 513	125-152	C	29.5	30.7	39.8	1.0	2.8	4.0	10.6	11.1	10.1	20.6	23.4	16.4		27.3	G			

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 6E1B	6E1B	EXT. IRON FE 6C2B	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST 1/3 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTENSBLTY LEF 4D1	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
		PERCENT		PERCENT		PCT.	PCT.NO.40		GRAMS PER CC				PERCENT			PERCENT				
2 507	0- 18	4.16	0.255							1.24	1.34	0.99	21.8	19.9	11.7	2.6	2.6	6.5	6.8	6.2
2 508	18- 46	2.43	0.162						1.30			0.99			12.8			6.3		5.7
2 509	46- 56	0.93	0.079							1.42	1.74	0.98	29.2	26.8	12.6	7.0	6.9	6.0		5.6
2 510	56- 71	0.45	0.031						1.43			0.97			17.5			5.2	6.0	4.8
2 511	71- 94	0.54								1.43	1.85	0.97	30.7	27.4	16.0	9.0	8.7	5.2		4.7
2 512	94-125	0.28							1.43			0.93			13.2			5.5	6.1	5.0
2 513	125-152	0.24								1.33	1.77	1.00	36.2	32.6	19.8	10.0	10.0	5.6	6.6	5.1

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT.	CEC NA- OAC 5A2A	NH4- OAC 5A6A	WATER EXTRACT FROM SATURATED PASTE EC 8A1A	CA 6N1A	MG 6O1A	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1B	B 6T1A	PH SAT. PASTE 8C1B
		MEQ/100G					PCT.	MEQ/100G		MMHO	MEQ/1000 ML								PPM	
2 507	0- 18	34.4	5.2	0.7	2.1	42.4	100+		32.4	0.49	2.4	1.1	0.3	0.8		1.3	0.5			6.6
2 508	18- 46	19.1	3.8	0.8	1.1	24.8	95		26.0											
2 509	46- 56	19.4	5.2	0.6	0.8	26.0	100+		23.9											
2 510	56- 71	40.5	2.0	1.2	0.6	44.3	100+		36.1	0.12	0.3	0.3	0.4	0.1		0.4	0.5			4.7
2 511	71- 94	20.0	7.3	1.3	0.5	29.1	93		31.3											
2 512	94-125	17.6	5.2	1.6	0.5	24.9	95		26.1	0.21	0.4	0.2	1.2	TR		0.6	0.7			5.2
2 513	125-152	41.5	8.2	3.0	0.7	53.4	100+		44.6	0.36	0.6	0.2	2.2	TR		0.4	2.0			5.2

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGEABLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1B PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I 7A2E	II 7A2E	III 7A2E	IV 7A2E	OTA 7A3 PCT.	L.T. .0002 MM X RAY I 7A2E	II 7A2E	III 7A2E	MINERAL CODE	RELATIVE AMOUNT
2 507	0- 18	39.5	0.7	2	TR			MI 3	MT 1	KK 1			MM 4			MI MICA	1 TRACE
2 508	18- 46		0.8	3												MT MONTMORT	2 SMALL
2 509	46- 56		0.6	3				MT 3	MI 2	KK 1			MT 3	MI 2		KK KAOLINIT	3 MODERATE
2 510	56- 71	53.4	1.2	3	1												4 ABUNDANT
2 511	71- 94		1.3	4				MT 4	MI 2	KK 1			MT 3			MM MT/MICA	5 DOMINANT
2 512	94-125	42.4	1.5	6	2												6 INDETER.
2 513	125-152	60.2	2.9	6	3			MM 3					MT 4				

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
G=GROUND WHOLE. HORIZON INDURATED OR GRAVEL TOO SOFT TO BE SEPARATED. ALL DATA FOR WHOLE SOIL.

OSTLER LOAM (taxadjunct) 1/
S72Utah-29-2

Location: Weber County, UT. Snow Basin Road area, about 600 feet east and 900 feet north of southeast corner, Sec. 23, T. 6 N., R. 1 E. Date of sampling: July 10, 1972.
Description by: L. Campbell, J. Carley. Collectors: D. Nettleton, A. Erickson, J. Carley, L. Campbell, R. Fish.
Classification: Pachic Argixeroll, fine, montmorillonitic, frigid.
Vegetation: Oak, serviceberry, snowberry, grasses. Climate: Average annual precipitation is 18 to 24 inches. Mean annual temperature is 43° to 45°F. Mean summer temperature is 59° to 61° F.; frost-free period is 80 to 100 days. Parent materials: Colluvium from tuffaceous sandstone. Topography: Foothill slopes, 25 percent slope, northeast aspect, slightly convex. Elevation: 5,760 feet. Drainage: Well drained. Soil moisture: Usually moist.

HORIZON	DESCRIPTION
01	3 cm -0 (1 inch -0), matted decayed leaves and twigs.
A11 RSL No. 72507	0-18 cm (0-7 inches), dark grayish brown (10YR 4/2) loam, black (10YR 2/1) moist; weak medium subangular structure that parts to weak fine granular; soft, friable, slightly sticky, slightly plastic; common fine, medium and coarse roots; medium acid (pH 6.0); clear smooth boundary.
A12 RSL No. 72508	18-46 cm (7-18 inches), dark grayish brown (10YR 4/2) loam, very dark brown (10YR 2/2) moist; weak medium and coarse subangular blocky structure that parts to moderate fine and medium granular; hard, friable, slightly sticky, slightly plastic; common fine, medium, and coarse roots; slightly acid (pH 6.2); clear wavy boundary.
B21t RSL No. 72509	46-56 cm (18-22 inches), brown (10YR 5/3) clay loam, dark brown (10YR 4/3) moist; moderate medium subangular blocky structure; very hard, firm, sticky, plastic; few fine, medium, and coarse roots; common fine pores; common thin clay films on faces of peds; medium acid (pH 5.8); gradual wavy boundary.
B22t RSL No. 72510	56-71 cm (22-28 inches), light gray (2.5Y 7/2) clay, light olive brown (2.5Y 5/3) moist; moderate medium and coarse subangular blocky structure; extremely hard, very firm, sticky, very plastic; few fine, medium, and coarse roots; many very fine and fine pores; common thin clay films on faces of peds; medium acid (pH 5.6); gradual irregular boundary.
B23t RSL No. 72511	71-94 cm (28-37 inches), light gray (10YR 7/2) heavy clay loam, dark brown (10YR 4/3) moist; moderate medium and coarse subangular blocky structure; extremely hard, very firm, sticky, very plastic; few fine, medium, and coarse roots; many fine and very fine pores; many thin clay films on faces of peds; medium acid (pH 5.6); gradual irregular boundary.
B3 RSL No. 72512	94-125 cm (37-49 inches), light brownish gray (10YR 6/2) sandy clay loam, dark yellowish brown (10YR 4/4) moist; common, medium, distinct strong brown (7.5YR 5/8) mottles; weak coarse subangular blocky structure; extremely hard, very firm, slightly sticky, very plastic; few fine and medium roots; many fine and very fine pores; few thin clay films on faces of peds; medium acid (pH 5.8); gradual wavy boundary.
C RSL No. 72513	125-152 cm (49-60 inches), light gray (2.5Y 7/2) heavy clay loam, light brownish gray (2.5Y 6/2) moist; 50 percent dark grayish brown (10YR 4/2) moist aggregate color and 50 percent pale olive (5Y 6/3) moist aggregate color: weak coarse subangular blocky structure; very hard, firm, slightly sticky, plastic; few fine roots; many very fine and fine pores; medium acid (pH 5.8).

1/ The Ostler series is in a fine, montmorillonitic, frigid family of Typic Argixerolls. This pedon has a mollic epipedon that is thicker than 50 cm.

CONSECUTIVE PEDON NUMBER C 71 36 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES LIZZANT VERY COBBLY LOAM SOIL NO. S71 UTAH. 20- 3 SAMPLE NO. 1 230-1 235 SANPETE AREA

SOIL FAMILY: TYPIC CALCIXEROLL,LOAMY-SKELETAL,CARBON.,FRIGID RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION SANC 2- .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CC. 2- .20	FINE LT .20	CARBO NATE 3A1A	1A2A INT. II .2-.02	-COARSE FRAGMENTS- PCT. OF WHOLE SOIL 1A2A 75- 20	I 20-5	II 5-2	III PCT. OF LT 75
			PERCENT OF LESS THAN 2MM																	
1 230	0- 12	A11	23.1	42.7	34.2	4.1	4.0	2.8	6.8	5.4	18.4	24.3	27.5	6.7	2	27.6	17A	1	10	5
1 231	12- 30	A12	23.7	39.2	37.1	4.4	3.6	2.7	7.1	5.9	16.5	22.7			4	26.5	56A	48	5	3
1 232	30- 53	B2	25.1	44.2	30.7	6.6	5.1	2.6	5.3	5.5	15.1	29.1	22.3	8.4	12	23.7	42A	10	22	10
1 233	53- 80	B3	22.4	49.0	28.6	5.8	4.4	2.1	4.0	6.1	14.2	34.8			15	22.8	48A	11	30	7
1 234	80-100	C1 CA	22.1	50.1	27.8	5.8	4.2	2.1	4.1	5.9	14.0	36.1			18	22.4	63A	35	22	6
1 235	100-120	C2	29.6	47.1	23.3	11.0	5.5	2.5	4.5	6.1	14.2	32.9	19.1	4.2	16	23.2	77A	50	21	6

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR- BON 6A1A	NITRO GEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES DI-CIT FE 6C2B	EXT AL 6G7A	PYROP EXT FE 6C5A	AL 6G5A	ATTERBERG L I M I T LL 4F1	PL 4F2	EST. 1/3 BAR 4A1F	DRY 4A1H	BULK DENSITY CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		-PERCENT-		-PERCENT-		PERCENT				PCT.NO.40		GRAMS PER CC			PERCENT			-PERCENT-	
1 230	0- 12	9.37	0.562	22		0.9	0.1					0.77	0.91	0.94	30.0	26.7	25.9	5.7	5.4
1 231	12- 30	6.17	0.447	25		1.0	0.1					0.80	0.96	0.72	28.3	26.9	21.8	6.3	4.4
1 232	30- 53	2.85	0.178	61		0.6	0.1					1.15	1.25	0.76	25.8	23.2	11.6	2.8	2.1
1 233	53- 80	2.22	0.158	75		0.4	TR					1.27	1.34	0.70	22.5	18.7	9.6	1.8	1.2
1 234	80-100	1.35	0.089	86								1.33	1.39	0.54	25.5	21.0	7.5	1.5	0.8
1 235	100-120	1.09		87								1.42	1.48	0.36	26.8	22.8	6.6	1.4	0.5

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6Q2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI- DITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4- OAC 5A6A	BASE SATURATION SUM+ ACI- DITY	SUM+ AL	NH4- OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA-CL2 8C1E
		MEQ/100G									PERCENT					
1 230	0- 12	61.7	3.6	0.2	2.5	68.0	3.4		71.4	51.8	95		100+		7.4	7.2
1 231	12- 30	54.3	2.4	0.2	1.7	58.6	1.7		60.3	42.4	97		100+		7.4	7.3
1 232	30- 53	29.9	1.2	0.2	0.5	31.8	TR		31.8	18.0			100+		7.5	7.5
1 233	53- 80	27.7	1.1	0.2	0.3	29.3	TR		29.3	15.6			100+		7.6	7.5
1 234	80-100	27.8	0.9	0.2	0.2	29.1			29.1	13.1			100+		7.6	7.6
1 235	100-120	24.9	0.5	0.2	0.2	26.2			26.2	11.4			100+		7.6	7.6

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
1 230	0- 12	MT 3	MI 3	KK 3							MT MONTMORT	1 TRACE
1 231	12- 30										MI MICA	2 SMALL
1 232	30- 53	MT 2	MI 1					MT 4	MI 2		KK KAOLINIT	3 MODERATE
1 233	53- 80							MI 2				4 ABUNDANT
1 234	80-100											5 DOMINANT
1 235	100-120	MT 2						MT 4				6 INDETER.

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.

LIZZANT VERY COBBLY LOAM
S71Utah-20-3

Location: Sanpete County, UT. Above power plant in Fairview Canyon in the northeast 1/4 Sec. 31, T. 13 S., R. 5 E. Date of sampling: June 29, 1971.
Description by: John Swenson. Collectors: M. Olsen, D. Nettleton, J. Swenson, J. Shiozaki.
Classification: Typic Calcixeroll, loamy-skeletal, carbonatic, frigid.
Vegetation: Oakbrush, snowberry. Climate: Mean annual temperature, about 45° F. Mean summer temperature, about 60° F. Average annual precipitation is about 16 inches. Frost-free period is about 90 days. Parent material: Alluvium and colluvium from limestone. Topography: Mountain slope, north aspect, 40 percent slopes. Elevation: 6,800 feet. Drainage: Somewhat excessively drained. Soil moisture: Usually moist.
Remarks: Fifty percent of the surface is covered with cobble and gravel.

HORIZON	DESCRIPTION
A11 RSL No. 71230	0-12 cm (0-5 inches), dark grayish brown (10YR 4/2) very cobbly loam, very dark brown (10YR 2/2) moist; medium fine granular structure; slightly hard, friable, slightly sticky, plastic; few coarse, medium and common fine roots; common fine pores; 10 percent gravel; moderately calcareous, lime is disseminated; mildly alkaline (pH 7.4); clear smooth boundary.
A12 RSL No. 71231	12-30 cm (5-12 inches), dark grayish brown (10YR 4/2) very cobbly loam, very dark brown (10YR 2/2) moist; weak medium subangular blocky structure that parts to moderate fine granular; slightly hard, friable, slightly sticky, plastic; many very fine, fine and medium roots; few fine pores; 60 percent gravel and cobble strongly calcareous, lime is disseminated; mildly alkaline (pH 7.6); clear wavy boundary.
B2 RSL No. 71232	30-53 cm (12-21 inches), light brownish gray (10YR 6/2) cobbly loam, dark grayish brown (10YR 4/2) moist; moderate, medium subangular blocky structure; hard, friable, slightly sticky, plastic; common fine roots; few fine pores; 35 percent gravel and cobble; very strongly calcareous, lime is disseminated and in veins; mildly alkaline (pH 7.6); gradual wavy boundary.
B3 RSL No. 71233	53-80 cm (21-31½ inches), light brownish gray (10YR 6/2) cobbly loam, dark grayish brown (10YR 4/2) moist; massive; hard, friable, slightly sticky, plastic; few very fine roots; few very fine pores; 35 percent gravel and cobble; very strongly calcareous, lime is disseminated and in veins and soft rounded masses; moderately alkaline (pH 8.0); gradual wavy boundary.
C1ca RSL No. 71234	80-100 cm (31½-39½ inches), light brownish gray (10YR 6/2) gravelly loam, dark grayish brown (10YR 4/2) moist; massive; hard, friable, slightly sticky, plastic; few very fine roots; few very fine pores; 45 percent gravel and cobble; very strongly calcareous, lime is disseminated, in veins, and in soft rounded masses; moderately alkaline (pH 8.0); gradual wavy boundary.
C2 RSL No. 71235	100-120 cm (39½-47 inches), light gray (10YR 7/2) very stony loam, grayish brown (10YR 5/2) moist; massive; hard, friable, slightly sticky, plastic; few very fine roots; 60 percent stone and cobble; very strongly calcareous, lime is disseminated and in very fine veins; moderately alkaline (pH 8.2).

CONSECUTIVE PEDON NUMBER C 70 29 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES MOWER SHALY CLAY LOAM SOIL NO. S70 UTAH. 20- 2 SAMPLE NO. 0 185-0 190 SANPETE AREA

SOIL FAMILY: TYPIC CALCIXEROLL,FINE-LOAMY,CARBONATIC,FRIGID RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .20	FINE LT .20	CARBONATE 3A1A.02	1A2A INT. II .2-	COARSE FRAGMENTS PCT. OF WHOLE SOIL I 75- 20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75		
0 185	0- 6	A11	11.3	46.9	41.8	1.4	1.4	1.4	2.8	4.3	10.0	36.9			8	15.8	4A --	3	2
0 186	6- 28	A12	8.5	44.7	46.8	1.1	1.4	1.1	2.2	2.7	7.1	37.6			10	10.9	7A 5	2	1
0 187	28- 44	B2	3.4	45.5	51.1	0.1	0.3	0.5	1.1	1.4	3.3	42.2			13	5.2	1A --	1	TR
0 188	44- 63	C 1CA	4.8	60.1	35.1	0.4	0.6	0.8	1.6	1.4	6.5	53.6			18	8.7	--G --	--	--
0 189	63- 99	C 2CA	5.9	65.7	28.4	0.1	0.8	1.3	2.0	1.7	4.9	60.8			17	7.6	--G --	--	--
0 190	99-115	R	78.1	14.6	7.3	39.2	20.4	7.2	7.7	3.6	3.2	11.4			5	10.4	--G --	--	--

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES CI-CIT FE 6C2B	EXT AL 6G7A	PYROP FE 6C5A	EXT AL 6G5A	ATTERBERG LIMIT 4F1 LL	4F2 PL	BULK DENSITY EST. 1/3 BAR 4A1F	DRY 1/3 BAR 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		-PERCENT-		-PERCENT-		-PERCENT-				PCT.NO.40		GRAMS PER CC			-PERCENT-			-PERCENT-	
0 185	0- 6	3.65	0.292	36								1.12	1.29	0.98	29.9	26.4	16.1	4.8	4.7
0 186	6- 28	2.73	0.228	42								1.19	1.37	0.97	27.0	25.0	16.5	4.8	4.6
0 187	28- 44	1.28	0.119	50								1.35	1.60	0.99	29.1	26.8	16.9	5.8	5.8
0 188	44- 63	1.16	0.086	77								1.36	1.43	1.00	31.3	28.7	12.7	1.7	1.7
0 189	63- 99	0.49	0.037	86								1.49	1.53	1.00	26.6	24.7	9.3	0.9	0.9
0 190	99-115	0.05		91										1.00			3.2		

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI- DITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4- OAC 5A6A	BASE SATURATION SUM+ ACI- DITY	SUM+ AL	NH4- OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA-CL2 8C1E
		MEQ/100G									PERCENT					
0 185	0- 6	27.1	4.7	0.1	2.3	34.2			34.2	26.4			100+		7.9	7.5
0 186	6- 28	22.5	4.3	0.1	1.7	28.6			28.6	23.4			100+		7.8	7.6
0 187	28- 44	24.0	4.3	0.1	1.2	29.6			29.6	19.3			100+		8.0	7.7
0 188	44- 63	18.8	3.2	0.1	0.6	22.7			22.7	12.3			100+		8.2	7.8
0 189	63- 99	15.8	3.3	0.1	0.3	19.5			19.5	5.3			100+		8.6	8.0
0 190	99-115	13.7	2.4	0.1	0.2	16.4			16.4	1.7			100+		9.0	8.1

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
0 185	0- 6	MI 3	KK 1								MI MICA	1 TRACE
0 186	6- 28										KK KAOLINIT	2 SMALL
0 187	28- 44	MI 4	KK 1									3 MODERATE
0 188	44- 63											4 ABUNDANT
0 189	63- 99											5 DOMINANT
0 190	99-115	MI 3	KK 1									6 INDETER.

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
G=GROUND WHOLE. HORIZON INDURATED OR GRAVEL TOO SOFT TO BE SEPARATED. ALL DATA FOR WHOLE SOIL.

MOWER SHALY CLAY LOAM
S70Utah-20-2

Location: Sanpete County, UT. Near the head of Mellor Canyon, 1/4 mile south of the drift fence on the ridge; 1,200 feet east and 800 feet south of northwest corner Sec. 34, T. 17 S., R. 1 E. Date of sampling: August 11, 1970.
Description by: J. Swenson, B. Brasher, D. Nettleton, J. Shiozaki, R. Tew, M. Olsen.
Collectors: J. Swenson, B. Brasher, D. Nettleton, J. Shiozaki, R. Tew, M. Olsen.
Classification: Typic Calcixeroll, fine-loamy, carbonatic, frigid.
Vegetation: Juniper, snowberry, sagebrush, Gambel oak. Climate: Mean annual temperature, about 45°F. Mean summer temperature, 63°F. Average annual precipitation, about 14 inches; frost-free period, 90 to 110 days. Parent material: Colluvium, residuum, and local alluvium from shale and limestone. Topography: Hillside slope. South-facing, about 5 percent slopes. Elevation: 7,200 feet. Drainage: Well drained. Soil moisture: Usually moist.

HORIZON	DESCRIPTION
A11 RSL No. 70185	0-6 cm (0-2 inches), grayish brown (10YR 5/2) shaly clay loam, very dark grayish brown (10YR 3/2) moist; moderate fine granular structure; slightly hard, firm, sticky, plastic; few fine roots; few fine pores; 2 to 10 percent of surface covered by shaly coarse fragment; strongly calcareous, lime is disseminated; moderately alkaline (pH 8.2); clear smooth boundary.
A12 RSL No. 70186	6-28 cm (2-11 inches), grayish brown (10YR 5/2) clay loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure that parts to moderate fine granular; hard, firm, sticky, plastic; common fine roots; few fine pores; very strongly calcareous, lime is disseminated; moderately alkaline (pH 8.2); clear smooth boundary.
B2 RSL No. 70187	28-44 cm (11-17 inches), light brownish gray (10YR 6/2) heavy silty clay loam, grayish brown (10YR 5/2) moist; weak medium prismatic structure that parts to moderate medium subangular blocky; very hard, firm, sticky, plastic; few fine and very fine roots; few fine pores; very strongly calcareous; strongly alkaline (pH 8.5); clear smooth boundary.
C1ca RSL No. 70188	44-63 cm (17-25 inches), white (10YR 8/2) shaly silty clay loam, pale brown (10YR 6/3) moist; massive; very hard, firm, sticky, plastic; few fine and very fine roots; few very fine pores; 25 percent soft shale fragments that are soft when moist, hard when dry; very strongly calcareous, lime is disseminated and in soft nodules; strongly alkaline (pH 8.6); abrupt smooth boundary.
C2ca RSL No. 70189	63-99 cm (25-40 inches), white (10YR 8/2) shaly silty clay loam, pale brown (10YR 6/2) moist; moderate medium platy structure; few fine and very fine roots matted on top of horizon; no pores; 50 percent soft decomposed shale fragment; very strongly calcareous; strongly alkaline (pH 8.7); abrupt smooth boundary.
R RSL No. 70190	99-115 cm (40-46 inches), shale bedrock.

CONSECUTIVE PEDON NUMBER C 70 30 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES MOWER SHALY CLAY LOAM SOIL NO. S70 UTAH. 20- 9 SAMPLE NO. 0 191-0 196 SANPETE AREA

SOIL FAMILY: TYPIC CALCIXEROLL,FINE-LOAMY,CARBONATIC,FRIGID RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	CSI .05- .02	FSI .02- .002	CO. FINE 2- .2U	FINE LT .2U	CARBO NATE 3A1A.02	INT. II .2- .02	1A2A -COARSE FRAGMENTS- PCT. OF WHOLE 20	I 75- SOIL	II 20-5 PCT. OF LT 75	III 5-2
			PERCENT OF LESS THAN 2MM																	
0 191	0- 8	A1	17.8	47.7	34.5	1.8	1.8	1.7	5.3	7.2	15.0	32.7			3	25.2	6A	1	3	2
0 192	8- 18	A3	15.2	45.5	39.3	1.9	1.8	1.8	4.6	5.1	12.4	33.1			4	20.0	3A	—	1	1
0 193	18- 42	B2	13.8	42.6	43.6	2.0	1.3	1.2	3.8	5.5	11.2	31.4			10	19.2	1A	—	—	1
0 194	42- 62	B3 CA	11.3	44.4	44.3	1.7	1.0	0.8	2.9	4.9	10.0	34.4			10	16.9	3A	—	2	1
0 195	62- 86	C 1CA	10.2	49.0	40.8	1.2	1.1	0.9	3.0	4.0	10.1	38.9			13	16.1	—G	—	—	—
0 196	86-110	C 2	14.9	39.4	45.7	0.8	2.4	3.1	5.5	3.1	3.3	36.1			18	9.5	—G	—	—	—

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR- BON 6A1A -PERCENT-	NITRO GEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	----SESQUIOXIDES---- DI-CIT FE 6C2B	EXT AL 6G7A	PYROP FE 6C5A	EXT AL 6G5A	ATTERBERG L I M I T LL 4F1	PL 4F2	EST. 1/3 4A1F	BULK DENSITY 1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
				-PERCENT-		------PERCENT-------				PCT.NO.40			GRAMS PER CC			----PERCENT---			-PERCENT-	
0 191	0- 8	2.30	0.207		35								1.13	1.26	0.97	29.4	25.1	13.7	3.7	3.6
0 192	8- 18	1.86	0.168		35								1.19	1.36	0.99	26.8	24.4	15.6	4.6	4.5
0 193	18- 42	1.17	0.118		43								1.47	1.69	1.00	27.2	25.3	16.5	4.8	4.7
0 194	42- 62	1.05	0.105		42								1.45	1.64	0.98	27.7	25.8	16.3	4.2	4.1
0 195	62- 86	0.80	0.082		50								1.41	1.55	1.00	25.9	24.3	14.3	3.2	3.2
0 196	86-110	0.45			58								1.49	1.63	1.00	26.4	23.4	13.1	3.0	3.0

SAMPLE NO.	DEPTH CM.	--EXTRACTABLE BASES---- CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI- DITY 6H2A	KCL EXT. AL 6G1E	--C E C-- SUM 5A3A	NH4- OAC 5A6A	BASE SATURATION SUM+ ACI- DITY	SUM+ AL	NH4- OAC 5C1	-----PH------ NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA- CL2 8C1E
		MEQ/100G									----PERCENT----					
0 191	0- 8	26.6	3.6	0.1	2.0	32.3			32.3	23.8			100+		8.0	7.7
0 192	8- 18	27.7	3.7	0.1	2.2	33.7			33.7	25.0			100+		7.9	7.7
0 193	18- 42	24.5	3.7	0.1	1.2	29.5			29.5	21.0			100+		8.0	7.7
0 194	42- 62	24.6	3.9	0.1	1.0	29.6			29.6	21.8			100+		8.0	7.7
0 195	62- 86	26.0	6.0	0.1	0.6	32.7			32.7	21.9			100+		8.1	7.7
0 196	86-110	20.9	10.5	0.1	0.4	31.9			31.9	20.4			100+		8.1	7.7

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY ----LESS THAN 0.002 MM------ X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	---DTA--- 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
0 191	0- 8	MI 3									MI MICA	1 TRACE
0 192	8- 18											2 SMALL
0 193	18- 42	MT 3	MI 3	KK 1							MT MONTMORT	3 MODERATE
0 194	42- 62										KK KAOLINIT	4 ABUNDANT
0 195	62- 86										MM MT/MICA	5 DOMINANT
0 196	86-110	MM 3										6 INDETER.

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
G=GROUND WHOLE. HORIZON INDURATED OR GRAVEL TOO SOFT TO BE SEPARATED. ALL DATA FOR WHOLE SOIL.

MOWER SHALY CLAY LOAM
S70Utah-20-9

Location: Sanpete County, UT. West Mountain - Near head of Maple Canyon. Date of sampling: August 14, 1970.
Description by: B. Brasher, D. Nettleton, M. Olsen, J. Swenson, D. Beckstrand, C. McKinlay.
Collectors: B. Brasher, D. Nettleton, M. Olsen, J. Swenson, D. Beckstrand, C. McKinlay.
Classification: Typic Calcixeroll, fine-loamy, carbonatic, frigid.
Vegetation: Big sagebrush and juniper. Climate: Mean annual temperature is about 45° F. Mean summer temperature is about 63° F. Average annual precipiation is about 14 inches; frost-free period is 90 to 110 days. Parent material: Colluvium, residuum, and local alluvium from limestone and shale. Topography: Gently rolling hills. Northwest-facing, 15 percent slopes. Elevation: 7,000 feet. Drainage: Well drained. Soil moisture: Usually moist.

HORIZON	DESCRIPTION
A1 RSL No. 70191	0-8 cm (0-3 inches), grayish brown (10YR 5/2) shaly clay loam, very dark grayish brown (10YR 3/2) moist; weak thin platy structure; hard, firm, sticky, plastic; few fine and very fine roots; common very fine pores; strongly calcareous, lime is disseminated; moderately alkaline (pH 8.2); clear smooth boundary.
A3 RSL No. 70192	8-18 cm (3-7 inches), grayish brown (10YR 5/2) silty clay loam, very dark grayish brown (10YR 3/2) moist; strong fine granular structure; very hard, firm, sticky, plastic; few fine, few very fine roots; few fine, few very fine pores; strongly calcareous, lime is disseminated; moderately alkaline (pH 8.2); clear smooth boundary.
B2 RSL No. 70193	18-42 cm (7-17 inches), pale brown (10YR 6/3) light silty clay, brown (10YR 4/3) moist; strong fine angular blocky structure; very hard, firm, sticky, plastic; few fine, few medium roots; few fine, interstitial pores; very strongly calcareous, lime is disseminated; moderately alkaline (pH 8.4); clear smooth boundary.
B3ca RSL No. 70194	42-62 cm (17-25 inches), light gray (10YR 5/2) light silty clay, grayish brown (10YR 5/2) moist; strong fine angular blocky structure; very hard, firm, sticky, plastic; few fine and very fine roots; few interstitial pores; very strongly calcareous, lime is in veins and nodules ; strongly alkaline (pH 8.6); gradual smooth boundary.
C1ca RSL No. 70195	62-86 cm (25-34 inches), light gray (10YR 7/2) silty clay loam, grayish brown (10YR 5/2) moist; massive; very hard, firm, sticky, plastic; few fine interstitial pores; very strongly calcareous, lime is in veins and soft nodules; strongly alkaline (pH 8.7); gradual smooth boundary.
C2 RSL No. 70196	86-110 cm (34-44 inches), white (10YR 8/2), raw, partially decomposed shale, dark grayish brown (10YR 6/3) moist; platy structure; very strongly calcareous, lime is in veins and nodules on and between shale fragments; strongly alkaline (pH 8.7).

CONSECUTIVE PEDCN NUMBER C 67 24 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES FONTREEN VERY FINE GRAVELLY LOAM SOIL NO. S67 UTAH. 20- 1 SAMPLE NO. 7 409-7 416 SANPETE CO. AREA

SOIL FAMILY: ARICIC CALCIXEROLL LMY-SKELTL,CARBCNATIC,FRIGIC RIVERSIDE SOIL SURVEY LABCRATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2-.05	SILT .05-.002	CLAY LT .002	VCS 2-1	CS 1-.5	MS .5-.25	FS .25-.10	VFS .1-.05	CSI .05-.02	FSI .02-.002	CO. 2-.2U	FINE LT .2U	CARBO NATE 3A1A	INT. II .2-.02	COARSE FRAGMENTS PCT. OF WHOLE 1A2A I 75-20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM													SOIL	PCT. OF LT 75		
7 409	0- 10	A11	28.4	47.2	24.4	3.0	2.7	1.6	6.4	14.7	18.9	28.3			6	38.0	40	14	26Z N
7 410	10- 18	A12	25.2	49.3	25.5	4.8	3.2	1.5	5.2	10.5	22.6	26.7			7	36.5	57*	36	19Z N
7 411	18- 38	A13	25.3	45.7	29.0	5.5	4.2	2.0	4.5	9.1	18.2	27.5			10	30.1	76*	63	11Z N
7 412	38- 53	C 1CA	28.7	43.2	28.1	5.1	4.8	2.5	6.0	10.3	15.5	27.7			15	29.6	69	47	22Z N
7 413	53- 74	C 2CA	31.6	40.7	27.7	7.4	5.8	2.7	5.9	9.8	14.7	26.0			17	28.2	71*	43	26Z N
7 414	74-112	C 3CA	42.3	37.7	20.0	12.0	7.9	3.8	7.4	11.2	15.8	21.9			11	31.5	73*	36	35Z N
7 415	112-147	C 4CA	45.8	42.8	11.4	11.8	8.2	3.9	8.8	13.1	20.0	22.8			7	38.5	74	45	29Z N
7 416	147-168	C 5	40.7	50.8	8.5	8.8	6.3	2.9	7.2	15.5	26.8	24.0			3	46.9	79	45	34Z N

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR-BCN 6A1A	NITRO GEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES DI-CIT FE 6C2B	EXT AL 6G7A	PYROP FE 6C5A	EXT AL 6G5A	ATTERBERG L I M I T LL 4F1	PL 4F2	BULK DENSITY EST. 1/3 1/3 4A1F	BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		-PERCENT-		-PERCENT-		PERCENT				PCT.		NO.40 GRAMS PER CC				PERCENT			-PERCENT-	
7 409	0- 10	3.69	0.291	30		0.4						0.85			0.82					
7 410	10- 18	3.46	0.280	31									0.90	0.98	0.69		42.7	15.9	2.9	1.9
7 411	18- 38	3.31	0.276	35		0.3							0.82	0.90	0.51		51.3	18.3	3.2	1.5
7 412	38- 53	2.07	0.177	53								1.00			0.53			19.0		
7 413	53- 74	1.11		65		0.2							0.97	0.99	0.53		34.4	16.5	0.7	0.4
7 414	74-112	1.05		64									0.59	0.94	0.62		42.7	43.4	16.8	9.2
7 415	112-147	0.79		61									0.96	0.99	0.48		41.0	12.0	1.0	0.5
7 416	147-168	0.49		39		0.2							0.98	1.03	0.40		31.3	12.8	1.7	0.7

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B3A 6N4C	MG 5B3A 6D4C	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI-DITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4-OAC 5A6A	BASE SATURATION SUM+ ACI-DITY	SUM+ AL 5C1	NH4-CAC	PH NAF 2 MIN 8C1D	H2C 1/1 8C1A	CA-CL2 8C1E
		MEQ/100G									PERCENT					
7 409	0- 10			0.1	0.9	1.0			1.0	24.1						
7 410	10- 18			0.1	0.8	0.9			0.9	24.2						
7 411	18- 38			0.1	0.6	0.7			0.7	24.8						
7 412	38- 53			0.1	0.3	0.4			0.4	16.0						
7 413	53- 74			0.1	0.2	0.3			0.3	11.7						
7 414	74-112			0.1	0.2	0.3			0.3	11.2						
7 415	112-147			0.2	0.2	0.4			0.4	10.2						
7 416	147-168			0.2	0.4	0.6			0.6	14.2						

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
7 409	0- 10											1 TRACE
7 410	10- 18										MI MICA	2 SMALL
7 411	18- 38	MI 3	MT 2	KK 2							MT MONTMORT	3 MODERATE
7 412	38- 53										KK KAOLINIT	4 ABUNDANT
7 413	53- 74	MT 3	KK 2									5 DOMINANT
7 414	74-112											6 INDETER.
7 415	112-147											
7 416	147-168											

SAMPLE PREPARATION CODES
N=NOT DETERMINED.
Z=NOT ALL FRACTIONS SEPERATED. ADJACENT FRACTIONS INCLUDED HERE.
*=THE 75-250MM FRACTION IS INCLUDED.

FONTREEN VERY GRAVELLY LOAM

S67Utah-20-1

Location: Sanpete Soil Survey Area, Utah. Sec. 36, T. 18 S., R. 2 E.; 3 miles east of Sterling, south fork of 6 mile canyon, Funk's Cove. Date of sampling: August 28, 1967.
Description by: A. Erickson, J. Swenson. Collectors: B. Brasher, D. Nettleton.
Classification: Aridic Calcixeroll, loamy-skeletal, carbonatic, frigid.
Vegetation: Bluebunch wheatgrass, big sagebrush, slender wheatgrass, serviceberry. Use: Spring grazing. Climate: Precipitation, 16 inches. Mean annual air temperature, 45°F.; mean summer air temperature, 62°F., frost-free days, 90 to 100. Parent materials: Local alluvium and colluvium from limestone. Topography: Steep hillside slope. Elevation: 6,000 feet. Drainage: Well drained, rapid permeability, medium runoff, no water table. Soil moisture: Dry.

HORIZON	DESCRIPTION
A11 RSL 67409 (0-10 cm)	0 to 4 inches, dark grayish brown (10YR 4/2) very gravelly loam, very dark grayish brown (10YR 3/2) moist; weak fine granular structure; soft, friable, slightly sticky and plastic; many very fine and fine roots; gravel occurs mainly as a surface mantle; strongly calcareous, lime is disseminated; moderately alkaline; (pH 7.9); clear smooth boundary.
A12 RSL 67410 (10-18 cm)	4 to 7 inches, dark grayish brown (10YR 4/2) gravelly loam; very dark grayish brown (10YR 3/2) moist; weak thick platy breaking to weak fine granular structure; slightly hard, friable, slightly sticky and plastic; many very fine and many fine roots; few fine pores; strongly calcareous, lime is disseminated and some soft powdery lime on the bottom of coarse fragments, but losing lime; moderately alkaline (pH 7.9); gradual wavy boundary.
A13 RSL 67411 (18-38 cm)	7 to 15 inches, dark grayish brown (10YR 4/2) very gravelly loam, dark brown (10YR 3/3) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and plastic; many very fine and common fine roots; few fine pores; strongly calcareous, lime is disseminated and segregated on bottom of coarse fragments; moderately alkaline (pH 7.9); clear smooth boundary.
C1ca RSL 67412 (38-53 cm)	15 to 21 inches, pale brown (10YR 6/3) very gravelly loam; brown (10YR 5/3) moist; massive; slightly hard, friable, sticky and plastic; many very fine roots; many very fine pores; very strongly calcareous, lime is disseminated and segregated on coarse fragments and in soft nodules, flakes, and veins; moderately alkaline (pH 8.1); gradual wavy boundary.
C2ca RSL 67413 (53-74 cm)	21 to 29 inches, very pale brown (10YR 7/3) very gravelly loam, pale brown (10YR 6/3) moist; massive, hard, friable, slightly sticky and plastic; few very fine and few fine roots; few fine pores; very strongly calcareous, lime is disseminated and segregated on coarse fragments and in flakes, veins, and soft nodules; moderately alkaline; (pH 8.4); clear wavy boundary.
C3ca RSL 67414 (74-112 cm)	29 to 44 inches, pinkish gray (7.5YR 7/2) very gravelly loam; pinkish gray (7.5YR 6/2) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; few fine pores; very strongly calcareous, lime is disseminated, segregated on coarse fragments, also in flakes and nodules; strongly alkaline (pH 8.6); gradual smooth boundary.
C4ca RSL 67415 (112-147 cm)	44 to 58 inches, pink (7.5YR 7/3) very gravelly light loam, light brown (7.5YR 6/3) moist; massive, slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; few very fine pores; very strongly calcareous, lime is disseminated and is segregated on the coarse fragments, also some cementation into nodules; strongly alkaline; (pH 8.5); gradual wavy boundary.
C5 RSL 67416 (147-168 cm)	58 to 66 inches, pink (7.5YR 7/3) very gravelly light loam; light brown (7.5YR 6/3) moist; massive slightly hard, friable, slightly sticky and slightly plastic; common fine and very fine roots; very strongly calcareous, lime is disseminated; strongly alkaline (pH 8.6).

CONSECUTIVE PEDON NUMBER C 67 25 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES FONTREEN VERY FINE GRAVELLY LOAM SOIL NO. S67 UTAH. 20- 2 SAMPLE NO. 7 417-7 424 SANPETE CO. AREA

SOIL FAMILY: ARIDIC CALCIXEROLL LMY-SKELTL,CARBONATIC,FRIGID RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION SAND 2-.05	SILT .05-.002	CLAY LT .002	SANDS VCS 2-1	CS 1-.5	MS .5-.25	FS .25-.10	VFS .1-.05	SILTS CSI .05-.02	FSI .02-.002	CLAYS CC. 2-.2U	FINE LT .2U	CARBONATE 3A1A	1A2A INT. II .2-.02	COARSE FRAGMENTS PCT. OF WHOLE SOIL I 75-20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75		
7 417	0- 5	A11	21.2	58.0	20.8	4.4	3.7	1.5	4.2	7.4	24.8	33.2			2	34.7	55	10	45Z N
7 418	5- 30	A12	17.2	58.1	24.7	3.6	2.5	1.0	3.0	7.1	23.4	34.7			6	32.4	60	18	42Z N
7 419	30- 46	A13	20.7	52.3	27.0	4.3	4.4	2.2	4.7	5.1	19.4	32.9			10	27.0	76	12	64Z N
7 420	46- 61	C 1CA	34.2	44.6	21.2	5.5	6.7	4.0	9.4	8.6	19.3	25.3			13	33.1	45	14	31Z N
7 421	61- 76	C 2CA	42.0	38.7	19.3	3.5	7.1	6.1	13.1	12.2	16.6	22.1			13	36.2	57	23	34Z N
7 422	76-104	C 3CA	43.5	40.8	15.7	4.3	9.1	6.3	12.9	10.9	18.3	22.5			10	36.4	48	18	30Z N
7 423	104-119	C 4CA	44.8	41.5	13.7	5.3	8.9	6.2	12.9	11.5	17.8	23.7			9	36.9	64	25	39Z N
7 424	119-152	C 5	47.5	39.6	12.9	5.4	8.3	6.8	14.1	12.9	17.8	21.8			8	38.8	81	29	52Z N

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	19-2 6E1B	EXT. IRON FE 6C2B	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST 1/3 BAR 4A1F	4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTENSIBILITY LEF 4D1	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
		-PERCENT--		-PERCENT-		PCT.	PCT.NO.40		GRAMS PER CC				-----PERCENT---			-PERCENT--				
7 417	0- 5	4.60	0.332	22		0.5			0.85			0.72			15.5				8.5	
7 418	5- 30	2.36	0.205	26						0.89	0.94	0.66		34.2	16.1	1.8	1.2		8.5	
7 419	30- 46	2.02	0.159	45		0.4			0.90			0.48			16.0				8.6	
7 420	46- 61	0.99		29						0.92	0.94	0.78		36.2	13.9	0.7	0.6		8.9	
7 421	61- 76	0.94		67		0.2			0.95			0.68			16.3				9.2	
7 422	76-104	0.55		67					0.95			0.75			12.6				9.5	
7 423	104-119			66					0.95			0.61			11.1				9.6	
7 424	119-152			65		0.2				0.78	0.79	0.44		25.3	9.7	0.4	0.2		9.7	

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B3A 6N4C	MG 5B3A 6O4C	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SATURATION	CEC NA-OAC 5A2A	NH4-CAC 5A6A	WATER EXTRACT FROM SATURATED PASTE 8A1 EC 8A1A	CA 6N1B	MG 6O1B	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1A	B 6T1A	PH SATURATED PASTE 8C1B
		MEQ/100G					PCT.	-MEQ/100G		MMHO	MEQ/1000 ML								PPM	
7 417	0- 5			0.1	2.2	2.3			26.4	1.21	11.4	1.8	0.3	0.9		12.9	0.9			7.4
7 418	5- 30			0.1	0.6	0.7			21.9	0.52	4.6	0.8	0.2	0.2		4.3	0.3			7.7
7 419	30- 46			0.1	0.4	0.5			18.7	0.46	3.2	1.1	0.2	0.1		4.2	0.3			7.8
7 420	46- 61			0.2	0.2	0.4			11.9	0.47	2.2	2.4	0.4	0.1		4.6	0.2			8.0
7 421	61- 76			0.3	0.2	0.5			10.8	0.50	0.8	3.2	0.9	0.1		2.8	0.5			8.4
7 422	76-104			0.7	0.2	0.9			9.0	0.51	0.8	2.4	1.8	0.1		4.8	0.4			8.7
7 423	104-119			1.0	0.2	1.2			8.8	0.51	0.4	1.6	2.9	0.1		5.8	0.3			8.8
7 424	119-152			1.2	0.2	1.4			8.2	0.51	0.3	1.9	4.6	0.1		6.7	1.0			8.9

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGEABLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1A PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY DTA 7A2E I	7A2E II	7A2E III	7A2E IV	7A3 PCT.	L.T. .0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
7 417	0- 5	63.7	TR	TR	TR			MI 3	KK 3	MT 2						MI MICA	1 TRACE
7 418	5- 30	65.3	TR	TR	TR											KK KAOLINIT	2 SMALL
7 419	30- 46	66.3	TR	TR	TR			MT 3	KK 3	MI 2						MT MONTMORT	3 MODERATE
7 420	46- 61	52.7	0.2	2	TR												4 ABUNDANT
7 421	61- 76	57.3	0.2	2	1			MT 2	KK 2								5 DOMINANT
7 422	76-104	48.7	0.6	7	1												6 INDETER.
7 423	104-119	47.7	0.9	10	3												
7 424	119-152	47.2	1.0	12	4			MT 3	KK 3								

SAMPLE PREPARATION CODES
N=NOT DETERMINED.
Z=NOT ALL FRACTIONS SEPERATED. ADJACENT FRACTIONS INCLUDED HERE.

FONTREEN VERY GRAVELLY LOAM

S67Utah-20-2

Location: Sanpete Soil Survey Area, Utah. Sec. 10, T. 19 S., R. 1½ W.; above spring and well in southwestern part of Japs Valley. Date of sampling: August 28, 1967. Description by: J. Swenson, A. Erickson. Collectors: B. Brasher, D. Nettleton. Classification: Aridic Calcixerolls, loamy-skeletal, carbonatic, frigid. Vegetation: Pinyon, juniper, black sagebrush, bunchgrasses, birchleaf mountain-mahogany. Use: Spring and fall grazing. Climate: Precipitation, 13 inches; mean annual air temperature, 45°F.; mean summer air temperature, 62°F. Frost-free days, 90-100. Parent materials: Local alluvium and colluvium from limestone. Topography: Steep hillside slope. Elevation: 6,200 feet. Drainage: Well drained, moderately rapid permeability, medium runoff, no water table. Soil moisture: Dry.

HORIZON	DESCRIPTION
	(0-5 cm)
A11 RSL 67417	0 to 2 inches, grayish brown (10YR 5/2) very gravelly loam, dark brown (10YR 3/3) moist; weak medium platy structure; soft, friable, slightly sticky and slightly plastic; common very fine roots; common very fine and few fine pores; strongly calcareous, lime is disseminated; moderately alkaline (pH 7.9); abrupt smooth boundary.
A12 RSL 67418 (5-30 cm)	2 to 12 inches, brown (10YR 4/3) very gravelly loam; dark brown (10YR 3/3) moist; weak medium granular structure; slightly hard, firm, slightly sticky and plastic; many very fine, fine, and few medium roots; few fine pores; strongly calcareous, lime is disseminated and segregated as soft powdery lime on bottom of coarse fragments; moderately alkaline (pH 8.2); clear smooth boundary.
A13 RSL 67419 (30-46 cm)	12 to 18 inches, pale brown (10YR 6/3) very gravelly loam, brown (10YR 4/3) moist; massive; loose, firm, slightly sticky and slightly plastic; few very fine, few fine and few medium roots; strongly calcareous, lime is disseminated and segregated, on the bottom of coarse fragments; moderately alkaline (pH 8.2); clear smooth boundary.
C1ca RSL 67420 (46-61 cm)	18 to 24 inches, very pale brown (10YR 7/3) very gravelly loam; brown (10YR 5/3) moist; weak thick platy breaking to weak medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few very fine, few fine and few medium roots; few very fine discontinuous pores; very strongly calcareous, lime is disseminated and in flakes, veins, and segregated on coarse fragments; strongly alkaline (pH 8.6); gradual smooth boundary.
C2ca RSL 67421 (61-76 cm)	24 to 30 inches, very pale brown (10YR 7/3) very gravelly light loam, pale brown (10YR 6/3) moist; massive; loose, friable, slightly sticky and slightly plastic; few very fine and few fine roots; few very fine discontinuous pores; lime is disseminated and segregated on coarse fragments and in veins and flakes; strongly alkaline (pH 9.0); gradual smooth boundary.
C3ca RSL 67422 (76-104 cm)	30 to 41 inches, very pale brown (10YR 8/3) gravelly light loam; very pale brown (10YR 7/3) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine and few fine roots; few very fine discontinuous pores; lime is disseminated and segregated on coarse fragments, flakes, and veins; strongly alkaline (pH 9.0); gradual smooth boundary.
C4ca RSL 67423 (104-119 cm)	41 to 47 inches, very pale brown (10YR 7/3) very gravelly light loam, pale brown (10YR 6/3) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; very strongly calcareous, lime is disseminated; strongly alkaline (pH 9.0); gradual smooth boundary.
C5 RSL 67424 (119-152 cm)	47 to 60 inches, very pale brown (10YR 7/3) very gravelly light loam; pale brown (10YR 6/3) moist; massive; loose, friable, slightly sticky and slightly plastic; few very fine roots; very strongly calcareous, lime is disseminated, segregated on coarse fragments; very strongly alkaline (pH 9.2).

CONSECUTIVE PEDON NUMBER C 71 33 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES FONTREEN VERY COBBLY LOAM SOIL NO. S71 UTAH. 20- 8 SAMPLE NO. 1 213-1 217 SANPETE AREA

SOIL FAMILY: ARIDIC CALCIXEROLL,LOAMY-SKELETAL,CARBN.,FRIGID RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION SANC 2- .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBO NATE 3A1A	INT. COARSE II .2- .02	PCT. OF WHOLE SOIL	FRAGMENTS I 75- 20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75			
1 213	0- 10	A11	35.9	43.6	20.5	7.6	7.6	4.7	9.6	6.4	13.5	30.1	13.5	7.0	2	25.3	89*	14	7	6
1 214	10- 32	A12	30.8	46.1	23.1	1.7	2.8	3.0	12.4	10.9	17.3	28.8			5	35.8	76*	21	8	4
1 215	32- 52	B2 CA	31.6	48.9	19.5	1.5	2.4	2.4	11.4	13.9	20.3	28.6	14.9	4.6	7	42.0	73*	22	6	4
1 216	52- 80	C1 CA	36.6	46.5	16.9	1.7	3.2	2.9	13.7	15.1	20.6	25.9			6	45.4	33A	23	5	5
1 217	80-120	C2 CA	46.2	42.5	11.3	7.4	7.7	4.5	12.9	13.7	20.0	22.5	9.0	2.3	3	42.2	49A	21	16	12

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR- BON 6A1A	NITRO GEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES DI-CIT FE 6C2B	EXT AL 6G7A	PYROP FE 6C5A	EXT AL 6G5A	ATTERBERG LL 4F1	PL 4F2	BULK DENSITY 1/3 BAR 4A1F	4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		-PERCENT-		-PERCENT-		------PERCENT-------				PCT.NO.40		GRAMS PER CC				----PERCENT---			-PERCENT-	
1 213	0- 10	10.06	0.530	24								0.53	0.67	0.37	55.9	58.0	25.8	8.1	2.7	
1 214	10- 32	3.85	0.147	35								0.98	1.03	0.47	29.4	22.1	16.4	1.7	0.8	
1 215	32- 52	1.44	0.117	45								1.14	1.18	0.46	37.1	36.3	12.2	1.2	0.5	
1 216	52- 80	1.10	0.089	44								1.18	1.20	0.82	27.4	19.3	10.3	0.6	0.5	
1 217	80-120	0.99	0.073	39								1.10	1.11	0.72	30.4	23.7	9.6	0.3	0.2	

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI- DITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4- OAC 5A6A	BASE SATURATION SUM+ ACI- DITY	SUM+ AL	NH4- OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA- CL2 8C1E
		MEQ/100G									PERCENT					
1 213	0- 10	48.6	6.7	0.2	1.6	57.1			57.1	36.2			100+		7.5	7.3
1 214	10- 32	39.1	5.4	0.3	1.2	46.0			46.0	23.9			100+		7.6	7.3
1 215	32- 52	26.2	3.8	0.4	0.9	31.3			31.3	13.6			100+		7.7	7.4
1 216	52- 80	25.7	4.2	0.4	0.4	30.7			30.7	11.5			100+		7.7	7.4
1 217	80-120	28.4	8.9	0.8	0.3	38.4			38.4	12.2			100+		7.7	7.5

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
1 213	0- 10	KK 3	MI 1					MI 3	MT 2		KK KAOLINIT	1 TRACE
1 214	10- 32										MI MICA	2 SMALL
1 215	32- 52	KK 3	MT 1	MI 1				MT 3	MI 3	KK 3		3 MODERATE
1 216	52- 80										MT MONTMORT	4 ABUNDANT
1 217	80-120	KK 3	MT 1	MI 1				MT 3	MI 3	KK 3		5 DOMINANT
												6 INDETER.

SAMPLE PREPARATION CODES
*=THE 75-250MM FRACTION IS INCLUDED.
A=STANDARD PREPARATION.

FONTREEN VERY COBBLY LOAM
S71Utah-20-8

Location: Sanpete County, UT. Japs Valley, about 1 mile west of Ralph Lund's ponds. Sec. 10, T. 19 S., R. 1½ W. Date of sampling: June 30, 1971.
Description by: J. Swenson. Collectors: J. Swenson, D. Nettleton, M. Olsen, J. Skiozaki.
Classification: Aridic Calcixeroll, loamy-skeletal, carbonatic, frigid.
Vegetation: Pinyon, juniper, Mormon-tea. Climate: Mean annual air temperature is about 44° F. Mean summer temperature is about 60° F. Average annual precipitation is about 12 inches. Frost-free period, about 95 days. Parent material: Alluvium or colluvium from limestone, sandstone, and chert. Topography: Steep mountain slopes, north aspect, short, 50 percent slopes. Elevation: 6,200 feet. Drainage: Somewhat excessively drained. Soil moisture: Usually dry.

HORIZON	DESCRIPTION
A11 RSL No. 71213	0-10 cm (0-4 inches), dark grayish brown (10YR 4/2) very cobbly loam, dark brown (10YR 3/3) moist; moderate fine granular structure; soft, friable, nonsticky, slightly plastic; common very fine roots; few fine pores; 45 percent cobble and stone and 15 percent gravel; strongly calcareous, lime is disseminated; mildly alkaline (pH 7.6); clear smooth boundary.
A12 RSL No. 71214	10-32 cm (4-12½ inches), brown (10YR 5/3) very cobbly loam, dark brown (10YR 3/3) moist; weak medium subangular blocky structure that parts to moderate fine granular; soft, very friable, nonsticky, slightly plastic; few coarse, common medium, few fine and very fine roots; common very fine pores; 65 percent cobble and gravel; strongly calcareous, lime is disseminated; mildly alkaline (pH 7.8); clear smooth boundary.
B2ca RSL No. 71215	32-52 cm (12½-20½ inches), pale brown (10YR 6/3) very cobbly loam, brown (10YR 5/3) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky, slightly plastic; common medium, few fine, and very fine roots; few fine and very fine pores; 65 percent cobble and gravel; very strongly calcareous, lime is disseminated and in fine limestone fragments; mildly alkaline (pH 7.8); clear wavy boundary.
C1ca RSL No. 71216	52-80 cm (20½-31½ inches), very pale brown (10YR 7/3) very stony loam, brown (10YR 5/3) moist; massive; few coarse medium and fine roots; few fine pores; 70 percent stone, cobble, and gravel; very strongly calcareous, lime is disseminated, in veins, limestone fragments, and in soft, rounded masses; moderately alkaline (pH 8.0); gradual wavy boundary.
C2ca RSL No. 71217	80-120 cm (31½-47 inches), very pale brown (10YR 7/3) very stony loam, brown (10YR 5/3) moist; massive; slightly hard, friable, slightly sticky, slightly plastic; few medium, few fine roots; 90 percent stone, cobble, and gravel; very strongly calcareous, lime is disseminated, in fragments, and coated on coarse fragments; moderately alkaline (pH 8.6).

CONSECUTIVE PEDON NUMBER C 67 6 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES BRADSHAW VERY COBBLY LOAM SOIL NO. S67 UTAH. 18-10 SAMPLE NO. 7 236-7 242 SALT LAKE CO. AREA

SOIL FAMILY: TYPIC HAPLOXEROLL,LOAMY-SKELETAL,MIXED,FRIGID RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2-.05	SILT .05-.002	CLAY LT .002	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 SANDS VCS 2-1	CS 1-.5	MS .5-.25	FS .25-.10	VFS .1-.05	SILTS CSI .05-.02	FSI .02-.002	CLAYS CO. 2-.2U	FINE LT .2U	CARBONATE 3A1A.02	1A2A INT. II .2-.02	COARSE FRAGMENTS PCT. OF WHOLE SOIL 20	I 75-20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75			
7 236	0- 10	A11	47.1	30.0	22.9	13.2	10.1	4.0	9.7	10.1	11.1	18.9				27.4	57*	13	27Z	N
7 237	10- 41	A12	45.5	31.4	23.1	8.3	9.4	4.5	11.2	12.1	12.0	19.4				31.3	67*	38	20Z	N
7 238	41- 63	B21	36.2	35.3	28.5	7.6	8.9	3.9	8.4	7.4	12.3	23.0				24.8	67*	15	43Z	N
7 239	63- 97	B22	24.3	39.8	35.9	5.4	6.2	2.7	5.0	5.0	5.2	34.6				13.0	52*	7	33Z	N
7 240	97-114	C 1	22.3	40.2	37.5	4.5	6.5	2.6	4.1	4.6	8.9	31.3				15.7	63*	17	34Z	N
7 241	114-130	C 2															77*	TR	65Z	N
7 242	130-145	R															--	--	--	--

SAMPLE NO.	DEPTH CM.	ORG. MATTER CARBON 6A1A -PERCENT--	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B -PERCENT-	19-2 6E1B	EXT. IRON FE 6C2B PCT.	ATTERBERG LIMIT LL 4F1 PCT.	PL 4F2 NO.40	BULK DENSITY EST 1/3 BAR 4A1F GRAMS PER CC	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C ----PERCENT---	1/3 BAR 4B1C	15 BAR 4B2	EXTENSIBILITY LEF 4D1 -PERCENT--	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
7 236	0- 10	3.06	0.233			1.7			0.87	0.97	0.70		36.9	12.4		3.7	2.5		7.5	
7 237	10- 41	2.43	0.199						1.04	1.10	0.56		30.5	11.8		1.9	1.0		7.6	
7 238	41- 63	1.19	0.098						1.13	1.21	0.54		29.2	9.8		2.3	1.2		7.9	
7 239	63- 97	0.54	0.053			2.9			1.47	1.58	0.62		20.9	10.2		2.4	1.5		7.9	
7 240	97-114	0.51				3.2		1.47			0.51			11.1					8.4	
7 241	114-130	0.51						1.50			0.35			9.9					8.7	
7 242	130-145			2										10.1					8.5	

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B3A 6N4C	MG 5B3A 6O4C	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT.	CEC NA-OAC 5A2A	NH4-CAC 5A6A	EC 8A1A	WATER EXTRACT FROM SATURATED PASTE 8A1 CA 6N1B	MG 6O1B	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1A	B 6T1A	PH SAT. PASTE 8C1B
		MEQ/100G					PCT.	-MEQ/100G		MMHO	MEQ/1000 ML								PPM	
7 236	0- 10			0.2	0.8	1.0			24.1	0.50	2.7	3.0	0.4	0.3		3.7	0.5			7.7
7 237	10- 41			0.1	0.3	0.4			22.2	0.42	2.3	1.6	0.4	0.1		3.9	0.7			7.5
7 238	41- 63			0.1	0.1	0.2			14.9	0.52	2.7	1.9	0.6	0.1		4.0	0.9			7.5
7 239	63- 97			0.1	0.1	0.2			11.2	0.53	2.8	2.0	0.6	0.1		4.2	0.7			7.5
7 240	97-114			0.1	0.2	0.3			9.6	0.60	3.3	2.2	0.7	0.1		2.0	1.1			7.5
7 241	114-130																			
7 242	130-145																			

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGEABLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1A PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	DTA 7A2E IV	7A3 PCT.	L.T. .0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
7 236	0- 10	52.4	0.2	1	TR			KK 4	MI 3							KK KAOLINIT	1 TRACE
7 237	10- 41	51.8	TR	TR	TR											MI MICA	2 SMALL
7 238	41- 63	40.6	TR	1	TR												3 MODERATE
7 239	63- 97	39.9	TR	1	TR			MI 4	KK 4								4 ABUNDANT
7 240	97-114	41.1	TR	1	TR			MI 4	KK 4								5 DOMINANT
7 241	114-130																6 INDETER.
7 242	130-145							MI 5	KK 2								

SAMPLE PREPARATION CODES
*=THE 75-250MM FRACTION IS INCLUDED.
N=NOT DETERMINED.
Z=NOT ALL FRACTIONS SEPERATED. ADJACENT FRACTIONS INCLUDED HERE.

BRADSHAW VERY COBBLY LOAM

S67Utah-18-10

Location: Salt Lake Soil Survey Area, Utah. Sec. 34, T. 2 S., R. 3 W.; about 1,705 feet west, 120 feet south of the northeast corner. 1/4 mile south of KCPX TV Tower.
Date of sampling: August 24, 1967.
Description by. J. L. Harvey, M. E. Olsen, L. Woodward. Collectors: B. Brasher D. Nettleton.
Classification: Typic Haploxeroll, loamy-skeletal, mixed, frigid.
Vegetation: Snowberry, oakbrush, lupine, big sagebrush, arrowleaf, balsamroot, bluebunch wheatgrass. Use: Rangeland. Climate: Precipitation, 20 to 25 inches. Mean annual air temperature, 45°F.; mean summer air temperature, 63°F. Parent material: Residuum from mixed sedimentary rocks (Oquirrh formation). Topography: Mountain slope. Slope, 65 percent, south-southeast-facing. Elevation: 8,000 feet. Drainage: Well drained. Runoff and permeability are rapid. Soil moisture: Dry.

HORIZON	DESCRIPTION
	(0-10 cm)
A11 RSL 67236	0 to 4 inches, dark grayish brown (10YR 4/2) loam, very dark grayish brown (10YR 3/2) moist; moderate medium granular structure; soft, very friable, slightly sticky and slightly plastic; many fine, few medium and large roots; common fine pores; (10 percent gravel); noncalcareous; gradual smooth boundary.
A12 RSL 67237 (10-41 cm)	4 to 16 inches, grayish brown (10YR 5/2) gravelly loam; very dark grayish brown (10YR 3/2) moist; moderate medium granular structure; slightly hard, very friable, slightly sticky and slightly plastic; many fine, few medium and large roots; common fine pores; (20 percent gravel); noncalcareous; abrupt wavy boundary.
B21 RSL 67238 (41-63 cm)	16 to 25 inches, very pale brown (10YR 7/4) very gravelly light clay loam, yellowish brown (10YR 5/4) and brownish yellow (10YR 6/6) moist aggregate; hard, friable, sticky and slightly plastic; few fine, medium and large roots; few medium and large pores; (55 percent gravel and cobble); noncalcareous; clear wavy boundary.
B22 RSL 67239 (63-97 cm)	25 to 38 inches, very pale brown (10YR 7/5) very gravelly light clay loam, light yellowish brown (10YR 6/5) moist; weak medium angular blocky structure; hard, friable, slightly sticky and slightly plastic; few fine, medium, and large roots; few medium and large pores; (60 percent gravel and cobble) noncalcareous; clear wavy boundary.
C1 RSL 67240 (97-114 cm)	38 to 45 inches, very pale brown (10YR 7/4) very gravelly light clay loam, light yellowish brown (10YR 6/5) moist; very weak medium angular blocky structure hard, sticky and slightly plastic; very few fine, medium, and large roots; very few medium pores; (70 percent gravel and cobble); clear wavy boundary.
C2 (114-130 cm) RSL 67241	45 to 51 inches, light yellowish brown (10YR 6/4) very gravelly light clay loam, yellowish brown (10YR 5/6) moist; massive; very few fine, medium, and large roots; very few medium pores; abrupt wavy boundary.
R RSL 67242	51 to 57 inches +, bedrock (mixed sedimentary). (130-145 cm)

CONSECUTIVE PEDON NUMBER C 67 5 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES BRADSHAW VERY COBBLY SILT LOAM (TAXADJUNCT) SOIL NO. S67 UTAH. 18- 1 SAMPLE NO. 7 230-7 235 SALT LAKE CO. AREA

SOIL FAMILY: TYPIC HAPLOXEROLL FINE-LOAMY,MIXED,FRIGID RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2-.05	SILT .05-.002	CLAY LT .002	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 SANDS VCS 2-1	CS 1-.5	MS .5-.25	FS .25-.10	VFS .1-.05	SILTS CSI .05-.02	FSI .02-.002	CLAYS CO. 2-.2U	FINE LT .2U	CARBONATE 3A1A.02	1A2A INT. .2-.02	COARSE FRAGMENTS PCT. OF WHOLE SOIL	I 75-20 PCT. OF LT 75	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM																	
7 230	0- 8	A11	30.4	46.5	23.1	3.1	3.0	2.2	8.5	13.6	21.9	24.6				41.3	40*	9	20Z	N
7 231	8- 23	A12	30.0	46.7	23.3	1.7	2.3	1.7	8.3	16.0	22.7	24.0				44.8	48*	25	14Z	N
7 232	23- 41	A13	31.2	45.6	23.2	1.6	2.2	1.8	8.2	17.4	21.5	24.1				44.8	62*	42	14Z	N
7 233	41- 84	B1	31.7	45.6	22.7	2.6	2.9	1.9	7.8	16.5	22.7	22.9				44.8	48*	16	22Z	N
7 234	84-107	B2	37.0	36.8	26.2	2.4	2.6	2.0	9.6	20.4	18.8	18.0				46.3	48*	11	22Z	N
7 235	107-122	R															--	—	--	—

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	19-2 6E1B	EXT. IRON FE 6C2B	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST 1/3 BAR 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTENSIBILITY LEF 4D1	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
		PERCENT		PERCENT		PCT.	PCT.NO.40		GRAMS PER CC				PERCENT			PERCENT				
7 230	0- 8	2.99	0.232	TR		1.0				0.88	0.97	0.82		35.7	12.2	3.3	2.7		8.0	
7 231	8- 23	2.36	0.193	1						0.90	0.94	0.76		36.8	12.4	1.5	1.1		7.9	
7 232	23- 41	2.06	0.164	2		1.1				0.81	0.85	0.67		37.7	12.2	1.6	1.1		7.9	
7 233	41- 84	1.69	0.142	8						1.05	1.09	0.73		29.7	9.9	1.3	0.9		8.2	
7 234	84-107	1.29	0.109	9		1.0				1.32	1.39	0.69		23.7	10.7	1.7	1.2		8.4	
7 235	107-122			64																

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B3A 6N4C	MG 5B3A 6O4C	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT.	C E C NA-OAC 5A2A	NH4-CAC 5A6A	WATER EXTRACT FROM SATURATED PASTE EC 8A1A	CA 6N1B	MG 6O1B	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1A	B 6T1A	PH SAT. PASTE 8C1B
		MEQ/100G					PCT.	MEQ/100G		MMHO	MEQ/1000 ML								PPM	
7 230	0- 8			0.2	0.9	1.1			26.7	0.61	3.4	1.8	0.5	0.4		2.9	0.6			7.3
7 231	8- 23			0.2	0.8	1.0			25.2	0.53	3.2	1.7	0.6	0.1		3.7	0.4			7.5
7 232	23- 41			0.2	0.6	0.8			24.2	0.43	2.2	1.3	0.6	0.1		3.2	0.5			7.6
7 233	41- 84			0.2	0.3	0.5			22.2	0.40	2.1	1.2	0.6	0.1		3.3	0.1			7.7
7 234	84-107			0.2	0.3	0.5			19.6	0.37	2.0	1.2	0.5	0.1		3.0	0.1			7.8
7 235	107-122																			

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGEABLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1A PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I 7A2E	II 7A2E	III 7A2E	IV 7A2E	DTA PCT. 7A3	L.T. .0002 MM X RAY I 7A2E	II 7A2E	III 7A2E	MINERAL CODE		RELATIVE AMOUNT
7 230	0- 8	54.8	0.2	1	TR			KK	4	MI	3	MT	2			KK	KAOLINIT	1 TRACE
7 231	8- 23	50.8	0.2	1	TR											MI	MICA	2 SMALL
7 232	23- 41	50.0	0.2	1	TR			KK	4	MI	3	MT	2			MT	MONTMORT	3 MODERATE
7 233	41- 84	51.4	0.2	1	TR													4 ABUNDANT
7 234	84-107	49.2	0.2	1	TR			KK	5	MT	2	MI	2					5 DOMINANT
7 235	107-122							KK	3									6 INDETER.

SAMPLE PREPARATION CODES
*=THE 75-250MM FRACTION IS INCLUDED.
N=NOT DETERMINED.
Z=NOT ALL FRACTIONS SEPERATED. ADJACENT FRACTIONS INCLUDED HERE.

BRADSHAW VERY COBBLY SILT LOAM (taxadjunct) 1/
S67Utah-18-1

Location: Salt Lake Soil Survey Area, Utah. Sec. 35, T. 2 S., R. 3 W.; about 200 feet east and 1,200 feet south of the N. W. corner, about 4 miles northwest of Copperton. From ridgetop, 0.9 mile down KCPX TV Tower road to a point midway along the first switchback. Date of sampling: August 21, 1967.
Described by: J. L. Harvey, M. E. Olsen, L. Woodward. Collectors: B. Brasher, D. Nettleton.
Classification: Typic Haploxeroll, fine-loamy, mixed, frigid.
Vegetation: Bluebunch wheatgrass, big sagebrush, scattered oak, snowberry, and cheatgrass. Use: Rangeland. Climate: Precipitation, 20 to 25 inches. Mean annual air temperature, 45°F.; mean summer air temperature, 63°F.; 60 to 90 frost-free days. Parent material: Limestone and calcareous quartzite. Topography: Steep mountain slope. Slope, 55 percent, south-facing. Elevation: 7,700 feet. Drainage: Well drained. Runoff is medium to slow; permeability, moderate. Soil moisture: Dry.

HORIZON	DESCRIPTION
A11 RSL 67230	0 to 8 cm (0 to 3 inches), brown (10YR 4/3) gravelly heavy loam, very dark grayish brown (10YR 2/3) moist; moderate fine crumb structure; soft, loose, slightly sticky and slightly plastic (wet); many fine and few medium roots; many fine pores; 25 percent gravel; noncalcareous; mildly alkaline (pH 7.6); clear wavy boundary.
A12 RSL 67231	8 to 23 cm (3 to 9 inches), brown (10YR 4/3) gravelly loam, very dark grayish brown (10YR 2/3) moist; moderate fine granular structure; soft, very friable, slightly sticky and slightly plastic (wet); many fine and few medium roots; many fine pores; 25 percent gravel; noncalcareous; mildly alkaline (pH 7.6); clear wavy boundary.
A13 RSL 67232	23 to 41 cm (9 to 16 inches), brown (10YR 4/3) gravelly heavy loam, dark brown (10YR 3/3) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic (wet); many fine pores; few medium and fine roots; 30 percent gravel; noncalcareous; mildly alkaline (pH 6.6); clear wavy boundary.
B1 RSL 67233	41 to 84 cm (16 to 33 inches), brown (10YR 5/3) very cobbly heavy loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic (wet); few medium and fine roots; many fine and micro pores; 70 percent cobble and gravel; noncalcareous; mildly alkaline (pH 7.6); clear wavy boundary.
B2 RSL 67234	84 to 107 cm (33 to 42 inches), brown (10YR 5/3) very cobbly heavy loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic (wet); few medium and fine roots; no clay films; slightly effervescent, lime is coated on undersides of rocks; mildly alkaline (pH 7.6); abrupt wavy boundary.
R RSL 67235	107 to 122 cm (42 to 48 inches), mixed sedimentary rocks of the Oquirrh formation.

1/ The Bradshaw series is in a loamy-skeletal, mixed, frigid family of Typic Haploxerolls. This pedon has less than 35 percent coarse fragments by volume.

CONSECUTIVE PEDON NUMBER C 71 34 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES KEIGLEY SILT LOAM SOIL NO. S71 UTAH. 20- 1 SAMPLE NO. 1 218-1 222 SANPETE AREA

SOIL FAMILY: CUMULIC HAPLOXEROLL,FINE-SILTY,MIXED,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	CSI .05- .02	FSI .02- .002	CC. 2- .2U	FINE LT .2U	CARBO NATE 3A1A.02	INT. II .2- 75- WHOLE SOIL	1A2A -COARSE FRAGMENTS- PCT. OF 20 I 20-5	II 5-2 PCT. OF LT 75
			-PERCENT OF LESS THAN 2MM-															
1 218	0- 15	A11	23.8	55.6	20.6	0.6	0.7	1.3	8.2	13.0	24.8	30.8	16.8	3.8	TR	43.4	A	
1 219	15- 40	A12	15.3	59.9	24.8	0.1	0.5	0.7	5.0	9.0	21.8	38.1			1	34.4	A	
1 220	40- 64	C1	8.1	63.0	28.9	0.1	0.3	0.3	2.5	4.9	18.7	44.3			5	25.5	A	
1 221	64-103	C2	8.2	58.7	33.1	--	0.2	0.5	2.7	4.8	16.2	42.5	25.1	8.0	5	22.8	A	
1 222	103-152	C3	6.0	62.1	31.9	--	--	0.2	1.4	4.4	17.3	44.8			5	22.6	A	

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR- BON 6A1A -PERCENT-	NITRO GEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B -PERCENT-	2-20 6E1B	SESQUIOXIDES DI-CIT FE 6C2B -PERCENT-	EXT AL 6G7A	PYROP FE 6C5A	EXT AL 6G5A	ATTERBERG LIMIT LL 4F1 PCT.NO.40	PL 4F2	BULK DENSITY EST. 1/3 BAR 4A1F GRAMS PER CC	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C -PERCENT-	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1 -PERCENT-	LE 4D1
1 218	0- 15	2.23	0.191	8								1.29	1.38	1.00		32.7	24.2	11.0	2.3	2.3
1 219	15- 40	1.52	0.150	10								1.19	1.28	1.00		33.6	25.9	12.5	2.5	2.5
1 220	40- 64	1.34	0.135	19								1.30	1.39	1.00		32.3	28.1	14.6	2.3	2.3
1 221	64-103	1.15	0.114	22								1.30	1.42	1.00		34.2	30.3	14.7	3.0	3.0
1 222	103-152	0.96	0.102	23								1.21	1.33	1.00		37.7	30.2	14.6	3.2	3.2

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6Q2C	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI- DITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4- OAC 5A6A	BASE SATURATION SUM+ ACI- DITY -PERCENT-	SUM+ AL	NH4- OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA- CL2 8C1E
		-MEQ/100G-														
1 218	0- 15	30.3	4.0	0.2	4.0	38.5			38.5	23.3			100+		7.6	7.3
1 219	15- 40	34.1	4.1	0.3	3.0	41.5			41.5	23.6			100+		7.6	7.6
1 220	40- 64	33.5	6.1	0.3	1.8	41.7			41.7	22.9			100+		7.7	7.8
1 221	64-103	28.7	11.4	0.6	1.4	42.1			42.1	22.4			100+		7.7	7.7
1 222	103-152	25.5	15.9	1.6	1.1	44.1			44.1	22.9			100+		7.6	7.9

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
1 218	0- 15	MT 2	MI 2	KK 2				MT 3	MI 3		MT MONTMORT	1 TRACE
1 219	15- 40										MI MICA	2 SMALL
1 220	40- 64										KK KAOLINIT	3 MODERATE
1 221	64-103	MT 2	MI 2	KK 2				MT 4	MI 2			4 ABUNDANT
1 222	103-152											5 DOMINANT
												6 INDETER.

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.

KEIGLEY SILT LOAM
S71Utah-20-1

Location: Indianola, Sanpete County, UT, about 1 mile south of the big barn on the west side of the highway, southwest 1/4 of Sec. 21, T. 12 S., R. 4 E. Date of sampling: June 28, 1971.
Description by: J. Swenson. Collectors: J. Swenson, D. Nettleton, and M. Olsen.
Classification: Cumulic Haploxeroll, fine-silty, mixed, mesic.
Vegetation: Intermediate wheatgrass. Climate: Mean annual temperature is about 49° F. Mean summer temperature is about 60° F. Average annual precipitation is about 14 inches. Frost-free period is about 130 days. Parent material: Alluvium from limestone, sandstone, and shale. Topography: Flood plain, north-facing, 2 percent slope. Elevation: 5,900 feet. Drainage: Well drained. Soil moisture: Usually moist.

HORIZON	DESCRIPTION
A11 RSL No. 71218	0-15 cm (0-6 inches), dark brown (10YR 3/3) silt loam, dark brown (10YR 3/3) moist; weak medium subangular blocky structure; hard, friable, slightly sticky, plastic; many fine and few very fine roots; few very fine pores; moderately calcareous, lime is disseminated; mildly alkaline (pH 7.8); clear smooth boundary.
A12 RSL No. 71219	15-40 cm (6-16 inches), brown (10YR 5/3) silt loam, dark brown (10YR 3/3) moist; weak medium prismatic structure that parts to moderate medium subangular blocky; slightly hard, firm, sticky, plastic; many very fine roots; few fine pores; moderately calcareous, lime is disseminated; mildly alkaline (pH 7.8); clear smooth boundary.
C1 RSL No. 71220	40-64 cm (16-25 inches), brown (10YR 5/3) silty clay loam, dark brown (10YR 3/3) moist; moderate fine angular blocky structure; hard, firm, sticky, plastic; few very fine roots; few fine, few very fine pores; moderately calcareous, lime is disseminated; moderately alkaline (pH 8.0); gradual smooth boundary.
C2 RSL No. 71221	64-103 cm (25-40½ inches), brown (10YR 5/3) silty clay loam, dark brown (10YR 4/3) moist; massive; very hard, firm, sticky, plastic; few very fine roots; few fine pores; strongly calcareous, lime is disseminated and in fine veins; moderately alkaline (pH 8.2); gradual smooth boundary.
C3 RSL No. 71222	103-152 cm (40½-60 inches), pale brown (10YR 6/3) silty clay loam, dark brown (10YR 4/3) moist; massive; hard, slightly firm, sticky, plastic; few very fine roots; few fine pores; strongly calcareous, lime is disseminated and in fine veins; moderately alkaline (pH 8.2).

CONSECUTIVE PEDON NUMBER C 71 28 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES LAMONDI GRAVELLY LOAM SOIL NO. S71 UTAH. 29- 2 SAMPLE NO. 1 173-1 180 MORGAN-SUMMIT AREA

SOIL FAMILY: PACHIC ULTIC HAPLOXEROLL,LOAMY-SKELETAL,MIXD,FRGD RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SANC 2- .05	SILT .05- .002	CLAY LT .002	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	CSI .05- .02	FSI .02- .002	CO. 2- .2U	FINE LT .2U	CARBO NATE 3A1A	INT. II .2- .02	1A2A -COARSE FRAGMENTS- PCT. OF WHOLE SOIL I 75- 20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75		
1 173	0- 17	AP	46.7	36.2	17.1	13.2	10.6	6.4	9.9	6.6	13.8	22.4	13.4	3.7		25.3	45A 8	22	15
1 174	17- 49	A12	42.3	39.7	18.0	13.0	9.2	5.0	8.6	6.5	15.3	24.4				26.5	47A 11	22	14
1 175	49- 72	A13	43.0	38.2	18.8	14.3	10.2	4.5	7.3	6.7	14.1	24.1				24.5	48A 14	21	13
1 176	72-103	A+B	45.4	38.4	16.2	11.8	10.7	6.0	9.5	7.4	15.6	22.8	12.0	4.2		28.1	47A 17	17	14
1 177	103-123	B21	53.7	33.6	12.7	17.0	12.2	6.7	10.6	7.2	11.5	22.1				24.3	50A 22	15	13
1 178	123-142	B22	57.3	32.3	10.4	13.3	11.5	7.5	14.8	10.2	12.6	19.7				30.6	37A 13	11	13
1 179	142-158	B3	67.8	23.6	8.6	24.5	17.1	7.8	11.4	7.0	8.1	15.5				20.8	56A 23	20	12
1 180	158-185	C	66.9	24.7	8.4	20.3	12.7	9.5	16.3	8.1	7.9	16.8	6.7	1.7		24.3	53A 16	21	17

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR- BON 6A1A -PERCENT-	NITRO GEN 681A	CARBONATE AS CACO3 LT 2 6E1B -PERCENT-	2-20 6E1B	SESQUIOXIDES CI-CIT EXT FE 6C2B	AL 6G7A	PYROP EXT FE 6C5A	AL 6G5A	ATTERBERG L I M I T LL 4F1	PL 4F2	EST. 1/3 4A1F PCT.NO.40	BULK DENSITY 1/3 BAR 4A1F GRAMS PER CC	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C -PERCENT-	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1 -PERCENT-	LE 4D1
1 173	0- 17	3.32	0.270										1.27	1.32	0.72	28.6	23.9	9.9	1.3	0.9
1 174	17- 49	2.79	0.230									1.27			0.70			9.2		
1 175	49- 72	1.75	0.167									1.27			0.69			9.2		
1 176	72-103	1.14	0.106										1.25	1.29	0.71	19.7	17.2	7.6	1.1	0.7
1 177	103-123	0.36										1.35			0.67			6.2		
1 178	123-142	0.23											1.51	1.51	0.75	16.8	14.0	5.2		
1 179	142-158	0.17											1.47	1.51	0.59	18.6	15.7	4.5	0.9	0.5
1 180	158-185											1.50			0.61			4.3		

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 584A 6N2E	MG 584A 6Q2D	NA 584A 6P2A	K 584A 6Q2A	SUM	EXT. ACI- DITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4- OAC 5A6A	BASE SATURATION SUM+ ACI- DITY	SUM+ AL	NH4- OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA- CL2 8C1E
		MEQ/100G									PERCENT					
1 173	0- 17	16.4	2.4	0.2	0.6	19.6	9.3		28.9	21.4	68		92		6.0	5.6
1 174	17- 49	14.9	2.4	0.2	0.4	17.9	9.9		27.8	20.2	64		89		6.1	5.5
1 175	49- 72	14.6	2.5	0.2	0.5	17.8	10.1		27.9	19.6	64		91		6.1	5.5
1 176	72-103	9.3	1.9	0.2	0.3	11.7			11.7	14.0			84		6.1	5.4
1 177	103-123	6.3	1.4	0.2	0.2	8.1			8.1	9.5			85		6.3	6.0
1 178	123-142	5.8	1.3	0.2	0.2	7.5			7.5	8.5			88		6.3	6.1
1 179	142-158	5.4	1.2	0.2	0.1	6.9			6.9	7.7			90		6.3	6.1
1 180	158-185	6.0	1.3	0.2	0.1	7.6			7.6	8.3			92		6.3	6.1

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
1 173	0- 17	MI 3	KK 2					MI 3			MI MICA	1 TRACE
1 174	17- 49										KK KAOLINIT	2 SMALL
1 175	49- 72											3 MODERATE
1 176	72-103	MI 4	KK 2					MI 3	MT 2		MT MONTMORT	4 ABUNDANT
1 177	103-123											5 DOMINANT
1 178	123-142											6 INDETER.
1 179	142-158											
1 180	158-185	MI 4						MT 3	MI 2			

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.

LAMONDI GRAVELLY LOAM
S71Utah-29-2

Location: Weber County, UT; 1/2 mile west of Liberty church, about 1,440 feet south and 60 feet west of the northeast corner, Sec. 19, T. 7 N., R. 1 E. Date of sampling: June 25, 1971.
Description by: L. Campbell, J. Carley. Collectors: D. Nettleton, J. Carley, L. Campbell, E. Jensen.
Classification: Pachic Ultic Haploxeroll, loamy-skeletal, mixed, frigid.
Vegetation: This soil is cultivated. Alfalfa and grain are principle crops. Climate: Average annual precipitation is 20 to 25 inches; mean annual temperature is 44° to 45° F. Mean summer temperature is 67° to 69° F. Frost-free period is 95 to 100 days. Parent materials: Alluvium from argillite, phyllite, schist, and quartzite. Topography: Alluvial fan, 3 percent slope, east aspect. Elevation: 5,140 feet. Drainage: Well drained. Soil moisture: Usually moist.

HORIZON	DESCRIPTION
Ap RSL 71173	0-17 cm (0-7 inches), dark grayish brown (10YR 4/2) gravelly loam, very dark brown (10YR 2/2) moist; weak medium subangular blocky structure that parts to weak coarse granular; hard, friable, slightly sticky, slightly plastic; few fine medium and coarse roots; 30 percent gravel; medium acid (pH 6.0); abrupt smooth boundary.
A12 RSL No. 71174	17-49 cm (7-19 inches), dark grayish brown (10YR 4/2) gravelly loam, very dark brown (10YR 2/2) moist; weak fine and medium subangular blocky structure; hard, friable, slightly sticky, slightly plastic; few fine medium and coarse roots; 30 percent gravel; slightly acid (pH 6.2); gradual wavy boundary.
A13 RSL No. 71175	49-72 cm (19-28½ inches), dark brown (10YR 4/3) gravelly loam, very dark grayish brown (10YR 3/2) moist; weak medium subangular blocky structure; hard, friable, slightly sticky and plastic; few fine medium and coarse roots; few fine pores; 40 percent gravel; slightly acid (pH 6.2); clear wavy boundary.
A&B RSL No. 71176	72-103 cm (28½-40½ inches), 40 percent A1 as described in A13; 60 percent B21t as follows: yellowish brown (10YR 5/4) gravelly loam, dark yellowish brown (10YR 3/4) moist; weak medium subangular blocky structure; hard, firm, sticky plastic; few fine roots; few fine pores; 40 percent gravel; and 5 percent cobble; slightly acid (pH 6.1); gradual wavy boundary.
B21 RSL No. 71177	103-123 cm (40½-48½ inches), light yellowish brown (10YR 6/4), gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; weak medium and coarse subangular blocky structure; hard, firm, slightly sticky, slightly plastic; few fine roots; few fine pores; 40 percent gravel; slightly acid (pH 6.1); gradual wavy boundary.
B22 RSL No 71178	123-142 cm (48½-56 inches), light yellowish brown (10YR 6/4) very gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; weak medium and coarse subangular blocky structure; hard, firm, slightly sticky, slightly plastic; few fine roots; few fine pores; 50 percent gravel and cobble; slightly acid (pH 6.1); clear smooth boundary.
B3 RSL No. 71179	142-158 cm (56-62 inches), light yellowish brown (10YR 6/4) very gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; weak medium and coarse subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; 55 percent gravel and cobble, slightly acid (pH 6.1); gradual wavy boundary.
C RSL No 71180	158-185 cm (62-73 inches), light yellowish brown (10YR 6/4) very gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; 55 percent gravel and cobble; slightly acid (pH 6.1).

CONSECUTIVE PEDON NUMBER C 71 23 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES MOWEBA GRAVELLY LOAM SOIL NO. S71 UTAH. 15- 1 SAMPLE NO. 1 142-1 147 MORGAN-SUMMIT AREA

SOIL FAMILY: PACHIC ULTIC HAPLOXEROLL,LOAMY-SKELETAL,MXD,FRG RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBONATE 3A1A.02	INT. II .2- .02	1A2A COARSE FRAGMENTS PCT. OF WHOLE SOIL	I 75- 20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75			
1 142	0- 15	A11	20.5	59.9	19.6	2.8	2.8	2.2	5.3	7.4	24.3	35.6	12.1	7.5		34.7	43A	21	18	4
1 143	15- 41	A12	20.4	57.0	22.6	3.4	2.5	2.1	4.5	7.9	24.6	32.4				35.0	36A	14	18	4
1 144	41- 61	A13	19.7	57.3	23.0	2.3	2.7	2.1	4.4	8.2	25.8	31.5				36.5	59*	17	17	4
1 145	61-107	B21	31.7	51.8	16.5	3.3	5.1	4.9	8.3	10.1	23.8	28.0	11.0	5.5		38.3	86*	74	2	1
1 146	107-127	B22	32.9	50.4	16.7	5.5	5.9	5.0	8.2	8.3	24.3	26.1				36.8	86*	74	3	1
1 147	127-152	B23	31.4	52.0	16.6	3.8	4.8	4.4	8.3	10.1	23.8	28.2	10.0	6.6		38.3	69*	49	11	2

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A -PERCENT-	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B -PERCENT-	SESQUIOXIDES DI-CIT FE 6C2B	EXT AL 6G7A	PYROP FE 6C5A	EXT AL 6G5A	ATTERBERG LL 4F1	PL 4F2	BULK DENSITY EST. 1/3 BAR 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
						PERCENT				PCT.NO.40		GRAMS PER CC				PERCENT			PERCENT	
1 142	0- 15	7.36	0.575			1.0	0.3					0.80		0.82				16.4		
1 143	15- 41	5.75	0.479			1.0	0.3						0.80	0.87	0.85	41.4	33.9	15.4	2.8	2.4
1 144	41- 61	3.60	0.346			1.2	0.3					1.00			0.65			12.9		
1 145	61-107	0.83	0.074			1.1	0.2						1.17	1.21	0.27	18.5	15.2	7.3	1.1	0.3
1 146	107-127	0.73				1.0	0.2					1.20			0.26			7.5		
1 147	127-152	0.51				1.0	0.1						1.37	1.41	0.46	23.2	19.0	7.7	1.0	0.4

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACIDITY 6H2A	KCL EXT. AL 6G1E	C'E C SUM 5A3A	NH4-OAC 5A6A	BASE SATURATION SUM+ ACIDITY	SUM+ AL	NH4-CAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA-CL2 8C1E
		MEQ/100G									PERCENT					
1 142	0- 15	45.3	4.5	0.3	1.9	52.0	18.1		70.1	41.6	74		100+		6.0	5.7
1 143	15- 41	27.4	3.5	0.2	1.5	32.6	16.2		48.8	35.8	67		91		6.2	5.7
1 144	41- 61	21.7	2.4	0.2	0.7	25.0	15.5		40.5	29.2	62		86		6.2	5.6
1 145	61-107	9.0	1.8	0.1	0.4	11.3			11.3	13.3			85		6.2	5.5
1 146	107-127	8.6	1.9	0.2	0.4	11.1			11.1	12.9			86		6.1	5.4
1 147	127-152	8.6	2.3	0.2	0.3	11.4			11.4	13.0			88		6.1	5.4

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
1 142	0- 15	MI 3	KK 2					MI 3			MI MICA	1 TRACE
1 143	15- 41	MT 4	KK 1								KK KAOLINIT	2 SMALL
1 144	41- 61											3 MODERATE
1 145	61-107	KK 2	MI 1	KK 1				MI 4	MT 3	KK 1	MT MONTMORT	4 ABUNDANT
1 146	107-127										AM AMORPHOS	5 DOMINANT
1 147	127-152	AM 6	MI 1	KK 1				MM 3			MM MT/MICA	6 INDETER.

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
*=THE 75-250MM FRACTION IS INCLUDED.

MOWEBA GRAVELLY LOAM
S71Utah-15-1

Location: Morgan County, UT; about 10 miles north and 3 1/2 miles east of Morgan in Cottonwood Canyon, about 200 feet east and 600 feet south of northwest corner of Sec. 3, T. 5 N., R. 3 E. Date of sampling: June 21, 1971.
Description by: Carley and E. Jensen. Collectors: D. Nettleton, L. Campbell, J. Carley, E. Jensen.
Classification: Pachic Ultic Haploxeroll, loamy-skeletal, mixed, frigid.
Vegetation: Ceonothus, oakbrush, big sagebrush, snowberry, chokecherry, mountain brome, and basin wildrye. Climate: Average annual precipitation is 20 to 30 inches. Mean annual temperature is 39° to 45° F. Mean summer temperature is 59° to 61° F. Frost-free period is 70 to 75 days. Parent materials: Local alluvium and residuum from quartzite and sandstone conglomerate. Topography: Mountain slope, 42 percent slope, southeast aspect, slightly convex. Elevation: 7,250 feet. Drainage: Well drained. Soil moisture: Usually moist.

HORIZON	DESCRIPTION
01	7 cm-0 (3 inches - 0), decaying leaves and twigs.
A11 RSL No. 71142	0-15 cm (0-6 inches), very dark grayish brown (10YR 3/2) gravelly silt loam, very dark brown (10YR 2/2) moist; weak fine granular structure; soft, very friable, slightly sticky, slightly plastic; many fine, few medium and coarse roots; 25 percent gravel; neutral (pH 6.6); abrupt wavy boundary.
A12 RSL No. 71143	15-41 cm (6-16 inches), very dark grayish brown (10YR 3/2) gravelly silt loam, very dark brown (10YR 2/2) moist; weak medium subangular blocky structure that parts to weak fine granular; soft, very friable, slightly sticky, slightly plastic; common fine and few medium roots; 25 percent gravel; neutral (pH 6.8); abrupt irregular boundary.
A13 RSL No. 71144	41-61 cm (16-24 inches), dark yellowish brown (10YR 3/4) cobbly silt loam, very dark brown (10YR 2/2) moist; weak medium subangular blocky structure that parts to weak fine granular; soft, very friable, slightly sticky, slightly plastic; common fine and medium roots; 25 percent cobble and 15 percent gravel; neutral (pH 6.8); abrupt wavy boundary.
B21 RSL No. 71145	61-107 cm (24-42 inches), yellowish brown (10YR 5/4) very cobbly silt loam, brown (7.5YR 4/4) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky, slightly plastic; common fine and medium roots; few fine and very fine pores; 35 percent cobble and 30 percent gravel; neutral (pH 6.8); diffuse wavy boundary.
B22 RSL No. 71146	107-127 cm (42-50 inches), brown (7.5YR 5/4) very cobbly silt loam, brown (7.5YR 4/4) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky, slightly plastic; common fine and medium roots; few fine and very fine pores; 35 percent cobble and 30 percent gravel; slightly acid (pH 6.4); clear smooth boundary.
B23 RSL No. 71147	127-152 cm (50-60 inches), brown (7.5YR 5/4) very cobbly silt loam, brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; hard, firm, slightly sticky, slightly plastic; few fine and medium roots; few fine and common very fine pores; 35 percent cobble and 30 percent gravel; medium acid (pH 6.0).

CONSECUTIVE PEDON NUMBER C 71 24 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES MOWEBA GRAVELLY LOAM SOIL NO. S71 UTAH. 15- 6 SAMPLE NO. 1 148-1 152 MORGAN-SUMMIT AREA

SOIL FAMILY: PACHIC ULTIC HAPLOXEROLL,LOAMY-SKELETAL,MXD,FRG RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION SANDS 2- .05	SILT .05- .002	CLAY LT .002	VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CC. 2- .2U	FINE LT .2U	CARBO NATE 3A1A	INT. II .2- .02	1A2A COARSE FRAGMENTS- PCT. OF WHOLE SOIL I 75- 20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75		
1 148	0- 13	A11	39.6	42.0	18.2	5.1	7.8	5.8	10.9	10.2	19.5	22.5				35.4	45A 17	23	5
1 149	13- 41	A12	39.6	43.4	17.0	6.0	8.0	5.7	9.0	10.9	21.7	21.7				37.7	44A 15	23	6
1 150	41- 76	A13	38.8	43.8	17.4	4.5	7.2	5.8	5.7	11.6	22.1	21.7				39.3	42A 18	19	5
1 151	76-114	B21	49.6	37.0	13.4	5.5	11.0	8.2	12.7	12.2	17.4	19.6				36.7	81* 46	13	4
1 152	114-165	B22	52.9	31.3	15.8	6.1	13.0	9.9	13.7	10.2	13.8	17.5				31.4	73* 39	16	4

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR- BON 6A1A -PERCENT-	NITRO GEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES DI-CIT FE 6C2B	EXT AL 6G7A	PYROP FE 6C5A	EXT AL 6G5A	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST. 1/3 BAR 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		-PERCENT-		-PERCENT-		-PERCENT-				PCT.NO.40		GRAMS PER CC				-PERCENT-			-PERCENT-	
1 148	0- 13	5.03	0.423										0.87	0.96	0.79	21.9	20.2	14.8	3.3	2.6
1 149	13- 41	3.64	0.313									1.00			0.77			11.7		
1 150	41- 76	2.92	0.229									1.10			0.77			10.3		
1 151	76-114	0.54	0.055										1.34	1.37	0.32	14.2	12.1	6.3	0.7	0.2
1 152	114-165	0.31										1.35			0.42			7.1		

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI- DITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4- OAC 5A6A	BASE SATURATION SUM+ ACI- DITY	SUM+ AL	NH4- OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA- CL2 8C1E
		MEQ/100G									PERCENT					
1 148	0- 13	23.4	3.0	0.3	1.7	28.4	9.4		37.8	29.5	75		96		6.4	5.9
1 149	13- 41	22.6	2.9	0.2	1.8	27.5	7.0		34.5	25.4	80		100+		6.8	6.2
1 150	41- 76	20.6	2.9	0.1	1.5	25.1	6.7		31.8	23.2	79		100+		6.8	6.2
1 151	76-114	7.4	1.5	0.1	0.6	9.6			9.6	9.3			100+		6.9	6.3
1 152	114-165	7.4	1.8	0.2	0.5	9.9			9.9	9.7			100+		7.0	6.2

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
1 148	0- 13	AM 6	MI 1	KK 1							AM AMORPHOUS	1 TRACE
1 149	13- 41										MI MICA	2 SMALL
1 150	41- 76										KK KAOLINIT	3 MODERATE
1 151	76-114	KK 4	MI 3									4 ABUNDANT
1 152	114-165											5 DOMINANT
												6 INDETER.

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
*=THE 75-250MM FRACTION IS INCLUDED.

MOWEBA GRAVELLY LOAM
S71Utah-15-6

Location: Morgan County, UT, Cedar Canyon, about 3 miles north and 6 miles east of Croydon, about 2,000 feet west and 200 feet north of southeast corner of Sec. 4, T. 4 N., R. 5 E.
Date of sampling: June 24, 1971.
Description by: Earl Jensen, J. Carley. Collectors: D. Nettleton, J. Carley, E. Jensen, L. Campbell.
Classification: Pachic Ultic Haploxeroll, loamy-skeletal, mixed, frigid.
Vegetation: Big sagebrush, serviceberry, lupine, snowberry, basin wildrye, buckwheat, yellowbrush, chokecherry, and oak brush. Climate: Average annual precipitation is 20 to 30 inches. Mean annual temperature is 39° to 45° F. Mean summer temperature is 59° to 61° F. Frost-free period is 70 to 75 days. Parent materials: Local alluvium and residuum from quartzite and sandstone conglomerate. Topography: Mountain slope, 40 percent slope, east aspect, concave position. Elevation 7,760 feet. Drainage: Well drained. Soil moisture: Usually moist.

HORIZON	DESCRIPTION
A11 RSL No. 71148	0-13 cm (0-5 inches), dark yellowish brown (10YR 3/4) gravelly loam, very dark brown (10YR 2/2) moist; moderate medium granular structure; slightly hard, very friable, slightly sticky, slightly plastic; many very fine and fine and few medium and coarse roots; 25 percent gravel; neutral (pH 6.8); clear smooth boundary.
A12 RSL No. 71149	13-41 cm (5-16 inches), dark yellowish brown (10YR 3/4) gravelly loam, very dark brown (10YR 2/2) moist; weak medium granular structure; slightly hard, friable, slightly sticky, slightly plastic; many very fine and fine, few medium and coarse roots; 25 percent gravel; neutral (pH 6.8); clear smooth boundary.
A13 RSL No. 71150	41-76 cm (16-30 inches), dark brown (10YR 3/3) gravelly loam, very dark brown (10YR 2/2) moist; weak medium subangular blocky structure that parts to weak coarse granular; slightly hard, friable, slightly sticky, slightly plastic; common very fine and fine roots; few very fine and fine pores; 20 percent gravel and 5 percent cobble; neutral (pH 6.6); abrupt irregular boundary.
B21 RSL No. 71151	76-114 cm (30-45 inches), light brown (7.5YR 6/4) very cobbly loam, brown (7.5YR 4/4) moist; weak medium subangular blocky structure; hard, friable, slightly sticky, slightly plastic; few fine and medium roots; common very fine and fine pores; 45 percent cobble and 25 percent gravel; neutral (pH 7.0); diffuse smooth boundary.
B22 RSL No. 71152	114-165 cm (45-65 inches), strong brown (7.5YR 5/8) very cobbly sandy loam, brown (7.5YR 4/4) moist; weak medium subangular blocky structure; hard, friable, slightly sticky, slightly plastic; few fine roots; common very fine and fine pores; 30 percent cobble and 25 percent gravel; slightly acid (pH 6.4).

CONSECUTIVE PEDCN NUMBER C 71 25 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES MOWEBA GRAVELLY LOAM (TAXADJUNCT) SOIL NO. S71 UTAH. 15- 4 SAMPLE NO. 1 153-1 159 MORGAN-SUMMIT AREA

SOIL FAMILY: PACHIC ULTIC HAPLOXEROLL,COARSE-LOAMY,MXD,FRGD RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL SAND 2-.05	TOTAL SILT .05-.002	TOTAL CLAY .002 LT	VCS 2-1	CS 1-.5	MS .5-.25	FS .25-.10	VFS .1-.05	CSI .05-.02	FSI .02-.002	CO. CLAY 2-.2U	FINE CLAY .2U LT	CARBONATE 3A1A.02	INT. II .2-.02 WHOLE SOIL	COARSE FRAGMENTS I PCT. OF 75-20 PCT. OF LT 75	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM																
1 153	0- 10	A11	36.5	44.1	19.4	8.0	7.4	4.8	7.9	8.4	20.8	23.3				33.7	40A 15	18	7
1 154	10- 25	A12	35.9	44.4	19.7	8.6	7.2	4.4	6.8	8.9	21.6	22.8				34.4	30A 5	17	8
1 155	25- 50	A13	36.2	43.5	20.3	5.8	7.4	5.3	7.8	9.9	21.2	22.3				35.6	37A 11	18	8
1 156	50- 73	A+B	41.4	41.2	17.4	6.1	8.3	6.0	9.4	11.6	21.0	20.2				38.1	40A 17	16	7
1 157	73-104	B21	50.6	37.4	12.0	4.7	8.9	6.8	13.0	17.2	18.6	18.8				43.2	66* 49	7	4
1 158	104-137	B22	58.5	32.2	9.3	6.6	10.5	8.1	15.5	17.8	15.6	16.6				42.4	63* 44	9	4
1 159	137-178	B3	63.7	29.4	6.9	6.7	12.9	9.3	17.0	17.8	13.7	15.7				40.4	60* 38	10	6

SAMPLE NO.	DEPTH CM.	ORG. MATTER CARBON 6A1A -PERCENT-	NITROGEN 6B1A -PERCENT-	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES DI-CIT FE 6C2B	EXT AL 6G7A	PYROP FE 6C5A	EXT AL 6G5A	ATTERBERG LL 4F1	PL 4F2	BULK DENSITY 1/3 BAR 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
				-PERCENT-		PERCENT				PCT.NO.40		GRAMS PER CC				-PERCENT-			-PERCENT-	
1 153	0- 10	7.27	0.545			0.9	0.2					0.80			0.83			21.6		
1 154	10- 25	5.25	0.416			1.0	0.2						0.84	0.92	0.88	29.5	24.2	17.9	3.1	2.7
1 155	25- 50	2.61	0.222			1.0	0.1					1.00			0.82			11.2		
1 156	50- 73	1.48	0.125			1.0	0.1						1.26	1.29	0.76	21.3	17.6	8.5	0.8	0.6
1 157	73-104	0.46				0.9	0.1						1.32	1.33	0.51	18.6	15.2	5.5	0.3	0.1
1 158	104-137	0.31				0.8	TR					1.35			0.54			4.5		
1 159	137-178	0.19				0.8	TR						1.43	1.44	0.55	16.7	13.2	3.5	0.2	0.1

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6Q2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACIDITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	C E C NH4-OAC 5A6A	BASE SATURATION SUM+ ACITY	SUM+ AL	NH4-OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA-CL2 8C1E
		MEQ/100G									PERCENT					
1 153	0- 10	36.2	4.7	0.2	2.4	43.5	12.6		56.1	38.6	78		100+		6.3	6.0
1 154	10- 25	26.7	3.7	0.2	1.8	32.4	10.7		43.1	33.5	75		97		6.5	6.0
1 155	25- 50	18.2	2.7	0.1	1.3	22.3	7.8		30.1	22.0	74		100+		6.6	6.0
1 156	50- 73	11.7	2.2	0.2	0.5	14.6	6.1		20.7	15.5	71		94		6.4	5.8
1 157	73-104	5.0	1.2	0.1	0.2	6.5	3.3		9.8	7.2	66		90		6.3	5.5
1 158	104-137	3.8	0.9	0.1	0.1	4.9			4.9	5.0			98		6.2	5.4
1 159	137-178	2.8	0.7	0.1	0.1	3.7			3.7	3.9			95		6.4	5.5

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE		RELATIVE AMOUNT
1 153	0- 10	KK 3	MI 2								KK	KAOLINIT	1 TRACE
1 154	10- 25										MI	MICA	2 SMALL
1 155	25- 50												3 MODERATE
1 156	50- 73	KK 3	MI 2	MT 1							MT	MONTMORT	4 ABUNDANT
1 157	73-104	KK 3	MI 2										5 DOMINANT
1 158	104-137												6 INDETER.
1 159	137-178	KK 4	MI 2										

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
*=THE 75-250MM FRACTION IS INCLUDED.

MOWEBA GRAVELLY LOAM (taxadjunct) 1/
S71Utah-15-4

Location: Morgan County, UT; 3/4 mile west, 5 miles north of Croydon, about 400 feet west and 1,580 feet south of the northeast corner Sec. 30, T. 5 N., R. 4 E. Date of sampling: June 23, 1971.
Description by: E. Jensen, J. Carley: Collectors: D. Nettleton, J. Carley, E. Jensen and L. Campbell.
Classification: Pachic Ultic Haploxeroll, coarse-loamy, mixed, frigid.
Vegetation: Oakbrush, snowberry, serviceberry, big sagebrush, mountain brome, Kentucky bluegrass, slender wheatgrass, and ninebark. Climate: Average annual precipitation is 20 to 30 inches. Mean annual temperature is 39° to 45° F. Mean summer temperature is 58° to 61° F. Frost-free period is 70 to 75 days. Parent materials: Local alluvium and residuum from quartzite and sandstone conglomerate. Topography: Mountain slope, 45 percent slope, northeast aspect, concave. Elevation: 6,700 feet. Drainge: Well drained. Soil moisture: Usually moist.

HORIZON	DESCRIPTION
01	2 1/2 cm - 0 (1 inch - 0), leaves and twigs.
A11 RSL No. 71153	0-10 cm (0-4 inches), dark brown (10YR 3/3) gravelly loam, very dark brown (10YR 2/2) moist; moderate fine granular structure; soft, very friable, nonsticky, slightly plastic; many very fine and fine, and common medium roots; 25 percent gravel; slightly acid (pH 6.4); clear smooth boundary.
A12 RSL No. 71154	10-25 cm (4-10 inches), dark brown (10YR 3/3) gravelly loam, dark reddish brown (5YR 2/2) moist; weak coarse subangular blocky structure that parts to moderate fine granular; slightly hard, very friable, slightly sticky , slightly plastic; many very fine and fine and common medium roots; 20 percent gravel; slightly acid (pH 6.4); clear smooth boundary.
A13 RSL No. 71155	25-50 cm (10-20 inches), dark brown (7.5YR 3/2) gravelly loam, dark reddish brown (5YR 3/2) moist; weak medium and coarse subangular blocky structure; slightly hard, friable, slightly sticky, slightly plastic; many very fine and fine and common medium roots; 20 percent gravel; slightly acid (pH 6.2); clear smooth boundary.
A&B RSL No. 71156	50-73 cm (20-29 inches), 35 percent A horizon - dark reddish brown (5YR 3/4) gravelly loam, dark reddish brown (5YR 3/2) moist; (B2) 65 percent B horizon - reddish brown (5YR 5/4) gravelly loam, reddish brown (5YR 4/3) moist; weak medium and coarse subangular blocky structure; hard, firm, slightly sticky, slightly plastic; common very fine, fine and medium roots; few fine pores; 30 percent gravel, 10 percent cobble; slightly acid (pH 6.2); clear smooth boundary.
B21 RSL No. 71157	73-104 cm (29-41 inches), reddish brown (5YR 5/4) very cobbly loam, reddish brown (5YR 4/4) moist; weak medium and coarse subangular blocky structure; hard, friable, slightly sticky, slightly plastic; few fine and medium roots; few fine pores; 35 percent cobble, 25 percent gravel; medium acid (pH 6.0); gradual wavy boundary.
B22 RSL No. 71158	104-137 cm (41-54 inches), reddish brown (5YR 5/4) very cobbly sandy loam, yellowish red (5YR 4/6) moist; weak medium and coarse subangular blocky structure; hard, friable, slightly sticky, slightly plastic; few very fine and medium roots; 35 percent cobble and 25 percent gravel; medium acid (pH 6.0); gradual wavy boundary.
B3 RSL No. 71159	137-178 cm (54-70 inches), light reddish brown (5YR 6/4) very cobbly sandy loam, yellowish red (5YR 4/6) moist; weak fine subangular blocky structure; slightly hard, friable, nonsticky, nonplastic; few very fine and fine roots; 35 percent cobble and 25 percent gravel; medium acid (pH 6.0).

1/ The Moweba series is in a loamy-skeletal, mixed, frigid family of Pachic Ultic Haploxerolls. This pedon has less than 35 percent coarse fragments by volume.

CONSECUTIVE PEDON NUMBER C 71 26 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES KAHLER GRAVELLY LOAM SOIL NO. S71 UTAH. 29- 1 SAMPLE NO. 1 160-1 165 MORGAN-SUMMIT AREA

SOIL FAMILY: PACHIC ULTIC HAPLOXEROLL,FINE-LOAMY,MIXED,FRGD RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 181B,3A1 TOTAL FRACTION 2- .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBONATE 3A1A	INT. II .2- .02	1A2A COARSE FRAGMENTS PCT. OF WHOLE SOIL	I 75- 20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75			
1 160	0- 15	AP	28.7	52.6	18.7	3.1	3.8	3.4	9.6	8.8	21.3	31.3	12.4	6.3		35.7	24A	3	16	5
1 161	15- 51	A12	29.3	51.2	19.5	3.3	4.9	3.9	8.9	8.3	19.5	31.7				32.9	28A	8	14	6
1 162	51- 64	A13	26.3	53.6	20.1	3.5	4.0	3.5	8.3	7.0	21.0	32.6				32.8	29A	11	13	5
1 163	64- 89	A14	27.8	52.3	19.9	4.0	4.4	3.4	8.3	7.7	18.9	33.4				31.2	21A	5	10	6
1 164	89-135	B21	40.2	47.1	12.7	8.2	6.7	4.8	11.2	9.3	15.2	31.9	9.1	3.6		30.7	70*	37	10	5
1 165	135-160	B22	25.3	54.5	20.2	4.0	3.7	3.1	7.3	7.2	18.6	35.9				30.1	19A	12	5	3

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES DI-CIT FE 6C2B	EXT AL 6G7A	PYROP FE 6C5A	EXT AL 6G5A	ATTERBERG LL 4F1	PL 4F2	BULK DENSITY 1/3 BAR 4A1F	4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		PERCENT		PERCENT		PERCENT				PCT.NO.40		GRAMS PER CC				PERCENT			PERCENT	
1 160	0- 15	2.98	0.262										1.27	1.34	0.87	29.6	25.7	10.0	1.8	1.6
1 161	15- 51	2.51	0.220									1.30			0.84			9.6		
1 162	51- 64	2.15	0.189									1.33			0.83			9.7		
1 163	64- 89	1.91	0.169									1.36			0.88			9.8		
1 164	89-135	0.33	0.048										1.51	1.54	0.43	23.1	19.9	6.1	0.7	0.3
1 165	135-160	0.31										1.51			0.88			8.9		

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6D2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACIDITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4-OAC 5A6A	BASE SATURATION SUM+ ACIDITY	SUM+ AL	NH4-OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA-CL2 8C1E
		MEQ/100G									PERCENT					
1 160	0- 15	15.0	2.4	0.2	1.1	18.7	11.8		30.5	22.9	61		82		5.9	5.3
1 161	15- 51	14.5	2.5	0.2	0.7	17.9	11.6		29.5	21.7	61		82		5.9	5.3
1 162	51- 64	14.1	2.8	0.2	0.6	17.7	11.8		29.5	21.3	60		83		5.9	5.3
1 163	64- 89	12.2	2.5	0.3	0.6	15.6	10.7		26.3	19.7	59		79		5.9	5.3
1 164	89-135	6.5	1.5	0.2	0.3	8.5			8.5	10.1			84		6.1	5.4
1 165	135-160	8.3	2.3	0.2	0.5	11.3			11.3	13.0			87		5.9	5.3

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
1 160	0- 15	MI 2	MT 1					MI 3			MI MICA	1 TRACE
1 161	15- 51										MT MONTMORT	2 SMALL
1 162	51- 64											3 MODERATE
1 163	64- 89										KK KAOLINIT	4 ABUNDANT
1 164	89-135	MI 4	MT 2	KK 2				MT 3	MI 3			5 DOMINANT
1 165	135-160											6 INDETER.

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.
*=THE 75-250MM FRACTION IS INCLUDED.

KAHLER GRAVELLY LOAM

S71Utah-29-1

Location: Weber County, UT; about 1 mile south and 1/4 mile west of Liberty church house, 1,320 feet east and 1,080 feet south of northwest corner of Sec. 29, T. 7 N., R. 1 E. Date of sampling: June 21, 1971.
Description by: J. Carley and L. Campbell. Collectors: D. Nettleton, J. Carley, E. Jensen, and L. Campbell.
Classification: Pachic Ultic Haploxeroll, fine-loamy, mixed, frigid.
Vegetation: Soil is cultivated. Alfalfa and small grains are principle crops. Climate: Average annual precipitation is 20 to 25 inches. Mean annual temperature is 44° to 45° F. Mean summer temperature 67° to 69° F. Frost-free period is 95 to 100 days.
Parent materials: Alluvium from argillite, phyllite, and schist. Topography: Alluvial fan, 8 percent slope, northeast aspect. Elevation: 5,220 feet. Drainage: Well drained. Soil moisture: Usually moist.

HORIZON	DESCRIPTION
Ap RSL No. 71160	0-15 cm (0-6 inches), dark grayish brown (10YR 4/2) gravelly silt loam, very dark brown (10YR 2/2) moist; weak fine granular structure; slightly hard, friable, slightly sticky, slightly plastic, few very fine roots; common very fine pores; 20 percent gravel; medium acid (pH 5.8); abrupt smooth boundary.
A12 RSL No. 71161	15-51 cm (6-20 inches), dark grayish brown (10YR 4/2) gravelly silt loam, very dark brown (10YR 2/2) moist; weak medium and coarse subangular blocky structure; slightly hard, friable, slightly sticky, slightly plastic; few very fine roots; many very fine and fine, few medium and coarse pores; 20 percent gravel; medium acid (pH 5.8); gradual wavy boundary.
A13 RSL No. 71162	51-64 cm (20-25 inches), dark grayish brown (10YR 4/2) gravelly silt loam, very dark brown (10YR 2/2) moist; weak medium and coarse subangular blocky structure that parts to weak fine granular; slightly hard, friable, slightly sticky, slightly plastic; few very fine roots; many very fine and fine, few medium pores; 20 percent gravel; medium acid (pH 6.0); clear smooth boundary.
A14 RSL No. 71163	64-89 cm (25-35 inches), dark grayish brown (10YR 4/2) gravelly silt loam, very dark brown (10YR 2/2) moist; weak medium and coarse subangular blocky structure that parts to weak fine granular; slightly hard, friable, slightly sticky, slightly plastic; few very fine roots; many very fine, fine, and few medium pores; 15 percent gravel and 5 percent cobble; medium acid (pH 6.0); clear smooth boundary.
B21 RSL No. 71164	89-135 cm (35-53 inches), light yellowish brown (10YR 6/4) very cobbly loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few very fine roots; many very fine and fine pores; 30 percent cobble and 20 percent gravel; medium acid (pH 6.0); gradual, wavy boundary.
B22 RSL No. 71165	135-160 cm (53-63 inches), light yellowish brown (10YR 6/4) silt loam, brown (10YR 4/3) moist; weak medium and coarse subangular blocky structure; very hard, firm, slightly sticky, slightly plastic; many fine and very fine pores; 15 percent gravel; medium acid (pH 5.8).

CONSECUTIVE PEDCN NUMBER C 67 9 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES TRENTON LOAM SOIL NO. S67 UTAH. 18- 7 SAMPLE NO. 7 259-7 267 SALT LAKE CO. AREA

SOIL FAMILY: TYPIC NATRIXEROLL,FINE,MIXED,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SANDS 2-.05	SILT .05-.002	CLAY LT .002	VCS 2-1	CS 1-.5	MS .5-.25	FS .25-.10	VFS .1-.05	CSI .05-.02	FSI .02-.002	CLAYS CO. 2-.2U	FINE LT .2U	CARBONATE 3A1A	INT. II .2-.02	COARSE FRAGMENTS I 75-20 PCT. OF WHOLE SOIL	II 20-5	III 5-2
			SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1												1A2A				
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75		
7 259	0- 15	AP	32.1	44.6	23.3	1.8	1.6	1.7	7.4	19.6	25.2	19.4				50.1	16 TR	16Z	N
7 260	15- 25	A12	15.6	52.3	32.1	1.8	1.6	1.6	5.4	5.2	31.1	21.2				40.1	15 TR	15Z	N
7 261	25- 33	B1	14.9	54.7	30.4	0.8	0.7	0.7	2.8	9.9	28.8	25.9				40.8	3 TR	3Z	N
7 262	33- 56	B21T	10.4	38.6	51.0	0.4	0.3	0.3	1.6	7.8	21.4	17.2				30.4	TR TR	--	—
7 263	56- 71	B22TCA	14.5	38.4	47.1	0.7	1.4	1.0	2.4	9.0	16.5	21.9			7	27.0	TR TR	—	—
7 264	71- 94	B23TCA	11.9	44.4	43.7	0.6	1.0	0.7	1.7	7.9	16.9	27.5				25.9	TR TR	—	—
7 265	94-117	B31CA	12.6	50.5	36.9	0.4	0.5	0.4	1.5	9.8	21.8	28.7				32.6	TR TR	--	--
7 266	117-150	B32	21.4	41.9	36.7	1.0	1.1	1.1	3.9	14.3	21.5	20.4				38.6	14 3	11Z	N
7 267	150-183	B33	31.1	33.1	35.8	3.2	2.5	2.5	7.6	15.3	18.6	14.5				39.0	23 8	15Z	N

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	19-2 6E1B	EXT. IRON FE 6C2B	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST 1/3 BAR 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTENSIBILITY LEF 4D1	LE 4D1	PH H2O 1/1 8C1A	PH H2O 1/10 8C1A	PH CACL2 8C1E
		-PERCENT--		-PERCENT-		PCT.	PCT.NO.40		GRAMS PER CC				-----PERCENT---			-PERCENT--				
7 259	0- 15	1.19	0.094	TR		0.8				1.29	1.38	0.92		24.6	9.4	2.3	2.1		6.2	
7 260	15- 25	0.87	0.081	TR		0.8			1.50			0.91			12.4				7.2	
7 261	25- 33	0.51		TR		0.7				1.54	1.69	0.98		22.5	11.3	3.1	3.1		7.6	
7 262	33- 56	0.57		1		1.0				1.31	1.69	1.00		35.3	24.1	8.9	8.9		8.9	
7 263	56- 71	0.41		7		0.1			1.34			1.00			22.0				9.3	
7 264	71- 94			6		0.7				1.37	1.72	1.00		31.5	23.6	7.9	7.9		9.5	
7 265	94-117			2		0.8			1.38			1.00			22.5				9.5	
7 266	117-150			1		1.5				1.40	1.67	0.92		28.2	19.6	6.1	5.5		9.6	
7 267	150-183			TR		1.5			1.40			0.86			19.6				9.5	

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B3A 6N4C	MG 5B3A 6O4C	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT.	CEC NA-OAC 5A2A	NH4-CAC 5A6A	EC 8A1A	WATER EXTRACT FROM SATURATED PASTE CA 6N1B	MG 6O1B	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1A	B 6T1A	PH SAT. PASTE 8C1B
		--------MEQ/100G--------					PCT.	-MEQ/100G		MMHO	----------MEQ/1000 ML----------								PPM	
7 259	0- 15			0.2	1.9	2.1			18.5	0.44	1.5	0.9	5.1	0.4		1.5	1.7			5.3
7 260	15- 25			0.4	1.9	2.3			22.6	0.49	1.6	1.0	1.2	0.3		1.7	1.4			6.5
7 261	25- 33			0.7	1.1	1.8			17.6	0.58	1.7	1.1	2.6	0.2		1.8	0.4			6.8
7 262	33- 56			2.5	1.2	3.7			32.1	0.78	1.4	4.0	5.4	0.1		4.5	0.5			7.7
7 263	56- 71			4.8	1.2	6.0			31.7	1.02	0.5	0.5	7.8	0.1		5.0	0.8			8.0
7 264	71- 94			8.6	1.1	9.7			33.1	1.40	0.4	0.4	12.2	0.1		6.2	1.1			8.0
7 265	94-117			10.5	1.1	11.6			32.9	1.98	0.6	0.5	17.3	0.2		6.3	1.2	13.6		8.1
7 266	117-150			8.7	0.8	9.5			30.3	2.16	0.8	0.4	17.3	0.2		5.7	1.4	15.0		7.9
7 267	150-183			10.4	0.7	11.1			29.0	2.00	0.6	0.4	17.9	0.2		5.2	2.4	13.9		8.2

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGEABLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1A PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I 7A2E	II 7A2E	III 7A2E	IV 7A2E	DTA 7A3 PCT.	L.T. .0002 MM X RAY I 7A2E	II 7A2E	III 7A2E	MINERAL CODE	RELATIVE AMOUNT
7 259	0- 15	38.2	TR	TR	5			MI 3	KK 2							MI MICA	1 TRACE
7 260	15- 25	50.6	0.3	2	1											KK KAOLINIT	2 SMALL
7 261	25- 33	42.7	0.6	3	2												3 MODERATE
7 262	33- 56	64.3	2.2	7	3			MT 3	MI 3	KK 3						MT MONTMORT	4 ABUNDANT
7 263	56- 71	62.8	4.3	14	11												5 DOMINANT
7 264	71- 94	77.9	7.6	23	19												6 INDETER.
7 265	94-117	68.5	9.3	28	23												
7 266	117-150	69.0	7.5	25	22												
7 267	150-183	71.6	9.1	31	25			MT 4	MI 3	KK 3							

SAMPLE PREPARATION CODES
N=NOT DETERMINED.
Z=NOT ALL FRACTIONS SEPERATED. ADJACENT FRACTIONS INCLUDED HERE.

TRENTON LOAM
S67Utah-18-7

Location: Salt Lake Soil Survey Area, Utah. Sec. 4, T. 3 S., R. 2 W.; about 1,870 feet east and 500 feet north of the southwest corner. One mile south of road to KCPX TV Tower road, 500 feet west of Kennecott-Magna Railroad. Date of sampling: August 24, 1967.
Description by: J. L. Harvey, M. E. Olsen, L. Woodward. Collectors: B. Brasher D. Nettleton.
Classification: Typic Natrixeroll, fine, mixed, mesic.
Vegetation: Wheat stubble. Use: Dryland farming. Climate: Precipitation, 19 inches. Mean annual air temperature, 49°F.; mean summer air temperature, 74°F. Frost-free days, 160. Parent material: Alluvial fan sediments from mixed sedimentary rocks. Topography: Alluvial fan. Slope, 5 percent, east-facing. Elevation: 5,300 feet. Drainage: Well drained. Runoff is slow; permeability, slow. No water table. Soil moisture: Dry.

HORIZON	DESCRIPTION
	(0-15 cm)
Ap RSL 67259	0 to 6 inches, grayish brown (10YR 5/2) loam, very dark grayish brown (10YR 3/2) moist; moderate fine and medium granular structure; slightly hard, friable, slightly sticky and slightly plastic; noncalcareous; abrupt smooth boundary.
A12 (15- RSL 25 cm) 67260	6 to 10 inches, dark grayish brown (10YR 4/2) clay loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; hard, firm, sticky and plastic; thin continuous clay films; noncalcareous; clear wavy boundary.
B1 (25- RSL 33 cm) 67261	10 to 13 inches, brown (10YR 5/3) heavy clay loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; hard, firm, sticky and plastic; thin continuous clay films; noncalcareous; clear wavy boundary.
B21t RSL 67262 (33-56 cm)	13 to 22 inches, brown (10YR 5/3) crushed, (7.5YR 5/4) aggregate, clay, brown (7.5YR 4/4) moist; strong coarse prismatic structure breaking to strong medium angular blocky; extremely hard, extremely firm, very sticky and very plastic; moderate continuous clay films; noncalcareous; gradual wavy boundary.
B22tca RSL 67263 (56-71 cm)	22 to 28 inches, brown (7.5YR 5/4) clay, dark grayish brown (10YR 4/2) moist; moderate coarse prismatic structure breaking to strong medium angular blocky; extremely hard, extremely firm, very sticky and very plastic; moderate continuous clay films; soil slightly calcareous, with lime splotches that are strongly calcareous.
B23tca RSL 67264	28 to 37 inches, same as B22tca but split for sampling. Clear wavy boundary. (71-94 cm)
	(94-117 cm)
B31ca RSL 67265	37 to 46 inches, brown (7.5YR 4/4) clay, brown (7.5YR 4/4) moist; moderate medium angular blocky structure; extremely hard, extremely firm, very sticky and very plastic; moderate continuous clay films; slightly calcareous, lime is disseminated; gradual wavy boundary.
B32 RSL 67266 (117-150 cm)	46 to 59 inches, brown (7.5YR 4/4) clay, brown (7.5YR 4/4) moist; moderate fine and medium subangular blocky structure; extremely hard, extremely firm, very sticky and very plastic; moderate continuous clay films; slightly calcareous; lime is disseminated.
B33 RSL 67267	59 to 72 inches, same as B32ca but split for sampling. (150-183 cm)

CONSECUTIVE PEDCN NUMBER C 72 86 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES CURFEE STONY LOAM SOIL NO. S72 UTAH. 29- 1 SAMPLE NO. 2 526-2 532 MORGAN&E.WEBER AREA

SOIL FAMILY: TYPIC PALEXEROLL,CLAYEY-SKELETAL,MONT,FRIGID RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 TOTAL FRACTION 2- .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBONATE 3A1A.02	1A2A INT. II .2- .02	COARSE FRAGMENTS PCT. OF WHOLE SOIL I 75- 20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75		
2 526	0- 15	A11	39.7	43.8	16.5	11.2	11.3	6.0	6.0	5.2	19.7	24.1	11.5	5.0		27.7	43A 26	13	5
2 527	15- 31	A12	32.1	46.7	21.2	5.1	8.7	5.6	6.1	6.6	20.2	26.5				29.7	68A 62	4	2
2 528	31- 40	B1	30.8	44.9	24.3	5.5	8.4	5.3	5.4	6.2	21.4	23.5				30.1	70A 62	4	4
2 529	40- 63	B21T	29.7	31.9	38.4	11.3	6.3	2.9	3.3	5.9	14.8	17.1	16.8	21.6		22.2	62A 54	6	2
2 530	63- 94	B22T	22.8	21.7	55.5	8.9	4.9	2.1	2.7	4.2	9.7	12.0				15.3	60A 45	12	3
2 531	94-127	B23T	31.9	7.8	60.3	14.9	7.1	3.1	4.4	2.4	3.2	4.6	16.8	43.5		7.9	46A 14	19	13
2 532	127-152	B3 T	34.3	9.6	56.1	17.0	8.1	3.3	3.9	2.0	3.7	5.9				7.7	74A 36	28	10

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1B	SESQUIOXIDES CI-CIT EXT FE 6G2B	AL 6G7A	PYROP EXT FE 6C5A	AL 6G5A	ATTERBERG LL 4F1	PL 4F2	LIMIT 1/3 4A1F	BULK DENSITY EST. 1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
		-PERCENT-		-PERCENT-		PERCENT				PCT.NO.40		GRAMS PER CC				PERCENT			-PERCENT-	
2 526	0- 15	3.13	0.219										1.24	1.32	0.74	22.8	21.6	9.2	2.1	1.5
2 527	15- 31	1.73	0.144									1.24			0.50			8.2		
2 528	31- 40	1.02	0.101									1.10			0.51			9.1		
2 529	40- 63	0.72	0.079										1.07	1.29	0.60	34.6	34.0	13.3	6.4	3.7
2 530	63- 94	0.60	0.057										1.24	1.64	0.59	33.4	31.6	19.7	9.8	5.3
2 531	94-127	0.56										1.20			0.72			22.9		
2 532	127-152	0.50											1.12	1.42	0.46	38.9	36.4	21.7	8.2	3.4

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6K2E	MG 5B4A 6O2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI-DITY 6H2A	KCL EXT. AL 6G1E	CEC SUM 5A3A	NH4-OAC 5A6A	BASE SATURATION SUM+ ACI-CITY	SUM+ AL	NH4-OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA-CL2 8C1E
		MEQ/100G									PERCENT					
2 526	0- 15	14.6	2.5	0.8	1.9	19.8			19.8	18.6			100+		6.9	6.4
2 527	15- 31	14.4	2.2	0.7	1.7	19.0			19.0	17.0			100+		6.9	6.5
2 528	31- 40	13.5	2.2	0.6	1.4	17.7			17.7	14.9			100+		7.1	6.5
2 529	40- 63	16.7	3.7	0.6	1.5	22.5			22.5	21.3			100+		6.8	6.4
2 530	63- 94	30.3	6.6	0.7	1.4	39.0			39.0	33.9			100+		6.6	6.0
2 531	94-127	35.7	8.6	0.9	1.0	46.2			46.2	39.8			100+		6.3	5.7
2 532	127-152	33.1	8.1	0.8	0.8	42.8			42.8	38.4			100+		6.2	5.7

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I 7A2E	II 7A2E	III 7A2E	IV 7A2E	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY I 7A2E	II 7A2E	III 7A2E	MINERAL CODE	RELATIVE AMOUNT
2 526	0- 15	MI 2	KK 1					MI 3	KK 2		MI MICA	1 TRACE
2 527	15- 31										KK KAOLINIT	2 SMALL
2 528	31- 40											3 MODERATE
2 529	40- 63	MI 3	KK 3					MI 3	KK 2		MT MONTMORT	4 ABUNDANT
2 530	63- 94											5 DOMINANT
2 531	94-127	MT 2	KK 1					MT 2	MI 2	KK 1		6 INDETER.
2 532	127-152											

SAMPLE PREPARATION CODES
A=STANDARD PREPARATION.

DURFEE STONY LOAM
S72Utah-29-1

Location: Weber County, UT; near Patio Springs by TV tower; about 1,320 feet north and 200 feet west of the southeast corner, Sec. 15, T. 7 N., R. 1 E. Date of sampling: July 10, 1972.
Description by: L. Campbell and J. Carley. Collectors: D. Nettleton, A. Erickson, J. Carley, L. Campbell.
Classification: Typic Palexeroll, clayey-skeletal, montmorillonitic, frigid.
Vegetation: Big sagebrush, balsamroot, bluebunch wheatgrass, yellowbrush. Climate: Average annual precipitation is 18 to 24 inches. Mean annual temperature is 43° to 44° F. Mean summer temperature is 58° to 62° F. Frost-free period is 70 to 100 days. Parent material: colluvium from sandstone and quartzite. Topography: Mountain slope, 50 percent slope, northwest aspect. Elevation: 5,200 feet. Drainage: Well drained. Soil moisture: Usually moist.

HORIZON	DESCRIPTION
A11 RSL No. 72526	0-15 cm (0-6 inches), brown (10YR 5/3) stony loam, dark brown (10YR 3/3) moist; weak medium and coarse subangular blocky structure that parts to moderate fine and medium granular; slightly hard, friable, slightly sticky, slightly plastic; common very fine and fine roots; 10 percent stone, 20 percent gravel; 15 percent cobble; slightly acid (pH 6.2); clear smooth boundary.
A12 RSL No. 72527	15-31 cm (6-12 inches), brown (10YR 5/3) very gravelly loam, dark brown (10YR 3/3) moist; moderate fine granular structure; slightly hard, friable, slightly sticky, slightly plastic; common very fine and fine, and few medium and coarse roots; 55 percent gravel, 10 percent cobble, 10 percent stone; slightly acid (pH 6.2); clear smooth boundary.
B1 RSL No. 72528	31-40 cm (12-16 inches), brown (7.5YR 5/4) very gravelly loam, yellowish red (5YR 4/6) moist; moderate medium and fine subangular blocky structure; extremely hard, firm, slightly sticky, plastic; common very fine and fine and few medium and coarse roots; 55 percent gravel, 10 percent cobble, 10 percent stone; slightly acid (pH 6.1); clear irregular boundary.
B21t RSL No. 72529	40-63 cm (16-25 inches), reddish brown (5YR 4/4) very gravelly heavy clay loam, dark reddish brown (2.5YR 3/4) moist; moderate medium subangular blocky structure; extremely hard, firm, sticky, very plastic; few fine, medium, and coarse roots; few very fine pores; common thin clay films on faces of peds; 45 percent gravel, 15 percent cobble, 10 percent stones; slightly acid (pH 6.1); gradual smooth boundary.
B22t RSL No. 72530	63-94 cm (25-37 inches), reddish brown (5YR 5/4) very gravelly clay, yellowish red (5YR 4/6) moist; moderate medium subangular blocky structure; extremely hard, very firm, sticky, very plastic; few fine, medium and coarse roots; few very fine pores; common thin clay films on faces of peds; 45 percent gravel, 15 percent cobble, 10 percent stone; medium acid (pH 6.0); gradual smooth boundary.
B23t RSL No. 72531	94-127 cm. (37-50 inches), red (2.5YR 4/6) very gravelly clay, red (2.5YR 4/6) moist; moderate medium prismatic structure; extremely hard, very firm, sticky, very plastic; few fine, medium and coarse roots; few very fine pores; many thin clay films on faces of peds; 35 percent gravel, 15 percent cobble, 10 percent stone; medium acid (pH 6.0); gradual smooth boundary.
B3t RSL No. 72532	127-152 cm (50-60 inches), dark red (2.5YR 3/6) very gravelly clay, dark red (2.5YR 3/6) moist; moderate medium subangular blocky structure; extremely hard, very firm, sticky, very plastic; few fine, medium, and coarse roots; few very fine pores; 50 percent gravel, 15 percent cobble, 10 percent stone; medium acid (pH 6.0).

CONSECUTIVE PEDON NUMBER C 67 13 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES HARKERS LOAM SOIL NO. S67 UTAH. 18-11 SAMPLE NO. 7 295-7 304 SALT LAKE CO. AREA

SOIL FAMILY: TYPIC PALEXEROLL,FINE,MONTMORILLONITIC,FRIGID RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2-.05	SILT .05-.002	CLAY LT .002	SANDS VCS 2-1	CS 1-.5	MS .5-.25	FS .25-.10	VFS .1-.05	SILTS CSI .05-.02	FSI .02-.002	CLAYS CO. 2-.2U	FINE LT .2U	CARBONATE 3A1A.02	INT. II .2-.02	COARSE FRAGMENTS I PCT. OF WHOLE SOIL 75-20	II 20-5 PCT. OF LT 75	III 5-2
			PERCENT OF LESS THAN 2MM																
7 295	0- 5	A11	33.8	41.6	24.6	2.3	2.0	1.9	8.5	19.1	22.3	19.3				47.6	20	6	14Z	N
7 296	5- 18	A12	32.0	41.2	26.8	2.4	1.9	1.6	7.5	18.6	21.0	20.2				45.1	22	6	16Z	N
7 297	18- 36	A13	23.6	45.7	30.7	1.9	1.5	1.3	5.1	13.8	25.1	20.6				42.6	24	2	22Z	N
7 298	36- 58	B1	26.4	45.9	27.7	2.1	1.3	1.1	5.0	16.9	24.1	21.8				44.7	13	1	12Z	N
7 299	58- 79	B21T	19.3	26.6	54.1	1.9	1.1	0.9	4.3	11.1	11.4	15.2				25.6	21	2	19Z	N
7 300	79-102	B22T	27.3	22.4	50.3	4.2	2.4	2.2	7.5	11.0	7.5	14.9				23.9	27*	2	22Z	N
7 301	102-127	B31CA	37.0	25.5	37.5	5.7	2.9	2.3	10.0	16.1	11.5	14.0				35.1	54*	4	48Z	N
7 302	127-152	B32CA	39.3	29.8	30.9	3.5	3.1	2.5	11.7	18.5	12.4	17.4				39.5	85	32	53Z	N
7 303	152-198	C 1CA	44.9	25.8	29.3	3.3	3.8	6.8	13.7	17.3	10.1	15.7				36.9	62	25	37Z	N
7 304	198-213	C 2	40.9	34.9	24.2	3.9	3.5	3.0	12.9	17.6	15.5	19.4				42.3	46*	16	28Z	N

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A -PERCENT--	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	19-2 6E1B	EXT. IRON FE 6C2B PCT.	ATTERBERG LIMIT LL 4F1 PCT.	PL 4F2 NO.40	BULK DENSITY EST 1/3 BAR 4A1F GRAMS PER CC	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C ----PERCENT----	1/3 BAR 4B1C	15 BAR 4B2	EXTENSIBLITY LEF 4D1 -PERCENT--	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
7 295	0- 5	2.21	0.152	TR		0.8				1.29	1.39	0.89		22.0	11.2	2.5	2.2		6.6	
7 296	5- 18	1.66	0.122	TR		0.8			1.35			0.87			10.5				6.4	
7 297	18- 36	1.12	0.099	TR		0.8			1.40			0.85			12.2				7.2	
7 298	36- 58	0.55	0.064	TR		0.9				1.56	1.68	0.91		19.6	10.2	2.5	2.3		7.3	
7 299	58- 79	0.47		TR		0.9			1.05			0.90			25.0				8.5	
7 300	79-102	0.46		3		0.9				0.98	1.37	0.88		57.6	28.5	11.8	10.1		8.6	
7 301	102-127			4		0.9			0.98			0.70			19.2				8.7	
7 302	127-152			4		0.9				0.98	1.16	0.32		47.9	15.1	5.8	1.7		8.8	
7 303	152-198			4		0.9				1.33	1.45	0.54		25.4	14.9	2.9	1.5		8.8	
7 304	198-213			2		1.0			1.35			0.70			11.6				9.1	

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B3A 6N4C	MG 5B3A 6O4C	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	BASE SAT. PCT.	CEC NA-OAC 5A2A -MEQ/100G	NH4-CAC 5A6A	EC 8A1A MMHO	WATER EXTRACT FROM SATURATED PASTE 8A1 CA 6N1B	MG 6O1B	NA 6P1A MEQ/1000 ML	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1A	B 6T1A PPM	PH SAT. PASTE 8C1B
7 295	0- 5			0.2	1.9	2.1			22.2	0.53	3.0	1.4	0.4	0.6		3.5	1.9			5.9
7 296	5- 18			0.6	0.3	0.9			21.2	0.24	1.0	0.4	0.3	0.3		1.2	1.2			5.6
7 297	18- 36			1.0	0.3	1.3			22.6	0.33	1.6	0.7	0.1	0.3		2.8	1.1			6.5
7 298	36- 58			0.3	0.6	0.9			17.1	0.47	2.1	1.0	1.0	0.1		2.2	1.1			6.6
7 299	58- 79			0.6	1.0	1.6			38.2	0.59	2.8	1.4	1.3	0.1		2.7	0.7			7.0
7 300	79-102			0.7	1.0	1.7			36.0	0.73	3.5	1.6	1.6	0.1		2.8	1.0			7.5
7 301	102-127			0.8	0.9	1.7			25.2	0.97	4.4	2.2	2.4	0.1		3.2	1.2			7.7
7 302	127-152			0.8	0.6	1.4			24.7	1.26	6.0	3.2	3.1	0.1		3.2	1.5			7.6
7 303	152-198			1.3	0.7	2.0			24.3	1.53	5.8	4.1	4.9	0.1		3.3	1.4	13.2		7.8
7 304	198-213			1.8	0.6	2.4			18.8	1.10	1.6	1.4	6.2	0.1		4.3	0.8			7.8

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGEABLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1A PCT.	REQ. 6P3A MEQ.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I 7A2E	II 7A2E	III 7A2E	IV 7A2E	DTA PCT. 7A3	LT. .0002 MM X RAY I 7A2E	II 7A2E	III 7A2E	MINERAL CODE	RELATIVE AMOUNT
7 295	0- 5	48.6	0.2	1	TR			MI 4	KK 3	MT 2						MI MICA	1 TRACE
7 296	5- 18	41.5	0.6	3	TR											KK KAOLINIT	2 SMALL
7 297	18- 36	46.0	1.0	4	TR											MT MONTMORT	3 MODERATE
7 298	36- 58	40.9	0.3	2	1												4 ABUNDANT
7 299	58- 79	70.3	0.5	1	1												5 DOMINANT
7 300	79-102	73.8	0.6	2	1			MT 4	MI 3	KK 3							6 INDETER.
7 301	102-127	65.4	0.6	2	1												
7 302	127-152	57.4	0.6	3	1												
7 303	152-198	55.8	1.0	4	2												
7 304	198-213	44.6	1.5	8	5			MT 5	KK 3	MI 2							

SAMPLE PREPARATION CODES
N=NOT DETERMINED.
Z=NOT ALL FRACTIONS SEPERATED. ADJACENT FRACTIONS INCLUDED HERE.
*=THE 75-250MM FRACTION IS INCLUDED.

HARKERS LOAM
S67Utah-18-11

Location: Salt Lake Soil Survey Area, Utah. Sec. 31, T. 2 S., R. 3 W.; about 1,700 feet west and 120 feet north of the southeast corner. One-half mile west of railroad grade 2 3/4 mile west of Magna-Bingham Highway, along KCPX TV Tower Road and 300 feet north of road northwest of old corral. Date of sampling: August 23, 1967.
Description by: J. L. Harvey, M. E. Olsen, L. Woodward. Collectors: B. Brasher, D. Nettleton.
Classification: Typic Palexeroll, fine, montmorillonitic, frigid.
Vegetation: Big sagebrush, oakbrush, gum weed, yellowbrush, cheatgrass. Use: Rangeland, wildlife. Climate: Precipitation, 20 to 25 inches. Mean annual air temperature 45°F.; mean summer air temperature, 65°F. Parent material: Alluvium from mixed sedimentary rocks. Topography: alluvial fan. Slope, 5 percent, northeast-facing. Elevation: 5,800 feet. Drainage: Well drained. Runoff is medium; permeability, slow. No water table. Soil moisture: Dry.

HORIZON	DESCRIPTION
	(0-18 cm)
A11* RSL 67295 A12 RSL 67296	0 to 7 inches, dark grayish brown (10YR 4/2) loam, very dark grayish brown (10YR 3/2) moist; moderate medium platy parting to fine platy structure; slightly hard, friable moist, slightly sticky and slightly plastic wet; common medium and fine roots; 15 percent gravel; noncalcareous; mildly alkaline (pH 7.6); clear smooth boundary.
*Horizon split for sampling at 2 inches (5 cm).	
A13 RSL 67297 (18-36 cm)	7 to 14 inches, dark grayish brown (10YR 4/2) clay loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and plastic wet; common fine and very fine roots; few fine and very fine pores; thin patchy clay films; noncalcareous; neutral (pH 7.2); clear smooth boundary.
B1 RSL 67298 (36-58 cm)	14 to 23 inches, brown (10YR 5/3) clay loam, brown (7.5YR 4/4) moist; moderate medium angular blocky breaking to fine blocky structure; extremely hard, very firm, very sticky and very plastic; few fine and very fine roots; few fine and very fine pores; noncalcareous; neutral (pH 7.2); clear smooth boundary.
B21t RSL 67299 (58-79 cm)	23 to 31 inches, light reddish brown (5YR 6/4) clay, reddish brown (5YR 4/4) moist; weak medium prismatic breaking to strong medium angular blocky structure; extremely hard, very firm, very sticky and very plastic; few fine and very fine roots; few fine and very fine pores; moderate continuous clay films; 15 percent gravel; noncalcareous; neutral (pH 7.2); clear smooth boundary.
B22t RSL 67300 (79-102 cm)	31 to 40 inches, reddish brown (5YR 5/4) clay, reddish brown (5YR 4/4) moist; strong medium prismatic breaking to moderate subangular blocky structure; extremely hard, dry, very firm, very sticky and very plastic; few medium and fine and very fine roots; moderate patchy clay films; 10 percent gravel; noncalcareous; neutral (pH 7.2); gradual smooth boundary.
B31ca RSL 67301 (102-127 cm)	40 to 50 inches, brown (7.5YR 5/4) heavy clay loam, brown (7.5YR 4/4) moist; weak medium subangular blocky structure; very hard dry, firm, sticky, and plastic; very few very fine roots; moderate patchy clay films; 20 percent gravel; slightly calcareous, lime is in pockets of disintegrating rock; neutral (pH 7.2); gradual smooth boundary.
B32ca RSL 67302 (127-152 cm)	50 to 60 inches, reddish yellow (7.5YR 6/6) gravelly heavy clay loam, brown (7.5YR 5/4) moist; moderate medium subangular blocky structure; hard, firm, sticky and plastic; very few very fine roots; thin patchy clay films; 40 percent gravel; slightly calcareous, lime is coated on rocks; moderately alkaline (pH 8.0); diffuse boundary.
C1ca RSL 67303 (152-198 cm)	60 to 78 inches, light brown (7.5YR 6/5) very gravelly heavy clay loam, brown (7.5YR 5/4) moist; weak medium subangular blocky structure; hard, firm, sticky and plastic; no roots; 60 percent gravel; slightly calcareous; moderately alkaline (pH 8.0); gradual smooth boundary.
C2 RSL 67304 (198-213 cm)	78 to 84 inches +, pink (7.5YR 7/5) gravelly clay loam, yellowish brown (10YR 5/4) moist; very weak subangular blocky structure; hard, firm, sticky and plastic; slightly calcareous.

CONSECUTIVE PEDON NUMBER C 67 12 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES HARKERS LOAM (TAXADJUNCT) SOIL NO. S67 UTAH. 18- 9 SAMPLE NO. 7 286-7 294 SALT LAKE CO. AREA

SOIL FAMILY: TYPIC PALEXEROLL,VERY-FINE,MONTMORILLON.,FRIGID RIVERSIDE SOIL SURVEY LABORATORY

SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2-.05	SILT .05-.002	CLAY LT .002	SANDS VCS 2-1	CS 1-.5	MS .5-.25	FS .25-.10	VFS .1-.05	CSI .05-.02	FSI .02-.002	SILTS CC. 2-.2U	CLAYS FINE LT .2U	CARBONATE 3A1A	1A2A INT. II .2-.02	COARSE FRAGMENTS PCT. OF WHOLE SOIL I 75-20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75		
7 286	0- 10	A11	27.1	50.8	22.1	2.8	1.7	1.2	6.8	14.6	26.8	24.0				46.2	30*	5	22Z	N
7 287	10- 28	A12	24.7	49.8	25.5	1.4	1.3	1.1	4.8	16.1	27.4	22.4				47.1	28*	5	20Z	N
7 288	28- 43	A13	25.5	47.3	27.2	2.8	1.5	1.0	4.4	15.8	25.7	21.6				44.8	20*	TR	17Z	N
7 289	43- 58	B1	24.7	43.4	31.9	3.1	1.8	1.1	4.6	14.1	24.1	19.3				41.6	36*	8	25Z	N
7 290	58- 91	B21T	19.1	16.3	64.6	2.9	1.7	1.0	4.7	8.8	8.7	7.6				20.9	33*	7	23Z	N
7 291	91-117	B22T	16.2	21.2	62.6	1.5	1.4	0.9	4.0	8.4	9.9	11.3				21.2	29*	1	22Z	N
7 292	117-145	2B31	25.2	35.9	34.9	6.1	4.1	1.9	6.2	10.9	27.1	8.8				42.3	42*	14	26Z	N
7 293	145-180	2B32	45.0	20.3	34.7	10.2	7.9	3.8	9.8	13.3	10.6	9.7				30.5	73	15	58Z	N
7 294	180-213	2C 1	40.2	20.8	39.0	6.8	5.2	3.3	10.5	14.4	9.2	11.6				30.8	70	40	30Z	N

SAMPLE NO.	DEPTH CM.	ORG. MATTER CARBON 6A1A	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	19-2 6E1B	EXT. IRON FE 6C2B	ATTERBERG LIMIT LL 4F1	PL 4F2	BULK DENSITY EST 1/3 BAR 4A1F	1/3 BAR 4A1F	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTENSBLTY LEF 4D1	LE 4D1	PH H2O 1/1 8C1A	H2O 1/10 8C1A	CACL2 8C1E
		PERCENT		PERCENT		PCT.	PCT.	NO.40	GRAMS PER CC				PERCENT			PERCENT				
7 286	0- 10	5.19	0.320	TR		0.8			0.98	1.08	0.86		41.1	15.4	3.3	2.8		7.1		
7 287	10- 28	2.03	0.146	TR		0.8			1.23	1.34	0.85		25.5	11.6	2.9	2.4		7.0		
7 288	28- 43	1.02	0.079	TR		0.8			1.43	1.52	0.88		21.5	10.9	2.1	1.8		7.0		
7 289	43- 58	0.59	0.056	TR		1.0			1.04	1.33	0.82		43.0	12.2	8.5	6.8		6.9		
7 290	58- 91	0.83		TR		1.1			0.98	1.35	0.85		52.9	32.1	11.3	9.2		7.0		
7 291	91-117	0.61		1		1.7			0.65	0.99	0.91		92.4	33.3	15.1	13.3		8.1		
7 292	117-145	0.34		1		1.0			1.08	1.39	0.77		41.2	23.6	8.8	6.5		8.3		
7 293	145-180			1		1.0			1.54	1.69	0.38		17.5	16.3	3.1	1.1		8.4		
7 294	180-213			1		0.9			0.76	0.90	0.59		62.7	18.9	5.8	3.2		8.5		

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 583A 6N4C	MG 583A 6O4C	NA 584A 6P2A	K 584A 6Q2A	SUM	BASE SAT.	C E C NA-OAC 5A2A	NH4-CAC 5A6A	EC 8A1A	WATER EXTRACT FROM SATURATED PASTE CA 6N1B	MG 6O1B	NA 6P1A	K 6Q1A	CO3 6I1A	HCO3 6J1A	CL 6K1A	SO4 6L1A	B 6T1A	PH SAT. PASTE 8C1B
		MEQ/100G					PCT.	MEQ/100G		MMHO	MEQ/1000 ML								PPM	
7 286	0- 10			0.9	0.7	1.6			3C.4	0.67	2.7	1.0	0.2	1.2		2.8	2.6			6.6
7 287	10- 28			0.7	0.5	1.2			22.3	0.34	1.4	0.4	0.3	0.6		2.4	1.6			6.5
7 288	28- 43			0.9	0.3	1.2			18.1	0.34	1.4	0.5	0.4	0.4		2.2	0.9			6.1
7 289	43- 58			0.8	0.2	1.0			19.2	0.26	1.1	0.4	0.4	0.1		2.2	0.8			6.0
7 290	58- 91			0.4	0.5	0.9			51.0	0.32	1.4	0.6	0.5	0.1		2.8	0.9			6.2
7 291	91-117			0.4	0.5	0.9			50.8	0.55	3.6	1.6	0.8	0.1		4.1	1.1			7.2
7 292	117-145			0.9	0.6	1.5			36.4	0.50	3.1	1.4	0.6	0.1		4.2	0.8			7.4
7 293	145-180			0.2	0.8	1.0			24.8	0.57	3.2	1.4	0.6	0.1		3.6	2.6			7.5
7 294	180-213			0.3	1.0	1.3			30.6	0.59	3.6	1.2	0.8	0.1		4.4	3.4			7.5

SAMPLE NO.	DEPTH CM.	WATER AT SAT. 8A PCT.	EXCHANGBLE NA 5B4B MEQ.	NA 5D2 PCT.	SAR 5E	GYPSUM AMT. 6F1A PCT.	REQ. 6P3A MEC.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY I 7A2E	II 7A2E	III 7A2E	DTA IV 7A2E	7A3 PCT.	L.T. .0002 MM X RAY I 7A2E	II 7A2E	III 7A2E	MINERAL CODE	RELATIVE AMOUNT
7 286	0- 10	59.0	0.9	3	TR			MI 4	KK 2	MT 1						MI MICA	1 TRACE
7 287	10- 28	43.2	0.7	3	TR											KK KAOLINIT	2 SMALL
7 288	28- 43	41.5	0.9	5	TR											MT MONTMORT	3 MODERATE
7 289	43- 58	46.1	0.8	4	TR												4 ABUNDANT
7 290	58- 91	86.6	0.4	1	1			MT 5	MI 3	KK 3							5 DOMINANT
7 291	91-117	98.4	0.3	1	TR												6 INDETER.
7 292	117-145	75.6	0.9	2	TR												
7 293	145-180	59.6	0.2	1	TR												
7 294	180-213	66.8	0.2	1	1			MT 5	MI 3	KK 3							

SAMPLE PREPARATION CODES
*=THE 75-250MM FRACTION IS INCLUDED.
N=NOT DETERMINED.
Z=NOT ALL FRACTIONS SEPERATED. ADJACENT FRACTIONS INCLUDED HERE.

HARKERS LOAM (taxadjunct) 1/
S67Utah-18-9

Location: Salt Lake Soil Survey Area, Utah. Sec. 36, T. 2 S., R. 3 W.; about 1,530 feet east & 2,385 feet south of the northwest corner. About 4.5 miles west from Bingham-Magna Highway along KCPX Tower Road and 500 feet west of the slope from this road. Date of sampling: August 23, 1967.
Description by: J. L. Harvey, M. E. Olsen, L. Woodward, Collectors: B. Brasher and D. Nettleton.
Classification : Typic Palexeroll, very-fine, montmorillonitic, frigid.
Vegetation: Oakbrush, mulesear dock, yarrow, big sagebrush, cheatgrass. Use: Rangeland and wildlife. Climate: Precipitation, 20 to 25 inches. Mean annual air temperature, 45°F.; mean summer air temperature, 65°F. Parent material: Alluvium from mixed sedimentary rocks. Topography: Alluvial fan. Slope, 10 percent, east-facing. Elevation: 6,400 feet. Drainage: Well drained. Runoff is medium; permeability, slow. No water table. Soil moisture: Dry.

HORIZON	DESCRIPTION
	(0-10 cm)
A11 RSL 67286	0 to 4 inches, dark grayish brown (10YR 4/2) loam, very dark brown (10YR 2/2) moist; moderate medium granular structure; slightly hard, friable, slightly sticky and slightly plastic; few medium and many fine roots; 10 percent gravel; noncalcareous; neutral (pH 7.0) abrupt wavy boundary.
A12 RSL 67287 (10-28 cm)	4 to 11 inches, dark grayish brown (10YR 4/2) heavy loam, very dark brown (10YR 2/2) crushed, very dark grayish brown (10YR 3/2) aggregate moist; weak medium subangular blocky structure breaking to moderate medium and fine granular; very hard, friable, slightly sticky and slightly plastic; common large, medium, and fine roots; 10 percent gravel; noncalcareous; neutral (pH 7.0); clear wavy boundary.
A13 RSL 67288 (28-43 cm)	11 to 17 inches, brown (10YR 5/3) clay loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure; very hard, firm, sticky and plastic; common large and medium and few fine roots; thin patchy clay films; 15 percent gravel; noncalcareous; neutral (pH 7.0); abrupt wavy boundary.
B1 RSL 67289 (43-58 cm)	17 to 23 inches, brown (7.5YR 5/4) clay, brown (7.5YR 4/2) moist; strong medium subangular blocky structure; very hard, very firm, very sticky and very plastic; common medium and fine roots; moderate continuous clay films; 20 percent gravel; noncalcareous; neutral (pH 7.0); clear wavy boundary.
B2t* RSL 67290 67291 (58-117 cm)	23 to 46 inches, reddish brown (5YR 4/3) clay, reddish brown (5YR 4/3) moist; moderate coarse prismatic structure breaking to strong medium subangular blocky; few medium and very few fine roots; moderate continuous clay films; 30 percent gravel; noncalcareous; neutral (pH 7.2); gradual wavy boundary.

*Horizon split for sampling at 36 inches (91 cm).

IIB31 RSL 67292 (117-145 cm)	46 to 57 inches, brown (7.5YR 5/4) very gravelly clay, brown (7.5YR 4/4) moist; moderate fine subangular blocky structure; extremely hard, very firm, very sticky and very plastic; moderate patchy clay films; 40 percent gravel and cobble; noncalcareous soil with some lime pockets; neutral (pH 7.0); gradual wavy boundary.
IIB32 RSL 67293 (145-180 cm)	57 to 71 inches, brown (7.5YR 5/6) very gravelly clay loam, brown (7.5YR 5/5) moist; moderate medium subangular blocky structure; extremely hard, extremely firm, very sticky and very plastic; few fine roots; 40 percent gravel and cobble; noncalcareous; neutral (pH 7.0); gradual wavy boundary.
IIC1 RSL 67294 (180-213 cm)	71 to 84 inches +, reddish yellow (7.5YR 6/6) very gravelly clay, strong brown (7.5YR 5/6) moist; moderate medium subangular blocky structure; extremely hard, extremely firm, very sticky and very plastic; no roots; 50 percent gravel and cobble; noncalcareous.

1/ The Harkers series is in a fine, montmorillonitic, frigid family of Typic Palexerolls. This pedon has more than 60 percent clay in its control section.

CONSECUTIVE PEDON NUMBER C 70 25 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES BORVANT COBBLY LOAM SOIL NO. S70 UTAH. 20- 1 SAMPLE NO. 0 157-0 161 SANPETE AREA

SOIL FAMILY: ARIDIC PETROCALCIC PALEXEROLL,LMY-SKTL,CBN,MS,S RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	SIZE, CLASS AND PARTICLE DIAMETER (MM) 181B,3A1 TOTAL FRACTION 2- .05	SILT .05- .002	CLAY LT .002	SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBO NATE 3A1A.02	1A2A INT. .2- 75-	COARSE FRAGMENTS PCT. OF WHOLE SOIL I 20	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM														PCT. OF LT 75		
0 157	0- 5	A11	32.8	48.9	18.3	7.0	5.5	3.5	8.0	8.8	25.6	23.3			7	38.8	66* 28	17	10
0 158	5- 18	A12	28.0	49.4	22.6	6.4	4.4	2.8	6.0	8.4	23.1	26.3			9	34.8	71* 30	8	7
0 159	18- 34	C 1CA	39.0	36.8	24.2	12.6	8.0	3.7	6.4	8.3	15.8	21.0			17	27.6	65* 37	--	5
0 160	34- 58	C 2CAM	56.5	24.8	18.7	25.8	12.0	5.2	7.5	6.0	8.6	16.2			14	18.7	41* --G	--G	--G
0 161	58- 91	C 3CAM	71.2	16.4	12.4	37.5	16.7	5.9	7.2	3.9	4.5	11.9			5	12.2	55* 29	--G	--G

SAMPLE NO.	DEPTH CM.	ORG.MATTER CAR- BON 6A1A -PERCENT-	NITRO GEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B	2-20 6E1P -PERCENT-	SESQUIOXIDES CI-CIT EXT FE 6C2B	PYROP EXT AL 6G7A	FE 6C5A	AL 6G5A	ATTERBERG LIMIT EST. LL 4F1	PL 4F2	1/3 4A1F PCT.NO.40	BULK DENSITY 1/3 BAR 4A1F GRAMS PER CC	DRY 4A1H	CM 3B2	WATER CONTENT 1/10 BAR 4B1C -PERCENT-	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1 -PERCENT-	LE 4D1
0 157	0- 5	2.32	0.192	40						0.90				0.60				13.2		
0 158	5- 18	3.30	0.250	40								0.93	1.00	0.54		51.7	36.0	22.0	2.4	1.3
0 159	18- 34	2.22	0.161	69						1.50				0.49				18.9		
0 160	34- 58	0.78	0.057	85								1.61	1.64	0.70		21.0	19.3	15.2	0.6	0.4
0 161	58- 91	0.27		72								1.72	1.75	0.56		16.9	16.1	15.9	0.6	0.3

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2E	MG 5B4A 6Q2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACI- DITY 6H2A	KCL EXT. AL 6G1E	C E C SUM 5A3A	NH4- OAC 5A6A	BASE SATURATION SUM+ ACI- DITY	SUM+ AL	NH4- OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CA- CL2 8C1E
		MEQ/100G									PERCENT					
0 157	0- 5	25.5	1.4	0.1	1.5	28.5			28.5	18.1			100+		7.9	7.6
0 158	5- 18	30.9	1.9	0.1	1.3	34.2			34.2	25.6			100+		8.0	7.6
0 159	18- 34	25.5	1.9	0.1	0.5	28.0			28.0	15.4			100+		8.0	7.6
0 160	34- 58	18.5	2.9	0.1	0.1	21.6			21.6	6.0			100+		8.3	7.9
0 161	58- 91	15.7	5.8	0.4	0.3	22.2			22.2	9.6			100+		8.5	8.0

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
0 157	0- 5											1 TRACE
0 158	5- 18	MT 3	MI 3	KK 2							MT MONTMORT	2 SMALL
0 159	18- 34										MI MICA	3 MODERATE
0 160	34- 58	MM 2									KK KAOLINIT	4 ABUNDANT
0 161	58- 91										MM MT/MICA	5 DOMINANT
												6 INDETER.

SAMPLE PREPARATION CODES
*=THE 75-250MM FRACTION IS INCLUDED.
G=GROUND WHOLE. HORIZON INDURATED OR GRAVEL TOO SOFT TO BE SEPARATED. ALL DATA FOR WHOLE SOIL.

BORVANT COBBLY LOAM
S70Utah-20-1

Location: Sanpete County, UT. Near the Japs Valley road, 1/4 mile north of Lone Cedar Road; 1,800 feet west and 200 feet south of the northeast corner of Sec. 26, T. 19 S., R. 1 1/2 W. Date of sampling: August 10, 1970.
Description by: J. Swenson. B. Brasher, D. Nettleton, J. Shiozaki, and M. Olsen. Collectors: J. Swenson, B. Brasher. D. Nettleton, J. Shiozaki, and M. Olsen
Classification: Aridic Petrocalcic Palexeroll, loamy-skeletal, carbonatic, mesic, shallow.
Vegetation: Sagebrush, yellowbrush, juniper, pinyon, Indian ricegrass, blue bunchgrass. Climate: Mean annual temperature is 48°F.; mean summer temperature is 66°F.; average annual precipitation, 12 inches; frost-free period, 90 to 110 days. Parent material: residuum and alluvium from limestone and sandstone. Topography: Hillside slope. Northwest, about 10 percent slopes. Elevation: 6,440 feet. Drainage: Well drained. Soil moisture: Dry.

HORIZON	DESCRIPTION
A11 RSL No. 70157	0-5 (0-2 inches), grayish brown (10YR 5/2) cobbly loam, very dark grayish brown (10YR 3/2) moist; weak medium granular structure; soft, friable, slightly sticky, slightly plastic; few very fine roots; few very fine pores; 15 percent cobble and 5 percent gravel; strongly calcareous, lime is disseminated; strongly alkaline (pH 9.0); clear smooth boundary.
A12 RSL No. 70158	5-18 cm (2-7 inches), grayish brown (10YR 5/2) cobbly loam, very dark brown (10YR 2/2) moist; weak medium subangular structure; slightly hard, friable, slightly sticky, slightly plastic; common fine and very fine roots; few fine and medium pores; 5 percent gravel and 30 percent cobble; strongly calcareous, lime is disseminated; strongly alkaline (pH 9.0); clear smooth boundary.
C1ca RSL No. 70159	18-34 cm, (7-14 inches), grayish brown (10YR 5/2) very cobbly loam, very dark grayish brown (10YR 3/2) moist; massive; slightly hard, friable, slightly sticky, slightly plastic; few medium, fine and very fine roots; few fine pores; 30 percent gravel and hardpan fragments and 30 percent cobble; very strongly calcareous, lime is disseminated and in hardpan fragments; very strongly alkaline (pH 9.2); abrupt smooth boundary.
C2cam RSL No. 70160	34-58 cm (14-23 inches), indurated lime cemented hardpan, two distinct platy layers with a very hard laminar surface underlain by softer calcrete; few medium, fine, and very fine roots, matted on top of hardpan about 50 percent gravel; very strongly alkaline (pH 9.2); gradual diffuse boundary.
C3cam RSL No. 70161	58-91 cm (23-36 inches), indurated lime cemented hardpan, very hard, laminar surface underlain by softer calcrete; few very fine roots; 50 percent gravel; very strongly alkaline (pH 9.2).

CONSECUTIVE PEDON NUMBER C 70 26 C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES BORVANT COBBLY LOAM SOIL NO. S70 UTAH. 20- 6 SAMPLE NO. 0 162-0 170 SANPETE AREA

SOIL FAMILY: ARIDIC PETROCALCIC PALEXEROLL,LMY-SKTL,CBN,MS,S RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE NO.	DEPTH CM.	HORZ.	TOTAL FRACTION SAND 2- .05	SILT .05- .002	CLAY LT .002	SIZE, CLASS AND PARTICLE DIAMETER (MM) 1B1B,3A1 SANDS VCS 2-1	CS 1- .5	MS .5- .25	FS .25- .10	VFS .1- .05	SILTS CSI .05- .02	FSI .02- .002	CLAYS CO. 2- .2U	FINE LT .2U	CARBONATE 3A1A.02	INT. II .2- 20	1A2A COARSE FRAGMENTS PCT. OF WHOLE SOIL	I 75- PCT. OF LT 75	II 20-5	III 5-2
			PERCENT OF LESS THAN 2MM																	
0 162	0- 8	A11	48.1	29.5	22.4	8.9	9.9	7.6	12.2	9.5	14.0	15.5			9	30.0	49*	24	15	7
0 163	8- 20	A12	41.9	32.1	26.0	7.8	7.1	5.7	11.1	10.2	15.5	16.6			11	31.8	71*	50	6	4
0 164	20- 36	A13	39.9	29.4	30.7	8.2	7.5	6.1	9.8	8.3	13.1	16.3			17	26.8	66*	50	3	1
0 165	36- 47	C 1CAM	51.1	22.6	26.3	16.6	11.4	6.2	9.6	7.3	9.0	13.6			23	21.7	5*	--G	--G	--G
0 166	47- 76	C 2CAM	62.8	22.7	14.5	19.5	13.4	7.5	12.2	10.2	9.5	13.2			11	26.6	5*	--G	--G	--G
0 167	76- 95	C 3CAM	71.2	16.6	12.2	25.4	15.4	8.0	12.6	9.8	7.6	9.0			8	24.7	20*	16	--G	--G
0 168	95-119	C 4CA	69.3	24.1	6.6	16.6	16.1	9.7	16.4	10.5	10.5	13.6			2	30.0	75*	47	18	8
0 169	119-150	C 5	69.0	22.5	8.5	18.5	16.2	8.3	15.0	11.0	9.4	13.1			2	28.7	87*	45	17	7
0 170	150- 0	R															--	--	--	--

SAMPLE NO.	DEPTH CM.	ORG.MATTER CARBON 6A1A -PERCENT-	NITROGEN 6B1A	CARBONATE AS CACO3 LT 2 6E1B -PERCENT-	2-20 6E1B	SESQUIOXIDES DI-CIT EXT FE 6C2B	AL 6G7A	PYROP EXT FE 6C5A	AL 6G5A	ATTERBERG LIMIT EST. LL 4F1	PL 4F2	BULK DENSITY 1/3 BAR 4A1F	1/3 BAR 4A1H	DRY 3B2	CM WATER CONTENT 1/10 BAR 4B1C	1/3 BAR 4B1C	15 BAR 4B2	EXTNSBLTY LEF 4D1	LE 4D1
				PERCENT		PERCENT				PCT.NO.40		GRAMS PER CC			PERCENT			PERCENT	
0 162	0- 8	1.69	0.155	35								1.10		0.72			11.3		
0 163	8- 20	1.72	0.170	37									1.12	1.21	0.49	24.7	20.1	12.8	2.6	1.3
0 164	20- 36	1.57	0.162	50								1.25			0.52			15.3		
0 165	36- 47	1.05	0.089	86									1.46	1.47	0.97	25.9	21.7	15.2	0.2	0.2
0 166	47- 76	0.52		83									1.54	1.55	0.97	24.9	21.0	10.5	0.2	0.2
0 167	76- 95	0.45		68									1.44	1.45	0.88	25.7	23.5	14.4	0.2	0.2
0 168	95-119	0.12		33									1.29	1.29	0.41	30.4	22.7	9.0		
0 169	119-150	0.12		26									1.37	1.41	0.23	29.4	24.5	9.4	1.0	0.2
0 170	150- 0			25																

SAMPLE NO.	DEPTH CM.	EXTRACTABLE BASES CA 5B4A 6N2F	MG 5B4A 6Q2D	NA 5B4A 6P2A	K 5B4A 6Q2A	SUM	EXT. ACIDITY 6H2A	KCL EXT. AL 6G1E	SUM 5A3A	C E C NH4-OAC 5A6A	BASE SATURATION SUM+ ACIDITY	SUM+ AL	NH4-OAC 5C1	PH NAF 2 MIN 8C1D	H2O 1/1 8C1A	CACL2 8C1E
		MEQ/100G									PERCENT					
0 162	0- 8	23.9	1.3	0.1	0.9	26.2			26.2	15.2			100+		8.1	7.7
0 163	8- 20	28.1	6.0	0.1	0.5	34.7			34.7	17.5			100+		7.9	7.6
0 164	20- 36	25.5	5.6	0.1	0.3	31.5			31.5	16.1			100+		8.0	7.7
0 165	36- 47	19.1	0.8	0.1	0.1	20.1			20.1	6.0			100+		8.0	7.7
0 166	47- 76	18.6	1.6	0.1	0.1	20.4			20.4	5.6			100+		8.3	7.8
0 167	76- 95	16.3	3.6	0.2	0.1	20.2			20.2	6.7			100+		8.3	7.9
0 168	95-119	22.5	5.2	0.2	0.1	28.0			28.0	18.9			100+		8.5	8.0
0 169	119-150	24.7	5.8	0.3	0.2	31.0			31.0	21.3			100+		8.4	7.9
0 170	150- 0															

SAMPLE NO	DEPTH CM.	CLAY MINERALOGY LESS THAN 0.002 MM X RAY 7A2E I	7A2E II	7A2E III	7A2E IV	DTA 7A3 -PERCENT-	7A3	L.T. 0.0002 MM X RAY 7A2E I	7A2E II	7A2E III	MINERAL CODE	RELATIVE AMOUNT
0 162	0- 8	MT 2	MI 2								MT MONTMORT	1 TRACE
0 163	8- 20										MI MICA	2 SMALL
0 164	20- 36	MT 3	MI 1									3 MODERATE
0 165	36- 47											4 ABUNDANT
0 166	47- 76	MT 2										5 DOMINANT
0 167	76- 95											6 INDETER.
0 168	95-119											
0 169	119-150	MT 4										
0 170	150- 0											

SAMPLE PREPARATION CODES
*=THE 75-250MM FRACTION IS INCLUDED.
G=GROUND WHOLE. HORIZON INDURATED OR GRAVEL TOO SOFT TO BE SEPARATED. ALL DATA FOR WHOLE SOIL.

BORVANT COBBLY LOAM
S70Utah-20-6

Location: Sanpete County, UT. 1 mile west and 1/2 mile north of Indianola, at the northeast corner of a gravel pit. 825 feet north and 800 feet east of the southwest corner of Sec. 32, T. 11 S., R. 4 E. Date of sampling: August 13, 1970.
Description by: B. Brasher, D. Nettleton, M. Olsen, J. Swenson, R. Tew, C. McKinlay. Collectors: B. Brasher, D. Nettleton, M. Olsen, J. Swenson, R. Tew, C. McKinlay.
Classification: Aridic Petrocalcic Palexeroll, loamy-skeletal, carbonatic, mesic, shallow.
Vegetation: Yellowbrush, Indian ricegrass, big sagebrush, sand dropseed. Climate: Mean annual temperature, about 47° F. Mean summer temperature, 66° F. Average annual precipitation, 12 to 14 inches; frost-free period, 90 to 110 days. Parent materials: Alluvium and colluvium from limestone, sandstone, shale, and igneous material. Topography: Hillside slope. Northwest-facing, 10 percent slopes Elevation: 6,100 feet. Drainage: Well drained. Soil moisture: Usually dry.

HORIZON	DESCRIPTION
A11 RSL No. 70162	0-8 cm (0-3 inches), brown (10YR 5/3) cobbly loam, dark brown (10YR 3/3) moist; moderate fine granular structure; few very fine roots; 25 percent gravel and cobble, 3 percent is larger than 3 inches; strongly calcareous, lime is disseminated and in fine hardpan fragments; strongly alkaline (pH 8.6); abrupt smooth boundary.
A12 RSL No. 70163	8-20 cm (3-8 inches), grayish brown (10YR 5/2) gravelly loam, dark brown (10YR 3/3) moist; weak medium subangular blocky structure; common fine, few very fine roots; few fine pores; 45 percent gravel and cobble, 20 percent is larger than 3 inches; very strongly calcareous, lime is disseminated and in limestone fragments; strongly alkaline (pH 8.6); clear smooth boundary.
A13 RSL No. 70164	20-36 cm (8-14 inches), grayish brown (10YR 5/2) gravelly loam, dark brown (10YR 3/3) moist; massive; common very fine roots; few very fine pores; 45 percent gravel and cobble, 20 percent is larger than 3 inches; very strongly calcareous, lime is disseminated and in hardpan fragments; strongly alkaline (pH 8.6); abrupt smooth boundary.
C1cam RSL No. 70165	36-47 cm (14-19 inches), light gray (10YR 7/2) very gravelly loam, light brownish gray (10YR 6/2) moist; massive; few fine and very fine roots; 70 to 75 percent fractured hardpan fragments, 3 percent is larger than 3 inches; strongly alkaline (pH 9.0); abrupt smooth boundary.
C2cam RSL No. 70166	47-76 cm, (19-30 inches), indurated lime hardpan - the upper lamina layer is very pale brown (10YR 8/3) 1/8 to 3/8 inch thick, (1/2 - 1 cm), subjacent layers are white (10YR 8/2) moist, and are softer; few fine, and few medium roots; matted on the surface; about 5 percent gravel; clear smooth boundary.
C3cam RSL No. 70167	76-95 cm (30-38 inches), two distinct hardpan layers; white (10YR 8/2); very pale brown (10YR 7/3) moist; 15 percent gravel; clear smooth boundary.
C4ca RSL No. 70168	95-119 cm (38-48 inches), light gray (10YR 7/2) loamy sand, grayish brown (10YR 5/2) moist; single grained; loose, 65 percent gravel, 5 percent is larger than 3 inches; strongly calcareous, lime is disseminated and coated on coarse fragments; very strongly alkaline (pH 9.2); clear wavy boundary.
C5 RSL No. 70169	119-150 cm (48-60 inches), very pale brown (10YR 8/3) loamy sand, brown (10YR 5/3) moist; single grained loose; 80 percent gravel, cobble and stone, 50 percent is larger than 3 inches; strongly calcareous, lime is disseminated and coated on coarse fragments; very strongly alkaline (pH 9.2).
R RSL No. 70170	150 cm (60 inches), bedrock.

APPENDIX

CONSECUTIVE PEDON NUMBER C 68 41 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES SIELO VERY FINE SANDY LOAM SOIL NO. S68 UTAH. 13- 1 SAMPLE NO. 8 232-8 240 PAUNSAUGUNT AREA

SOIL FAMILY: GLOSSIC CRYOBORALF FINE,KAOLINITIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	CUMULATIVE SAND FRACTION LESS 1.0	THAN .5	MM .25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC RATIO
8 232	2- 0	01+02	PSD NOT DETERMINED																						
8 233	0- 5	A2	100	100	100	100	100	100	100	100	98	64	28	17	10	100	99	94	74	48	0.07	0.053	0.002	32.8	0.0
8 234	5- 9	A+B	100	100	100	100	100	100	100	100	98	67	39	28	21	100	99	94	76	54	0.06	0.039	0.001	98.7	0.0
8 235	9- 18	B21T	100	100	100	100	100	100	100	100	98	78	64	54	47	100	99	95	81	72	0.01	0.003	0.000	35.2	0.0
8 236	18- 23	B22T	100	100	100	100	100	100	100	100	98	84	78	60	48	100	98	96	86	82	0.01	0.002	0.000	15.6	0.0
8 237	23- 36	B23T	100	100	100	100	100	90	80	80	74	67	63	49	39	78	75	73	68	66	0.01	0.006	0.000	41.2	0.0
8 238	36- 46	B31T	100	100	100	100	100	85	70	70	65	58	52	41	33	68	66	64	59	56	0.12	0.015	0.000	291.8	0.0
8 239	46- 60	B32T	100	100	100	100	100	92	83	83	80	71	65	50	40	82	80	78	72	69	0.01	0.005	0.000	36.0	0.0
8 240	60- 74	C	100	100	100	100	100	100	100	100	54	30	20	15	12	76	56	46	32	26	0.57	0.328	0.001	388.9	2.2

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.235	3.420	2.253	0.874	8
15BR PC	CLAY PC	OC PC	**********	**********	**********	0.751	8
OC PC	CLAY PC	DPTHIN	0.002	-0.020	0.695	0.912	5

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOILS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05- .05	.05-.002	.002 LT	PORES CAP.	PORES NON CAP	PSD ON CLAY FREE BASIS, PERCENT OF SAND PLUS SILT: VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
01+02					0.0																			
A2	0.69	0.34	0.07	0.0	0.0	0.4	*****	-0.1	0	0	0	29	21	5	22	23	0	1	5	22	29	22	20	11
A+B	0.42	0.29	0.05	0.0	0.0	0.2	*****	0.1	0	0	0	29	21	13	24	13	0	1	6	23	28	19	23	26
B21T	0.38	0.30	0.05	0.0	0.0	-2.5	*****	-0.1	0	0	0	17	16	28	31	8	0	1	7	26	17	15	33	87
B22T	0.27	0.37	0.06	0.0	0.0	1.9	*****	0.1	0	0	0	11	21	30	34	4	1	3	5	20	7	9	57	93
B23T	0.26	0.30	0.05	0.0	0.0	2.0	*****	-0.0	0	0	0	11	22	32	34	1	6	7	4	13	4	8	58	97
B31T	0.51	0.59	0.07	0.0	0.0	-4.8	*****	-0.1	0	0	0	15	24	35	28	-2	5	7	4	13	9	9	53	89
B32T	0.26	0.41	0.06	0.0	0.0	1.2	*****	-0.3	0	0	0	12	24	33	32	-1	2	4	4	15	7	9	58	92
C	0.69	*****	0.13	0.0	0.0	1.5	*****	-0.7	0	0	0	49	10	8	0	0	27	23	12	15	7	7	10	13

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
01+02	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
A2	2.5	0.183	2.08	0.066	482.6	63.5	7.6	51.6	0.0	0.0	0.0	0.218	0.177
A+B	7.0	0.142	1.60	0.053	426.0	82.2	43.7	89.0	7.6	0.0	0.0	0.223	0.139
B21T	13.5	0.160	1.81	0.072	876.6	247.8	58.3	84.8	0.0	0.0	0.0	0.270	0.088
B22T	20.5	0.087	0.99	0.040	831.7	338.6	51.2	86.9	0.0	26.0	26.0	0.313	0.066
B23T	29.5	0.074	0.84	0.034	1028.0	439.3	53.7	60.7	0.0	48.7	48.7	0.267	0.088
B31T	41.0	0.0	0.0	0.0	829.6	299.7	61.5	52.2	0.0	116.0	116.0	0.268	0.0
B32T	53.0	0.0	0.0	0.0	1221.2	359.0	66.0	32.0	0.0	67.6	67.6	0.291	0.040
C	67.0	0.0	0.0	0.0	553.0	245.2	55.3	15.6	0.0	206.4	206.4	0.0	******

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
1	1- 5	0.92	10.4	0.33	2413.0	317.3	38.0	257.8	0.0	0.0	0.0	1.09	0.88
2	6- 10	1.64	18.6	0.62	4993.6	893.7	271.3	698.6	30.4	0.0	0.0	2.25	1.52
3	11- 15	2.44	27.6	0.98	9376.6	2132.6	562.9	1122.4	30.4	0.0	0.0	3.60	1.96
4	16- 20	3.09	35.0	1.27	13669.9	3553.1	840.3	1550.5	30.4	52.0	52.0	5.04	2.36
5	21- 25	3.50	39.7	1.46	18221.1	5447.5	1101.5	1932.6	30.4	227.3	227.3	6.51	2.73
6	26- 30	3.87	43.9	1.63	23361.2	7643.7	1370.2	2236.4	30.4	470.7	470.7	7.84	3.17
7	31- 35	4.24	48.0	1.80	28501.4	9840.0	1638.9	2540.1	30.4	714.1	714.1	9.17	3.61
8	36- 40	4.32	48.9	1.83	32847.7	11478.1	1938.8	2809.6	30.4	1226.6	1226.6	10.51	4.05
9	41- 45	4.32	48.9	1.83	36995.6	12976.7	2246.6	3070.5	30.4	1806.4	1806.4	11.85	4.49
10	46- 50	4.32	48.9	1.83	42709.8	14712.3	2572.0	3250.5	30.4	2192.8	2192.8	13.28	4.74
11	51- 55	4.32	48.9	1.83	48815.6	16507.1	2901.9	3410.3	30.4	2530.9	2530.9	14.73	4.94
12	56- 60	4.32	48.9	1.83	54921.3	18302.0	3231.8	3570.2	30.4	2869.0	2869.0	16.18	5.14
13	61- 65	4.32	48.9	1.83	57686.3	19528.2	3508.3	3648.3	30.4	3900.8	3900.8	17.63	******
14	66- 70	4.32	48.9	1.83	60451.4	20754.4	3784.8	3726.4	30.4	4932.7	4932.7	19.08	******

AVERAGE OF CONTROL SECTION 23- 74 CMS. (9- 29 IN.)
SAND (MINUS VFS)= 16.5 PERCENT, SAND = 22.0 PERCENT, SILT (PLUS VFS) = 35.7 PERCENT, CLAY = 47.8 PERCENT,
CARBONATE CLAY = 0.8 PERCENT, 2-250MM= 6.0 PERCENT, 15 BAR = 14.9 PERCENT, CACO3 EQUIVALENT= 10.3 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.60 PERCENT. SAND/CLAY RATIO = 2.5.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 68 42 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES SIELO LOAM SOIL NO. S68 UTAH. 13- 2 SAMPLE NO. 8 241-8 248 PAUNSAUGUNT AREA

SOIL FAMILY: GLOSSIC CRYOBORALF FINE,KAOLINITIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	CUMULATIVE SAND FRACTION LESS 1.0	THAN .5	MM .25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC
8 241	1- 0	01+02	PSD NOT DETERMINED																						
8 242	0- 6	A2	100	100	100	100	100	100	100	100	98	68	34	20	10	100	99	95	76	57	0.06	0.037	0.002	30.2	0.0
8 243	6- 14	A+B	100	100	100	100	100	100	100	100	98	65	35	22	14	100	99	95	74	52	0.06	0.045	0.001	60.8	0.0
8 244	14- 18	B21T	100	100	100	100	100	100	100	100	98	65	38	29	23	100	99	95	73	52	0.06	0.043	0.001	120.5	0.0
8 245	18- 24	B22T	100	100	100	100	100	100	100	100	98	71	56	49	45	100	99	95	76	64	0.03	0.006	0.000	94.6	0.0
8 246	24- 28	B23T	100	100	100	100	100	83	65	65	57	38	30	26	22	62	58	53	40	34	0.70	0.205	0.001	1251.6	0.4
8 247	28- 42	B31T	100	100	100	100	100	93	86	86	79	66	57	40	29	84	80	77	69	63	0.03	0.011	0.000	68.1	0.0
8 248	42- 54	B32T	100	100	100	100	100	90	80	80	72	57	47	33	23	77	73	69	60	54	0.10	0.030	0.001	190.7	0.0

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.428	6.964	-1.290	0.975	7
15BR PC	CLAY PC	OC PC	0.297	-1.777	3.050	0.947	7
OC PC	CLAY PC	DPTHIN	0.004	-0.018	0.751	0.670	6

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOILS SIZE IN MM 250 -75	75 -20	20 -2	2-.05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
01+02					0.0																			
A2	0.99	0.46	0.10	0.0	0.0	-0.2	-0.4	-0.3	0	0	0	22	24	5	24	25	0	1	4	22	21	26	27	12
A+B	0.54	0.36	0.08	0.0	0.0	-0.3	1.6	0.2	0	0	0	25	20	7	0	0	0	1	5	25	25	20	24	16
B21T	0.45	0.34	0.07	0.0	0.0	0.4	1.5	0.2	0	0	0	25	15	12	0	0	0	1	5	29	27	19	19	31
B22T	0.48	0.35	0.07	0.0	0.0	-0.3	-0.0	0.0	0	0	0	20	11	25	45	-1	0	1	8	34	22	14	20	81
B23T	0.53	0.37	0.06	0.0	0.0	-0.2	-0.4	-0.2	0	0	0	25	10	18	0	0	6	10	12	29	14	10	18	53
B31T	0.28	0.57	0.09	0.0	0.0	2.6	-2.1	-0.0	0	0	0	14	22	18	0	0	3	7	6	14	9	10	50	50
B32T	0.48	0.53	0.09	0.0	0.0	-2.0	-0.1	-0.1	0	0	0	18	21	16	0	0	5	7	7	17	11	11	43	41

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
01+02	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
A2	3.0	0.234	2.65	0.092	455.7	33.3	49.6	36.0	61.6	0.0	0.0	0.226	0.177
A+B	10.0	0.089	1.01	0.043	272.6	38.0	36.5	24.7	95.1	0.0	0.0	0.0	0.0
B21T	16.0	0.077	0.87	0.044	437.4	60.9	51.0	24.7	76.1	0.0	0.0	0.0	0.0
B22T	21.0	0.126	1.43	0.073	1151.5	99.8	53.6	51.9	53.3	0.6	0.6	0.400	0.220
B23T	26.0	0.147	1.66	0.085	1641.9	68.5	36.5	37.1	0.0	41.2	41.2	0.0	0.0
B31T	35.0	0.045	0.51	0.026	781.3	94.5	45.3	12.8	0.0	98.5	98.5	0.0	0.0
B32T	48.0	0.0	0.0	0.0	886.4	90.6	37.8	12.8	0.0	101.8	101.8	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	1.17	13.2	0.46	2278.5	166.3	247.9	180.1	307.9	0.0	0.0	1.13	0.88
2	6- 10	1.76	19.9	0.73	3824.5	351.7	443.2	315.0	749.8	0.0	0.0	2.26	1.76
3	11- 15	2.19	24.8	0.94	5352.3	564.7	640.1	438.7	1206.3	0.0	0.0	3.39	2.64
4	16- 20	2.68	30.3	1.22	8967.5	946.9	900.3	616.7	1541.0	1.2	1.2	4.87	3.61
5	21- 25	3.33	37.7	1.60	15215.4	1414.7	1151.1	861.4	1754.0	44.8	44.8	6.87	4.71
6	26- 30	3.86	43.7	1.90	21703.5	1809.2	1351.1	998.3	1754.0	365.3	365.3	8.87	5.81
7	31- 35	4.08	46.2	2.03	25610.1	2281.9	1577.6	1062.3	1754.0	857.8	857.8	10.87	6.91
8	36- 40	4.31	48.8	2.16	29516.6	2754.7	1804.1	1126.3	1754.0	1350.2	1350.2	12.87	8.01
9	41- 45	4.40	49.8	2.21	33738.3	3215.6	2007.9	1190.3	1754.0	1852.4	1852.4	14.87	9.11
10	46- 50	4.40	49.8	2.21	38170.0	3668.6	2196.7	1254.3	1754.0	2361.3	2361.3	16.87	10.21

AVERAGE OF CONTROL SECTION 36- 86 CMS. (14- 34 IN.)
SAND (MINUS VFS)= 26.2 PERCENT, SAND = 37.7 PERCENT, SILT (PLUS VFS) = 38.7 PERCENT, CLAY = 35.1 PERCENT,
CARBONATE CLAY = 5.5 PERCENT, 2-250MM= 11.2 PERCENT, 15 BAR = 11.6 PERCENT, CACO3 EQUIVALENT= 20.8 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.60 PERCENT. SAND/CLAY RATIO = 3.5.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 71 30 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES HERD COBBLY LOAM SOIL NO. S71 UTAH. 15- 5 SAMPLE NO. 1 189-1 197 MORGAN-SUMMIT AREA

SOIL FAMILY: MOLLIC CRYOBORALF,FINE,MONTMORILLONITIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	CUMULATIVE SAND FRACTION LESS THAN MM .02	.005	.002	1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC RATIO
1 189	0- 3	A11	100	95	91	86	82	81	80	78	73	60	39	28	21	76	73	71	64	56	0.07	0.036	0.001	120.5	0.0
1 190	3- 10	A12	100	96	93	88	85	84	82	81	76	64	39	29	22	79	77	74	68	59	0.05	0.033	0.001	94.4	0.0
1 191	10- 20	A13	100	97	94	91	88	87	86	85	80	67	42	31	23	83	81	78	71	61	0.05	0.029	0.001	87.8	0.0
1 192	20- 24	B21T	100	100	100	100	100	100	100	100	97	82	63	56	51	99	97	95	87	76	0.01	0.002	0.000	33.7	0.0
1 193	24- 29	B22T	100	100	100	100	100	100	100	100	96	82	64	57	52	99	97	94	87	76	0.01	0.002	0.000	31.2	0.0
1 194	29- 36	B23T	100	100	100	100	100	100	100	100	96	78	57	49	43	100	97	94	84	71	0.02	0.006	0.000	72.3	0.0
1 195	36- 43	B31T	100	100	100	100	100	100	100	100	96	73	44	36	30	100	97	93	80	61	0.05	0.027	0.000	111.9	0.0
1 196	43- 50	B32T	100	100	100	100	100	100	100	100	97	72	44	34	27	100	98	93	79	61	0.05	0.027	0.000	101.5	0.0
1 197	50- 70	C	100	100	100	100	100	100	100	100	96	60	39	27	20	100	98	89	66	52	0.07	0.043	0.001	114.2	0.0

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.987	2.114	-7.842	0.996	9
15BR PC	CLAY PC	OC PC	0.482	1.163	-2.744	0.995	9
OC PC	CLAY PC	DPTHIN	-0.027	-0.103	4.702	0.811	7

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC.	PYR. FE	PYR. FE+AL	PYR/O.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS 250-75	75-20	20-2	SIZE IN MM 2-.05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	1.16	0.63	0.04	0.0	0.0	0.0	-0.4	-0.1	-2.0	20	5	1	6	9	6	26	27	4	5	5	12	14	31	30	38
A12	0.83	0.45	0.04	0.0	0.0	0.0	0.4	0.2	1.4	21	5	1	7	13	7	0	0	3	4	5	11	15	33	29	37
A13	0.75	0.43	0.04	0.0	0.0	0.0	1.4	0.2	1.1	20	5	1	10	16	10	22	16	2	4	5	11	15	31	30	38
B21T	0.87	0.46	0.02	0.0	0.0	0.0	-0.8	-1.1	0.4	0	0	0	11	12	25	44	8	1	4	6	16	22	27	24	106
B22T	0.84	0.44	0.02	0.0	0.0	0.0	1.2	0.4	-0.2	0	0	0	12	13	26	0	0	1	6	6	15	21	27	25	108
B23T	0.83	0.41	0.02	0.0	0.0	0.0	-0.1	0.7	-0.3	0	0	0	16	15	24	37	8	1	4	6	18	23	25	24	76
B31T	0.78	0.39	0.04	0.0	0.0	0.0	-1.2	0.3	-0.4	0	0	0	23	18	17	34	8	0	4	6	18	28	23	21	42
B32T	0.75	0.38	0.05	0.0	0.0	0.0	-1.3	0.1	-0.9	0	0	0	24	21	17	0	0	0	2	7	19	25	23	23	37
C	0.55	0.38	0.09	0.0	0.0	0.0	0.8	-0.7	-2.1	0	0	0	32	21	13	26	8	0	2	11	28	17	16	25	24

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A11	1.5	0.556	6.30	0.253	486.4	71.8	8.8	49.7	168.1	0.0	0.0	0.241	0.163
A12	6.5	0.230	2.60	0.152	376.8	47.6	11.4	19.3	264.4	0.0	0.0	0.0	0.0
A13	15.0	0.207	2.34	0.133	415.0	51.9	14.9	25.3	363.1	0.0	0.0	0.194	0.108
B21T	22.0	0.122	1.38	0.058	1351.4	165.6	33.1	56.1	897.1	0.0	0.0	0.354	0.135
B22T	26.5	0.153	1.73	0.072	1375.4	179.7	28.1	47.7	941.4	0.0	0.0	0.0	0.0
B23T	32.5	0.107	1.21	0.050	1142.4	141.8	30.2	51.2	912.6	0.0	0.0	0.294	0.110
B31T	39.5	0.061	0.69	0.029	751.0	88.4	24.2	27.4	694.8	0.0	0.0	0.290	0.161
B32T	46.5	0.0	0.0	0.0	552.9	58.3	25.8	29.1	829.3	0.0	0.0	0.0	0.0
C	60.0	0.0	0.0	0.0	364.5	33.3	18.2	15.5	404.1	0.0	0.0	0.240	0.135

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	2.13	24.1	1.06	2212.8	310.6	49.2	187.6	1033.1	0.0	0.0	1.20	0.81
2	6- 10	3.28	37.1	1.82	4096.9	548.6	106.2	284.3	2355.3	0.0	0.0	2.40	1.62
3	11- 15	4.31	48.8	2.49	6171.7	808.0	180.7	410.8	4170.7	0.0	0.0	3.37	2.16
4	16- 20	5.35	60.5	3.15	8246.4	1067.3	255.3	537.2	5986.1	0.0	0.0	4.34	2.70
5	21- 25	5.99	67.8	3.46	15027.3	1909.5	415.7	809.1	10515.8	0.0	0.0	6.11	3.37
6	26- 30	6.71	75.9	3.79	21671.2	2770.2	558.4	1051.1	15193.9	0.0	0.0	7.82	4.02
7	31- 35	7.24	82.0	4.05	27383.3	3479.3	709.4	1307.1	19757.0	0.0	0.0	9.29	4.57
8	36- 40	7.60	86.0	4.21	31529.5	3974.8	836.4	1467.8	23448.9	0.0	0.0	10.74	5.32
9	41- 45	7.78	88.1	4.30	34888.2	4356.6	960.6	1608.2	27191.9	0.0	0.0	12.19	6.12
10	46- 50	7.78	88.1	4.30	37652.5	4648.0	1089.5	1753.9	31338.5	0.0	0.0	13.64	6.92
11	51- 55	7.78	88.1	4.30	39475.0	4814.4	1180.6	1831.2	33359.1	0.0	0.0	14.84	7.59
12	56- 60	7.78	88.1	4.30	41297.5	4980.8	1271.7	1908.4	35379.7	0.0	0.0	16.04	8.26
13	61- 65	7.78	88.1	4.30	43120.0	5147.2	1362.9	1985.7	37400.3	0.0	0.0	17.24	8.93
14	66- 70	7.78	88.1	4.30	44942.5	5313.6	1454.0	2062.9	39420.9	0.0	0.0	18.44	9.60

AVERAGE OF CONTROL SECTION 51- 101 CMS. (20- 40 IN.)
SAND (MINUS VFS)= 15.6 PERCENT, SAND = 28.7 PERCENT, SILT (PLUS VFS) = 40.1 PERCENT, CLAY = 44.3 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 19.0 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 2.35 PERCENT. SAND/CLAY RATIO = 1.0.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 71 29 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES HERD COBBLY LOAM SOIL NO. S71 UTAH. 29- 3 SAMPLE NO. 1 181-1 188 MORGAN-SUMMIT AREA

SOIL FAMILY: MOLLIC CRYOBORALF,FINE,MONTMORILLONITIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS - - - PERCENTAGE PASSING SIEVE - - - 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	CUMULATIVE SAND FRACTION LESS 1.0	.5	THAN .25	.10	MM .05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC RATIO
1 181	0- 8	A11	100	97	96	93	91	86	80	75	63	50	34	26	20	71	64	60	53	46	0.26	0.077	0.001	413.8	0.0
1 182	8- 13	A12	100	94	90	83	79	76	72	68	60	48	33	26	21	65	61	57	51	44	0.46	0.094	0.001	769.5	0.1
1 183	13- 21	B21T	100	95	92	87	84	82	79	76	67	53	38	32	27	73	68	64	57	48	0.15	0.058	0.000	318.0	0.0
1 184	21- 32	B22T	100	99	98	97	96	95	93	91	82	63	48	42	38	89	83	78	68	56	0.06	0.025	0.000	173.0	0.0
1 185	32- 44	B23T	100	100	100	100	100	100	100	100	96	83	69	62	58	99	97	94	87	78	0.00	0.001	0.000	10.8	0.0
1 186	44- 64	B24T	100	100	100	100	100	100	100	100	96	80	59	50	44	99	97	94	87	72	0.02	0.005	0.000	64.4	0.0
1 187	64- 96	B25T	100	100	100	100	100	100	100	100	98	83	58	48	42	100	98	96	89	73	0.02	0.006	0.000	65.9	0.0
1 188	96-114	B3 T	100	100	100	100	100	100	100	100	95	76	57	50	45	99	96	92	82	69	0.02	0.005	0.000	73.7	0.0

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	1.281	0.544	-17.551	0.952	8
15BR PC	CLAY PC	OC PC	0.552	0.039	-3.430	0.990	8
OC PC	CLAY PC	DPTHIN	-0.044	-0.020	3.311	0.912	7

HORIZON	RATIOS AND RESIDUALS --RATIOS TO CLAY-- CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION --PERCENT (VOL) OF SOIL VOLUME-- SOLIDS,SIZE IN MM 250 -75	75 -20	20 -2	2-.05	-.05- .002	LT .002	-PORES- CAP.	NON CAP	PSD ON CLAY FREE BASIS ---PERCENT OF SAND PLUS SILT---- VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	0.79	0.44	0.04	0.0	0.0	-2.9	-0.4	-0.6	9	4	7	14	12	9	23	22	8	12	8	13	13	21	25	37
A12	0.70	0.43	0.04	0.0	0.0	1.4	0.5	0.2	11	11	6	12	11	11	23	15	6	10	8	13	15	23	25	45
B21T	0.74	0.46	0.04	0.0	0.0	2.3	-0.2	0.3	9	9	4	15	11	15	0	0	6	10	9	16	18	20	23	55
B22T	0.71	0.44	0.04	0.0	0.0	6.5	1.3	0.4	2	2	3	19	10	21	35	8	4	10	11	18	23	15	19	71
B23T	0.98	0.49	0.02	0.0	0.0	-0.2	-0.1	-0.3	3	0	0	11	10	29	0	0	1	6	8	15	22	21	27	136
B24T	0.99	0.47	0.02	0.0	0.0	-4.5	0.4	0.2	3	0	0	14	14	22	42	5	1	5	5	13	26	24	26	79
B25T	0.96	0.50	0.02	0.0	0.0	-4.1	-1.1	-0.2	2	0	0	14	16	22	40	6	1	2	3	12	28	26	27	73
B3 T	0.86	0.48	0.02	0.0	0.0	1.4	-0.2	-0.7	0	0	0	16	13	24	0	0	2	5	7	19	23	21	23	81

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
A11	4.0	0.418	4.73	0.242	473.0	59.8	9.5	72.8	278.0	0.0	0.0	0.204	0.116
A12	10.5	0.237	2.69	0.166	479.0	65.0	9.6	48.7	287.4	0.0	0.0	0.199	0.106
B21T	17.0	0.203	2.30	0.136	776.3	112.7	17.1	38.6	301.6	0.0	0.0	0.0	0.0
B22T	26.5	0.125	1.41	0.069	1118.2	136.3	20.6	46.6	370.7	0.0	0.0	0.341	0.111
B23T	38.0	0.078	0.89	0.043	2739.6	258.2	27.9	70.9	200.0	0.0	0.0	0.0	0.0
B24T	54.0	0.020	0.23	0.011	2300.6	206.3	27.3	69.4	0.0	0.0	0.0	0.334	0.151
B25T	80.0	0.012	0.13	0.006	2714.8	175.2	28.6	72.7	0.0	1.6	1.6	0.320	0.114
B3 T	105.0	0.0	0.0	0.0	2580.1	136.9	21.9	98.9	0.0	1.6	1.6	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
1	1- 5	2.09	23.6	1.21	2365.2	298.8	47.7	364.1	1390.1	0.0	0.0	1.02	0.58
2	6- 10	3.82	43.2	2.26	4742.2	608.0	95.5	680.0	2798.9	0.0	0.0	2.03	1.14
3	11- 15	4.93	55.9	3.03	7731.7	1028.3	158.4	903.4	4264.2	0.0	0.0	3.02	1.67
4	16- 20	5.95	67.3	3.71	11613.2	1592.0	243.7	1096.2	5772.3	0.0	0.0	4.01	2.20
5	21- 25	6.65	75.3	4.12	16862.2	2250.1	343.2	1321.3	7556.9	0.0	0.0	5.57	2.75
6	26- 30	7.28	82.4	4.47	22453.2	2931.8	446.4	1554.5	9410.6	0.0	0.0	7.27	3.30
7	31- 35	7.76	87.8	4.73	32908.6	3979.1	571.3	1860.6	10752.1	0.0	0.0	8.97	3.85
8	36- 40	8.15	92.3	4.95	46606.8	5270.1	710.7	2215.1	11752.2	0.0	0.0	10.67	4.40
9	41- 45	8.48	96.0	5.13	59866.0	6509.3	849.5	2568.2	12552.3	0.0	0.0	12.37	4.99
10	46- 50	8.59	97.2	5.19	71368.9	7540.9	985.9	2915.1	12552.3	0.0	0.0	14.04	5.74
11	51- 55	8.69	98.3	5.25	82871.8	8572.6	1122.2	3261.9	12552.3	0.0	0.0	15.71	6.49
12	56- 60	8.79	99.5	5.30	94374.6	9604.3	1258.6	3608.8	12552.3	0.0	0.0	17.38	7.24
13	61- 65	8.88	100.5	5.35	106291.6	10604.9	1396.3	3959.0	12552.3	1.6	1.6	19.04	7.96
14	66- 70	8.94	101.2	5.38	119865.7	11480.8	1539.2	4322.4	12552.3	9.3	9.3	20.64	8.53
15	71- 75	9.00	101.9	5.42	133439.8	12356.8	1682.1	4685.8	12552.3	17.1	17.1	22.24	9.10
16	76- 80	9.06	102.5	5.45	147013.8	13232.7	1825.0	5049.2	12552.3	24.8	24.8	23.84	9.67
17	81- 85	9.12	103.2	5.48	160587.9	14108.6	1967.8	5412.6	12552.3	32.6	32.6	25.44	10.24
18	86- 90	9.18	103.9	5.51	174161.9	14984.6	2110.7	5776.1	12552.3	40.4	40.4	27.04	10.81
19	91- 95	9.24	104.5	5.55	187736.0	15860.5	2253.6	6139.5	12552.3	48.1	48.1	28.64	11.38
20	96-100	9.25	104.7	5.55	200770.8	16583.4	2369.7	6607.7	12552.3	56.0	56.0	30.24	11.95
21	101-105	9.25	104.7	5.55	213670.8	17268.0	2479.0	7102.2	12552.3	64.0	64.0	31.84	12.52
22	106-110	9.25	104.7	5.55	226570.8	17952.7	2588.4	7596.6	12552.3	71.9	71.9	33.44	13.09

AVERAGE OF CONTROL SECTION 20- 70 CMS. (8- 28 IN.)
SAND (MINUS VFS)= 25.4 PERCENT, SAND = 37.2 PERCENT, SILT (PLUS VFS) = 38.0 PERCENT, CLAY = 36.6 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 29.3 PERCENT, 15 BAR = 16.3 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 2.00 PERCENT. SAND/CLAY RATIO = 1.3.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 70 27 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES MORTENSON SILT LOAM (TAXADJUNCT) SOIL NO. S70 UTAH. 20- 4 SAMPLE NO. 0 171-0 177 SANPETE AREA

SOIL FAMILY: TYPIC PALEBORALF,LOAMY-SKELETAL,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING PERCENTAGE PASSING 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	MECHANICAL ANALYSIS SIEVE NO. 4	NO. 10	NO. 40	NO. 200	LESS THAN .02	.005	MM .002	CUMULATIVE SAND FRACTION LESS THAN MM 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC RATIO
0 171	0- 5	A21	100	98	96	94	92	91	89	88	85	56	29	18	11	88	86	82	63	46	0.09	0.058	0.002	51.6	0.0
0 172	5- 13	A22	100	99	99	98	97	96	95	94	92	67	35	22	13	94	93	89	74	57	0.06	0.038	0.001	51.8	0.0
0 173	13- 21	A23	100	96	93	88	85	85	84	83	81	60	33	21	13	83	82	79	67	50	0.07	0.049	0.001	60.3	0.0
0 174	21- 27	A+B	100	95	92	87	83	82	81	80	79	59	34	25	18	80	79	76	65	51	0.08	0.048	0.001	109.4	0.0
0 175	27- 36	B21T	100	95	91	86	82	82	81	80	80	65	37	28	23	80	80	79	72	51	0.07	0.046	0.001	122.1	0.0
0 176	36- 45	B22T	100	97	95	91	89	89	89	89	89	78	49	35	26	89	89	88	85	66	0.04	0.022	0.000	75.0	0.0
0 177	45- 57	B23T	100	93	88	81	76	76	76	76	75	67	54	38	27	75	75	75	71	62	0.04	0.014	0.000	83.0	0.0

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.583	2.434	2.761	0.998	7
15BR PC	CLAY PC	OC PC	0.423	1.666	-1.693	0.995	7
OC PC	CLAY PC	DPTHIN	0.044	-0.065	1.770	0.854	7

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	.05-.002	.002 LT	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A21	1.34	0.66	0.05	0.0	0.0	0.1	-0.1	-0.6	0	4	2	19	16	5	21	33	1	1	6	24	22	22	24	14
A22	1.12	0.52	0.04	0.0	0.0	-0.2	0.2	-0.2	15	1	1	13	15	5	18	32	0	1	5	19	21	26	27	17
A23	0.91	0.43	0.05	0.0	0.0	-0.1	-0.3	0.4	35	5	1	12	13	4	13	17	0	1	4	18	23	24	29	18
A+B	0.76	0.40	0.04	0.0	0.0	0.4	-0.0	0.5	35	7	1	11	12	7	13	14	0	1	5	18	24	26	26	29
B21T	0.72	0.38	0.03	0.0	0.0	0.1	0.5	0.4	35	8	1	12	12	10	17	5	0	0	2	12	36	25	25	40
B22T	0.73	0.39	0.04	0.0	0.0	-0.3	0.1	-0.1	40	4	0	9	15	10	17	5	0	0	0	6	30	27	36	40
B23T	0.69	0.41	0.06	0.0	0.0	0.0	-0.4	-0.5	50	7	0	4	10	8	16	5	1	1	1	7	18	17	55	55

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
A21	2.5	0.487	5.51	0.155	471.9	34.3	5.5	46.5	219.3	0.0	0.0	0.196	0.129
A22	9.0	0.288	3.26	0.100	359.1	26.0	4.5	30.8	209.1	0.0	0.0	0.168	0.119
A23	17.0	0.121	1.36	0.047	310.3	27.5	4.1	20.6	119.9	0.0	0.0	0.115	0.077
A+B	24.0	0.093	1.06	0.036	483.8	48.4	4.2	21.4	51.3	0.0	0.0	0.110	0.055
B21T	31.5	0.080	0.90	0.031	656.3	77.3	4.6	23.6	28.2	0.0	0.0	0.144	0.072
B22T	40.5	0.076	0.86	0.029	681.8	75.9	4.7	23.9	36.7	0.0	0.0	0.149	0.072
B23T	51.0	0.049	0.56	0.019	668.5	61.7	3.1	21.1	0.0	0.7	0.7	0.143	0.077

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
1	1- 5	2.44	27.6	0.77	2359.7	171.6	27.4	232.4	1096.4	0.0	0.0	0.98	0.64
2	6- 10	3.87	43.9	1.27	4155.2	301.8	50.1	386.3	2142.2	0.0	0.0	1.82	1.23
3	11- 15	4.98	56.4	1.67	5853.1	435.0	71.8	519.9	3009.4	0.0	0.0	2.55	1.74
4	16- 20	5.58	63.2	1.90	7404.7	572.5	92.1	623.0	3608.9	0.0	0.0	3.12	2.12
5	21- 25	6.08	68.8	2.09	9650.1	793.5	113.0	729.4	3934.0	0.0	0.0	3.67	2.42
6	26- 30	6.50	73.6	2.25	12586.5	1122.2	135.3	843.0	4121.2	0.0	0.0	4.32	2.75
7	31- 35	6.90	78.1	2.41	15868.0	1508.7	158.5	960.7	4262.1	0.0	0.0	5.04	3.11
8	36- 40	7.28	82.4	2.56	19251.3	1889.8	181.9	1079.8	4437.3	0.0	0.0	5.78	3.47
9	41- 45	7.66	86.7	2.70	22660.1	2269.4	205.4	1199.2	4621.0	0.0	0.0	6.52	3.83
10	46- 50	7.91	89.5	2.80	26002.5	2578.0	220.9	1304.8	4621.0	3.4	3.4	7.23	4.21
11	51- 55	8.16	92.3	2.90	29344.9	2886.5	236.5	1410.3	4621.0	6.8	6.8	7.94	4.59

AVERAGE OF CONTROL SECTION 68- 118 CMS. (27- 46 IN.)
SAND (MINUS VFS)= 7.3 PERCENT, SAND = 30.2 PERCENT, SILT (PLUS VFS) = 63.7 PERCENT, CLAY = 29.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 57.8 PERCENT, 15 BAR = 11.2 PERCENT, CACO3 EQUIVALENT= 0.1 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 1.97 PERCENT. SAND/CLAY RATIO = 3.1.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 70 28 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES MORTENSON SILT LOAM (TAXADJUNCT) SOIL NO. S70 UTAH. 20- 5 SAMPLE NO. 0 178-0 184 SANPETE AREA

SOIL FAMILY: TYPIC PALEBORALF,LOAMY-SKELETAL,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS THAN .02 MM	LESS THAN .005 MM	LESS THAN .002 MM	CUMULATIVE SAND FRACTION 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC RATIO
0 178	0- 4	A21	100	98	96	94	92	91	89	88	87	67	32	20	11	87	87	86	75	54	0.06	0.043	0.002	37.7	0.0
0 179	4- 12	A22	100	97	96	93	91	90	88	87	86	68	33	19	10	87	87	86	76	54	0.06	0.042	0.002	32.6	0.0
0 180	12- 28	A23	100	88	80	68	59	58	56	55	54	32	15	9	6	55	55	54	38	24	19.65	0.200	0.006	3321.6	14.8
0 181	28- 34	A+B	100	93	88	81	76	74	72	71	71	56	33	25	20	71	71	70	63	45	0.09	0.061	0.001	141.3	0.0
0 182	34- 42	B21T	100	98	96	94	92	92	92	92	92	76	46	34	27	92	92	91	84	62	0.04	0.025	0.000	92.1	0.0
0 183	42- 48	B22T	100	97	95	92	90	90	90	90	89	74	44	33	26	90	90	89	81	60	0.05	0.029	0.000	104.6	0.0
0 184	48- 57	B23T	100	95	92	87	83	83	82	81	80	68	36	26	20	81	80	80	75	54	0.06	0.041	0.001	95.8	0.0

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.591	3.021	0.856	0.962	7
15BR PC	CLAY PC	OC PC	0.446	8.267	-5.184	0.974	7
OC PC	CLAY PC	DPTHIN	0.022	-0.045	1.580	0.763	7

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME: SOILS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05- .05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT: VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A21	1.34	1.92	0.05	0.0	0.0	-0.2	-0.6	-1.0	0	4	2	15	19	5	18	37	1	1	1	14	28	28	28	14
A22	0.90	0.40	0.05	0.0	0.0	-0.1	2.6	0.6	5	5	2	17	23	5	18	25	0	0	1	13	29	28	29	14
A23	0.73	0.43	0.06	0.0	0.0	0.7	-1.6	0.5	44	15	1	11	7	2	7	13	0	1	1	33	27	20	18	12
A+B	0.61	0.36	0.04	0.0	0.0	1.8	1.1	0.3	46	9	2	9	9	7	10	8	0	0	1	15	35	24	25	39
B21T	0.64	0.35	0.03	0.0	0.0	0.2	0.0	0.2	45	3	0	10	12	9	15	6	0	0	1	12	33	25	30	41
B22T	0.66	0.35	0.03	0.0	0.0	-0.2	-0.1	-0.1	40	4	0	11	12	10	16	7	0	1	1	12	34	25	27	41
B23T	0.75	0.38	0.04	0.0	0.0	-2.2	-1.4	-0.5	50	6	1	9	11	7	13	3	0	1	1	8	35	30	26	33

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A21	2.0	0.495	5.60	0.168	431.4	33.8	5.4	64.0	262.6	0.0	0.0	0.166	0.0
A22	8.0	0.184	2.08	0.071	241.9	23.1	6.3	42.9	280.4	0.0	0.0	0.168	0.124
A23	20.0	0.039	0.45	0.015	103.8	7.4	2.8	19.3	61.8	0.0	0.0	0.061	0.041
A+B	31.0	0.054	0.61	0.021	442.1	27.3	3.5	29.5	9.1	0.0	0.0	0.089	0.036
B21T	38.0	0.042	0.47	0.016	583.8	34.1	4.4	29.6	45.5	0.0	0.0	0.129	0.064
B22T	45.0	0.041	0.47	0.016	625.0	33.7	4.6	31.2	64.1	0.0	0.0	0.142	0.073
B23T	52.5	0.033	0.38	0.013	656.0	19.5	3.7	19.0	0.0	0.8	0.8	0.110	0.059

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	2.16	24.5	0.74	1967.4	158.1	27.9	298.9	1330.7	0.0	0.0	0.83	0.62
2	6- 10	3.08	34.9	1.10	3177.1	273.6	59.5	513.3	2732.9	0.0	0.0	1.67	1.24
3	11- 15	3.57	40.4	1.29	3972.5	342.0	80.7	657.0	3479.2	0.0	0.0	2.19	1.61
4	16- 20	3.77	42.6	1.37	4491.7	379.1	94.9	753.4	3788.2	0.0	0.0	2.49	1.81
5	21- 25	3.96	44.9	1.44	5010.9	416.2	109.1	849.8	4097.3	0.0	0.0	2.79	2.01
6	26- 30	4.19	47.4	1.53	6206.7	493.0	124.6	966.7	4300.9	0.0	0.0	3.15	2.20
7	31- 35	4.45	50.4	1.63	8559.0	636.1	142.9	1114.4	4382.7	0.0	0.0	3.63	2.41
8	36- 40	4.66	52.7	1.71	11477.9	806.7	164.7	1262.2	4610.1	0.0	0.0	4.27	2.73
9	41- 45	4.86	55.1	1.79	14520.5	975.9	187.2	1415.1	4893.4	0.0	0.0	4.95	3.08
10	46- 50	5.05	57.2	1.87	17707.4	1115.8	208.5	1546.9	5085.7	1.6	1.6	5.60	3.42
11	51- 55	5.22	59.1	1.93	20987.4	1213.2	227.2	1641.5	5085.7	5.7	5.7	6.15	3.71

AVERAGE OF CONTROL SECTION 86- 136 CMS. (34- 53 IN.)
SAND (MINUS VFS)= 8.7 PERCENT, SAND = 32.9 PERCENT, SILT (PLUS VFS) = 63.4 PERCENT, CLAY = 27.9 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 60.9 PERCENT, 15 BAR = 9.9 PERCENT, CACO3 EQUIVALENT= 0.3 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 1.24 PERCENT. SAND/CLAY RATIO = 3.7.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 71 37 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES MORTENSON GRAVELLY SILT LOAM (TAXADJUNCT) SOIL NO. S71 UTAH. 20- 4 SAMPLE NO. I 236-1 241 SANPETE AREA

SOIL FAMILY: TYPIC PALEBORALF,LOAMY-SKELETAL,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS --- PERCENTAGE PASSING SIEVE --- 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	CUMULATIVE SAND FRACTION LESS 1.0	.5	THAN .25	.10	MM .05	DIAMETERS AT PERCENT (MM) 60	50	10	CU	CC RATIO
1 236	0- 6	A21	100	96	93	89	86	82	77	72	69	56	25	14	7	71	70	68	61	47	0.09	0.058	0.003	32.4	0.0
1 237	6- 10	A22	100	90	84	74	67	63	59	55	53	43	20	11	6	54	53	52	47	35	5.60	0.167	0.004	1381.0	1.8
1 238	10- 20	A+B	100	89	81	69	61	57	52	47	46	38	17	10	6	47	46	45	42	30	16.27	3.339	0.005	3391.3	8.1
1 239	20- 31	B21T	100	91	85	76	70	68	65	62	61	54	33	26	21	62	61	61	58	46	0.19	0.062	0.001	316.5	0.0
1 240	31- 41	B22T	100	92	86	78	72	71	70	64	63	40	21	17	15	64	63	62	46	31	0.22	0.125	0.001	229.0	0.5
1 241	41- 55	B3	100	93	88	81	76	74	71	68	67	47	27	20	16	68	67	66	53	39	0.16	0.086	0.001	189.5	0.1

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.302	5.934	0.194	0.974	6
15BR PC	CLAY PC	OC PC	0.305	1.970	-0.467	0.987	6
OC PC	CLAY PC	DPTHIN	-0.004	-0.030	1.703	0.654	6

HORIZON	RATIOS AND RESIDUALS --RATIOS TO CLAY-- CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION --PERCENT (VOL) OF SOIL VOLUME-- SOLIDS,SIZE IN MM 250 -75	75 -20	20 -2	2-.05- .05	.002	LT .002	-PORES- CAP.	NON CAP	PSD ON CLAY FREE BASIS --PERCENT OF SAND PLUS SILT-- VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A21	1.89	0.78	0.08	0.0	0.0	0.1	-0.0	-1.0	4	6	6	10	16	3	15	40	2	2	2	11	22	33	28	11
A22	0.96	0.46	0.08	0.0	0.0	-0.7	-0.1	0.4	4	17	6	10	15	3	10	35	2	2	2	11	23	32	29	11
A+B	0.43	0.30	0.08	0.0	0.0	0.8	0.3	0.8	10	26	9	11	16	4	11	13	1	1	1	9	27	33	26	14
B21T	0.44	0.33	0.04	0.0	0.0	0.1	0.2	0.0	15	18	5	9	15	12	19	7	1	1	1	7	28	32	30	51
B22T	0.49	0.36	0.04	0.0	0.0	-1.6	-0.8	0.1	15	16	5	20	9	9	18	8	1	1	2	32	31	19	13	30
B3	0.39	0.31	0.03	0.0	0.0	1.2	0.4	-0.3	14	13	4	16	13	9	21	10	1	1	2	25	26	24	21	30

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
A21	3.0	0.347	3.93	0.124	616.1	70.1	8.1	96.7	0.0	0.3	0.3	0.132	0.088
A22	8.0	0.127	1.44	0.054	210.3	34.1	7.7	52.1	30.0	0.0	0.0	0.089	0.063
A+B	15.0	0.055	0.62	0.030	170.3	18.2	4.4	22.1	0.0	0.0	0.0	0.106	0.081
B21T	25.5	0.127	1.44	0.070	588.7	68.5	10.1	42.8	0.0	0.0	0.0	0.165	0.077
B22T	36.0	0.072	0.82	0.040	375.2	59.7	10.4	35.3	4.5	0.0	0.0	0.168	0.103
B3	48.0	0.087	0.98	0.048	501.3	65.6	10.5	17.8	0.0	1.1	1.1	0.197	0.139

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
1	1- 5	1.74	19.6	0.62	3080.6	350.5	40.7	483.3	0.0	1.3	1.3	0.66	0.31
2	6- 10	2.59	29.3	0.96	4538.0	556.9	79.6	788.3	120.2	1.6	1.6	1.15	0.62
3	11- 15	2.86	32.4	1.11	5389.7	647.7	101.3	899.0	120.2	1.6	1.6	1.68	1.02
4	16- 20	3.14	35.5	1.26	6241.4	738.6	123.1	1009.8	120.2	1.6	1.6	2.21	1.42
5	21- 25	3.77	42.7	1.61	9184.7	1081.2	173.6	1223.9	120.2	1.6	1.6	3.03	1.80
6	26- 30	4.40	49.9	1.97	12128.1	1423.9	224.2	1438.1	120.2	1.6	1.6	3.85	2.18
7	31- 35	4.82	54.6	2.20	14217.6	1731.1	275.8	1622.0	138.3	1.6	1.6	4.69	2.67
8	36- 40	5.18	58.6	2.40	16093.7	2029.5	327.8	1798.3	160.9	1.6	1.6	5.53	3.18
9	41- 45	5.60	63.4	2.63	18474.0	2351.6	380.2	1904.6	165.4	6.2	6.2	6.49	3.84
10	46- 50	6.03	68.3	2.87	20980.3	2679.7	432.6	1993.5	165.4	11.9	11.9	7.47	4.53
11	51- 55	6.46	73.2	3.11	23486.6	3007.8	485.0	2082.3	165.4	17.5	17.5	8.45	5.22

AVERAGE OF CONTROL SECTION 50- 100 CMS. (20- 39 IN.)
SAND (MINUS VFS)= 15.6 PERCENT, SAND = 36.7 PERCENT, SILT (PLUS VFS) = 55.2 PERCENT, CLAY = 29.2 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 50.2 PERCENT, 15 BAR = 9.9 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 1.36 PERCENT. SAND/CLAY RATIO = 3.3.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 70 50 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES DAGFLAT VERY COBBLY SANDY LOAM (TAXADJUNCT) SOIL NO. S70 UTAH. 27- 5 SAMPLE NO. 0 294-0 300 WASHINGTON CO. AREA

SOIL FAMILY: ARIDIC HAPLUSTALF,FINE-LOAMY,MIXED,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE													CUMULATIVE SAND FRACTION					DIAMETERS AT PERCENT (MM)			CU RATIO	CC RATIO
			3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	LESS 1.0	THAN .5	MM .25	.10	.05	60	50	10		
0 294	0- 2	A11	100	94	91	85	81	80	78	72	49	25	15	10	7	65	52	42	28	21	0.76	0.441	0.004	171.5	2.2
0 295	2- 6	A12	100	100	100	100	100	99	98	92	64	36	24	18	14	84	66	56	40	31	0.33	0.179	0.001	300.1	0.5
0 296	6- 9	B1 T	100	100	100	100	100	100	100	88	41	26	21	17	14	62	43	36	28	24	0.93	0.645	0.001	881.5	13.5
0 297	9- 17	B21T	100	100	100	100	100	100	100	87	63	38	31	26	23	81	65	55	41	35	0.34	0.176	0.001	631.8	0.2
0 298	17- 26	B22T	100	100	100	100	100	100	100	81	44	24	18	14	12	68	47	38	26	22	0.78	0.557	0.001	531.7	9.8
0 299	26- 30	C	100	100	100	100	100	100	100	65	36	15	10	8	6	55	38	29	17	13	1.40	0.808	0.018	77.9	5.8
0 300	30- 0	R	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.590	-5.329	14.746	0.992	6
15BR PC	CLAY PC	OC PC	0.437	-2.491	5.189	0.985	6
OC PC	CLAY PC	DPTHIN	-0.008	-0.046	1.297	0.911	5

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC 15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOILS, SIZE IN MM: 250 -75	75 -20	20 -2	2-.05	-.05 .002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS, PERCENT OF SAND PLUS SILT: VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	1.41	0.67	0.13	0.0	0.0	-0.3	-0.3	-0.1	0	11	5	28	8	4	0	0	10	21	14	22	11	10	11	11
A12	1.16	0.56	0.09	0.0	0.0	0.7	0.6	-0.1	0	0	4	31	9	7	15	34	10	23	14	20	11	9	14	17
B1 T	1.43	0.75	0.10	0.0	0.0	-1.0	-0.8	0.3	0	0	6	34	6	7	33	14	35	25	9	11	5	5	9	19
B21T	1.04	0.58	0.05	0.0	0.0	0.1	0.0	-0.1	0	0	7	29	7	13	32	12	10	24	15	22	10	7	12	36
B22T	1.54	0.74	0.09	0.0	0.0	0.1	0.3	-0.0	0	0	11	34	6	7	0	0	19	30	13	17	6	6	9	17
C	2.16	0.99	0.13	0.0	0.0	0.4	0.2	-0.1	0	0	25	37	5	4	21	8	16	30	15	19	7	5	7	10
R					0.0																			

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A11	1.0	0.224	2.54	0.114	542.0	94.1	32.8	102.0	0.0	0.0	0.0	0.0	0.0
A12	4.0	0.234	2.64	0.130	746.0	129.8	39.3	111.0	0.0	0.0	0.0	0.112	0.043
B1 T	7.5	0.103	1.17	0.098	962.4	159.6	32.6	99.3	0.0	0.0	0.0	0.276	0.181
B21T	13.0	0.116	1.32	0.110	1255.7	208.7	33.9	80.5	0.0	0.0	0.0	0.246	0.121
B22T	21.5	0.045	0.51	0.043	959.1	165.9	26.0	44.0	0.0	0.0	0.0	0.0	0.0
C	28.0	0.0	0.0	0.0	869.2	141.9	25.3	32.2	0.0	0.0	0.0	0.160	0.100
R	15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	1.15	13.0	0.62	3321.9	577.8	183.5	537.1	0.0	0.0	0.0	0.56	0.21
2	6- 10	1.81	20.5	1.15	8210.7	1395.2	354.3	1026.6	0.0	0.0	0.0	1.75	0.92
3	11- 15	2.39	27.1	1.70	14489.3	2438.7	523.8	1429.0	0.0	0.0	0.0	2.98	1.52
4	16- 20	2.76	31.2	2.05	19878.1	3353.7	669.5	1722.0	0.0	0.0	0.0	4.21	2.12
5	21- 25	2.98	33.8	2.26	24673.7	4183.1	799.2	1942.0	0.0	0.0	0.0	5.44	2.72
6	26- 30	3.03	34.3	2.30	29109.7	4916.7	926.4	2114.8	0.0	0.0	0.0	6.33	3.24

AVERAGE OF CONTROL SECTION 23- 66 CMS. (9- 26 IN.)
SAND (MINUS VFS)= 60.6 PERCENT, SAND = 67.0 PERCENT, SILT (PLUS VFS) = 19.4 PERCENT, CLAY = 20.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 16.2 PERCENT, 15 BAR = 12.9 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.74 PERCENT. SAND/CLAY RATIO = 3.8.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 70 51 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES DAGFLAT VERY COBBLY SANDY LOAM (TAXADJUNCT) SOIL NO. S70 UTAH. 27- 6 SAMPLE NO. 0 301-0 310 WASHINGTON CO. AREA

SOIL FAMILY: ARIDIC HAPLUSTALF,FINE-LOAMY,MIXED,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS - - - PERCENTAGE PASSING SIEVE - - - 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS THAN .02	.005	.002	CUMULATIVE SAND FRACTION LESS THAN MM 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU	CC RATIO
0 301	0- 3	A1	100	100	100	99	99	96	93	74	48	33	25	20	16	61	50	44	35	30	0.96	0.502	0.001	1140.6	2.7
0 302	3- 6	B1 T	100	94	91	85	81	80	79	71	46	33	26	22	19	58	48	43	35	31	1.12	0.587	0.001	1666.3	2.9
0 303	6- 13	B21T	100	96	94	90	87	86	84	77	54	38	28	25	22	66	55	49	40	35	0.67	0.284	0.001	1182.3	0.7
0 304	13- 22	B22T	100	100	100	100	100	100	100	98	72	55	46	40	36	85	74	68	57	51	0.13	0.041	0.000	334.5	0.0
0 305	22- 29	B23T	100	100	100	100	100	100	100	69	38	26	22	18	16	48	40	35	28	25	1.48	1.059	0.001	1788.1	31.3
0 306	29- 35	B3	100	100	100	100	100	100	100	86	45	30	23	18	14	59	46	41	32	27	1.03	0.611	0.001	1032.5	6.2
0 307	35- 40	C	100	100	100	100	100	100	100	82	35	21	15	11	8	49	37	31	22	19	1.27	1.029	0.003	371.9	19.7
0 308	40- 0	R	PSD NOT DETERMINED																						
0 309	40- 0	R	PSD NOT DETERMINED																						
0 310	40- 0	R	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.428	0.783	15.651	0.774	7
15BR PC	CLAY PC	OC PC	0.251	1.520	5.811	0.973	7
OC PC	CLAY PC	DPTHIN	-0.108	-0.102	5.395	0.804	6

HORIZON	RATIOS AND RESIDUALS --RATIOS TO CLAY-- CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION --PERCENT (VOL) OF SOIL VOLUME-- SOLIDS,SIZE IN MM 250 -75	75 -20	20 -2	2-.05- .05	.05-.002	.002 LT	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS ---PERCENT OF SAND PLUS SILT--- VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A1	1.31	0.82	0.06	0.0	0.0	-0.2	-0.2	-1.3	0	1	14	24	8	9	0	0	23	19	10	16	8	9	15	28
B1 T	1.00	0.48	0.0	0.0	0.0	1.1	0.9	1.2	0	12	6	25	7	12	29	9	25	20	10	14	8	9	14	36
B21T	0.96	0.47	0.05	0.0	0.0	0.9	0.3	0.8	0	7	6	23	7	12	0	0	19	20	12	17	9	12	12	40
B22T	0.92	0.45	0.0	0.0	0.0	-1.9	-0.8	-0.7	0	0	1	22	7	17	40	13	21	18	9	17	10	9	16	57
B23T	0.93	0.49	0.07	0.0	0.0	4.1	0.7	-0.1	0	0	19	27	5	10	0	0	39	16	9	13	6	6	10	31
B3	1.72	0.68	0.0	0.0	0.0	-5.7	-1.1	0.1	0	0	8	33	7	8	28	16	38	18	8	13	6	6	12	20
C	1.78	0.81	0.13	0.0	0.0	1.8	0.1	0.4	0	0	12	41	6	5	23	13	45	16	8	11	5	5	9	11
R					0.0																			
R					0.0																			
R					0.0																			

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
		WEIGHTS PER UNIT DEPTH (CM OR INCH)			POUNDS PER ACRE					TONS/ACRE			
A1	1.5	0.764	8.64	0.397	1153.6	137.3	22.4	132.9	0.0	0.0	0.0	0.0	0.0
B1 T	4.5	0.167	1.89	0.097	1078.5	150.8	24.1	61.3	10.5	0.0	0.0	0.239	0.141
B21T	9.5	0.101	1.15	0.082	1044.7	153.6	35.3	49.9	46.1	0.0	0.0	0.0	0.0
B22T	17.5	0.073	0.83	0.059	1355.6	216.9	32.5	44.1	118.6	0.0	0.0	0.319	0.196
B23T	25.5	0.064	0.72	0.052	757.6	139.6	28.5	29.0	54.5	0.0	0.0	0.0	0.0
B3	32.0	0.046	0.52	0.037	1164.2	195.2	45.9	22.3	97.0	0.0	0.0	0.226	0.141
C	37.5	0.0	0.0	0.0	837.3	166.2	29.0	24.6	0.0	0.0	0.0	0.184	0.114
R	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
		CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)			POUNDS PER ACRE					TONS/ACRE			
1	1- 5	2.63	29.7	1.38	5617.8	713.3	115.3	521.2	20.9	0.0	0.0	1.19	0.70
2	6- 10	3.20	36.2	1.81	10875.1	1478.7	280.8	782.1	215.8	0.0	0.0	2.38	1.40
3	11- 15	3.65	41.3	2.17	16720.4	2373.4	451.7	1020.0	591.3	0.0	0.0	3.73	2.21
4	16- 20	4.01	45.4	2.47	23498.3	3457.8	614.1	1240.3	1184.3	0.0	0.0	5.32	3.19
5	21- 25	4.35	49.2	2.74	28482.1	4310.5	764.5	1415.3	1585.0	0.0	0.0	6.91	4.17
6	26- 30	4.65	52.6	2.99	32676.5	5064.1	924.3	1553.4	1899.8	0.0	0.0	8.41	5.09
7	31- 35	4.88	55.2	3.17	38497.8	6040.0	1154.0	1664.7	2385.0	0.0	0.0	9.54	5.79
8	36- 40	4.88	55.2	3.17	42684.4	6871.1	1298.8	1767.5	2385.0	0.0	0.0	10.46	6.36

AVERAGE OF CONTROL SECTION 16- 66 CMS. (6- 26 IN.)
SAND (MINUS VFS)= 47.6 PERCENT, SAND = 53.5 PERCENT, SILT (PLUS VFS) = 21.3 PERCENT, CLAY = 31.1 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 15.1 PERCENT, 15 BAR = 14.4 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 1.22 PERCENT. SAND/CLAY RATIO = 2.0.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 70 54 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES CAVAL FINE SANDY LOAM (TAXADJUNCT) SOIL NO. S70 UTAH. 27- 9 SAMPLE NO. 0 323-0 329 WASHINGTON CO. AREA

SOIL FAMILY: PSAMMENTIC HAPLUSTALF,COARSE-LOAMY,MIXED,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS - - - PERCENTAGE PASSING SIEVE - - - 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	CUMULATIVE SAND FRACTION LESS THAN .02 MM	.005 MM	.002 MM	LESS THAN 1.0 MM	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC
0 323	0- 9	A11	100	100	100	100	100	100	100	100	99	49	17	11	7	100	100	98	62	32	0.09	0.076	0.004	24.5	0.0
0 324	9- 17	A12	100	100	100	100	100	100	100	100	99	54	19	13	9	100	100	99	66	37	0.09	0.068	0.002	36.3	0.0
0 325	17- 23	A13	100	100	100	100	100	100	100	100	100	54	19	16	13	100	100	99	67	36	0.09	0.068	0.001	74.0	0.1
0 326	23- 33	C 1	100	100	100	100	100	100	100	100	100	56	21	15	10	100	100	99	68	38	0.08	0.066	0.002	46.3	0.0
0 327	33- 41	C 2	100	100	100	100	100	100	100	100	100	55	21	14	9	100	100	99	68	37	0.08	0.067	0.002	37.1	0.0
0 328	41- 51	B1 B	100	100	100	100	100	100	100	100	100	56	20	14	9	100	100	99	69	36	0.08	0.067	0.002	37.3	0.0
0 329	51- 59	B2 TB	100	100	100	100	100	100	100	100	100	55	25	20	17	100	100	99	67	38	0.08	0.066	0.001	105.5	0.1

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.427	-0.538	2.348	0.797	7
15BR PC	CLAY PC	OC PC	-0.021	3.197	3.200	0.690	7
OC PC	CLAY PC	DPTHIN	-0.034	-0.009	0.859	0.944	5

HORIZON	RATIOS AND RESIDUALS --RATIOS TO CLAY-- CEC	15BAR	OC.	PYR/ FE	PYR. FE+AL	D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION --PERCENT (VOL) OF SOIL VOLUME-- SOLIDS,SIZE IN MM 250 -75	75 -20	20 -2	2-.05 .05	.05-.002	.002	-PORES- CAP.	NON CAP	PSD ON CLAY FREE BASIS ---PERCENT OF SAND PLUS SILT--- VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	0.85	0.83	0.07	0.0	0.0		-1.0	-1.0	-0.1	0	0	0	40	14	4	18	24	0	0	2	39	33	16	11	8
A12	0.63	0.32	0.06	0.0	0.0		0.2	1.1	0.1	0	0	0	36	16	5	0	0	0	0	1	36	33	20	10	10
A13	0.44	0.24	0.05	0.0	0.0		2.0	0.6	-0.0	0	0	0	36	13	7	13	31	0	0	1	37	35	20	7	15
C 1	0.64	0.30	0.06	0.0	0.0		0.0	0.5	0.0	0	0	0	35	16	6	0	0	0	0	1	34	34	19	12	12
C 2	0.65	0.38	0.06	0.0	0.0		0.2	0.1	-0.0	0	0	0	36	16	5	15	28	0	0	1	34	34	18	13	10
B1 B	0.68	0.38	0.06	0.0	0.0		-0.1	-0.6	0.1	0	0	0	38	16	6	0	0	0	0	1	33	35	18	12	10
B2 T B	0.65	0.21	0.05	0.0	0.0		-1.3	-0.7	-0.2	0	0	0	39	14	11	25	11	0	0	1	38	35	16	10	20

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A11	4.5	0.164	1.86	0.096	550.9	33.5	32.1	95.2	0.0	0.0	0.0	0.166	0.085
A12	13.0	0.085	0.96	0.061	516.2	28.5	31.2	53.0	0.0	0.0	0.0	0.0	0.0
A13	20.0	0.066	0.75	0.048	422.2	36.2	30.8	39.2	0.0	0.0	0.0	0.115	0.080
C 1	28.0	0.057	0.64	0.041	550.2	44.8	23.4	26.5	0.0	0.0	0.0	0.0	0.0
C 2	37.0	0.055	0.63	0.040	505.7	37.4	8.0	27.0	0.0	0.0	0.0	0.136	0.095
B1 B	46.0	0.0	0.0	0.0	521.6	47.8	25.0	28.3	0.0	0.0	0.0	0.0	0.0
B2 T_B	55.0	0.0	0.0	0.0	619.8	124.0	26.4	44.8	0.0	0.0	0.0	0.218	0.193

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	0.82	9.3	0.48	2754.4	167.4	160.4	475.9	0.0	0.0	0.0	0.83	0.40
2	6- 10	1.56	17.7	0.92	5474.1	329.8	319.9	909.6	0.0	0.0	0.0	1.66	0.80
3	11- 15	1.99	22.5	1.23	8055.0	472.4	476.1	1174.5	0.0	0.0	0.0	2.49	1.20
4	16- 20	2.36	26.7	1.49	10354.0	638.0	631.1	1398.1	0.0	0.0	0.0	3.17	1.60
5	21- 25	2.67	30.2	1.72	12720.8	836.2	770.5	1568.7	0.0	0.0	0.0	3.74	2.00
6	26- 30	2.95	33.4	1.92	15471.6	1060.4	887.6	1701.1	0.0	0.0	0.0	4.31	2.40
7	31- 35	3.23	36.6	2.12	18133.5	1269.7	973.8	1834.6	0.0	0.0	0.0	4.93	2.83
8	36- 40	3.51	39.7	2.32	20662.1	1456.7	1013.7	1969.7	0.0	0.0	0.0	5.61	3.30
9	41- 45	3.57	40.4	2.36	23254.4	1685.4	1121.6	2109.7	0.0	0.0	0.0	6.29	3.77
10	46- 50	3.57	40.4	2.36	25862.5	1924.5	1246.6	2251.0	0.0	0.0	0.0	6.97	4.24
11	51- 55	3.57	40.4	2.36	28863.5	2468.2	1377.2	2458.3	0.0	0.0	0.0	7.98	5.11

AVERAGE OF CONTROL SECTION 25- 100 CMS. (10- 39 IN.)
SAND (MINUS VFS)= 32.6 PERCENT, SAND = 62.9 PERCENT, SILT (PLUS VFS) = 56.8 PERCENT, CLAY = 10.5 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 3.2 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.49 PERCENT. SAND/CLAY RATIO = 8.3.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 71 32 - S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES GUILDER LOAM (TAXADJUNCT) SOIL NO. S71 UTAH. 15- 3 SAMPLE NO. 1 206-1 212 MORGAN-SUMMIT AREA

SOIL FAMILY: MOLLIC HAPLOXERALF,FINE-LOAMY,MIXED,FRIGID RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING PERCENTAGE PASSING 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	MECHANICAL ANALYSIS SIEVE LESS THAN .02	.005	.002	CUMULATIVE SAND FRACTION LESS THAN MM 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC RATIO
1 206	0- 4	A1	100	97	94	91	88	87	86	85	82	65	42	28	19	84	82	80	69	59	0.05	0.031	0.001	77.6	0.0
1 207	4- 11	A3	100	97	95	92	90	89	88	87	85	69	51	36	25	86	85	83	74	64	0.04	0.018	0.000	76.6	0.0
1 208	11- 19	B21T	100	98	96	94	92	92	91	90	88	75	59	42	31	90	89	87	79	70	0.02	0.009	0.000	49.4	0.0
1 209	19- 28	B22TCA	100	98	96	94	92	92	92	91	88	79	62	40	26	89	88	87	81	76	0.02	0.009	0.000	37.0	0.0
1 210	28- 42	B31TCA	100	98	96	94	92	92	91	90	87	77	56	35	20	89	87	86	80	72	0.03	0.014	0.001	40.4	0.0
1 211	42- 51	B32TCA	100	100	100	100	100	100	100	100	90	65	29	18	10	96	91	87	73	50	0.07	0.049	0.002	34.2	0.0
1 212	51- 57	C	100	100	100	100	100	100	100	100	81	57	25	15	8	90	82	77	64	45	0.09	0.060	0.003	33.7	0.0

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	REGRESSION COEFFICIENTS A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.225	3.918	0.674	0.994	7
15BR PC	CLAY PC	OC PC	0.178	1.240	2.979	0.991	7
OC PC	CLAY PC	DPTHIN	-0.140	-0.131	7.749	0.995	6

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	OC.	PYR. FE	PYR. FE+AL	D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250-75	75-20	20-2	2-.05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A1	1.02	0.57	0.07	0.0	0.0		0.7	-0.3	-0.1	0	5	1	11	17	8	23	35	1	3	4	17	14	26	35	28
A3	0.63	0.36	0.06	0.0	0.0		-1.5	0.6	0.2	0	5	2	12	20	13	0	0	1	2	4	15	16	20	42	41
B21T	0.38	0.31	0.07	0.0	0.0		-0.1	-0.1	-0.1	0	5	1	12	24	18	26	14	0	2	3	14	14	18	49	51
B22T CA	0.29	0.31	0.06	0.0	0.0		1.2	0.1	0.1	0	5	1	9	29	15	0	0	2	2	2	9	8	21	55	40
B31T CA	0.36	0.40	0.02	0.0	0.0		0.0	-0.7	-0.2	0	5	1	10	30	12	27	15	2	2	2	8	11	23	51	29
B32T CA	0.40	0.52	0.04	0.0	0.0		0.1	0.2	0.1	0	0	0	30	24	6	0	0	4	6	4	15	25	23	21	11
C	0.37	0.57	0.15	0.0	0.0		-0.4	0.2	-0.4	0	0	0	46	30	7	13	4	11	8	5	14	21	21	19	9

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
A1	2.0	0.723	8.18	0.386	1034.3	51.1	4.9	132.8	0.0	0.0	0.0	0.205	0.107
A3	7.5	0.491	5.56	0.329	1218.4	31.9	6.1	114.1	0.0	0.0	0.0	0.0	0.0
B21T	15.0	0.275	3.12	0.209	1125.7	31.1	7.4	75.7	0.0	0.0	0.0	0.243	0.113
B22T CA	23.5	0.146	1.65	0.153	1398.2	26.8	14.7	24.9	0.0	28.7	28.7	0.0	0.0
B31T CA	35.0	0.125	1.42	0.132	5904.3	26.6	14.6	12.4	0.0	41.2	41.2	0.261	0.164
B32T CA	46.5	0.066	0.75	0.070	992.5	21.7	16.7	14.1	0.0	41.7	41.7	0.0	0.0
C	54.0	0.0	0.0	0.0	1573.9	29.9	22.9	19.4	0.0	62.3	62.3	0.114	0.040

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
1	1- 5	3.38	38.3	1.87	5355.5	236.2	25.7	645.3	0.0	0.0	0.0	1.02	0.53
2	6- 10	5.84	66.1	3.52	11447.3	395.8	56.3	1215.9	0.0	0.0	0.0	2.04	1.06
3	11- 15	7.43	84.1	4.68	17168.5	552.0	92.2	1632.8	0.0	0.0	0.0	3.22	1.62
4	16- 20	8.68	98.2	5.67	23069.6	703.0	136.6	1960.5	0.0	28.7	28.7	4.43	2.18
5	21- 25	9.40	106.4	6.43	30060.6	837.1	210.0	2085.0	0.0	172.4	172.4	5.64	2.74
6	26- 30	10.09	114.2	7.16	46063.8	970.8	283.3	2184.4	0.0	341.0	341.0	6.89	3.41
7	31- 35	10.72	121.3	7.82	75585.4	1104.0	356.2	2246.3	0.0	547.1	547.1	8.19	4.23
8	36- 40	11.34	128.4	8.48	105106.9	1237.2	429.1	2308.1	0.0	753.2	753.2	9.49	5.05
9	41- 45	11.79	133.5	8.95	119893.1	1355.6	508.3	2375.2	0.0	960.7	960.7	10.79	5.87
10	46- 50	12.12	137.2	9.30	124855.6	1464.3	591.6	2445.8	0.0	1168.9	1168.9	12.09	6.69
11	51- 55	12.19	138.0	9.37	132143.6	1605.6	699.9	2537.7	0.0	1459.6	1459.6	12.81	7.01

AVERAGE OF CONTROL SECTION 28- 78 CMS. (11- 31 IN.)
SAND (MINUS VFS)= 11.6 PERCENT, SAND = 19.2 PERCENT, SILT (PLUS VFS) = 58.5 PERCENT, CLAY = 29.9 PERCENT,
CARBONATE CLAY = 0.9 PERCENT, 2-250MM= 9.7 PERCENT, 15 BAR = 9.2 PERCENT, CACO3 EQUIVALENT= 12.6 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 2.53 PERCENT. SAND/CLAY RATIO = 1.0.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 72 84 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES KILFOIL LOAM SOIL NO. 572 UTAH. 15- 2 SAMPLE NO. 2 514-2 519 MORGAN&E.WEBER AREA

SOIL FAMILY: MOLLIC HAPLOXERALF,FINE-LOAMY,MIXED,FRIGID RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS - - - PERCENTAGE PASSING SIEVE - - - 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	CUMULATIVE SAND FRACTION LESS 1.0	.5	THAN .25	.10	MM .05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC RATIO
2 514	0- 1	A11	100	99	98	97	96	95	94	93	73	52	37	26	19	87	75	67	55	48	0.15	0.062	0.001	218.1	0.0
2 515	1- 6	A12	100	99	98	97	96	96	95	92	76	56	40	29	22	88	78	70	59	51	0.11	0.045	0.001	189.0	0.0
2 516	6- 9	B21T	100	99	99	98	97	97	97	93	85	63	45	35	28	91	86	80	68	58	0.06	0.029	0.000	129.2	0.0
2 517	9- 16	B22T	100	98	96	94	92	92	92	90	86	63	36	27	21	89	86	83	70	52	0.07	0.044	0.001	111.2	0.0
2 518	16- 26	B3 CA	100	95	91	86	82	82	82	81	77	60	31	22	15	79	77	76	67	48	0.08	0.054	0.001	86.7	0.0
2 519	26- 35	R	100	100	100	100	100	100	100	100	95	50	25	15	9	99	96	90	56	42	0.11	0.075	0.002	45.1	0.0

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	REGRESSION COEFFICIENTS A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.240	3.569	0.638	0.992	6
15BR PC	CLAY PC	OC PC	0.347	0.058	0.992	0.947	6
OC PC	CLAY PC	DPTHIN	-0.064	-0.107	3.824	0.967	6

HORIZON	RATIOS AND RESIDUALS --RATIOS TO CLAY-- CEC	15BAR	OC.	PYR/ PYR. FE	PYR/ PYR. FE+AL	D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION --PERCENT (VOL) OF SOIL VOLUME-- SOLIDS,SIZE IN MM 250 -75	75 -20	20 -2	2-.05	-.05 .002	LT .002	-PORES- CAP.	NON CAP	PSD ON CLAY FREE BASIS ---PERCENT OF SAND PLUS SILT--- VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	0.66	0.43	0.06	0.0	0.0	0.0	0.2	-0.6	0.1	0	2	1	20	13	9	0	0	8	16	12	15	10	14	25	26
A12	0.61	0.37	0.05	0.0	0.0	0.0	-0.4	0.6	-0.3	0	2	2	19	14	10	26	27	6	14	12	16	11	17	25	31
B21T	0.38	0.36	0.04	0.0	0.0	0.0	0.5	0.7	-0.1	0	2	3	22	18	17	0	0	3	7	9	19	16	20	26	43
B22T	0.39	0.40	0.05	0.0	0.0	0.0	-0.9	-0.1	0.4	0	5	1	23	20	13	23	15	2	3	4	20	25	24	22	30
B3 CA	0.33	0.48	0.03	0.0	0.0	0.0	0.6	-1.4	-0.1	0	12	1	22	22	10	0	0	2	3	2	13	30	25	24	23
R	0.36	0.36	0.23	0.0	0.0	0.0	0.0	0.9	-0.1	0	0	0	45	26	7	20	2	1	3	7	37	15	19	17	9

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A11	0.5	0.441	5.00	0.264	1005.1	60.6	40.7	98.5	0.0	2.5	2.5	0.0	0.0
A12	3.5	0.421	4.76	0.258	1082.3	70.8	35.4	120.0	0.0	2.6	2.6	0.241	0.157
B21T	7.5	0.301	3.41	0.217	1477.3	78.0	47.2	133.4	0.0	6.8	6.8	0.0	0.0
B22T	12.5	0.139	1.57	0.135	1177.6	56.8	38.9	79.2	0.0	15.2	15.2	0.218	0.094
B3 CA	21.0	0.111	1.26	0.120	1046.5	46.8	52.3	50.7	0.0	26.0	26.0	0.0	0.0
R	30.5	0.028	0.32	0.070	1345.9	44.6	53.4	18.1	0.0	27.8	27.8	0.191	0.141

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	2.12	24.1	1.29	5334.3	343.7	182.2	578.6	0.0	12.8	12.8	1.20	0.78
2	6- 10	3.59	40.6	2.34	12026.1	705.3	398.1	1177.9	0.0	51.1	51.1	2.38	1.50
3	11- 15	4.28	48.5	3.02	17913.9	989.5	592.7	1573.8	0.0	127.2	127.2	3.47	1.97
4	16- 20	4.87	55.1	3.63	23277.4	1233.6	840.9	1855.8	0.0	246.5	246.5	4.56	2.44
5	21- 25	5.42	61.4	4.23	28509.8	1467.6	1102.5	2109.3	0.0	376.5	376.5	5.65	2.91
6	26- 30	5.65	63.9	4.63	34940.1	1692.6	1368.3	2232.4	0.0	513.8	513.8	6.63	3.57
7	31- 35	5.79	65.5	4.98	41669.8	1915.4	1635.2	2322.9	0.0	653.1	653.1	7.58	4.27

AVERAGE OF CONTROL SECTION 15- 65 CMS. (6- 26 IN.)
SAND (MINUS VFS)= 20.3 PERCENT, SAND = 40.9 PERCENT, SILT (PLUS VFS) = 57.6 PERCENT, CLAY = 22.1 PERCENT,
CARBONATE CLAY = 0.5 PERCENT, 2-250MM= 14.0 PERCENT, 15 BAR = 9.2 PERCENT, CACO3 EQUIVALENT= 12.4 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 1.27 PERCENT. SAND/CLAY RATIO = 1.8.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 72 85 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES KILFOIL LOAM SOIL NO. S72 UTAH. 15- 4 SAMPLE NO. 2 520-2 525 MORGAN&E.WEBER AREA

SOIL FAMILY: MOLLIC HAPLOXERALF,FINE-LOAMY,MIXED,FRIGID RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	CUMULATIVE SAND FRACTION LESS THAN .02	.005	.002	MM LESS 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC
2 520	0- 1	A11	100	100	100	100	100	100	99	97	83	64	43	29	20	91	85	79	68	58	0.06	0.030	0.001	86.9	0.0
2 521	1- 4	A12	100	100	100	100	100	97	95	91	78	59	42	29	21	86	79	73	63	54	0.08	0.036	0.001	132.5	0.0
2 522	4- 7	B1 T	100	99	99	98	98	95	92	88	78	63	47	34	25	86	80	75	66	60	0.05	0.024	0.000	105.8	0.0
2 523	7- 13	B21T	100	99	99	98	98	96	93	88	77	63	48	34	26	84	78	73	65	59	0.06	0.024	0.000	115.2	0.0
2 524	13- 21	B22T	100	100	100	99	99	97	94	89	78	64	48	35	26	85	79	75	66	60	0.05	0.023	0.000	103.1	0.0
2 525	21- 30	B3 CA	100	91	85	75	69	68	66	63	53	40	30	21	15	61	54	49	42	37	0.94	0.295	0.001	1030.1	0.5

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.265	2.761	1.162	0.908	6
15BR PC	CLAY PC	OC PC	0.156	-0.025	5.645	0.960	6
OC PC	CLAY PC	DPTHIN	-0.114	-0.061	5.034	0.989	6

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	D.C. FE+AL	PYR/ D.C.	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION, PERCENT (VOL) OF SOIL VOLUME: SOILS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	-.05.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS, PERCENT OF SAND PLUS SILT: VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	0.66	0.44	0.0	0.0	0.0	0.8	-0.1	-0.1		0	0	1	18	18	9	0	0	7	9	8	15	12	19	31	25
A12	0.63	0.39	0.0	0.0	0.0	-1.3	0.2	0.0		0	0	4	18	16	10	18	34	7	10	9	15	12	18	31	30
B1 T	0.42	0.36	0.0	0.0	0.0	0.4	-0.3	0.1		0	1	5	15	18	13	0	0	4	10	8	14	10	19	35	41
B21T	0.38	0.34	0.0	0.0	0.0	0.5	0.2	0.1		0	1	6	16	19	14	23	21	6	10	8	12	11	18	36	41
B22T	0.40	0.35	0.0	0.0	0.0	-0.5	0.0	-0.2		0	1	6	16	19	15	0	0	6	9	8	13	10	19	35	42
B3 CA	0.42	0.41	0.0	0.0	0.0	0.1	-0.1	0.1		0	21	4	18	15	10	0	0	5	14	11	15	9	16	30	32

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A11	0.5	0.560	6.34	0.325	1182.1	57.5	30.6	145.4	0.0	2.7	2.7	0.0	0.0
A12	2.5	0.438	4.96	0.272	1354.5	63.5	36.5	123.8	0.0	1.3	1.3	0.161	0.071
B1 T	5.5	0.270	3.06	0.208	1291.9	52.6	44.1	74.7	0.0	5.5	5.5	0.0	0.0
B21T	10.0	0.228	2.58	0.163	1520.0	57.0	47.8	57.9	0.0	7.4	7.4	0.218	0.104
B22T	17.0	0.186	2.10	0.147	1406.3	64.4	41.1	34.9	0.0	7.4	7.4	0.0	0.0
B3 CA	25.5	0.173	1.95	0.137	1202.7	77.4	35.6	20.1	0.0	14.2	14.2	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	2.15	24.3	1.35	6537.5	300.5	184.2	591.5	0.0	12.1	12.1	0.80	0.35
2	6- 10	3.37	38.1	2.26	13681.4	576.6	415.7	914.6	0.0	45.3	45.3	1.78	0.80
3	11- 15	4.42	50.1	3.04	21054.1	876.4	641.4	1158.0	0.0	82.5	82.5	2.87	1.32
4	16- 20	5.35	60.6	3.78	28085.5	1198.1	846.9	1332.3	0.0	119.7	119.7	3.96	1.84
5	21- 25	6.23	70.5	4.47	34302.7	1572.2	1030.5	1447.7	0.0	184.0	184.0	5.05	2.36
6	26- 30	7.09	80.3	5.16	40316.3	1959.3	1208.6	1548.4	0.0	254.9	254.9	6.14	2.88

AVERAGE OF CONTROL SECTION 18- 53 CMS. (7- 21 IN.)
SAND (MINUS VFS)= 25.6 PERCENT, SAND = 32.8 PERCENT, SILT (PLUS VFS) = 45.2 PERCENT, CLAY = 29.2 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 11.4 PERCENT, 15 BAR = 10.1 PERCENT, CACO3 EQUIVALENT= 5.1 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 1.36 PERCENT. SAND/CLAY RATIO = 1.3.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 71 31 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES GUILDER LOAM SOIL NO. 571 UTAH. 15- 2 SAMPLE NO. 1 198-1 205 MORGAN-SUMMIT AREA

SOIL FAMILY: MOLLIC HAPLOXERALF,FINE,MIXED,FRIGID RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING PERCENTAGE PASSING 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	MECHANICAL ANALYSIS SIEVE NO. 4	NO. 10	NO. 40	NO. 200	LESS THAN .02 MM	.005	.002	CUMULATIVE SAND FRACTION LESS THAN MM 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC RATIO
1 198	0- 5	A1	100	100	100	100	100	100	100	100	98	79	54	38	28	99	98	96	85	72	0.03	0.014	0.000	59.3	0.0
1 199	5- 12	A3	100	100	100	100	100	100	100	100	99	81	54	39	30	100	99	97	87	72	0.03	0.013	0.000	61.9	0.0
1 200	12- 22	B21T	100	100	100	100	100	100	100	100	99	86	60	45	36	100	99	98	93	78	0.02	0.008	0.000	52.7	0.0
1 201	22- 31	B22T	100	100	100	99	99	99	98	96	93	82	66	49	33	95	93	91	85	78	0.01	0.005	0.000	33.4	0.0
1 202	31- 42	B23TCA	100	100	100	100	100	99	99	97	95	85	66	46	33	96	95	94	89	80	0.01	0.007	0.000	32.9	0.0
1 203	42- 52	B24TCA	100	100	100	100	100	100	99	97	96	81	59	40	27	97	96	95	86	75	0.02	0.010	0.000	44.0	0.0
1 204	52- 65	B3 TCA	100	97	96	93	91	91	91	91	88	69	50	33	22	90	89	86	74	63	0.04	0.020	0.001	72.6	0.0
1 205	65- 77	C	100	97	96	93	91	91	91	91	85	50	24	15	10	90	87	81	58	38	0.11	0.075	0.002	50.4	0.0

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.269	3.308	-0.273	0.991	8
15BR PC	CLAY PC	OC PC	0.214	1.058	2.274	0.984	8
OC PC	CLAY PC	DPTHIN	-0.112	-0.071	6.766	0.917	8

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC.	PYR.	PYR/ D.C. FE	FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A1	0.76	0.47	0.06	0.0	0.0		0.6	-0.1	-0.9	0	0	0	11	17	11	32	29	1	2	3	15	18	25	36	38
A3	0.53	0.35	0.06	0.0	0.0		-1.6	0.3	0.8	0	0	0	14	21	15	0	0	0	1	2	15	22	24	35	42
B21T	0.36	0.32	0.07	0.0	0.0		-0.3	-0.5	0.6	0	0	0	12	23	20	26	19	0	1	2	9	22	29	38	56
B22T CA	0.31	0.28	0.06	0.0	0.0		0.7	0.3	-0.3	0	1	2	12	26	25	0	0	1	4	4	10	12	20	48	65
B23T CA	0.29	0.28	0.06	0.0	0.0		0.5	0.5	-0.0	0	0	2	11	31	22	23	11	1	1	2	9	14	22	52	51
B24T CA	0.32	0.32	0.08	0.0	0.0		-0.3	-0.1	-0.0	0	0	2	16	33	18	0	0	0	1	2	13	16	22	46	38
B3 T CA	0.31	0.36	0.07	0.0	0.0		0.0	-0.8	-0.4	0	0	0	22	31	17	24	6	1	3	4	17	17	19	40	32
C	0.27	0.41	0.08	0.0	0.0		0.3	0.3	0.3	0	0	0	43	23	8	17	9	1	4	6	28	25	18	17	12

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
A1	2.5	0.772	8.74	0.419	794.4	69.3	10.6	108.1	0.0	0.0	0.0	0.297	0.189
A3	8.5	0.443	5.01	0.283	888.8	67.1	13.5	80.3	0.0	0.0	0.0	0.0	0.0
B21T	17.0	0.239	2.70	0.169	899.1	59.5	7.6	51.6	0.0	0.5	0.5	0.235	0.091
B22TCA	26.5	0.207	2.34	0.175	1702.4	71.7	8.6	43.7	0.0	22.4	22.4	0.0	0.0
B23TCA	36.5	0.117	1.33	0.099	1582.8	60.2	8.9	30.1	0.0	25.1	25.1	0.210	0.072
B24TCA	47.0	0.120	1.35	0.101	1654.1	62.9	18.6	31.5	0.0	24.2	24.2	0.0	0.0
B3 TCA	58.5	0.125	1.42	0.106	1837.4	86.4	19.5	16.5	0.0	38.1	38.1	0.217	0.077
C	71.0	0.061	0.69	0.052	1156.5	32.3	10.3	17.5	0.0	42.6	42.6	0.160	0.085

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
1	1- 5	3.86	43.7	2.10	3972.0	346.4	53.1	540.4	0.0	0.0	0.0	1.48	0.94
2	6- 10	6.07	68.7	3.51	8416.2	681.9	120.8	942.1	0.0	0.0	0.0	2.96	1.88
3	11- 15	7.67	86.9	4.58	12891.1	994.6	170.7	1257.5	0.0	1.4	1.4	4.26	2.53
4	16- 20	8.87	100.4	5.42	17386.5	1292.1	208.7	1515.3	0.0	3.6	3.6	5.43	2.98
5	21- 25	9.97	112.8	6.29	24291.8	1626.1	249.7	1749.5	0.0	71.7	71.7	6.60	3.43
6	26- 30	11.00	124.5	7.16	32803.8	1984.5	292.6	1967.9	0.0	183.7	183.7	7.77	3.88
7	31- 35	11.68	132.2	7.74	40837.6	2297.1	336.7	2132.0	0.0	306.5	306.5	8.84	4.26
8	36- 40	12.26	138.8	8.23	48751.7	2598.2	381.1	2282.6	0.0	432.0	432.0	9.89	4.62
9	41- 45	12.86	145.5	8.74	56879.7	2907.5	454.5	2437.2	0.0	554.8	554.8	10.94	4.98
10	46- 50	13.45	152.3	9.24	65150.4	3222.2	547.3	2594.6	0.0	675.8	675.8	11.99	5.34
11	51- 55	14.07	159.3	9.76	73970.6	3607.2	642.9	2707.0	0.0	838.5	838.5	13.06	5.71
12	56- 60	14.70	166.4	10.30	83157.5	4039.0	740.2	2789.6	0.0	1029.1	1029.1	14.14	6.09
13	61- 65	15.32	173.5	10.83	92344.4	4470.8	837.6	2872.1	0.0	1219.6	1219.6	15.22	6.47
14	66- 70	15.63	176.9	11.09	98126.9	4632.2	889.2	2959.6	0.0	1432.5	1432.5	16.02	6.89
15	71- 75	15.94	180.4	11.35	103909.4	4793.6	940.7	3047.0	0.0	1645.4	1645.4	16.82	7.31

AVERAGE OF CONTROL SECTION 30- 80 CMS. (12- 31 IN.)
SAND (MINUS VFS)= 9.3 PERCENT, SAND = 20.4 PERCENT, SILT (PLUS VFS) = 53.1 PERCENT, CLAY = 37.6 PERCENT,
CARBONATE CLAY = 0.2 PERCENT, 2-250MM= 1.9 PERCENT, 15 BAR = 11.3 PERCENT, CACO3 EQUIVALENT= 6.1 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 2.48 PERCENT. SAND/CLAY RATIO = 0.9.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 69183 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES BOND SANDY LOAM SOIL NO. S69 UTAH. 27- 7 SAMPLE NO. 9 940-9 942 WASHINGTON CO AREA

SOIL FAMILY: LITHIC USTOLLIC HAPLARGID,LOAMY,MIXED,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING PERCENTAGE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	MECHANICAL ANALYSIS NO. 4	NO. 10	NO. 40	NO. 200	SIEVE LESS .02	THAN .005	MM .002	CUMULATIVE SAND FRACTION LESS 1.0	.5	THAN .25	.10	MM .05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC RATIO
9 940	0- 2	A1	100	99	98	96	95	89	82	77	50	33	13	8	4	67	51	47	38	26	0.73	0.424	0.009	78.3	0.3
9 941	2- 4	B1 T	100	100	100	100	100	98	95	90	60	41	21	16	12	78	62	56	46	35	0.40	0.139	0.001	286.8	0.4
9 942	4- 16	B2 T	100	99	98	97	96	92	87	81	46	31	18	15	13	70	48	42	34	26	0.74	0.535	0.001	615.2	3.0

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR
					POUNDS PER ACRE					TONS/ACRE		INCH/INCH	
A1	1.0	0.311	3.52	0.149	323.9	38.1	7.3	49.5	50.8	0.0	0.0	0.086	0.046
B1 T	3.0	0.128	1.45	0.072	379.2	66.2	3.8	53.8	31.2	0.0	0.0	0.129	0.087
B2 T	10.0	0.123	1.39	0.069	513.7	98.9	7.3	37.1	0.0	0.0	0.0	0.134	0.077

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR
					POUNDS PER ACRE					TONS/ACRE		INCH/INCH	
1	1- 5	1.00	11.3	0.51	1920.1	307.6	29.5	243.8	163.9	0.0	0.0	0.65	0.42
2	6- 10	1.62	18.3	0.86	4488.8	802.3	66.0	429.3	163.9	0.0	0.0	1.32	0.80
3	11- 15	2.23	25.3	1.21	7057.4	1297.0	102.5	614.8	163.9	0.0	0.0	1.99	1.18

AVERAGE OF CONTROL SECTION 5- 40 CMS. (2- 16 IN.)
SAND (MINUS VFS)= 56.8 PERCENT, SAND = 66.5 PERCENT, SILT (PLUS VFS) = 27.7 PERCENT, CLAY = 15.5 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 17.7 PERCENT, 15 BAR = 5.3 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.60 PERCENT. SAND/CLAY RATIO = 5.2.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 69184 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES BOND SANDY LOAM SOIL NO. S69 UTAH. 27- 8 SAMPLE NO. 9 943-9 946 WASHINGTON CO AREA

SOIL FAMILY: LITHIC USTOLLIC HAPLARGID,LOAMY,MIXED,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE--- 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS THAN .02 MM	.005 MM	.002 MM	CUMULATIVE SAND FRACTION LESS THAN MM 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC RATIO
9 943	0- 3	A1	100	100	100	100	100	100	100	100	74	24	9	7	5	98	80	54	29	16	0.29	0.213	0.021	13.6	0.1
9 944	3- 6	B1 T	100	100	100	100	100	100	100	100	66	20	13	10	8	98	74	42	23	16	0.37	0.297	0.005	72.5	1.4
9 945	6- 15	B2 T	100	100	100	100	100	100	100	100	72	39	33	30	28	98	78	56	41	36	0.29	0.174	0.000	623.3	0.0
9 946	15- 17	R	100	100	100	100	100	100	100	100	53	29	24	17	13	94	58	39	30	27	0.52	0.377	0.001	439.2	4.4

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.497	5.635	-2.199	0.984	4
15BR PC	CLAY PC	OC PC	0.253	2.230	-0.260	1.000	4
OC PC	CLAY PC	DPTHIN	0.005	-0.080	1.187	0.927	4

HORIZON	RATIOS AND RESIDUALS --RATIOS TO CLAY-- CEC	15BAR	OC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION --PERCENT (VOL) OF SOIL VOLUME-- SOLIDS,SIZE IN MM 250 -75	75 -20	20 -2	2-.05- .05	.002	LT .002	PORES- CAP.	NON CAP	PSD ON CLAY FREE BASIS ---PERCENT OF SAND PLUS SILT--- VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A1	1.33	0.75	0.0	0.0	0.0	0.6	-0.0	-0.2	0	0	0	49	7	3	4	37	2	19	27	26	14	7	5	5
B1 T	0.81	0.38	0.0	0.0	0.0	-1.2	0.1	0.2	0	0	0	52	5	5	8	30	2	27	34	21	7	3	6	8
B2 T	0.54	0.29	0.0	0.0	0.0	-0.1	0.0	-0.0	0	0	0	38	5	16	22	19	2	28	30	20	7	4	7	39
R	0.30	0.25	0.0	0.0	0.0	0.7	-0.0	-0.0	0	0	0	55	11	10	15	9	7	42	21	10	3	4	13	15

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR
					POUNDS PER ACRE					TONS/ACRE		INCH/INCH	
A1	1.5	0.334	3.78	0.167	564.8	41.8	8.0	40.8	0.0	0.0	0.0	0.026	0.0
B1 T	4.5	0.171	1.94	0.101	435.5	53.1	4.1	43.2	0.0	0.0	0.0	0.068	0.031
B2 T	10.5	0.162	1.83	0.096	867.3	145.0	8.2	55.4	0.0	0.0	0.0	0.185	0.091
R	16.0	0.024	0.28	0.014	292.7	54.9	10.5	17.8	0.0	0.0	0.0	0.139	0.083

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR
					POUNDS PER ACRE					TONS/ACRE		INCH/INCH	
1	1- 5	1.34	15.2	0.71	2565.4	231.8	32.2	208.7	0.0	0.0	0.0	0.34	0.15
2	6- 10	2.16	24.5	1.19	6470.0	865.0	69.0	473.7	0.0	0.0	0.0	1.15	0.54
3	11- 15	2.97	33.6	1.67	10806.4	1590.1	109.9	751.0	0.0	0.0	0.0	2.07	0.99

AVERAGE OF CONTROL SECTION 15- 37 CMS. (6- 15 IN.)
SAND (MINUS VFS)= 58.9 PERCENT, SAND = 64.0 PERCENT, SILT (PLUS VFS) = 13.3 PERCENT, CLAY = 27.8 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 8.1 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.69 PERCENT. SAND/CLAY RATIO = 6.7.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 69180 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES PALMA FINE SANDY LOAM (TAXADJUNCT) SOIL NO. S69 UTAH. 27- 4 SAMPLE NO. 9 922-9 928 WASHINGTON CO AREA

SOIL FAMILY: USTALFIC HAPLARGID,COARSE-LOAMY,MIXED,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENT PASSING 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	SIEVE LESS .02	THAN .005	MM .002	CUMULATIVE SAND FRACTION LESS 1.0	.5	THAN .25	.10	MM .05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC
9 922	0- 6	AP	100	100	100	100	100	100	100	100	97	44	17	13	10	100	99	93	55	30	0.11	0.087	0.002	57.7	0.1
9 923	6- 9	A+B	100	100	100	100	100	100	100	100	99	50	19	15	11	100	99	96	62	33	0.10	0.075	0.002	63.5	0.1
9 924	9- 15	B2 T	100	100	100	100	100	100	100	100	98	49	26	21	18	100	99	95	59	37	0.10	0.075	0.001	141.9	0.1
9 925	15- 25	B3 T	100	100	100	100	100	100	100	100	98	39	18	13	11	100	99	94	50	27	0.12	0.100	0.002	70.1	0.2
9 926	25- 32	C 1	100	100	100	100	100	100	100	100	99	43	16	12	9	100	100	97	55	28	0.11	0.088	0.003	43.8	0.1
9 927	32- 59	C 2	100	100	100	100	100	100	100	100	100	57	17	12	9	100	100	99	71	35	0.08	0.067	0.003	28.3	0.0
9 928	0- 0		PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	REGRESSION COEFFICIENTS A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.327	8.503	2.756	0.967	6
15BR PC	CLAY PC	OC PC	0.308	-0.850	0.980	0.987	6
OC PC	CLAY PC	DPTHIN	0.011	-0.023	0.287	1.000	3

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
AP	0.90	0.39	0.04	0.0	0.0	-0.3	-0.1	0.0	0	0	0	39	11	6	9	35	0	1	6	42	28	14	8	11
A+B	0.68	0.36	0.04	0.0	0.0	0.6	0.2	-0.0	0	0	0	44	14	7	15	20	0	1	4	39	33	15	9	13
B2 T	0.59	0.36	0.03	0.0	0.0	-0.2	-0.1	0.0	0	0	0	36	11	10	22	21	0	1	5	44	27	14	9	22
B3 T	0.57	0.38	0.04	0.0	0.0	0.2	0.2	-0.1	0	0	0	42	10	6	11	31	0	1	6	50	25	11	8	12
C 1	0.63	0.43	0.04	0.0	0.0	0.3	-0.1	-0.3	0	0	0	42	11	5	12	30	0	0	3	46	30	13	7	10
C 2	0.77	0.45	0.05	0.0	0.0	-0.9	-0.2	-0.7	0	0	0	38	15	5	15	27	0	0	1	31	39	19	10	9
					0.0																			

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
AP	3.0	0.081	0.92	0.062	891.3	84.4	3.8	130.7	0.0	1.7	1.7	0.077	0.033
A+B	7.5	0.068	0.77	0.057	493.5	103.4	9.0	152.8	0.0	0.5	0.5	0.131	0.080
B2 T	12.0	0.052	0.58	0.043	1283.7	154.9	7.8	145.7	0.0	1.7	1.7	0.192	0.118
B3 T	20.0	0.0	0.0	0.0	1410.9	95.0	7.9	53.7	0.0	12.0	12.0	0.099	0.053
C 1	28.5	0.0	0.0	0.0	1331.9	104.6	4.0	54.4	0.0	13.9	13.9	0.102	0.060
C 2	45.5	0.0	0.0	0.0	1373.7	159.0	8.0	54.4	0.0	15.7	15.7	0.132	0.091
	0.0	0.0	0.0	0.0	1132.5	112.6	3.8	156.8	0.0	1.7	1.7	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	0.41	4.6	0.31	4456.5	422.2	18.9	653.4	0.0	8.4	8.4	0.65	0.40
2	6- 10	0.75	8.4	0.59	8111.9	971.7	57.5	1388.0	0.0	13.2	13.2	1.37	0.84
3	11- 15	1.00	11.4	0.80	14530.4	1746.0	96.6	2116.5	0.0	21.7	21.7	2.33	1.43
4	16- 20	1.00	11.4	0.80	21585.0	2220.9	136.2	2384.9	0.0	81.9	81.9	2.82	1.69
5	21- 25	1.00	11.4	0.80	28639.6	2695.8	175.7	2653.3	0.0	142.1	142.1	3.31	1.95
6	26- 30	1.00	11.4	0.80	35298.9	3218.7	195.7	2925.2	0.0	211.9	211.9	3.82	2.25
7	31- 35	1.00	11.4	0.80	42083.8	3904.9	227.8	3197.2	0.0	286.8	286.8	4.42	2.64
8	36- 40	1.00	11.4	0.80	48952.3	4699.8	267.9	3469.1	0.0	365.3	365.3	5.08	3.09
9	41- 45	1.00	11.4	0.80	55820.8	5494.8	308.0	3741.1	0.0	443.7	443.7	5.74	3.54
10	46- 50	1.00	11.4	0.80	62689.3	6289.7	348.0	4013.0	0.0	522.2	522.2	6.40	3.99
11	51- 55	1.00	11.4	0.80	69557.8	7084.6	388.1	4285.0	0.0	600.6	600.6	7.06	4.44

AVERAGE OF CONTROL SECTION 19- 64 CMS. (7- 25 IN.)
SAND (MINUS VFS)= 45.6 PERCENT, SAND = 68.8 PERCENT, SILT (PLUS VFS) = 41.2 PERCENT, CLAY = 13.2 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 4.8 PERCENT, CACO3 EQUIVALENT= 4.5 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.24 PERCENT. SAND/CLAY RATIO = 5.4.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 69182 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES PALMA FINE SANDY LOAM (TAXADJUNCT) SOIL NO. S69 UTAH. 27- 6 SAMPLE NO. 9 935-9 939 WASHINGTON CO AREA

SOIL FAMILY: USTALFIC HAPLARGID,COARSE-LOAMY,MIXED,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	CUMULATIVE SAND FRACTION LESS THAN MM .02	.005	.002	1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC RATIO
9 935	0- 11	AP	100	100	100	100	100	100	100	100	98	41	16	13	12	100	99	93	54	26	0.12	0.091	0.001	79.4	0.2
9 936	11- 19	B21T	100	100	100	100	100	100	100	100	98	56	27	21	17	100	99	94	66	42	0.08	0.063	0.001	112.5	0.1
9 937	19- 28	B22TCA	100	100	100	100	100	100	100	100	96	51	28	21	16	100	98	89	59	40	0.10	0.071	0.001	117.2	0.1
9 938	28- 45	C 1	100	100	100	100	100	100	100	100	93	20	8	6	5	100	98	79	25	14	0.18	0.153	0.027	6.7	0.1
9 939	45- 59	C 2	100	100	100	100	100	100	100	100	80	12	6	5	4	100	91	49	15	9	0.30	0.253	0.059	5.1	0.1

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	REGRESSION COEFFICIENTS A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.614	3.247	-0.021	0.999	5
15BR PC	CLAY PC	OC PC	0.387	1.728	-0.417	0.999	5
OC PC	CLAY PC	DPTHIN	0.004	-0.006	0.233	0.996	4

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC 15BAR	OC.	PYR. FE	PYR. FE+AL	O.C. FE+AL	RESIDUALS CEC 15BAR MEQ.	OC. PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
AP	0.68	0.39	0.0	0.0	0.0	0.0	-0.0	-0.0	0	0	0	47	9	7	16	21	0	1	7	44	32	11	5	13
B21T	0.64	0.38	0.0	0.0	0.0	0.2	0.1	0.0	0	0	0	33	14	10	22	21	0	1	6	34	29	18	12	21
B22T CA	0.67	0.39	0.0	0.0	0.0	-0.2	-0.1	-0.0	0	0	0	34	14	9	0	0	0	2	12	35	23	15	14	19
C 1	0.65	0.31	0.0	0.0	0.0	-0.1	0.0	0.0	0	0	0	54	5	3	9	29	0	2	20	58	12	6	3	5
C 2	0.59	0.28	0.0	0.0	0.0	0.1	-0.0	-0.1	0	0	0	58	3	2	0	0	0	9	43	36	6	3	2	4

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
AP	5.5	0.073	0.82	0.059	482.1	110.2	8.8	134.3	0.0	0.0	0.0	0.142	0.084
B21T	15.0	0.055	0.62	0.046	1562.3	169.3	7.9	93.9	0.0	5.2	5.2	0.192	0.117
B22T	23.5	0.044	0.50	0.038	1589.9	161.1	7.9	40.3	0.0	13.8	13.8	0.0	0.0
C 1	36.5	0.011	0.13	0.010	1187.2	81.7	4.2	14.7	0.0	9.5	9.5	0.078	0.060
C 2	52.0	0.0	0.0	0.0	1164.5	68.1	4.2	14.7	0.0	5.7	5.7	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	0.36	4.1	0.30	2410.5	551.0	44.0	671.5	0.0	0.0	0.0	0.71	0.58
2	6- 10	0.73	8.2	0.59	4821.0	1101.9	88.0	1343.0	0.0	0.0	0.0	1.42	1.16
3	11- 15	1.02	11.5	0.84	11552.4	1889.4	128.5	1853.1	0.0	20.6	20.6	2.33	1.74
4	16- 20	1.28	14.5	1.06	19391.6	2727.7	168.0	2269.1	0.0	55.1	55.1	3.29	2.32
5	21- 25	1.51	17.0	1.25	27341.0	3532.9	207.6	2470.4	0.0	123.9	123.9	4.25	2.90
6	26- 30	1.66	18.8	1.38	34485.0	4179.4	239.7	2620.7	0.0	184.1	184.1	4.98	3.37
7	31- 35	1.72	19.5	1.43	40420.9	4587.7	260.6	2694.4	0.0	231.3	231.3	5.37	3.67
8	36- 40	1.78	20.1	1.48	46356.9	4996.0	281.5	2768.2	0.0	278.6	278.6	5.76	3.97
9	41- 45	1.83	20.8	1.53	52292.9	5404.4	302.4	2841.9	0.0	325.9	325.9	6.15	4.27
10	46- 50	1.83	20.8	1.53	58115.4	5744.6	323.2	2915.6	0.0	354.2	354.2	6.54	4.57
11	51- 55	1.83	20.8	1.53	63938.0	6084.9	344.0	2989.3	0.0	382.6	382.6	6.93	4.87

AVERAGE OF CONTROL SECTION 28- 71 CMS. (11- 28 IN.)
SAND (MINUS VFS)= 37.4 PERCENT, SAND = 58.7 PERCENT, SILT (PLUS VFS) = 46.0 PERCENT, CLAY = 16.5 PERCENT,
CARBONATE CLAY = 0.6 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 6.1 PERCENT, CACO3 EQUIVALENT= 6.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.24 PERCENT. SAND/CLAY RATIO = 5.4.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 69181 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES CLOVIS FINE SANDY LOAM (TAXADJUNCT) SOIL NO. S69 UTAH. 27- 5 SAMPLE NO. 9 929-9 934 WASHINGTON CO AREA

SOIL FAMILY: USTALFIC HAPLARGID,FINE-LOAMY,MIXED,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS THAN .02 MM	.005	.002	CUMULATIVE SAND FRACTION LESS THAN MM 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC RATIO
9 929	0- 8	AP	100	100	100	100	100	100	100	100	97	49	18	12	8	100	99	92	60	35	0.10	0.075	0.003	34.9	0.1
9 930	8- 14	B21T	100	100	100	100	100	100	100	100	96	53	33	28	24	100	98	90	61	43	0.10	0.066	0.001	188.6	0.0
9 931	14- 22	B22T	100	100	100	100	100	100	100	100	96	66	44	38	35	100	97	91	72	57	0.06	0.031	0.000	147.0	0.0
9 932	22- 34	C 1CA	100	100	100	100	100	100	100	100	99	79	53	41	34	100	99	98	85	69	0.03	0.014	0.000	75.5	0.0
9 933	34- 59	C 2CA	100	100	100	100	100	100	100	100	100	79	46	34	27	100	100	99	87	66	0.04	0.024	0.000	79.9	0.0
9 934	0- 15	AP	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.683	-4.171	4.237	0.872	5
15BR PC	CLAY PC	OC PC	0.380	1.444	0.786	0.887	5
OC PC	CLAY PC	DPTHIN	-0.004	0.007	0.308	0.982	4

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	-.05.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS, PERCENT OF SAND PLUS SILT: VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
AP	0.76	0.38	0.05	0.0	0.0	2.2	1.3	-0.0	0	0	0	40	16	5	11	28	0	1	7	35	28	18	11	9
B21T	0.66	0.36	0.02	0.0	0.0	3.6	1.6	0.0	0	0	0	34	11	15	26	14	0	3	11	38	23	14	11	32
B22T	0.72	0.38	0.02	0.0	0.0	1.8	1.1	-0.0	0	0	0	24	13	20	35	8	0	3	10	30	22	21	13	54
C 1CA	1.04	0.57	0.02	0.0	0.0	-5.3	-2.7	0.0	0	0	0	17	19	18	34	12	0	1	3	19	23	25	29	51
C 2CA	0.97	0.47	0.02	0.0	0.0	-2.3	-1.2	0.5	0	0	0	17	21	14	34	14	0	0	1	17	28	28	26	37
AP					0.0																			

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
AP	4.0	0.086	0.97	0.062	393.7	91.9	8.4	170.6	0.0	0.0	0.0	0.100	0.063
B21T	11.0	0.073	0.83	0.070	708.3	296.2	8.2	125.6	0.0	0.0	0.0	0.226	0.123
B22T	18.0	0.078	0.88	0.074	1907.6	562.0	15.7	106.7	0.0	6.8	6.8	0.290	0.145
C 1CA	28.0	0.102	1.15	0.097	1630.1	672.9	37.5	38.1	0.0	47.3	47.3	0.295	0.161
C 2CA	46.5	0.0	0.0	0.0	1299.7	806.1	100.6	24.4	0.0	32.8	32.8	0.302	0.197
AP	7.5	0.0	0.0	0.0	521.6	113.0	8.3	141.3	0.0	0.0	0.0	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	0.43	4.9	0.31	1968.3	459.3	41.9	852.9	0.0	0.0	0.0	0.50	0.61
2	6- 10	0.83	9.4	0.64	4565.9	1327.2	83.5	1615.8	0.0	0.0	0.0	1.25	1.22
3	11- 15	1.20	13.6	0.99	9306.5	3074.0	132.2	2224.7	0.0	6.8	6.8	2.44	1.86
4	16- 20	1.59	18.0	1.36	18844.5	5884.1	210.8	2758.0	0.0	41.0	41.0	3.89	2.58
5	21- 25	2.05	23.3	1.80	27549.9	9026.8	354.7	3085.8	0.0	196.5	196.5	5.35	3.35
6	26- 30	2.56	29.0	2.28	35700.3	12391.3	542.2	3276.5	0.0	432.9	432.9	6.82	4.15
7	31- 35	2.97	33.6	2.67	43520.4	15888.9	792.7	3453.4	0.0	654.8	654.8	8.30	4.99
8	36- 40	2.97	33.6	2.67	50018.9	19919.3	1295.8	3575.3	0.0	818.8	818.8	9.81	5.97
9	41- 45	2.97	33.6	2.67	56517.5	23949.6	1798.8	3697.1	0.0	982.8	982.8	11.32	6.95
10	46- 50	2.97	33.6	2.67	63016.1	27980.0	2301.8	3819.0	0.0	1146.8	1146.8	12.83	7.93
11	51- 55	2.97	33.6	2.67	69514.6	32010.3	2804.8	3940.8	0.0	1310.9	1310.9	14.34	8.91

AVERAGE OF CONTROL SECTION 20- 56 CMS. (8- 22 IN.)
SAND (MINUS VFS)= 32.9 PERCENT, SAND = 48.7 PERCENT, SILT (PLUS VFS) = 36.6 PERCENT, CLAY = 30.5 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 11.5 PERCENT, CACO3 EQUIVALENT= 2.5 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.29 PERCENT. SAND/CLAY RATIO = 4.9.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 70 40 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES UVADA LOAM (TAXADJUNCT) SOIL NO. S68 UTAH. 14-56 SAMPLE NO. 0 250-0 255 DELTA AREA

SOIL FAMILY: TYPIC NATRARGID,FINE,MIXED,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENT PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS THAN .02 MM	.005	.002	CUMULATIVE SAND FRACTION LESS THAN 1.0 MM	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC RATIO
0 250	0- 2	A2	100	100	100	100	100	100	100	100	98	77	50	33	21	99	99	97	83	67	0.03	0.020	0.001	58.2	0.0
0 251	2- 4	A+B	100	100	100	100	100	100	100	100	99	79	57	39	28	100	99	98	85	70	0.03	0.012	0.000	54.7	0.0
0 252	4- 7	B21T	100	100	100	100	100	100	100	100	100	90	81	68	59	100	100	99	93	86	0.00	0.001	0.000	7.3	0.0
0 253	7- 12	B22T	100	100	100	100	100	100	100	100	100	93	84	71	62	100	100	99	96	90	0.00	0.001	0.000	6.3	0.0
0 254	12- 15	B31T	100	100	100	100	100	100	100	100	100	96	88	73	63	100	100	100	98	93	0.00	0.001	0.000	6.2	0.0
0 255	15- 17	B32T	100	100	100	100	100	100	100	100	100	97	89	74	64	100	100	100	98	95	0.00	0.001	0.000	6.0	0.0

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	REGRESSION COEFFICIENTS A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.384	9.309	3.349	0.917	6
15BR PC	CLAY PC	OC PC	0.281	-0.295	3.838	0.938	6
OC PC	CLAY PC	DPTHIN	0.002	-0.026	0.589	0.935	6

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	OC. FE	PYR. FE+AL	PYR/ O.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	-.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A2	0.92	0.50	0.0	0.0	0.0	1.7	0.6	-0.1	0	0	0	0	0	0	0	0	1	1	2	18	20	22	36	27
A+B	0.74	0.41	0.0	0.0	0.0	0.5	1.1	0.1	0	0	0	0	0	0	0	0	0	1	2	18	21	18	40	38
B21T	0.57	0.35	0.0	0.0	0.0	-0.4	0.3	-0.0	0	0	0	0	0	0	0	0	0	1	2	15	16	14	53	146
B22T	0.72	0.48	0.0	0.0	0.0	-4.6	-3.4	-0.0	0	0	0	0	0	0	0	0	0	0	1	10	14	16	58	166
B31T	0.48	0.35	0.0	0.0	0.0	1.4	0.2	0.0	0	0	0	0	0	0	0	0	0	0	1	6	11	16	66	171
B32T	0.47	0.33	0.0	0.0	0.0	1.5	1.3	-0.0	0	0	0	0	0	0	0	0	0	0	0	4	10	16	69	179

W E I G H T S P E R U N I T D E P T H (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
A2	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
A+B	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B21T	5.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B22T	9.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B31T	13.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B32T	16.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
1	1- 5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	6- 10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	11- 15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

AVERAGE OF CONTROL SECTION 4- 17 CMS. (2- 7 IN.)
SAND (MINUS VFS)= 10.3 PERCENT, SAND = 20.3 PERCENT, SILT (PLUS VFS) = 43.1 PERCENT, CLAY = 46.6 PERCENT,
CARBONATE CLAY = 13.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 13.3 PERCENT, CACO3 EQUIVALENT= 28.7 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.43 PERCENT. SAND/CLAY RATIO = 0.4.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 70 41 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES UVADA LOAM (TAXADJUNCT) SOIL NO. S68 UTAH. 14-66 SAMPLE NO. 0 256-0 260 DELTA AREA

SOIL FAMILY: TYPIC NATRARGID,FINE,MIXED,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENT PASSING 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	SIEVE LESS .02	THAN .005	MM .002	CUMULATIVE SAND FRACTION LESS 1.0	THAN .5	MM .25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC
0 256	0- 3	A2	100	100	100	100	100	100	100	100	97	65	41	26	16	100	98	92	70	58	0.06	0.032	0.001	66.4	0.0
0 257	3- 6	A+B	100	100	100	100	100	100	100	100	94	58	45	33	25	99	96	86	61	53	0.09	0.035	0.001	183.3	0.0
0 258	6- 14	B21T	100	100	100	100	100	100	100	100	98	81	68	56	48	100	99	94	85	77	0.01	0.003	0.000	24.7	0.0
0 259	14- 15	B22T	100	100	100	100	100	100	100	100	99	84	61	43	31	100	100	96	89	76	0.02	0.009	0.000	45.8	0.0
0 260	15- 24	C 1	100	100	100	100	100	100	100	100	99	87	55	39	28	100	100	98	94	76	0.02	0.013	0.000	54.0	0.0

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.381	-18.415	15.334	0.982	5
15BR PC	CLAY PC	OC PC	0.303	-16.230	10.457	0.979	5
OC PC	CLAY PC	DPTHIN	0.005	-0.015	0.500	0.986	5

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	OC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME: SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05 .05	.05-.002	.002 LT	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT: VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A2	1.00	0.52	0.0	0.0	0.0	0.6	0.4	0.0	0	0	0	0	0	0	0	0	0	2	7	26	15	20	30	19
A+B	0.73	0.43	0.0	0.0	0.0	-0.2	0.0	-0.0	0	0	0	0	0	0	0	0	1	4	14	33	10	12	27	33
B21T	0.48	0.33	0.0	0.0	0.0	0.5	0.4	0.0	0	0	0	0	0	0	0	0	0	1	10	19	15	16	39	91
B22T	0.77	0.52	0.0	0.0	0.0	-1.7	-1.5	-0.0	0	0	0	0	0	0	0	0	0	0	5	10	20	23	43	46
C 1	0.81	0.54	0.0	0.0	0.0	0.8	0.7	0.0	0	0	0	0	0	0	0	0	0	0	3	6	25	28	38	39

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A2	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
A+B	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B21T	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B22T	14.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C 1	19.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	6- 10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	11- 15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	16- 20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

AVERAGE OF CONTROL SECTION 6- 15 CMS. (2- 6 IN.)
SAND (MINUS VFS)= 36.9 PERCENT, SAND = 45.4 PERCENT, SILT (PLUS VFS) = 40.7 PERCENT, CLAY = 22.4 PERCENT,
CARBONATE CLAY = 9.3 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 6.8 PERCENT, CACO3 EQUIVALENT= 23.7 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.51 PERCENT. SAND/CLAY RATIO = 1.2.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 70 42 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES MELLOR SILT LOAM (TAXADJUNCT) SOIL NO. S68 UTAH. 14-44 SAMPLE NO. 0 261-0 264 DELTA AREA

SOIL FAMILY: XEROLLIC NATRARGID,FINE-LOAMY,MIXED,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS - - - PERCENTAGE PASSING SIEVE - - - 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	CUMULATIVE SAND FRACTION LESS 1.0	THAN .5	MM .25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC RATIO
0 261	0- 6	A2	100	100	100	100	100	100	100	100	99	74	42	26	15	99	99	98	81	62	0.04	0.028	0.001	47.1	0.0
0 262	6- 13	B2 T	100	100	100	100	100	100	100	100	99	78	62	45	33	100	99	98	83	71	0.02	0.008	0.000	42.5	0.0
0 263	13- 15	C 1	100	100	100	100	100	100	100	100	100	92	80	61	49	100	100	99	94	88	0.00	0.002	0.000	14.1	0.0
0 264	15- 22	C 2	100	100	100	100	100	100	100	100	100	93	84	60	44	100	100	99	96	90	0.01	0.003	0.000	14.8	0.0

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.429	2.360	10.607	0.905	4
15BR PC	CLAY PC	OC PC	0.464	-7.728	10.419	0.999	4
OC PC	CLAY PC	DPTHIN	0.019	-0.061	0.975	0.972	4

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	OC.	PYR. FE	PYR/ FE+AL	D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME — SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	-.05 .002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS — PERCENT OF SAND PLUS SILT: VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A2	1.47	0.70	0.0	0.0	0.0	0.0	0.6	0.1	0.0	0	0	0	0	0	0	0	0	1	1	1	19	22	24	32	17
B2 T	0.96	0.58	0.0	0.0	0.0	0.0	-1.4	-0.3	-0.1	0	0	0	0	0	0	0	0	0	1	2	22	19	13	43	49
C 1	0.74	0.62	0.0	0.0	0.0	0.0	2.1	0.4	0.1	0	0	0	0	0	0	0	0	0	0	1	10	12	16	61	96
C 2	0.87	0.73	0.0	0.0	0.0	0.0	-1.2	-0.2	-0.0	0	0	0	0	0	0	0	0	0	0	1	6	10	10	72	78

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
A2	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B2 T	9.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C 1	14.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C 2	18.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
1	1- 5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	6- 10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	11- 15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	16- 20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

AVERAGE OF CONTROL SECTION 6- 13 CMS. (2- 5 IN.)
SAND (MINUS VFS)= 18.5 PERCENT, SAND = 37.5 PERCENT, SILT (PLUS VFS) = 66.7 PERCENT, CLAY = 14.8 PERCENT,
CARBONATE CLAY = 4.5 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 8.3 PERCENT, CACO3 EQUIVALENT= 18.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.89 PERCENT. SAND/CLAY RATIO = 1.4.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 70 43 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES MELLOR SILT LOAM (TAXADJUNCT) SOIL NO. S68 UTAH. 14-45 SAMPLE NO. 0 265-0 268 DELTA AREA

SOIL FAMILY: XEROLLIC NATRARGID,FINE-LOAMY,MIXED,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING PERCENTAGE PASSING 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	MECHANICAL ANALYSIS SIEVE NO. 10	NO. 40	NO. 200	LESS THAN .02 MM	.005	.002	CUMULATIVE SAND FRACTION LESS THAN MM 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC RATIO
0 265	0- 6	A2	100	100	100	100	100	100	100	100	98	70	41	26	16	99	99	97	78	60	0.05	0.031	0.001	60.0	0.0
0 266	6- 13	B2 T	100	100	100	100	100	100	100	100	98	73	51	35	25	100	99	97	80	63	0.04	0.018	0.001	77.3	0.0
0 267	13- 15	C 1	100	100	100	100	100	100	100	100	100	89	76	57	45	100	100	99	93	83	0.01	0.003	0.000	18.6	0.0
0 268	15- 22	C 2	100	100	100	100	100	100	100	100	100	93	82	61	46	100	100	100	97	89	0.00	0.003	0.000	14.6	0.0

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	REGRESSION COEFFICIENTS A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.553	14.351	-3.118	0.821	4
15BR PC	CLAY PC	OC PC	0.584	1.573	-0.886	1.000	4
OC PC	CLAY PC	DPTHIN	-0.022	-0.015	1.450	0.936	4

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	OC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05- .05	.05-.002	.002 LT	PORES CAP.	PORES NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A2	1.30	0.63	0.0	0.0	0.0	0.6	0.0	0.1	0	0	0	0	0	0	0	0	1	1	2	23	21	22	30	19
B2 T	1.12	0.62	0.0	0.0	0.0	-1.2	-0.1	-0.1	0	0	0	0	0	0	0	0	0	1	2	23	22	16	35	33
C 1	0.66	0.58	0.0	0.0	0.0	1.5	0.1	-0.0	0	0	0	0	0	0	0	0	0	1	1	11	18	14	56	81
C 2	0.63	0.58	0.0	0.0	0.0	-0.9	-0.1	0.1	0	0	0	0	0	0	0	0	0	0	0	6	15	12	67	86

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A2	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B2 T	9.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C 1	14.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C 2	18.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	6- 10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	11- 15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	16- 20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

AVERAGE OF CONTROL SECTION 6- 13 CMS. (2- 5 IN.)
SAND (MINUS VFS)= 22.3 PERCENT, SAND = 40.3 PERCENT, SILT (PLUS VFS) = 61.7 PERCENT, CLAY = 16.0 PERCENT,
CARBONATE CLAY = 3.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 8.8 PERCENT, CACO3 EQUIVALENT= 12.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.89 PERCENT. SAND/CLAY RATIO = 1.6.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 70 52 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES VEYO COBBLY SANDY LAOM (TAXADUNCT) SOIL NO. S70 UTAH. 27- 7 SAMPLE NO. 0 311-0 316 WASHINGTON CO. AREA

SOIL FAMILY: PETROCALCIC PALEARGID,CLAYEY-SKTL,MONT.,MESC,SH RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	CUMULATIVE SAND FRACTION LESS THAN .02 MM	.005 MM	.002 MM	LESS THAN 1.0 MM	.5 MM	.25 MM	.10 MM	.05 MM	DIAMETERS AT PERCENT (MM) 60	50	10	CU	CC RATIO
0 311	0- 2	A1	100	95	92	87	84	81	77	72	56	33	16	13	11	66	57	51	38	25	0.61	0.241	0.002	379.6	1.6
0 312	2- 6	B1	100	91	85	76	70	68	66	64	55	42	30	26	24	61	56	52	45	37	0.90	0.187	0.001	1700.5	0.7
0 313	6- 12	B21T	100	100	100	100	100	100	100	100	89	73	61	56	52	97	90	85	77	69	0.02	0.002	0.000	48.8	0.0
0 314	12- 17	B22T	100	88	80	68	59	57	55	50	39	31	28	26	25	45	39	36	32	30	19.65	2.000	0.00138	526.4	87.5
0 315	17- 19	B3 CA	100	94	89	83	78	74	69	57	36	27	23	20	18	46	37	32	27	25	2.48	1.290	0.001	3503.6	90.9
0 316	19- 24	CCAM	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	REGRESSION COEFFICIENTS A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.605	-15.607	17.460	0.998	5
15BR PC	CLAY PC	OC PC	0.091	-47.184	35.511	0.977	5
OC PC	CLAY PC	DPTHIN	-0.005	-0.003	0.688	0.965	5

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC 15BAR	OC.	PYR. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOILS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	.05-.002	.002 LT	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A1	1.12	0.50	0.07	0.0	0.0	-0.1	0.4	-0.0	0	9	7	27	8	6	0	0	9	15	11	21	21	15	8	18
B1	0.84	0.40	0.03	0.0	0.0	1.0	0.8	-0.0	0	19	4	17	9	15	24	12	8	12	9	17	20	18	15	58
B21T	0.82	0.42	0.02	0.0	0.0	0.4	1.3	0.0	0	0	0	15	8	25	44	8	7	14	10	17	17	16	19	107
B22T	0.85	0.45	0.02	0.0	0.0	-1.0	-1.7	-0.0	0	24	5	12	3	14	33	9	19	22	12	15	9	7	14	97
B3 CA	1.02	0.64	0.02	0.0	0.0	-0.3	-0.8	0.0	0	14	14	21	5	12	22	12	29	23	12	13	5	5	13	47
C CAM					0.0																			

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A1	1.0	0.115	1.30	0.073	964.2	89.0	22.7	115.7	0.0	0.0	0.0	0.0	0.0
B1	4.0	0.091	1.03	0.063	1203.9	146.2	28.0	142.6	0.0	0.0	0.0	0.172	0.083
B21T	9.0	0.080	0.90	0.056	1810.7	255.8	40.3	170.9	134.3	0.0	0.0	0.308	0.154
B22T	14.5	0.056	0.63	0.039	1168.0	146.4	24.1	88.4	0.0	0.3	0.3	0.257	0.164
B3 CA	18.0	0.084	0.95	0.058	1408.2	132.3	31.0	70.2	0.0	19.1	19.1	0.162	0.066
C CAM	21.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	0.50	5.7	0.34	5540.0	616.7	129.6	659.1	0.0	0.0	0.0	0.86	0.41
2	6- 10	0.91	10.3	0.62	13986.8	1786.2	318.8	1485.1	537.4	0.0	0.0	2.26	1.11
3	11- 15	1.24	14.0	0.85	21112.3	2737.2	471.6	2091.9	806.1	0.8	0.8	3.65	1.91
4	16- 20	1.52	17.2	1.05	26264.7	3294.6	581.8	2409.1	806.1	39.7	39.7	4.65	2.44

AVERAGE OF CONTROL SECTION 14- 43 CMS. (6- 17 IN.)
SAND (MINUS VFS)= 28.6 PERCENT, SAND = 35.2 PERCENT, SILT (PLUS VFS) = 20.8 PERCENT, CLAY = 50.6 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 22.7 PERCENT, 15 BAR = 21.9 PERCENT, CACO3 EQUIVALENT= 0.2 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.44 PERCENT. SAND/CLAY RATIO = 1.2.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 68 47 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES DERA GRAVELLY SANDY LOAM SOIL NO. S68 UTAH. 14- 5 SAMPLE NO. 8 273-8 279 DESERT RANGE AREA

SOIL FAMILY: TYPIC CALCIORTHID,LOAMY-SKELETAL,CARB.,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS - - - PERCENTAGE PASSING SIEVE - - - 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS THAN .02	.005	.002	CUMULATIVE SAND FRACTION LESS THAN MM 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC RATIO
8 273	0- 3	A1	PSD NOT DETERMINED																						
8 274	3- 9	A12	PSD NOT DETERMINED																						
8 275	9- 12	B2	PSD NOT DETERMINED																						
8 276	12- 22	C 1CA	PSD NOT DETERMINED																						
8 277	22- 28	C 2CA	PSD NOT DETERMINED																						
8 278	28- 38	C 3CA	PSD NOT DETERMINED																						
8 279	38- 54	C 4	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.0	0.0	0.0	0.0	0
15BR PC	CLAY PC	OC PC	0.0	0.0	0.0	0.0	0
OC PC	CLAY PC	DPTHIN	0.0	0.0	0.0	0.0	0

HORIZON	RATIOS AND RESIDUALS --RATIOS TO CLAY-- CEC 15BAR	DC. PYR. FE FE+AL	D.C. FE+AL	PYR/ RESIDUALS CEC 15BAR MEQ.	OC. PCT.	VOLUME COMPOSITION --PERCENT (VOL) OF SOIL VOLUME-- SOILDS,SIZE IN MM 250 -75	75 -20	20 -2	2-.05	.05.002	.002	-PORES- LT CAP.	NON CAP	PSD ON CLAY FREE BASIS --PERCENT OF SAND PLUS SILT-- VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A1				0.0																	
A12				0.0																	
B2				0.0																	
C 1CA				0.0																	
C 2CA				0.0																	
C 3CA				0.0																	
C 4				0.0																	

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A1	1.5	0.098	1.11	0.075	462.1	44.4	15.9	153.2	0.0	37.0	36.9	0.192	0.130
A12	6.0	0.105	1.19	0.086	511.3	54.6	24.9	76.0	0.0	37.9	37.9	0.197	0.134
B2	10.5	0.126	1.43	0.103	426.8	68.5	40.0	19.4	0.0	59.6	59.5	0.296	0.201
C 1CA	17.0	0.055	0.62	0.045	152.8	44.3	35.2	5.0	0.0	40.1	40.1	0.240	0.191
C 2CA	25.0	0.016	0.18	0.013	120.6	38.2	30.8	6.5	0.0	24.7	24.7	0.0	0.0
C 3CA	33.0	0.0	0.0	0.0	144.4	59.8	57.3	9.7	0.0	32.4	32.4	0.0	0.0
C 4	46.0	0.0	0.0	0.0	72.4	32.2	26.7	5.7	0.0	15.9	15.9	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	0.51	5.7	0.40	2409.0	242.3	97.7	611.7	0.0	186.7	186.7	0.97	0.66
2	6- 10	1.05	11.9	0.84	4881.2	529.2	237.3	935.2	0.0	398.0	397.8	2.05	1.40
3	11- 15	1.47	16.7	1.18	6193.4	799.1	422.7	988.9	0.0	637.4	637.3	3.36	2.37
4	16- 20	1.75	19.8	1.41	6957.6	1020.8	598.4	1013.7	0.0	838.1	837.9	4.56	3.32
5	21- 25	1.91	21.6	1.53	7625.1	1224.0	761.2	1043.2	0.0	992.4	992.3	5.76	4.27
6	26- 30	1.95	22.1	1.57	8275.9	1458.1	968.3	1082.3	0.0	1131.3	1131.2	6.96	5.22
7	31- 35	1.95	22.1	1.57	8998.1	1757.0	1254.6	1130.8	0.0	1293.2	1293.1	8.16	6.17
8	36- 40	1.95	22.1	1.57	9576.3	2000.6	1479.8	1171.3	0.0	1422.2	1422.1	9.36	7.12
9	41- 45	1.95	22.1	1.57	9938.6	2161.5	1613.1	1199.5	0.0	1501.9	1501.8	10.56	8.07
10	46- 50	1.95	22.1	1.57	10300.8	2322.3	1746.4	1227.8	0.0	1581.6	1581.5	11.76	9.02

AVERAGE OF CONTROL SECTION 25- 102 CMS. (10- 40 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) = 0.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 67.1 PERCENT, 15 BAR = 11.0 PERCENT, CACO3 EQUIVALENT= 62.7 PERCENT.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 68 51 SUPPLEMENTARY CHARACTERIZATION DATA

SOIL SERIES HIKO SPRINGS GRAVELLY SANDY LOAM SOIL NO. S68 UTAH. 1- 5 SAMPLE NO. 8 401-8 407 DESERT RANGE AREA

SOIL FAMILY: TYPIC CALCIORTHID,COARSE-LOAMY,MIXED,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS THAN .02	.005	.002	CUMULATIVE SAND FRACTION LESS THAN MM 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC RATIO
8 401	0- 1	A11	PSD NOT DETERMINED																						
8 402	1- 4	A12	PSD NOT DETERMINED																						
8 403	4- 12	B21	PSD NOT DETERMINED																						
8 404	12- 16	B22	PSD NOT DETERMINED																						
8 405	16- 29	C 1CA	PSD NOT DETERMINED																						
8 406	29- 42	C 2CA	PSD NOT DETERMINED																						
8 407	42- 60	C 3	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.0	0.0	0.0	0.0	0
15BR PC	CLAY PC	OC PC	0.0	0.0	0.0	0.0	0
OC PC	CLAY PC	DPTHIN	0.0	0.0	0.0	0.0	0

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC 15BAR	DC. PYR. FE FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC 15BAR MEQ.	OC. PCT.	VOLUME COMPOSITION PERCENT (VOL) OF SOIL VOLUME: SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05 .05	.05-.002	.002 LT CAP.	PORES NON CAP	PSD ON CLAY FREE BASIS: VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11			0.0																	
A12			0.0																	
B21			0.0																	
B22			0.0																	
C 1CA			0.0																	
C 2CA			0.0																	
C 3			0.0																	

PERCENT OF SAND PLUS SILT

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A11	0.5	0.036	0.41	0.031	403.1	50.3	18.1	183.8	0.0	6.5	6.5	0.0	0.0
A12	2.5	0.040	0.46	0.029	460.3	54.0	6.1	185.7	0.0	6.6	6.6	0.0	0.0
B21	8.0	0.043	0.48	0.031	459.7	58.2	5.9	189.2	0.0	6.4	6.4	0.0	0.0
B22	14.0	0.041	0.46	0.030	425.5	70.4	11.2	143.0	0.0	9.8	9.8	0.0	0.0
C 1CA	22.5	0.066	0.75	0.048	412.3	82.5	89.3	69.9	0.0	31.4	31.4	0.0	0.0
C 2CA	35.5	0.033	0.37	0.024	252.8	72.8	319.8	9.9	0.0	12.6	12.6	0.0	0.0
C 3	51.0	0.016	0.18	0.012	333.1	64.7	296.7	9.1	0.0	3.5	3.5	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	0.20	2.3	0.15	2243.7	270.4	42.2	930.1	0.0	32.8	32.7	0.0	0.0
2	6- 10	0.41	4.7	0.30	4542.1	561.5	71.6	1876.3	0.0	64.7	64.6	0.0	0.0
3	11- 15	0.62	7.0	0.45	6737.9	889.2	117.0	2683.9	0.0	106.8	106.7	0.0	0.0
4	16- 20	0.92	10.5	0.67	8812.3	1289.5	485.6	3106.6	0.0	242.1	241.9	0.0	0.0
5	21- 25	1.25	14.2	0.91	10873.6	1701.7	932.2	3456.1	0.0	398.9	398.7	0.0	0.0
6	26- 30	1.55	17.5	1.13	12775.3	2104.3	1609.2	3745.5	0.0	537.0	536.8	0.0	0.0
7	31- 35	1.71	19.4	1.25	14039.2	2468.3	3208.0	3794.8	0.0	600.2	599.8	0.0	0.0
8	36- 40	1.88	21.2	1.36	15303.1	2832.3	4806.8	3844.1	0.0	663.4	662.9	0.0	0.0
9	41- 45	1.99	22.5	1.45	16807.8	3172.1	6336.5	3891.3	0.0	699.2	698.7	0.0	0.0
10	46- 50	2.07	23.4	1.50	18473.1	3495.8	7820.0	3937.0	0.0	716.8	716.3	0.0	0.0
11	51- 55	2.15	24.3	1.56	20138.4	3819.5	9303.5	3982.8	0.0	734.4	733.8	0.0	0.0
12	56- 60	2.23	25.2	1.62	21803.7	4143.1	10787.0	4028.5	0.0	752.0	751.4	0.0	0.0

AVERAGE OF CONTROL SECTION 25- 102 CMS. (10- 40 IN.)

SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) = 0.0 PERCENT, CLAY = 0.0 PERCENT,

CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 22.7 PERCENT, 15 BAR = 7.1 PERCENT, CACO3 EQUIVALENT= 17.2 PERCENT.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 68 53 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES HIKO SPRINGS SANDY LOAM SOIL NO. S68 UTAH. 1- 6 SAMPLE NO. 8 488-8 494 DESERT RANGE AREA

SOIL FAMILY: TYPIC CALCIORTHID,COARSE-LOAMY,MIXED,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS - - - PERCENTAGE PASSING SIEVE - - - 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS THAN .02	.005	.002	CUMULATIVE SAND FRACTION LESS THAN MM 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC RATIO
8 488	0- 1	A11	PSD NOT DETERMINED																						
8 489	1- 5	A12	PSD NOT DETERMINED																						
8 490	5- 11	B21	PSD NOT DETERMINED																						
8 491	11- 20	B22	PSD NOT DETERMINED																						
8 492	20- 28	B23	PSD NOT DETERMINED																						
8 493	28- 45	C 1CA	PSD NOT DETERMINED																						
8 494	45- 72	C 2	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.0	0.0	0.0	0.0	0
158R PC	CLAY PC	OC PC	0.0	0.0	0.0	0.0	0
OC PC	CLAY PC	DPTHIN	0.0	0.0	0.0	0.0	0

HORIZON	RATIOS AND RESIDUALS --RATIOS TO CLAY-- CEC	158BAR	DC. PYR. FE	FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	158BAR PCT.	OC. PCT.	VOLUME COMPOSITION --PERCENT (VOL) OF SOIL VOLUME-- SOLIDS,SIZE IN MM 250 -75	75 -20	20 -2	2-.05	-.05	.002	.002	-PORES- LT CAP.	NON CAP	PSD ON CLAY FREE BASIS --PERCENT OF SAND PLUS SILT-- VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11					0.0																				
A12					0.0																				
B21					0.0																				
B22					0.0																				
B23					0.0																				
C 1CA					0.0																				
C 2					0.0																				

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A11	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
A12	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B21	8.0	0.029	0.33	0.028	516.2	74.3	23.7	221.4	0.0	6.5	6.5	0.0	0.0
B22	15.5	0.039	0.44	0.037	500.5	76.6	105.7	69.7	0.0	7.7	7.7	0.0	0.0
B23	24.0	0.042	0.48	0.041	542.7	76.6	263.1	20.7	0.0	8.0	8.0	0.0	0.0
C 1CA	36.5	0.056	0.63	0.054	490.9	67.7	382.9	11.0	0.0	36.7	36.7	0.267	0.198
C 2	58.5	0.024	0.28	0.024	530.7	80.5	415.8	11.4	0.0	14.6	14.6	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.33	0.99
2	6- 10	0.15	1.7	0.14	2581.0	371.7	118.7	1107.2	0.0	32.3	32.3	2.66	1.98
3	11- 15	0.33	3.8	0.32	5099.3	752.4	565.4	1607.5	0.0	69.4	69.4	3.99	2.97
4	16- 20	0.53	6.0	0.51	7602.0	1135.5	1094.0	1956.1	0.0	107.7	107.7	5.32	3.96
5	21- 25	0.74	8.4	0.71	10315.4	1518.6	2409.5	2059.9	0.0	147.6	147.5	6.65	4.95
6	26- 30	0.98	11.1	0.94	12925.3	1883.8	3964.5	2144.1	0.0	244.9	244.8	7.98	5.94
7	31- 35	1.26	14.2	1.21	15379.9	2222.4	5878.8	2199.2	0.0	428.3	428.2	9.31	6.93
8	36- 40	1.53	17.4	1.48	17834.5	2561.0	7793.1	2254.2	0.0	611.6	611.6	10.64	7.92
9	41- 45	1.81	20.5	1.75	20289.1	2899.5	9707.4	2309.2	0.0	795.0	795.0	11.97	8.91
10	46- 50	1.93	21.9	1.87	22942.7	3302.0	11786.5	2366.1	0.0	867.9	867.9	13.30	9.90
11	51- 55	2.06	23.3	1.98	25596.3	3704.4	13865.6	2422.9	0.0	940.8	940.8	14.63	10.89
12	56- 60	2.18	24.7	2.10	28249.8	4106.8	15944.7	2479.8	0.0	1013.7	1013.7	15.96	11.88
13	61- 65	2.30	26.0	2.22	30903.4	4509.2	18023.9	2536.6	0.0	1086.6	1086.6	17.29	12.87
14	66- 70	2.42	27.4	2.34	33557.0	4911.6	20103.0	2593.5	0.0	1159.5	1159.5	18.62	13.86

AVERAGE OF CONTROL SECTION 25- 102 CMS. (10- 40 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) = 0.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 12.9 PERCENT, 15 BAR = 7.3 PERCENT, CACO3 EQUIVALENT= 13.6 PERCENT.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 70 23 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES ATEPIC VERY SHALY CLAY LOAM SOIL NO. S70 UTAH. 20- 3 SAMPLE NO. 0 143-0 149 SANPETE AREA

SOIL FAMILY: XEROLLIC CALCIORTHID,LOAMY,CBN,MESIC, SHALLOW RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	CUMULATIVE SAND FRACTION LESS 1.0	THAN .5	MM .25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC
0 143	0- 2	A11	100	95	92	87	84	74	64	57	52	45	33	22	14	55	53	51	46	42	2.88	0.221	0.001	2810.3	0.5
0 144	2- 6	A12	100	98	96	94	92	87	81	76	72	65	53	35	24	75	73	71	67	63	0.04	0.016	0.001	74.2	0.0
0 145	6- 11	C 1	100	100	100	100	100	100	100	100	99	98	94	65	46	100	99	99	99	98	0.00	0.002	0.000	11.8	0.0
0 146	11- 17	C 2CA	100	100	100	100	100	100	100	100	100	100	96	62	39	100	100	100	100	99	0.00	0.003	0.000	12.9	0.0
0 147	17- 29	C 3	100	100	100	100	100	100	100	100	100	99	94	56	31	100	100	100	99	99	0.01	0.004	0.000	13.8	0.0
0 148	29- 39	C 4	100	100	100	100	100	100	100	100	100	99	92	58	35	100	100	99	99	98	0.01	0.004	0.000	14.1	0.0
0 149	39- 43	C 5	100	100	100	100	100	100	100	100	99	95	91	66	49	100	99	99	96	94	0.00	0.002	0.000	11.3	0.0

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.674	3.740	-1.946	0.986	7
15BR PC	CLAY PC	OC PC	0.397	1.973	-0.668	0.917	7
OC PC	CLAY PC	DPTHIN	0.014	-0.035	1.068	0.832	7

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC.	PYR. FE	D.C. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	DC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05- .05	.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	0.92	0.55	0.0	0.0	0.0		-0.7	-0.4	-0.3	0	8	14	8	15	7	0	0	5	5	5	10	9	21	45	33
A12	0.88	0.51	0.0	0.0	0.0		-0.8	-0.2	-0.4	0	4	8	6	18	11	23	30	3	3	3	8	8	20	55	46
C 1	0.67	0.41	0.0	0.0	0.0		2.6	1.2	0.2	0	0	0	1	26	23	35	15	0	1	0	1	1	8	89	87
C 2CA	0.63	0.52	0.0	0.0	0.0		0.8	-2.5	0.5	0	0	0	0	34	22	35	9	0	0	0	0	0	6	93	65
C 3	0.63	0.47	0.0	0.0	0.0		-0.2	-2.1	0.4	0	0	0	0	41	18	35	6	0	0	0	0	0	8	91	44
C 4	0.60	0.14	0.0	0.0	0.0		-0.1	3.4	-0.2	0	0	0	1	40	23	34	2	0	0	0	1	1	9	88	54
C 5	0.71	0.39	0.0	0.0	0.0		-1.6	0.6	-0.2	0	0	0	3	26	28	37	6	0	1	1	6	4	6	83	97

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A11	1.0	0.211	2.38	0.101	886.5	78.4	4.1	68.9	0.0	34.4	34.4	0.0	0.0
A12	4.0	0.260	2.94	0.118	1136.2	119.1	4.9	90.6	0.0	39.1	39.1	0.204	0.120
C 1	8.5	0.255	2.88	0.110	1453.3	299.0	13.6	104.1	0.0	62.3	62.3	0.299	0.151
C 2CA	14.0	0.109	1.24	0.047	1400.6	301.6	15.4	65.3	0.0	117.3	117.3	0.321	0.179
C 3	23.0	0.052	0.59	0.022	1303.1	479.5	41.4	84.2	0.0	90.0	90.0	0.307	0.157
C 4	34.0	0.064	0.73	0.028	792.9	378.7	115.1	45.0	0.0	154.0	154.0	0.316	0.304
C 5	41.0	0.132	1.49	0.057	1093.5	1022.9	414.0	119.2	0.0	20.4	20.4	0.296	0.093

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCRE MENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	1.20	13.6	0.56	5181.5	514.1	22.7	409.5	0.0	186.1	186.1	1.02	0.60
2	6- 10	2.4d	28.1	1.11	12130.7	1829.1	82.1	916.5	0.0	474.3	474.3	2.42	1.32
3	11- 15	3.17	35.9	1.41	19186.4	3334.3	157.4	1282.0	0.0	1005.7	1005.7	4.00	2.19
4	16- 20	3.55	40.1	1.57	25896.9	5375.9	312.4	1665.4	0.0	1510.2	1510.2	5.56	3.02
5	21- 25	3.81	43.1	1.69	32412.4	7773.3	519.4	2086.5	0.0	1960.2	1960.2	7.09	3.80
6	26- 30	4.08	46.2	1.80	38417.7	10069.9	800.1	2468.5	0.0	2474.1	2474.1	8.63	4.73
7	31- 35	4.40	49.8	1.94	42382.0	11963.5	1375.5	2693.7	0.0	3243.8	3243.8	10.21	6.25
8	36- 40	4.79	54.2	2.11	46646.9	14501.3	2249.8	2993.0	0.0	3880.0	3880.0	11.77	7.56

AVERAGE OF CONTROL SECTION 0- 27 CMS. (0- 11 IN.)
SAND (MINUS VFS)= 8.2 PERCENT, SAND = 11.9 PERCENT, SILT (PLUS VFS) = 54.8 PERCENT, CLAY = 37.0 PERCENT,
CARBONATE CLAY = 8.9 PERCENT, 2-250MM= 16.9 PERCENT, 15 BAR = 13.1 PERCENT, CACO3 EQUIVALENT= 40.8 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 1.09 PERCENT. SAND/CLAY RATIO = 0.3.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 70 24 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES ATEPIC SHALY CLAY LOAM SOIL NO. 570 UTAH. 20-10 SAMPLE NO. 0 150-0 156 SANPETE AREA

SOIL FAMILY: XEROLLIC CALCIORTHID,LOAMY,CBN,MESIC,SHALLOW RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING PERCENTAGE PASSING 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	MECHANICAL ANALYSIS SIEVE NO. 4	NO. 10	NO. 40	NO. 200	LESS THAN .02 MM	.005	.002	CUMULATIVE SAND FRACTION LESS THAN MM 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC RATIO
0 150	0- 1	A11	100	100	100	100	100	100	100	100	84	78	63	39	23	90	84	82	79	76	0.02	0.010	0.001	31.9	0.0
0 151	1- 4	A12	100	100	100	100	100	100	100	100	97	92	80	55	38	99	98	96	93	90	0.01	0.004	0.000	18.2	0.0
0 152	4- 9	B2	100	97	95	92	90	90	90	90	88	85	77	54	39	89	88	88	86	84	0.01	0.004	0.000	19.9	0.0
0 153	9- 15	C 1CA	100	100	100	100	100	100	100	100	98	94	88	56	35	99	98	97	94	93	0.01	0.004	0.000	15.3	0.0
0 154	15- 24	C 2	100	100	100	100	100	100	100	100	73	59	52	36	26	84	74	69	61	57	0.09	0.017	0.000	180.6	0.0
0 155	24- 30	R1	PSD NOT DETERMINED																						
0 156	30- 41	R2	100	100	100	100	100	100	100	100	100	98	90	62	44	100	100	100	99	96	0.00	0.003	0.000	13.2	0.0

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.286	2.076	11.264	0.984	6
15BR PC	CLAY PC	OC PC	0.192	2.198	5.058	0.999	6
OC PC	CLAY PC	DPTHIN	-0.608	-0.267	23.933	0.711	6

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	OC.	PYR.	PYR/ D.C. FE	FE+AL	FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME SOLIDS 250 -75	75 -20	20 -2	SIZE IN MM 2-.05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	2.74	2.49	0.0	0.0	0.0			0.6	-0.1	-7.6	0	0	0	10	22	10	0	0	12	8	2	4	5	17	51	31
A12	0.97	0.53	0.0	0.0	0.0			-3.5	1.1	2.1	0	0	0	4	23	16	34	23	1	3	2	5	5	16	68	61
B2	0.77	0.48	0.0	0.0	0.0			-0.9	-0.4	0.3	0	5	0	3	24	21	31	16	1	2	2	3	4	14	74	78
C 1CA	0.78	0.50	0.0	0.0	0.0			1.2	-0.5	4.9	0	0	0	5	35	22	31	7	1	2	2	4	2	7	82	54
C 2	1.08	0.60	0.0	0.0	0.0			-1.5	0.3	4.6	0	0	0	29	21	18	21	11	21	15	6	11	5	7	35	36
R1					0.0																					
R2	0.55	0.39	0.0	0.0	0.0			4.0	-0.3	-4.4	0	0	0	2	33	28	34	3	0	0	0	2	4	12	81	79

W E I G H T S P E R U N I T D E P T H (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. 15 BAR INCH/INCH	
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
A11	0.5	3.58	240.54	0.903	2993.5	251.0	11.5	204.0	0.0	28.6	28.6	0.0	0.0
A12	2.5	0.552	6.25	0.275	1379.9	212.5	12.0	284.3	0.0	48.2	48.2	0.298	0.159
B2	6.5	0.379	4.29	0.189	1521.7	204.1	13.3	314.7	0.0	60.5	60.5	0.267	0.113
C 1CA	12.0	0.248	2.81	0.090	1621.1	202.5	25.3	200.3	0.0	84.4	84.4	0.259	0.110
C 2	19.5	0.504	5.71	0.183	2002.5	301.6	28.4	160.7	0.0	63.9	63.9	0.155	0.0
R1	27.0	0.085	0.96	0.031	1262.6	170.3	17.2	43.7	0.0	149.4	149.4	0.0	0.0
R2	35.5	0.085	0.96	0.031	1300.0	461.7	43.0	131.1	0.0	95.3	95.3	0.297	0.144

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. 15 BAR INCH/INCH	
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
1	1- 5	5.62	63.6	1.92	8654.9	1092.4	60.6	1371.6	0.0	233.7	233.7	1.46	0.75
2	6- 10	7.38	83.5	2.76	16362.9	2111.1	139.0	2830.8	0.0	560.1	560.1	2.79	1.31
3	11- 15	8.62	97.6	3.21	24468.5	3123.4	265.5	3832.0	0.0	981.9	981.9	4.08	1.86
4	16- 20	11.14	126.1	4.12	34481.2	4631.5	407.7	4635.5	0.0	1301.2	1301.2	4.85	2.41
5	21- 25	13.24	149.9	4.88	43754.1	6008.3	538.6	5322.0	0.0	1706.1	1706.1	5.62	2.96
6	26- 30	13.67	154.7	5.04	50067.2	6860.0	624.5	5540.5	0.0	2453.2	2453.2	6.39	3.51
7	31- 35	14.09	159.5	5.19	56567.1	9168.6	839.3	6196.1	0.0	2929.5	2929.5	7.87	4.23
8	36- 40	14.52	164.3	5.35	63067.0	11477.2	1054.1	6851.7	0.0	3405.8	3405.8	9.35	4.95

AVERAGE OF CONTROL SECTION 0- 24 CMS. (0- 9 IN.)
SAND (MINUS VFS)= 7.1 PERCENT, SAND = 9.8 PERCENT, SILT (PLUS VFS) = 53.3 PERCENT, CLAY = 39.6 PERCENT,
CARBONATE CLAY = 10.3 PERCENT, 2-250MM= 5.6 PERCENT, 15 BAR = 19.6 PERCENT, CACO3 EQUIVALENT= 43.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 2.68 PERCENT. SAND/CLAY RATIO = 0.3.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 67 20 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES LISADE LOAM SOIL NO. S67 UTAH. 20-11 SAMPLE NO. 7 366-7 375 SANPETE CO. AREA

SOIL FAMILY: XEROLLIC CALCIORTHID,COARSE-LOAMY,CARBON.,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS THAN .02 MM	.005	.002	CUMULATIVE SAND FRACTION LESS THAN MM 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC
7 366	0- 2	A11	100	100	100	100	100	96	92	92	81	45	19	13	10	89	83	77	54	33	0.13	0.087	0.002	58.4	0.1
7 367	2- 5	A12	100	100	100	99	99	95	91	91	81	46	19	14	10	88	82	77	55	33	0.12	0.086	0.002	60.8	0.1
7 368	5- 10	A13	100	100	100	100	100	97	94	94	87	53	23	17	13	92	88	84	62	41	0.09	0.067	0.001	79.9	0.1
7 369	10- 13	C 1CA	100	100	100	100	100	97	95	95	85	52	35	23	15	92	87	81	60	41	0.10	0.070	0.001	113.4	0.0
7 370	13- 20	C 2CA	100	100	100	100	100	100	100	100	96	69	46	39	34	99	97	93	76	58	0.05	0.027	0.000	134.3	0.0
7 371	20- 30	C 3CA	100	100	100	100	100	100	100	100	88	65	51	39	32	96	90	85	70	58	0.06	0.018	0.000	135.9	0.0
7 372	30- 38	C 4CA	100	100	100	100	100	100	100	100	98	75	37	29	24	99	98	97	85	59	0.05	0.034	0.001	96.5	0.0
7 373	38- 48	C 5	100	100	100	100	100	98	97	97	92	61	25	20	17	95	93	90	72	43	0.08	0.059	0.001	96.1	0.1
7 374	48- 612	C 6	PSD NOT DETERMINED																						
7 375	61- 722	C 7	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.118	5.080	5.912	0.683	8
15BR PC	CLAY PC	OC PC	-0.549	-6.480	14.932	0.692	8
OC PC	CLAY PC	DPTHIN	0.0	0.0	0.0	0.0	2

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	DC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOILS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	1.03	0.70	0.03	0.0	0.0	0.3	-0.9	-0.6	0	0	4	32	13	5	28	18	3	8	8	27	25	18	11	12
A12	1.09	0.67	0.03	0.0	0.0	-0.5	1.2	-0.4	0	1	4	32	13	5	23	22	4	7	7	27	27	16	12	12
A13	0.76	0.52	0.02	0.0	0.0	-2.4	1.1	0.0	0	0	3	30	15	7	28	17	2	5	5	27	26	22	12	16
C 1CA	0.77	0.83	0.02	0.0	0.0	-0.8	0.7	0.0	0	0	3	27	13	8	0	0	3	7	7	27	24	7	25	19
C 2CA	0.57	0.75	0.02	0.0	0.0	0.2	-1.5	0.0	0	0	0	19	11	15	39	16	2	3	5	27	26	19	19	51
C 3CA	0.57	1.05	0.0	0.0	0.0	1.3	-1.2	0.0	0	0	0	25	16	19	29	11	6	9	7	22	18	11	27	47
C 4CA	0.50	0.51	0.01	0.0	0.0	0.3	-0.6	0.0	0	0	0	26	22	15	26	11	1	1	2	16	33	29	18	31
C 5	0.48	0.44	0.0	0.0	0.0	1.1	1.7	0.0	0	0	2	33	16	10	19	20	2	3	3	23	37	22	10	21
2C 6					0.0																			
2C 7					0.0																			

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
A11	1.0	0.139	1.58	0.101	535.7	50.6	6.9	187.8	0.0	28.6	28.6	0.277	0.189
A12	3.5	0.103	1.17	0.071	427.7	54.2	6.9	211.5	0.0	27.1	27.1	0.229	0.150
A13	7.5	0.0	0.0	0.0	419.4	56.3	7.2	207.5	0.0	23.5	23.5	0.279	0.186
C 1CA	11.5	0.0	0.0	0.0	418.9	0.0	26.4	67.1	0.0	45.9	45.9	0.0	0.0
C 2CA	16.5	0.0	0.0	0.0	412.8	81.5	181.1	21.2	0.0	55.7	55.7	0.390	0.276
C 3CA	25.0	0.0	0.0	0.0	473.6	244.8	234.6	28.4	0.0	96.5	96.5	0.286	0.116
C 4CA	34.0	0.0	0.0	0.0	423.2	217.6	208.6	44.2	0.0	54.8	54.8	0.255	0.130
C 5	43.0	0.0	0.0	0.0	305.8	136.6	171.8	41.6	0.0	40.9	40.9	0.193	0.101
2C 6	54.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.135	0.083
2C 7	66.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.131	0.095

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
1	1- 5	0.59	6.7	0.41	2354.6	263.8	34.6	1010.0	0.0	138.5	138.5	1.24	0.83
2	6- 10	0.59	6.7	0.41	4451.6	545.5	70.6	2047.5	0.0	255.9	255.9	2.63	1.76
3	11- 15	0.59	6.7	0.41	6533.8	708.4	512.1	2291.3	0.0	504.9	504.9	4.25	2.87
4	16- 20	0.59	6.7	0.41	8597.6	1115.7	1417.7	2397.2	0.0	783.3	783.3	6.20	4.25
5	21- 25	0.59	6.7	0.41	10965.4	2339.7	2590.7	2539.2	0.0	1266.0	1266.0	7.63	4.83
6	26- 30	0.59	6.7	0.41	13333.3	3563.7	3763.7	2681.3	0.0	1748.6	1748.6	9.06	5.41
7	31- 35	0.59	6.7	0.41	15449.2	4651.9	4806.5	2902.3	0.0	2022.6	2022.6	10.33	6.06
8	36- 40	0.59	6.7	0.41	17330.4	5577.9	5775.8	3118.2	0.0	2268.7	2268.7	11.48	6.65
9	41- 45	0.59	6.7	0.41	18859.4	6260.7	6634.5	3326.2	0.0	2473.2	2473.2	12.44	7.15
10	46- 50	0.59	6.7	0.41	19776.9	6670.3	7149.8	3451.0	0.0	2595.9	2595.9	13.29	7.62
11	51- 55	0.59	6.7	0.41	19776.9	6670.3	7149.8	3451.0	0.0	2595.9	2595.9	13.96	8.03
12	56- 60	0.59	6.7	0.41	19776.9	6670.3	7149.8	3451.0	0.0	2595.9	2595.9	14.63	8.44
13	61- 65	0.59	6.7	0.41	19776.9	6670.3	7149.8	3451.0	0.0	2595.9	2595.9	15.29	8.90
14	66- 70	0.59	6.7	0.41	19776.9	6670.3	7149.8	3451.0	0.0	2595.9	2595.9	15.94	9.37

AVERAGE OF CONTROL SECTION 0- 0 CMS. (0- 0 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) =100.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 0.0 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.16 PERCENT. SAND/CLAY RATIO = 4.0.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 67 21 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES LISADE LOAM SOIL NO. S67 UTAH. 20-12 SAMPLE NO. 7 376-7 384 SANPETE CO. AREA

SOIL FAMILY: XEROLLIC CALCIORTHID,COARSE-LOAMY,CARBON.,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE												CUMULATIVE SAND FRACTION					DIAMETERS AT PERCENT (MM)			CU RATIO	CC RATIO
			3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	LESS 1.0	THAN .5	MM .25	.10	.05	60	50	10		
7 376	0- 3	A11	100	100	100	100	100	93	86	86	66	33	16	12	9	79	69	56	37	27	0.31	0.184	0.003	108.6	0.4
7 377	3- 7	A12	100	100	100	100	100	93	87	87	71	37	19	14	11	83	74	62	43	29	0.23	0.142	0.002	130.3	0.4
7 378	7- 10	A13	100	100	100	99	99	95	90	90	77	47	25	19	15	87	80	70	53	39	0.15	0.086	0.001	153.0	0.1
7 379	10- 13	C 1CA	100	100	100	100	100	99	99	99	89	67	44	34	28	96	90	84	71	62	0.05	0.027	0.000	100.3	0.0
7 380	13- 18	C 2CA	100	100	100	100	100	100	100	100	90	65	45	36	29	98	91	84	70	59	0.05	0.028	0.000	123.6	0.0
7 381	18- 26	C 3CA	100	100	100	100	100	98	97	97	94	79	64	53	46	96	94	91	82	74	0.01	0.003	0.000	35.5	0.0
7 382	26- 37	C 4	100	100	100	100	100	94	88	88	79	50	31	25	21	86	82	72	54	45	0.14	0.076	0.001	223.1	0.1
7 383	37- 45	C 5	100	99	99	98	98	88	78	78	68	31	17	12	9	76	71	58	36	26	0.28	0.180	0.002	115.8	0.5
7 384	45- 582	C 6	100	86	76	62	52	36	20	20	14	4	2	1	1	18	15	11	4	3	23.89	17.412	0.223	107.3	*****

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.266	1.668	6.944	0.458	9
15BR PC	CLAY PC	OC PC	0.875	-2.212	1.389	0.767	9
OC PC	CLAY PC	DPTHIN	0.0	0.0	0.0	0.0	2

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	OC. FE	PYR. FE+AL	PYR/ O.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	-.05.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	1.21	0.89	0.0	0.0	0.0	0.2	-0.4	-0.7	0	0	8	35	11	5	20	21	8	14	16	24	14	14	9	12
A12	1.13	0.86	0.0	0.0	0.0	-0.3	0.6	-0.4	0	0	7	32	11	6	21	23	6	12	16	25	17	14	11	14
A13	0.95	0.70	0.0	0.0	0.0	-2.2	3.7	0.0	0	1	5	27	13	8	21	25	4	10	13	22	19	18	14	20
C 1CA	0.81	0.98	0.0	0.0	0.0	-1.3	-0.2	0.0	0	0	0	17	16	13	32	22	3	9	9	18	13	24	23	39
C 2CA	0.91	1.60	0.0	0.0	0.0	0.9	-5.5	0.0	0	0	0	18	13	13	40	16	3	9	10	20	16	19	22	42
C 3CA	0.51	1.12	0.0	0.0	0.0	3.6	-1.9	0.0	0	0	1	9	12	19	43	16	2	3	7	17	16	20	36	90
C 4	0.82	0.89	0.0	0.0	0.0	0.0	1.3	0.0	0	0	6	23	13	11	28	19	3	6	14	28	13	21	15	31
C 5	1.11	0.96	0.0	0.0	0.0	-0.7	0.6	0.0	1	1	12	31	10	6	21	18	3	7	19	32	15	12	11	14
2C 6	1.81	0.77	0.0	0.0	0.0	-0.3	1.9	0.0	0	48	32	0	0	0	0	0	13	14	22	33	10	4	4	5

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
		WEIGHTS PER UNIT DEPTH (CM OR INCH)			POUNDS PER ACRE					TONS/ACRE			
A11	1.5	0.166	1.88	0.109	485.3	72.8	90.7	224.8	0.0	31.9	31.9	0.205	0.104
A12	5.0	0.094	1.06	0.071	517.0	84.6	47.3	114.6	0.0	27.9	27.9	0.213	0.110
A13	8.5	0.0	0.0	0.0	506.1	104.6	84.1	43.9	0.0	23.9	23.9	0.206	0.089
C 1CA	11.5	0.0	0.0	0.0	212.7	65.4	175.6	31.9	180.0	54.5	54.5	0.322	0.143
C 2CA	15.5	0.0	0.0	0.0	356.0	142.4	741.7	10.1	0.0	73.5	73.5	0.395	0.223
C 3CA	22.0	0.0	0.0	0.0	315.8	152.2	660.4	9.3	0.0	58.6	58.6	0.428	0.270
C 4	31.5	0.0	0.0	0.0	380.6	161.2	656.5	10.9	0.0	28.0	28.0	0.278	0.142
C 5	41.0	0.0	0.0	0.0	426.8	153.0	611.9	10.8	0.0	16.6	16.6	0.211	0.104
2C 6	51.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
		CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)			POUNDS PER ACRE					TONS/ACRE			
1	1- 5	0.69	7.8	0.47	2490.1	387.6	366.7	903.5	0.0	151.4	151.4	1.04	0.53
2	6- 10	0.87	9.9	0.61	5042.3	870.6	713.5	1264.2	0.0	278.9	278.9	2.08	1.02
3	11- 15	0.87	9.9	0.61	6392.4	1351.7	2723.7	1380.0	539.9	589.5	589.5	3.84	1.89
4	16- 20	0.87	9.9	0.61	8092.1	2083.3	6269.5	1428.9	539.9	927.4	927.4	5.88	3.10
5	21- 25	0.87	9.9	0.61	9671.2	2844.1	9571.3	1475.5	539.9	1220.4	1220.4	8.02	4.45
6	26- 30	0.87	9.9	0.61	11509.4	3641.1	12857.7	1528.5	539.9	1391.0	1391.0	9.56	5.29
7	31- 35	0.87	9.9	0.61	13412.3	4447.0	16140.2	1583.1	539.9	1530.9	1530.9	10.95	6.00
8	36- 40	0.87	9.9	0.61	15453.8	5228.3	19288.9	1637.3	539.9	1636.8	1636.8	12.14	6.60
9	41- 45	0.87	9.9	0.61	17587.7	5993.1	22348.4	1691.4	539.9	1719.9	1719.9	13.19	7.12
10	46- 50	0.87	9.9	0.61	17587.7	5993.1	22348.4	1691.4	539.9	1719.9	1719.9	14.24	7.64
11	51- 55	0.87	9.9	0.61	17587.7	5993.1	22348.4	1691.4	539.9	1719.9	1719.9	15.29	8.16

AVERAGE OF CONTROL SECTION 0- 0 CMS. (0- 0 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) =100.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 0.0 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.24 PERCENT. SAND/CLAY RATIO = 3.8.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 67 22 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES LISADE VERY FINE SANDY LOAM SOIL NO. S67 UTAH. 20-17 SAMPLE NO. 7 385-7 396 SANPETE CO. AREA

SOIL FAMILY: XEROLLIC CALCIORTHID,COARSE-LOAMY,CARBON.,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN.	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	CUMULATIVE SAND FRACTION LESS .02	THAN .005	MM .002	LESS 1.0	THAN .5	MM .25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU	CC RATIO
7 385	0- 2	A11	100	97	96	93	91	75	59	59	47	33	17	11	7	54	48	43	36	29	4.91	0.632	0.004	1176.0	3.8
7 386	2- 5	A12	100	97	95	92	90	80	69	69	55	38	23	16	11	64	57	51	41	34	0.68	0.238	0.002	394.8	0.5
7 387	5- 12	C 1CA	100	100	100	100	100	97	95	95	71	51	36	26	19	87	74	64	54	47	0.17	0.069	0.001	256.1	0.0
7 388	12- 16	C 2CA	100	100	100	99	99	98	97	97	65	38	22	14	9	86	68	55	42	33	0.33	0.179	0.002	137.4	0.2
7 389	16- 22	C 3CA	100	98	97	94	93	70	46	46	32	16	9	5	3	41	34	27	18	13	7.13	5.293	0.028	257.9	30.7
7 390	22- 30	C 4	100	99	99	98	98	81	64	64	44	24	15	11	7	56	47	38	27	20	1.39	0.638	0.004	325.0	5.4
7 391	30- 342	C 5	100	99	99	98	98	71	43	43	31	21	15	11	8	38	32	28	22	18	7.24	5.614	0.004	1775.8	224.2
7 392	34- 492	C 6	100	99	99	98	98	91	83	83	69	40	21	14	10	79	71	63	45	32	0.21	0.126	0.002	106.5	0.2
7 393	49- 553	C 7	PSD NOT DETERMINED																						
7 394	55- 663	C 8	PSD NOT DETERMINED																						
7 395	66- 783	C 9	100	99	98	97	96	73	49	49	28	14	10	7	5	42	30	22	15	12	6.52	4.842	0.023	279.3	68.8
7 396	78- 854	C X	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.148	1.841	5.303	0.539	9
15BR PC	CLAY PC	OC PC	-0.297	3.436	11.216	0.547	9
OC PC	CLAY PC	DPTHIN	0.045	-0.048	0.712	1.000	3

REGRESSION COEFFICIENTS

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOILS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS, PERCENT OF SAND PLUS SILT: VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	1.30	1.30	0.04	0.0	0.0	-1.1	3.2	0.0	6	5	18	17	13	4	20	17	10	11	9	15	13	22	21	12
A12	0.89	1.20	0.02	0.0	0.0	-0.6	-1.1	-0.0	0	5	11	19	12	6	26	21	9	12	11	17	12	19	21	18
C 1CA	0.66	2.03	0.01	0.0	0.0	2.8	-3.2	0.0	0	0	2	21	12	8	39	18	11	17	13	13	10	14	22	25
C 2CA	1.11	1.98	0.04	0.0	0.0	0.2	-0.9	0.3	0	0	1	30	11	4	39	15	13	20	15	15	10	12	15	10
C 3CA	1.62	2.30	0.0	0.0	0.0	-1.3	-0.5	-0.0	0	5	32	23	6	2	17	15	11	18	16	21	13	10	12	8
C 4	1.00	1.28	0.0	0.0	0.0	-1.1	-0.6	-0.2	0	1	20	26	8	4	23	18	13	17	15	19	12	9	14	13
2C 5	0.75	0.93	0.0	0.0	0.0	-1.3	-2.3	-0.4	0	1	38	17	7	5	17	15	15	16	12	16	11	9	21	22
2C 6	0.69	0.87	0.0	0.0	0.0	0.9	1.8	-0.9	0	1	10	33	15	7	18	16	6	10	11	25	18	16	15	14
3C 7					0.0																			
3C 8					0.0																			
3C 9	0.56	0.53	0.0	0.0	0.0	1.4	3.4	-2.4	0	3	34	27	5	4	10	17	16	27	19	15	6	6	10	12
4C X					0.0																			

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A11	1.0	0.148	1.68	0.106	381.4	60.9	0.0	63.3	0.0	44.6	44.6	0.203	0.121
A12	3.5	0.164	1.86	0.121	348.6	62.7	5.0	51.0	0.0	52.3	52.3	0.262	0.140
C 1CA	8.5	0.112	1.27	0.071	295.1	70.8	5.7	57.5	0.0	71.3	71.3	0.393	0.237
C 2CA	14.0	0.0	0.0	0.0	316.2	131.8	18.5	62.7	0.0	65.6	65.6	0.389	0.265
C 3CA	19.0	0.0	0.0	0.0	157.6	119.4	43.2	58.6	0.0	36.6	36.6	0.175	0.089
C 4	26.0	0.0	0.0	0.0	183.4	165.1	89.6	44.7	0.0	45.9	45.9	0.229	0.132
2C 5	32.0	0.0	0.0	0.0	127.2	112.4	146.3	27.6	0.0	39.8	39.8	0.166	0.087
2C 6	41.5	0.0	0.0	0.0	296.6	147.0	200.2	37.7	0.0	51.6	51.6	0.179	0.079
3C 7	52.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.2	21.2	0.170	0.099
3C 8	60.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.7	20.7	0.127	0.088
3C 9	72.0	0.0	0.0	0.0	162.4	76.9	142.5	16.7	0.0	35.3	35.3	0.103	0.056
4C X	81.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.3	24.3	0.299	0.222

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	0.79	8.9	0.57	1808.7	310.0	15.0	279.6	0.0	246.1	246.1	1.19	0.66
2	6- 10	1.35	15.3	0.93	3284.0	664.1	43.3	567.2	0.0	602.7	602.7	3.15	1.84
3	11- 15	1.57	17.8	1.07	4822.6	1201.1	110.1	870.4	0.0	942.2	942.2	5.10	3.11
4	16- 20	1.57	17.8	1.07	5769.3	1810.4	301.2	1167.3	0.0	1154.2	1154.2	6.19	3.73
5	21- 25	1.57	17.8	1.07	6634.8	2544.4	656.5	1418.5	0.0	1365.0	1365.0	7.23	4.30
6	26- 30	1.57	17.8	1.07	7551.9	3369.7	1104.7	1642.1	0.0	1594.3	1594.3	8.37	4.96
7	31- 35	1.57	17.8	1.07	8357.3	3966.2	1890.1	1790.0	0.0	1804.9	1804.9	9.21	5.39
8	36- 40	1.57	17.8	1.07	9840.2	4701.2	2891.0	1978.6	0.0	2062.8	2062.8	10.10	5.78
9	41- 45	1.57	17.8	1.07	11323.1	5436.2	3892.0	2167.2	0.0	2320.7	2320.7	10.99	6.17
10	46- 50	1.57	17.8	1.07	12509.5	6024.2	4692.8	2318.1	0.0	2548.1	2548.1	11.88	6.58
11	51- 55	1.57	17.8	1.07	12509.5	6024.2	4692.8	2318.1	0.0	2653.9	2653.9	12.73	7.07
12	56- 60	1.57	17.8	1.07	12509.5	6024.2	4692.8	2318.1	0.0	2757.6	2757.6	13.36	7.51
13	61- 65	1.57	17.8	1.07	12509.5	6024.2	4692.8	2318.1	0.0	2861.3	2861.3	13.99	7.95
14	66- 70	1.57	17.8	1.07	13159.1	6331.9	5262.9	2384.8	0.0	3023.1	3023.1	14.53	8.26
15	71- 75	1.57	17.8	1.07	13971.2	6716.6	5975.6	2468.1	0.0	3199.4	3199.4	15.04	8.54
16	76- 80	1.57	17.8	1.07	14458.4	6947.4	6403.2	2518.1	0.0	3353.8	3353.8	15.95	9.15
17	81- 85	1.57	17.8	1.07	14458.4	6947.4	6403.2	2518.1	0.0	3475.1	3475.1	17.44	10.26

AVERAGE OF CONTROL SECTION 0- 0 CMS. (0- 0 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) =100.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 0.0 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.57 PERCENT. SAND/CLAY RATIO = 4.1.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 67 23 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES LISADE LOAM VERY FINE SANDY SOIL NO. S67 UTAH. 20-18 SAMPLE NO. 7 397-7 408 SANPETE CO. AREA

SOIL FAMILY: XEROLLIC CALCIORTHID,COARSE-LOAMY,CARBON.,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	SIEVE LESS THAN .02	.005	MM .002	CUMULATIVE SAND FRACTION LESS THAN MM 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC
7 397	0- 5	AP	100	100	100	99	99	93	87	87	83	69	34	24	17	85	84	82	75	57	0.06	0.038	0.001	70.8	0.0
7 398	5- 14	AP2	100	100	100	99	99	94	89	89	85	71	36	24	17	87	85	84	77	61	0.05	0.034	0.001	61.1	0.0
7 399	14- 20	B2	100	100	100	99	99	87	74	74	69	56	24	16	11	72	70	68	63	45	0.09	0.061	0.001	60.8	0.0
7 400	20- 26	C 1CA	100	95	92	87	83	65	47	47	39	28	13	8	5	44	40	37	31	21	7.78	5.280	0.008	934.3	7.8
7 401	26- 33	C 2CA	100	100	100	99	99	89	78	78	69	53	36	26	19	75	70	66	58	47	0.13	0.059	0.001	184.7	0.0
7 402	33- 39	C 3CA	100	100	100	99	99	90	80	80	73	58	37	25	18	78	74	71	63	49	0.09	0.052	0.001	119.0	0.0
7 403	39- 44	C 4CA	100	97	95	91	89	66	43	43	33	25	15	11	8	38	34	31	27	21	7.88	5.813	0.004	2048.6	73.5
7 404	44- 512	C 5	PSD NOT DETERMINED																						
7 405	51- 613	C 6	PSD NOT DETERMINED																						
7 406	61- 704	C 7	PSD NOT DETERMINED																						
7 407	70- 774	C 8	PSD NOT DETERMINED																						
7 408	77- 834	C 9	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.924	-0.539	0.165	0.916	7
15BR PC	CLAY PC	OC PC	-0.242	-0.300	14.010	0.529	7
OC PC	CLAY PC	DPTHIN	0.232	0.019	-2.804	1.000	3

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME: SOLIDS 250 -75	75 -20	20 -2	SIZE IN MM 2-.05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT: VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
AP	0.86	0.61	0.02	0.0	0.0	0.6	-0.1	-0.0	0	1	7	17	23	9	26	17	2	2	2	10	26	32	25	24
AP2	0.90	0.67	0.03	0.0	0.0	0.0	-0.7	0.0	0	1	6	16	25	9	27	16	3	2	2	9	22	34	27	23
B2	1.03	0.73	0.02	0.0	0.0	-1.4	1.7	-0.0	0	1	15	17	19	7	24	17	4	4	2	9	28	34	19	18
C 1CA	1.42	1.87	0.04	0.0	0.0	-2.4	2.8	-1.1	0	11	24	17	11	4	21	12	8	9	5	15	23	21	18	13
C 2CA	0.51	2.48	0.0	0.0	0.0	2.7	-2.6	-0.8	0	0	10	15	14	9	39	13	5	9	6	13	18	19	29	32
C 3CA	0.72	2.04	0.0	0.0	0.0	1.6	-2.4	-0.4	0	0	9	14	14	8	39	16	4	6	5	13	22	20	31	29
C 4CA	1.10	1.65	0.0	0.0	0.0	-1.0	1.1	-0.4	0	7	30	14	8	5	26	10	15	13	7	11	18	18	19	23
2C 5					0.0																			
3C 6					0.0																			
4C 7					0.0																			
4C 8					0.0																			
4C 9					0.0																			

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
		WEIGHTS PER UNIT DEPTH (CM OR INCH)			----------POUNDS PER ACRE----------					---TONS/ACRE---			
AP	2.5	0.229	2.59	0.160	461.3	259.0	47.6	92.3	0.0	26.6	26.6	0.264	0.135
AP2	9.5	0.235	2.66	0.164	422.5	239.2	47.9	69.6	0.0	29.8	29.8	0.265	0.126
B2	17.0	0.087	0.98	0.070	357.7	227.1	47.7	60.7	0.0	27.2	27.2	0.236	0.131
C 1CA	23.0	0.0	0.0	0.0	232.3	86.8	26.3	66.8	0.0	50.5	50.5	0.205	0.122
C 2CA	29.5	0.0	0.0	0.0	271.9	76.1	31.3	35.3	0.0	78.2	78.2	0.385	0.234
C 3CA	36.0	0.0	0.0	0.0	274.9	94.2	35.1	0.0	0.0	65.5	65.5	0.386	0.245
C 4CA	41.5	0.0	0.0	0.0	197.2	100.3	30.7	6.5	0.0	46.8	46.8	0.263	0.181
2C 5	47.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.149	0.085
3C 6	56.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4C 7	65.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.207	0.128
4C 8	73.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.150	0.082
4C 9	80.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.216	0.154

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
		CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)			----------POUNDS PER ACRE----------					---TONS/ACRE---			
1	1- 5	1.15	13.0	0.80	2306.6	1295.2	238.0	461.3	0.0	133.1	133.1	1.32	0.67
2	6- 10	2.32	26.3	1.62	4419.0	2491.3	477.6	809.4	0.0	281.8	281.8	2.64	1.30
3	11- 15	3.35	37.9	2.34	6466.8	3675.3	716.9	1148.6	0.0	428.1	428.1	3.94	1.93
4	16- 20	3.78	42.8	2.69	8255.5	4810.7	955.4	1451.9	0.0	564.2	564.2	5.12	2.58
5	21- 25	3.78	42.8	2.69	9417.1	5244.9	1086.8	1786.1	0.0	816.5	816.5	6.14	3.19
6	26- 30	3.78	42.8	2.69	10736.9	5636.2	1238.1	1994.3	0.0	1179.6	1179.6	7.88	4.25
7	31- 35	3.78	42.8	2.69	12102.3	6053.0	1402.2	2100.3	0.0	1545.0	1545.0	9.81	5.44
8	36- 40	3.78	42.8	2.69	13399.0	6530.3	1573.4	2106.8	0.0	1853.6	1853.6	11.62	6.60
9	41- 45	3.78	42.8	2.69	14187.7	6931.3	1696.4	2132.9	0.0	2040.7	2040.7	12.82	7.41
10	46- 50	3.78	42.8	2.69	14187.7	6931.3	1696.4	2132.9	0.0	2040.7	2040.7	13.56	7.83
11	51- 55	3.78	42.8	2.69	14187.7	6931.3	1696.4	2132.9	0.0	2040.7	2040.7	14.30	8.25
12	56- 60	3.78	42.8	2.69	14187.7	6931.3	1696.4	2132.9	0.0	2040.7	2040.7	15.04	8.67
13	61- 65	3.78	42.8	2.69	14187.7	6931.3	1696.4	2132.9	0.0	2040.7	2040.7	16.02	9.27
14	66- 70	3.78	42.8	2.69	14187.7	6931.3	1696.4	2132.9	0.0	2040.7	2040.7	17.05	9.91
15	71- 75	3.78	42.8	2.69	14187.7	6931.3	1696.4	2132.9	0.0	2040.7	2040.7	17.80	10.32
16	76- 80	3.78	42.8	2.69	14187.7	6931.3	1696.4	2132.9	0.0	2040.7	2040.7	18.75	10.95

AVERAGE OF CONTROL SECTION 0- 0 CMS. (0- 0 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) =100.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 0.0 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.96 PERCENT. SAND/CLAY RATIO = 1.8.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 70 44 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES ESCALANTE SANDY LOAM SOIL NO. S68 UTAH. 14-59 SAMPLE NO. 0 269-0 271 DELTA AREA

SOIL FAMILY: XEROLLIC CALCIORTHID,COARSE-LOAMY,MIXED,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING PERCENTAGE PASSING 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	MECHANICAL ANALYSIS NO. 4	NO. 10	NO. 40	NO. 200	SIEVE LESS .02	THAN .005	MM .002	CUMULATIVE SAND FRACTION LESS 1.0	.5	THAN .25	.10	MM .05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC RATIO
0 269	0- 4	A1	100	100	100	100	100	100	100	100	95	41	18	13	9	99	96	93	52	26	0.12	0.094	0.002	48.2	0.1
0 270	4- 15	C 1	100	100	100	100	100	100	100	100	92	42	24	18	14	98	94	89	52	31	0.12	0.094	0.001	125.0	0.3
0 271	15- 29	C 2	100	100	100	100	100	100	100	100	90	38	20	14	10	98	91	86	48	28	0.13	0.106	0.002	70.3	0.2

W E I G H T S P E R U N I T D E P T H (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	H2O CONTENT 1/3 BAR	H2O CONTENT 1/3BAR-AIR DRY
					----------POUNDS PER ACRE----------					---TONS/ACRE---		INCH/INCH	
A1	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C 1	9.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C 2	22.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	H2O CONTENT 1/3 BAR	H2O CONTENT 1/3BAR-AIR DRY
					----------POUNDS PER ACRE----------					---TONS/ACRE---		INCHES	
1	1- 5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	6- 10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	11- 15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	16- 20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	21- 25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

AVERAGE OF CONTROL SECTION 10- 29 CMS. (4- 11 IN.)
SAND (MINUS VFS)= 48.2 PERCENT, SAND = 69.3 PERCENT, SILT (PLUS VFS) = 37.3 PERCENT, CLAY = 14.5 PERCENT,
CARBONATE CLAY = 3.5 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 8.3 PERCENT, CACO3 EQUIVALENT= 16.3 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.49 PERCENT. SAND/CLAY RATIO = 5.7.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 70 45 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES ESCALANTE SANDY LOAM SOIL NO. S68 UTAH. 14-60 SAMPLE NO. 0 272-0 274 DELTA AREA

SOIL FAMILY: XEROLLIC CALCIORTHID,COARSE-LOAMY,MIXED,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING PERCENTAGE PASSING 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	MECHANICAL ANALYSIS SIEVE NO. 4	NO. 10	NO. 40	NO. 200	LESS THAN .02 MM	.005	.002	CUMULATIVE SAND FRACTION LESS THAN MM 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC RATIO
0 272	0- 4	A1	100	100	100	100	100	100	100	100	96	43	18	12	9	99	97	94	55	26	0.11	0.088	0.003	42.7	0.1
0 273	4- 15	C 1	100	100	100	100	100	100	100	100	94	49	24	18	13	98	95	92	60	33	0.10	0.077	0.001	87.4	0.1
0 274	15- 28	C 2	100	100	100	100	100	100	100	100	89	53	28	19	13	95	90	86	63	38	0.09	0.070	0.001	75.2	0.0

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	H2O CONTENT 1/3 BAR	H2O CONTENT 1/3BAR-AIR DRY
					POUNDS PER ACRE					TONS/ACRE		INCH/INCH	
A1	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C 1	9.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C 2	21.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	H2O CONTENT 1/3 BAR	H2O CONTENT 1/3BAR-AIR DRY
					POUNDS PER ACRE					TONS/ACRE		INCHES	
1	1- 5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	6- 10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	11- 15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	16- 20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	21- 25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

AVERAGE OF CONTROL SECTION 10- 29 CMS. (4- 11 IN.)
SAND (MINUS VFS)= 39.5 PERCENT, SAND = 67.4 PERCENT, SILT (PLUS VFS) = 47.2 PERCENT, CLAY = 13.3 PERCENT,
CARBONATE CLAY = 2.3 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 8.1 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.55 PERCENT. SAND/CLAY RATIO = 5.8.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 68 55 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES UNNAMED GRAVELLY SANDY LOAM SOIL NO. S68 UTAH. 1- 8 SAMPLE NO. 8 502-8 507 DESERT RANGE AREA

SOIL FAMILY: TYPIC DURORTHID,COARSE-LOAMY,MIXED,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE													CUMULATIVE SAND FRACTION LESS THAN MM					DIAMETERS AT PERCENT (MM)			CU RATIO	CC RATIO
			3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	1.0	.5	.25	.10	.05	60	50	10		
8 502	0- 4	A1	100	100	100	100	100	90	80	80	68	43	21	14	10	76	69	63	49	36	0.21	0.108	0.002	94.6	0.1
8 503	4- 12	B21	100	100	100	100	100	91	81	81	67	43	23	15	10	76	69	62	48	35	0.22	0.112	0.002	120.9	0.1
8 504	12- 21	B22	100	95	92	87	83	75	66	66	54	34	17	11	8	62	55	49	38	28	0.84	0.266	0.004	240.2	0.8
8 505	21- 30	C 1CA	100	100	100	100	100	100	99	99	78	48	26	18	13	92	80	71	54	40	0.14	0.081	0.001	119.2	0.1
8 506	30- 36	C2SICAM	100	100	100	100	100	100	100	100	54	32	19	14	10	76	56	48	36	27	0.58	0.303	0.002	274.2	1.1
8 507	36- 48	C3SICAM	100	100	100	100	100	99	98	98	68	40	24	18	14	91	71	59	45	35	0.27	0.141	0.001	266.0	0.3

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	REGRESSION COEFFICIENTS A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.556	1.687	5.987	0.885	6
15BR PC	CLAY PC	OC PC	0.149	-4.692	10.999	0.671	6
OC PC	CLAY PC	DPTHIN	0.006	-0.010	0.632	0.983	6

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC, FE	PYR. FE+AL	PYR/D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME: SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	.05-.002	.002 LT	PORES CAP.	PORES NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT: VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A1	1.26	0.90	0.0	0.0	0.0	-0.5	-0.4	-0.0	0	0	10	23	13	5	0	0	6	10	9	20	19	20	17	14
B21	1.20	0.82	0.0	0.0	0.0	-0.1	1.0	0.0	0	0	10	24	13	6	26	21	6	11	9	19	18	18	17	15
B22	1.31	0.99	0.0	0.0	0.0	-0.4	0.5	-0.0	0	10	10	22	12	4	0	0	7	11	10	19	18	18	17	13
C 1CA	1.11	1.24	0.0	0.0	0.0	1.7	-1.4	-0.1	0	0	0	28	13	6	35	18	9	14	10	19	16	16	15	15
C 2SICAM	2.00	2.08	0.0	0.0	0.0	-0.4	0.3	0.0	0	0	0	46	11	6	24	13	27	22	9	13	9	9	11	11
C 3SICAM	1.09	0.92	0.0	0.0	0.0	-0.3	0.0	0.0	0	0	1	40	13	9	0	0	9	23	15	17	12	13	11	17

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. 15 BAR INCH/INCH	
		WEIGHTS PER UNIT DEPTH (CM OR INCH)			POUNDS PER ACRE					TONS/ACRE			
A1	2.0	0.126	1.43	0.089	572.2	35.2	11.2	114.4	0.0	18.3	18.3	0.0	0.0
B21	8.0	0.114	1.29	0.085	559.0	62.1	6.0	100.9	0.0	22.0	22.0	0.239	0.162
B22	16.5	0.091	1.03	0.068	506.0	93.8	10.6	53.8	0.0	23.0	23.0	0.0	0.0
C 1CA	25.5	0.105	1.19	0.079	494.5	110.4	59.5	44.9	0.0	44.6	44.6	0.317	0.201
C 2SICAM	33.0	0.089	1.01	0.067	688.1	186.0	226.1	73.7	0.0	96.4	96.4	0.200	0.068
C 3SICAM	42.0	0.077	0.87	0.058	1040.6	224.6	533.8	102.2	0.0	35.6	35.6	0.0	0.0

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. 15 BAR INCH/INCH	
		CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)			POUNDS PER ACRE					TONS/ACRE			
1	1- 5	0.62	7.0	0.44	2847.6	202.9	50.9	558.6	0.0	95.3	95.3	1.19	0.81
2	6- 10	1.19	13.5	0.87	5642.3	513.5	80.7	1063.3	0.0	205.3	205.3	2.38	1.62
3	11- 15	1.69	19.1	1.24	8278.4	919.2	124.3	1426.6	0.0	318.3	318.3	3.57	2.43
4	16- 20	2.14	24.3	1.58	10808.6	1388.5	177.3	1695.7	0.0	433.3	433.3	4.76	3.24
5	21- 25	2.65	30.1	1.97	13292.9	1924.0	425.9	1928.9	0.0	634.6	634.6	6.27	4.21
6	26- 30	3.18	36.0	2.36	15765.6	2476.0	723.5	2153.2	0.0	857.4	857.4	7.85	5.21
7	31- 35	3.62	41.0	2.69	19206.2	3406.1	1854.0	2521.9	0.0	1339.5	1339.5	8.85	5.55
8	36- 40	4.02	45.5	2.99	24056.6	4490.5	4215.1	3004.3	0.0	1578.2	1578.2	9.85	5.89
9	41- 45	4.40	49.9	3.28	29259.4	5613.4	6883.9	3515.2	0.0	1755.9	1755.9	10.85	6.23

AVERAGE OF CONTROL SECTION 25- 76 CMS. (10- 30 IN.)
SAND (MINUS VFS)= 43.2 PERCENT, SAND = 58.5 PERCENT, SILT (PLUS VFS) = 44.3 PERCENT, CLAY = 12.5 PERCENT,
CARBONATE CLAY = 3.1 PERCENT, 2-250MM= 17.6 PERCENT, 15 BAR = 10.3 PERCENT, CACO3 EQUIVALENT= 24.1 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.59 PERCENT. SAND/CLAY RATIO = 4.6.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 70 46 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES WINKEL GRAVELLY FINE SANDY LOAM SOIL NO. S70 UTAH. 27- 1 SAMPLE NO. 0 275-0 279 WASHINGTON CO. AREA

SOIL FAMILY: TYPIC PALEORTHID,LMY-SKTL,MXD,THERMIC,SHALLOW RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	CUMULATIVE SAND FRACTION LESS 1.0	.5	THAN .25	.10	MM .05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC
0 275	0- 1	A1	100	99	98	96	95	93	91	89	84	31	8	6	5	87	85	81	41	18	0.15	0.122	0.023	6.6	0.0
0 276	1- 6	C 1	100	98	96	94	92	90	88	86	81	39	17	12	9	84	82	79	48	29	0.14	0.107	0.003	51.1	0.1
0 277	6- 12	C 2CA	100	92	86	77	71	69	67	65	62	31	15	11	8	64	63	61	38	24	0.24	0.164	0.004	64.5	0.3
0 278	12- 16	C 3CA	100	88	79	67	58	56	53	51	46	24	13	10	8	49	46	44	28	19	20.28	1.507	0.005	4268.7	54.9
0 279	16- 20	C4CAM	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	-0.205	-3.021	10.558	0.963	4
15BR PC	CLAY PC	OC PC	0.704	2.887	-2.895	0.965	4
OC PC	CLAY PC	DPTHIN	-0.211	0.075	2.061	0.995	4

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05- .05	.05-.002	.002 LT	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS, PERCENT OF SAND PLUS SILT: VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A1	1.16	0.68	0.0	0.0	0.0	-0.0	0.0	-0.0	5	3	3	40	8	3	0	0	2	2	6	47	27	12	4	6
C 1	0.76	0.50	0.0	0.0	0.0	0.1	-0.3	0.0	0	5	4	36	13	6	15	21	2	3	5	40	24	16	11	11
C 2CA	0.62	0.47	0.0	0.0	0.0	-0.2	0.6	-0.0	16	15	3	22	8	4	10	22	1	2	4	40	24	16	11	14
C 3CA	0.51	0.59	0.0	0.0	0.0	0.1	-0.3	0.0	20	22	4	17	6	4	9	18	6	5	6	37	21	14	11	19
C 4CAM					0.0																				

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A1	0.5	0.223	2.52	0.128	816.1	36.3	27.8	141.5	0.0	9.1	9.1	0.0	0.0
C 1	3.5	0.045	0.51	0.048	1107.6	67.2	37.9	154.3	0.0	9.9	9.9	0.134	0.080
C 2CA	9.0	0.037	0.41	0.039	764.8	50.2	19.2	114.1	0.0	9.4	9.4	0.082	0.042
C 3CA	14.0	0.046	0.52	0.049	583.0	46.1	14.7	62.5	0.0	16.8	16.8	0.077	0.033
C 4CAM	18.0	0.104	1.18	0.110	1197.1	48.8	34.0	43.2	0.0	162.6	162.6	0.132	0.057

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	0.40	4.6	0.32	5246.4	305.3	179.4	758.5	0.0	48.6	48.6	0.67	0.40
2	6- 10	0.59	6.7	0.52	9413.2	573.1	294.2	1369.2	0.0	96.1	96.1	1.13	0.65
3	11- 15	0.81	9.1	0.75	12691.8	811.8	376.9	1784.8	0.0	165.4	165.4	1.52	0.83
4	16- 20	1.27	14.3	1.24	18063.2	1053.0	527.6	2020.1	0.0	832.5	832.5	2.12	1.09

AVERAGE OF CONTROL SECTION 25- 41 CMS. (10- 16 IN.)
SAND (MINUS VFS)= 44.4 PERCENT, SAND = 63.2 PERCENT, SILT (PLUS VFS) = 40.7 PERCENT, CLAY = 14.9 PERCENT,
CARBONATE CLAY = 2.5 PERCENT, 2-250MM= 59.3 PERCENT, 15 BAR = 7.1 PERCENT, CACO3 EQUIVALENT= 19.5 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.30 PERCENT. SAND/CLAY RATIO = 5.8.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 70 47 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES WINKEL VERY GAVELLY FINE SANDY LOAM SOIL NO. S70 UTAH. 27- 2 SAMPLE NO. 0 280-0 284 WASHINGTON CO. AREA

SOIL FAMILY: TYPIC PALEORTHID,LMY-SKTL,MXD,THERMIC,SHALLOW RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	CUMULATIVE SAND FRACTION LESS THAN .02 MM	.005	.002	LESS THAN 1.0 MM	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU	CC RATIO
0 280	0- 2	A1	100	94	91	85	81	76	71	65	59	41	15	9	6	62	59	58	47	30	0.59	0.127	0.006	101.8	0.3
0 281	2- 7	C 1	100	92	87	79	73	71	69	66	62	45	19	12	8	65	63	61	53	33	0.22	0.091	0.003	68.2	0.1
0 282	7- 11	C 2CA	100	90	84	74	67	65	62	59	56	42	20	14	10	58	56	55	48	31	2.66	0.132	0.002	1201.9	2.5
0 283	11- 18	C3CAM	100	85	74	58	47	47	47	47	35	26	15	11	8	40	35	34	28	21	26.61	20.535	0.003	7654.8	133.3
0 284	18- 20	C4CAM	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	-0.422	-16.870	19.401	0.996	4
15BR PC	CLAY PC	OC PC	0.768	19.492	-8.176	0.858	4
OC PC	CLAY PC	DPTHIN	-0.040	0.011	0.705	0.945	4

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC.	PYR.	PYR/ D.C. FE	FE+AL	FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250-75	75-20	20-2	2-.05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A1	1.04	0.61	0.0	0.0	0.0			-0.1	0.8	-0.0	5	11	9	21	14	3	17	20	5	5	2	18	30	25	15	10
C 1	0.88	0.57	0.0	0.0	0.0			0.1	-0.8	0.0	0	16	4	19	15	5	0	0	2	4	2	15	33	25	19	13
C 2CA	0.64	0.51	0.0	0.0	0.0			-0.1	0.6	-0.0	0	20	5	16	13	6	20	20	3	4	2	14	34	24	20	19
C 3CAM	0.69	0.86	0.0	0.0	0.0			0.1	-0.6	0.0	20	39	0	19	9	6	0	0	17	13	5	13	19	15	18	22
C 4CAM					0.0																					

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
A1	1.0	0.069	0.78	0.057	860.1	36.1	21.3	72.1	0.0	24.3	24.3	0.152	0.112
C 1	4.5	0.046	0.52	0.043	655.7	47.4	26.7	63.5	0.0	20.9	20.9	0.0	0.0
C 2CA	9.0	0.042	0.47	0.039	838.0	50.5	19.4	49.3	0.0	25.3	25.3	0.176	0.131
C 3CAM	14.5	0.068	0.77	0.064	800.5	53.9	18.8	23.9	0.0	53.1	53.1	0.0	0.0
C 4CAM	19.0	0.114	1.29	0.106	1544.0	53.8	45.8	19.4	0.0	229.1	229.1	0.112	0.013

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
1	1- 5	0.27	3.1	0.24	3687.2	214.4	122.8	334.7	0.0	111.3	111.3	0.76	0.56
2	6- 10	0.49	5.6	0.45	7512.5	460.9	234.3	609.5	0.0	229.0	229.0	1.59	1.18
3	11- 15	0.81	9.1	0.74	11552.6	727.1	328.9	754.3	0.0	466.6	466.6	2.47	1.83
4	16- 20	1.24	14.0	1.14	17042.2	996.4	476.9	864.8	0.0	1084.1	1084.1	3.22	2.25

AVERAGE OF CONTROL SECTION 0- 28 CMS. (0- 11 IN.)
SAND (MINUS VFS)= 21.1 PERCENT, SAND = 49.5 PERCENT, SILT (PLUS VFS) = 66.0 PERCENT, CLAY = 12.9 PERCENT,
CARBONATE CLAY = 1.0 PERCENT, 2-250MM= 38.1 PERCENT, 15 BAR = 6.6 PERCENT, CACO3 EQUIVALENT= 21.6 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.33 PERCENT. SAND/CLAY RATIO = 3.8.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 70 49 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES PASTURA SANDY LOAM (TAXADJUNCT) SOIL NO. S70 UTAH. 27- 4 SAMPLE NO. 0 290-0 293 WASHINGTON CO. AREA

SOIL FAMILY: USTOLLIC PALEORTHID,LOAMY,MIXED,MESIC,SHALLOW RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE													CUMULATIVE SAND FRACTION					DIAMETERS AT PERCENT (MM)			CU RATIO	CC
			3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	LESS 1.0	THAN .5	MM .25	.10	.05	60	50	10		
0 290	0- 3	A1	100	99	99	98	97	93	89	85	74	46	24	18	14	82	76	69	52	36	0.15	0.091	0.001	151.0	0.2
0 291	3- 10	C 1	100	100	100	100	100	99	97	92	74	50	30	23	18	85	75	69	56	42	0.13	0.075	0.001	192.7	0.1
0 292	10- 18	C 2CA	100	97	94	91	88	87	85	79	67	47	30	23	19	75	68	63	52	40	0.20	0.090	0.001	297.6	0.1
0 293	18- 20	C 3CAM	100	100	100	100	100	100	100	100	51	32	20	13	9	71	53	45	35	27	0.65	0.385	0.002	262.6	1.1

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	REGRESSION COEFFICIENTS A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.820	-9.130	6.066	0.999	4
15BR PC	CLAY PC	OC PC	0.006	8.023	5.330	0.949	4
OC PC	CLAY PC	DPTHIN	0.031	0.017	-0.154	0.979	4

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME: SOLIDS 250 -75	75 -20	20 -2	SIZE IN MM 2-.05	.05.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT: VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A1	1.04	0.54	0.0	0.0	0.0	0.1	-0.2	0.0	0	2	6	26	12	8	21	25	4	9	10	24	23	17	14	20
C 1	0.93	0.55	0.0	0.0	0.0	-0.3	0.6	-0.0	0	0	4	25	12	9	22	28	10	12	9	18	19	17	15	25
C 2CA	0.85	0.62	0.0	0.0	0.0	0.2	-0.4	0.0	0	6	5	20	11	10	28	20	7	11	9	18	19	17	18	32
C 3CAM	2.80	3.60	0.0	0.0	0.0	0.0	-0.0	-0.0	0	0	0	46	12	6	25	11	32	20	9	11	8	9	12	10

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
A1	1.5	0.062	0.70	0.049	1200.6	39.3	31.4	85.1	0.0	16.4	16.4	0.174	0.111
C 1	6.5	0.105	1.19	0.065	1501.6	49.7	31.7	75.4	0.0	26.2	26.2	0.185	0.116
C 2CA	14.0	0.110	1.25	0.065	1170.1	47.2	33.9	47.9	0.0	29.5	29.5	0.241	0.161
C 3CAM	19.0	0.066	0.75	0.039	1285.5	45.4	52.2	29.5	0.0	105.9	105.9	0.215	0.125

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
1	1- 5	0.40	4.5	0.28	6604.9	217.2	157.6	406.1	0.0	101.6	101.6	0.89	0.56
2	6- 10	0.92	10.4	0.60	14112.8	465.7	316.3	782.9	0.0	232.7	232.7	1.81	1.14
3	11- 15	1.47	16.7	0.93	19963.4	701.7	486.0	1022.6	0.0	380.2	380.2	3.01	1.94
4	16- 20	1.93	21.9	1.20	26044.8	934.0	692.1	1225.3	0.0	680.4	680.4	4.16	2.67

AVERAGE OF CONTROL SECTION 25- 46 CMS. (10- 18 IN.)
SAND (MINUS VFS)= 34.6 PERCENT, SAND = 49.2 PERCENT, SILT (PLUS VFS) = 41.3 PERCENT, CLAY = 24.1 PERCENT,
CARBONATE CLAY = 8.0 PERCENT, 2-250MM= 21.0 PERCENT, 15 BAR = 10.6 PERCENT, CACO3 EQUIVALENT= 20.6 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.50 PERCENT. SAND/CLAY RATIO = 2.6.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 70 60 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES CAVE GRAVELLY SANDY LOAM SOIL NO. S70 UTAH. 27-15 SAMPLE NO. 0 363-0 368 WASHINGTON CO. AREA

SOIL FAMILY: TYPIC PALEORTHID,LOAMY,MIXED,THERMIC,SHALLOW RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE													CUMULATIVE SAND FRACTION					DIAMETERS AT PERCENT (MM)			CU RATIO	CC RATIO
			3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	LESS 1.0	THAN .5	MM .25	.10	.05	60	50	10		
0 363	0- 1	A1	100	99	99	98	98	92	86	77	64	44	16	11	8	70	65	62	51	32	0.21	0.096	0.004	58.8	0.1
0 364	1- 4	C 1	100	100	100	100	100	97	94	86	74	52	22	16	11	80	75	72	60	39	0.10	0.072	0.002	64.7	0.1
0 365	4- 8	C 2	100	100	100	100	100	98	96	90	80	57	25	18	13	85	81	78	66	43	0.08	0.062	0.001	71.7	0.0
0 366	8- 15	C 3	100	92	87	79	73	72	70	65	58	43	19	14	11	62	59	57	49	32	0.64	0.116	0.002	365.5	0.6
0 367	15- 25	C4CAM	100	91	84	75	68	68	68	68	46	34	25	19	15	56	47	43	37	31	1.27	0.646	0.001	1309.6	2.2
0 368	25- 27	C5CAM	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.873	6.841	-1.093	0.981	5
15BR PC	CLAY PC	OC PC	-0.329	-6.922	15.626	0.907	5
OC PC	CLAY PC	DPTHIN	-0.026	-0.018	0.962	0.789	5

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	DC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOILS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS, PERCENT OF SAND PLUS SILT: VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A1	1.34	0.74	0.0	0.0	0.0	0.1	-0.1	-0.1	2	1	11	23	12	4	0	0	10	7	4	16	27	24	12	12
C 1	1.11	0.61	0.0	0.0	0.0	-0.6	0.9	0.1	0	0	8	27	16	7	21	21	8	7	4	15	28	23	14	15
C 2	1.08	0.64	0.0	0.0	0.0	-0.6	0.4	0.1	0	0	5	24	15	7	0	0	6	6	4	15	30	23	16	17
C 3	0.94	0.62	0.0	0.0	0.0	1.0	-1.0	-0.1	0	16	5	19	13	6	15	26	5	6	4	15	30	24	16	19
C 4CAM	1.27	2.57	0.0	0.0	0.0	0.2	-0.2	0.0	0	25	0	28	13	11	0	0	23	17	8	11	10	11	20	27
C 5CAM					0.0																			

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A1	0.5	0.144	1.63	0.085	1014.0	44.9	5.4	82.0	0.0	15.2	15.2	0.0	0.0
C 1	2.5	0.109	1.23	0.073	1251.0	42.9	6.9	92.9	0.0	20.8	20.8	0.182	0.114
C 2	6.0	0.096	1.08	0.064	1269.4	50.3	6.4	65.4	0.0	19.6	19.6	0.0	0.0
C 3	11.5	0.077	0.87	0.052	1051.1	56.6	5.2	78.8	0.0	16.8	16.8	0.121	0.061
C 4CAM	20.0	0.107	1.21	0.072	1112.3	48.7	7.2	24.4	0.0	104.7	104.7	0.0	0.0
C 5CAM	26.0	0.0	0.0	0.0	1268.5	60.0	21.6	24.4	0.0	68.7	68.7	0.150	0.095

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	0.57	6.4	0.37	6036.3	223.9	32.4	426.2	0.0	97.3	97.3	0.91	0.57
2	6- 10	1.01	11.4	0.66	11946.7	488.0	62.0	780.2	0.0	189.7	189.7	1.70	1.03
3	11- 15	1.39	15.7	0.92	17202.1	771.0	87.8	1174.3	0.0	273.9	273.9	2.30	1.33
4	16- 20	1.92	21.8	1.28	22763.3	1014.7	123.7	1296.2	0.0	797.3	797.3	2.90	1.63
5	21- 25	2.46	27.8	1.64	28324.6	1258.4	159.7	1418.0	0.0	1320.6	1320.6	3.50	1.93

AVERAGE OF CONTROL SECTION 25- 38 CMS. (10- 15 IN.)
SAND (MINUS VFS)= 25.1 PERCENT, SAND = 50.1 PERCENT, SILT (PLUS VFS) = 58.6 PERCENT, CLAY = 16.3 PERCENT,
CARBONATE CLAY = 2.5 PERCENT, 2-250MM= 35.0 PERCENT, 15 BAR = 8.8 PERCENT, CACO3 EQUIVALENT= 18.2 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.48 PERCENT. SAND/CLAY RATIO = 3.5.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 69179 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES HARRISBURG FINE SANDY LOAM SOIL NO. S69 UTAH. 27- 3 SAMPLE NO. 9 917-9 921 WASHINGTON CO AREA

SOIL FAMILY: TYPIC PALEORTHID,COARSE-LOAMY,MIXED,THERMIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS - - - PERCENTAGE PASSING SIEVE - - - 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	CUMULATIVE SAND FRACTION LESS 1.0	THAN .5	MM .25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC
9 917	0- 2	A1	100	100	100	100	100	100	100	100	90	25	7	6	5	100	96	72	33	18	0.19	0.149	0.025	7.5	0.1
9 918	2- 16	C 1	100	100	100	100	100	100	100	100	91	28	10	8	6	99	97	75	33	20	0.18	0.144	0.020	9.0	0.1
9 919	16- 26	C 2	100	100	100	100	100	100	100	100	92	29	10	8	7	100	97	77	35	22	0.17	0.138	0.015	11.5	0.1
9 920	26- 35	C 3	100	100	100	99	99	99	98	97	88	24	10	7	6	97	94	71	30	17	0.20	0.157	0.021	9.3	0.1
9 921	35- 43	C4CAM	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	-0.122	-0.761	3.901	0.604	4
15BR PC	CLAY PC	OC PC	-0.128	-4.478	3.474	0.977	4
OC PC	CLAY PC	DPTHIN	-0.221	0.011	1.313	1.000	3

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME — SOILS, SIZE IN MM: 250 -75	75 -20	20 -2	2-.05- .05.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS — PERCENT OF SAND PLUS SILT: VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A1	0.61	0.37	0.06	0.0	0.0	0.0	0.0	-0.0	0	0	0	52	8	3	6	31	0	4	25	42	16	11	2	5
C 1	0.53	0.40	0.05	0.0	0.0	-0.1	-0.1	0.0	0	0	0	49	9	4	6	32	1	3	23	45	14	11	4	6
C 2	0.45	0.33	0.05	0.0	0.0	0.0	0.0	-0.0	0	0	0	49	9	4	6	32	0	3	21	45	14	12	4	7
C 3	0.50	0.42	0.03	0.0	0.0	0.0	0.1	0.3	0	1	1	48	7	4	7	32	0	3	26	45	14	8	4	7
C 4CAM					0.0																			

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
		WEIGHTS PER UNIT DEPTH (CM OR INCH)			POUNDS PER ACRE					TONS/ACRE			
A1	1.0	0.058	0.66	0.042	1293.2	45.9	4.3	59.7	0.0	3.8	3.8	0.054	0.027
C 1	9.0	0.025	0.29	0.022	1343.3	66.4	8.5	86.4	0.0	7.4	7.4	0.055	0.023
C 2	21.0	0.026	0.29	0.023	1346.0	72.6	8.7	176.9	0.0	9.5	9.5	0.050	0.018
C 3	30.5	0.0	0.0	0.0	1250.7	50.0	8.0	189.7	0.0	8.7	8.7	0.058	0.026
C 4CAM	39.0	0.0	0.0	0.0	1632.4	119.3	9.5	96.9	0.0	80.8	80.8	0.209	0.141

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
		CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)			POUNDS PER ACRE					TONS/ACRE			
1	1- 5	0.19	2.2	0.15	6616.3	291.1	34.1	378.4	0.0	29.8	29.8	0.27	0.11
2	6- 10	0.32	3.6	0.26	13332.7	623.2	76.6	810.2	0.0	66.7	66.7	0.54	0.22
3	11- 15	0.44	5.0	0.37	20049.0	955.4	119.0	1242.0	0.0	103.6	103.6	0.81	0.33
4	16- 20	0.57	6.5	0.48	26776.3	1312.2	162.3	2036.1	0.0	148.8	148.8	1.06	0.42
5	21- 25	0.70	7.9	0.60	33506.2	1675.1	205.7	2920.8	0.0	196.1	196.1	1.31	0.51
6	26- 30	0.73	8.2	0.62	39854.9	1947.8	246.4	3856.5	0.0	240.2	240.2	1.59	0.63
7	31- 35	0.73	8.2	0.62	46108.3	2198.0	286.4	4804.9	0.0	283.7	283.7	1.88	0.76
8	36- 40	0.73	8.2	0.62	54270.2	2794.6	334.0	5289.7	0.0	687.6	687.6	2.92	1.46

AVERAGE OF CONTROL SECTION 25- 100 CMS. (10- 39 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) = 0.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.9 PERCENT, 15 BAR = 2.6 PERCENT, CACO3 EQUIVALENT= 9.8 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.10 PERCENT. SAND/CLAY RATIO = 13.7.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 69185 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES HARRISBURG FINE SANDY LOAM SOIL NO. S69 UTAH. 27- 9 SAMPLE NO. 9 947-9 951 WASHINGTON CO AREA

SOIL FAMILY: TYPIC PALEORTHID,COARSE-LOAMY,MIXED,THERMIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	CUMULATIVE SAND FRACTION LESS THAN .02 MM	.005	.002	LESS THAN 1.0 MM	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC
9 947	0- 3	A1	100	100	100	100	100	100	100	100	97	38	9	7	5	100	98	92	53	16	0.12	0.094	0.023	5.1	0.0
9 948	3- 7	C 1	100	100	100	100	100	100	100	98	94	43	14	11	8	97	96	90	56	26	0.11	0.087	0.004	27.6	0.1
9 949	7- 15	C 2	100	100	100	100	100	99	97	95	92	41	15	11	9	94	93	88	53	25	0.12	0.093	0.003	43.3	0.1
9 950	15- 23	C 3	100	100	100	100	100	99	97	95	89	32	14	11	9	93	91	82	42	21	0.15	0.119	0.003	43.8	0.2
9 951	23- 31	C 4CA	100	100	100	100	100	100	100	100	69	41	20	15	11	83	70	63	48	31	0.20	0.114	0.002	120.9	0.3

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	REGRESSION COEFFICIENTS A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.359	4.380	2.018	0.966	5
15BR PC	CLAY PC	OC PC	-0.221	-7.360	6.093	0.964	5
OC PC	CLAY PC	DPTHIN	-0.068	0.010	0.645	1.000	3

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	OC. FE	PYR. FE+AL	PYR/ O.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A1	0.93	0.47	0.0	0.0	0.0	0.2	0.1	-0.0	0	0	0	49	6	3	15	27	0	1	6	41	39	8	4	6
C 1	0.72	0.40	0.0	0.0	0.0	-0.5	-0.1	0.0	0	0	1	41	10	5	0	0	1	1	7	38	34	13	6	9
C 2	0.60	0.37	0.0	0.0	0.0	0.1	-0.4	-0.0	0	0	3	40	9	5	9	34	1	1	6	41	32	13	6	11
C 3	0.55	0.39	0.0	0.0	0.0	0.2	0.5	0.2	0	0	3	43	7	5	0	0	2	3	10	46	25	8	6	10
C 4CA	1.11	1.96	0.0	0.0	0.0	-0.1	-0.0	0.7	0	0	0	39	11	6	0	0	18	15	8	18	19	12	11	12

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A1	1.5	0.077	0.87	0.059	976.2	54.4	8.0	108.8	0.0	1.7	1.7	0.146	0.114
C 1	5.0	0.031	0.35	0.032	1190.2	68.6	7.7	78.7	0.0	5.0	5.0	0.0	0.0
C 2	11.0	0.025	0.28	0.026	1284.7	71.2	7.6	64.2	0.0	8.2	8.2	0.079	0.038
C 3	19.0	0.0	0.0	0.0	836.7	67.2	7.6	51.4	0.0	14.8	14.8	0.0	0.0
C 4CA	27.0	0.0	0.0	0.0	1270.1	81.5	7.8	13.2	0.0	96.8	96.8	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	0.29	3.3	0.24	5309.0	300.3	39.5	483.7	0.0	15.3	15.3	0.73	0.57
2	6- 10	0.43	4.8	0.38	11543.5	651.0	77.7	833.7	0.0	50.1	50.1	1.26	0.91
3	11- 15	0.55	6.3	0.51	17967.0	1006.7	115.6	1154.9	0.0	91.3	91.3	1.65	1.10
4	16- 20	0.55	6.3	0.51	22150.5	1342.7	153.5	1411.9	0.0	165.4	165.4	2.04	1.29
5	21- 25	0.55	6.3	0.51	27200.8	1707.3	191.8	1592.5	0.0	403.4	403.4	2.43	1.48
6	26- 30	0.55	6.3	0.51	33551.3	2114.9	230.9	1658.7	0.0	887.4	887.4	2.82	1.67

AVERAGE OF CONTROL SECTION 25- 79 CMS. (10- 31 IN.)
SAND (MINUS VFS)= 51.6 PERCENT, SAND = 73.5 PERCENT, SILT (PLUS VFS) = 38.5 PERCENT, CLAY = 9.9 PERCENT,
CARBONATE CLAY = 3.2 PERCENT, 2-250MM= 3.1 PERCENT, 15 BAR = 4.3 PERCENT, CACO3 EQUIVALENT= 27.5 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.13 PERCENT. SAND/CLAY RATIO = 9.3.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 70 48 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES PASTURA LOAM SOIL NO. S70 UTAH. 27- 3 SAMPLE NO. 0 285-0 289 WASHINGTON CO. AREA

SOIL FAMILY: USTOLLIC PALEORTHID,LOAMY,MIXED,MESIC,SHALLOW RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE												CUMULATIVE SAND FRACTION					DIAMETERS AT PERCENT (MM)			CU RATIO	CC RATIO
			3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	LESS 1.0	THAN .5	MM .25	.10	.05	60	50	10		
0 285	0- 2	A1	100	100	100	100	100	98	96	89	81	57	27	17	11	85	82	80	64	46	0.09	0.058	0.002	50.2	0.0
0 286	2- 8	C 1	100	100	100	100	100	99	98	94	91	67	37	25	16	93	91	89	74	56	0.06	0.037	0.001	71.6	0.0
0 287	8- 15	C 2CA	100	100	100	100	100	99	97	93	90	69	40	28	20	92	91	89	76	58	0.05	0.033	0.001	86.6	0.0
0 288	15- 18	C 3CA	100	95	92	87	84	80	75	62	54	41	31	24	18	59	54	51	44	38	1.26	0.219	0.001	1789.7	0.4
0 289	18- 27	C4CAM	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	1.823	13.588	-22.429	0.947	4
15BR PC	CLAY PC	OC PC	-0.760	-11.277	32.399	0.928	4
OC PC	CLAY PC	DPTHIN	-0.070	-0.019	2.114	0.956	4

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION, PERCENT (VOL) OF SOIL VOLUME: SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05- .05	.05-.002	.002 LT	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS, PERCENT OF SAND PLUS SILT: VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A1	1.44	0.73	0.0	0.0	0.0	0.1	-0.0	-0.1	0	0	6	22	18	5	21	28	5	4	3	20	22	24	21	14
C 1	1.21	0.67	0.0	0.0	0.0	-1.7	1.0	0.1	0	0	3	18	19	8	0	0	1	3	2	19	24	24	27	21
C 2CA	1.03	0.66	0.0	0.0	0.0	1.2	-0.7	-0.1	0	0	3	17	18	10	27	25	1	2	2	18	24	24	28	28
C 3CA	0.98	1.23	0.0	0.0	0.0	0.5	-0.3	0.0	0	4	5	0	0	0	0	0	7	11	8	16	14	15	30	42
C 4CAM					0.0																			

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
A1	1.0	0.275	3.12	0.156	1070.7	62.6	25.3	139.2	0.0	13.7	13.7	0.171	0.102
C 1	5.0	0.171	1.94	0.099	1312.2	82.4	31.6	96.4	0.0	15.1	15.1	0.0	0.0
C 2CA	11.5	0.145	1.64	0.094	1666.5	102.9	24.6	62.7	0.0	24.1	24.1	0.219	0.130
C 3CA	16.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C 4CAM	22.5	0.152	1.72	0.099	1377.9	73.9	44.3	15.0	0.0	155.9	155.9	0.235	0.058

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
1	1- 5	1.06	12.0	0.61	6077.8	372.2	145.2	567.4	0.0	72.7	72.7	0.85	0.51
2	6- 10	1.87	21.1	1.09	13347.2	825.1	289.2	981.9	0.0	166.3	166.3	1.80	1.08
3	11- 15	2.59	29.3	1.56	21679.6	1339.5	412.5	1295.3	0.0	286.8	286.8	2.89	1.73
4	16- 20	2.89	32.7	1.76	24435.3	1487.3	501.0	1325.4	0.0	598.6	598.6	4.02	2.24
5	21- 25	3.65	41.3	2.25	31324.6	1856.8	722.3	1400.4	0.0	1378.0	1378.0	5.19	2.53

AVERAGE OF CONTROL SECTION 25- 46 CMS. (10- 18 IN.)
SAND (MINUS VFS)= 22.6 PERCENT, SAND = 38.2 PERCENT, SILT (PLUS VFS) = 52.7 PERCENT, CLAY = 24.7 PERCENT,
CARBONATE CLAY = 11.0 PERCENT, 2-250MM= 18.6 PERCENT, 15 BAR = 12.1 PERCENT, CACO3 EQUIVALENT= 36.1 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.85 PERCENT. SAND/CLAY RATIO = 2.2.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 70 33 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES ABBOTT SILTY CLAY SOIL NO. S68 UTAH. 14- 1 SAMPLE NO. 0 211-0 215 DELTA AREA

SOIL FAMILY: VERTIC FLUVAQUENT,FINE,MONT.,CALC.,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS - - - PERCENTAGE PASSING SIEVE - - - 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS THAN .02 MM	.005	.002	CUMULATIVE SAND FRACTION LESS THAN MM 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC RATIO
0 211	0- 11	A1	PSD NOT DETERMINED																						
0 212	11- 19	C 1	PSD NOT DETERMINED																						
0 213	19- 26	C 2	PSD NOT DETERMINED																						
0 214	26- 35	C 3	PSD NOT DETERMINED																						
0 215	35- 61	C 4	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.0	0.0	0.0	0.0	0
15BR PC	CLAY PC	OC PC	0.0	0.0	0.0	0.0	0
OC PC	CLAY PC	DPTHIN	0.0	0.0	0.0	0.0	0

HORIZON	RATIOS AND RESIDUALS --RATIOS TO CLAY-- CEC	15BAR	DC. PYR. FE	FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION --PERCENT (VOL) OF SOIL VOLUME-- SOLIDS,SIZE IN MM 250 -75	75 -20	20 -2	2-.05 .05	.05-.002	.002 LT	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A1					0.0																			
C 1					0.0																			
C 2					0.0																			
C 3					0.0																			
C 4					0.0																			

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A1	5.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C 1	15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C 2	22.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C 3	30.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C 4	48.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	6- 10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	11- 15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	16- 20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	21- 25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	26- 30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	31- 35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	36- 40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	41- 45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	46- 50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	51- 55	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	56- 60	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

AVERAGE OF CONTROL SECTION 10- 40 CMS. (4- 16 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) = 0.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 19.8 PERCENT, CACO3 EQUIVALENT= 25.2 PERCENT.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 70 34 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES ABBOTT SILTY CLAY SOIL NO. S68 UTAH. 14- 9 SAMPLE NO. 0 216-0 221 DELTA AREA

SOIL FAMILY: VERTIC FLUVAQUENT,FINE,MONT.,CALC.,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS - - - PERCENTAGE PASSING SIEVE - - - 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS THAN .02	.005	.002	CUMULATIVE SAND FRACTION LESS THAN MM 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC RATIO
0 216	0- 8	A1	PSD NOT DETERMINED																						
0 217	8- 22	C 1	PSD NOT DETERMINED																						
0 218	22- 40	C 2	PSD NOT DETERMINED																						
0 219	22- 40	C 2	PSD NOT DETERMINED																						
0 220	40- 54	C 3	PSD NOT DETERMINED																						
0 221	54- 61	C 4	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.0	0.0	0.0	0.0	0
15BR PC	CLAY PC	OC PC	0.0	0.0	0.0	0.0	0
OC PC	CLAY PC	DPTHIN	0.0	0.0	0.0	0.0	0

HORIZON	RATIOS AND RESIDUALS --RATIOS TO CLAY-- CEC	15BAR	DC. PYR. FE	FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION --PERCENT (VOL) OF SOIL VOLUME-- SOLIDS,SIZE IN MM 250-75	75-20	20-2	2-.05	.05-.002	.002-LT CAP.	PORES NON CAP	PSD ON CLAY FREE BASIS VCS CS	MS	FS	VFS	COSI	FSI	CLAY
A1						0.0																
C 1						0.0																
C 2						0.0																
C 2						0.0																
C 3						0.0																
C 4						0.0																

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A1	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C 1	15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C 2	31.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C 2	31.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C 3	47.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C 4	57.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	6- 10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	11- 15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	16- 20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	21- 25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	26- 30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	31- 35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	36- 40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	41- 45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	46- 50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	51- 55	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	56- 60	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

AVERAGE OF CONTROL SECTION 10- 40 CMS. (4- 16 IN.)

SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) = 0.0 PERCENT, CLAY = 0.0 PERCENT,

CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 18.3 PERCENT, CACO3 EQUIVALENT= 34.5 PERCENT.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 70 36 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES ABBOTT SILTY CLAY SOIL NO. S68 UTAH. 14-61 SAMPLE NO. 0 229-0 233 DELTA AREA

SOIL FAMILY: VERTIC FLUVAQUENT,FINE,MONT.(CALC.),MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS - - - PERCENTAGE PASSING SIEVE - - - 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS THAN .02 MM	LESS THAN .005 MM	LESS THAN .002 MM	CUMULATIVE SAND FRACTION 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC RATIO
0 229	0- 12	A 1	PSD NOT DETERMINED																						
0 230	12- 24	C 1	PSD NOT DETERMINED																						
0 231	24- 36	C 1	PSD NOT DETERMINED																						
0. 232	36- 48	C 2	PSD NOT DETERMINED																						
0 233	48- 60	C 2	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.0	0.0	0.0	0.0	0
15BR PC	CLAY PC	OC PC	0.0	0.0	0.0	0.0	0
OC PC	CLAY PC	DPTHIN	0.0	0.0	0.0	0.0	0

HORIZON	RATIOS AND RESIDUALS --RATIOS TO CLAY-- CEC 15BAR	OC.	PYR. FE	PYR/ D.C. FE+AL	RESIDUALS CEC 15BAR MEQ.	OC. PCT.	VOLUME COMPOSITION --PERCENT (VOL) OF SOIL VOLUME-- SOLIDS,SIZE IN MM 250 -75	75 -20	20 -2	2-.05- .05	.05-.002	.002	-PORES- LT CAP.	CAP	NON CAP	PSD ON CLAY FREE BASIS VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
																PERCENT OF SAND PLUS SILT							
A 1				0.0																			
C 1				0.0																			
C 1				0.0																			
C 2				0.0																			
C 2				0.0																			

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
A 1	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C 1	18.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C 1	30.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C 2	42.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C 2	54.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
1	1- 5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	6- 10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	11- 15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	16- 20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	21- 25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	26- 30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	31- 35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	36- 40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	41- 45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	46- 50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	51- 55	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	56- 60	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

AVERAGE OF CONTROL SECTION 10- 40 CMS. (4- 16 IN.)

SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) = 0.0 PERCENT, CLAY = 0.0 PERCENT,

CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 15.6 PERCENT, CACO3 EQUIVALENT= 38.5 PERCENT.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 68 56 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES GLENTON SANDY LOAM SOIL NO. S68 UTAH. 1- 9 SAMPLE NO. 8 508-8 513 DESERT RANGE AREA

SOIL FAMILY: TYPIC TORRIFLUVENT,COARSE-LMY,MXD(CALCR.),MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS THAN .02 MM	.005 MM	.002 MM	CUMULATIVE SAND FRACTION LESS THAN MM 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC RATIO
8 508	0- 3	A1	100	100	100	100	100	100	99	99	92	48	27	19	14	98	94	86	56	39	0.11	0.078	0.001	103.2	0.1
8 509	3- 11	C 1	100	100	100	100	100	100	99	99	95	60	37	24	15	99	97	91	67	52	0.07	0.044	0.001	79.7	0.0
8 510	11- 20	C 2	100	100	100	100	100	99	98	98	91	56	34	23	15	97	93	86	62	49	0.09	0.054	0.001	100.9	0.0
8 511	20- 29	C 3	100	100	100	100	100	97	94	94	85	41	23	16	11	93	88	76	46	34	0.15	0.112	0.002	97.0	0.1
8 512	29- 48	C 4	100	100	100	100	100	98	95	95	84	43	22	15	11	92	86	77	51	33	0.14	0.098	0.002	90.0	0.1
8 513	48- 662	C 5	100	100	100	100	100	100	100	100	99	95	76	45	24	100	99	99	97	92	0.01	0.006	0.001	18.9	0.0

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	-0.311	9.713	20.820	0.643	6
15BR PC	CLAY PC	OC PC	0.799	-1.833	-1.413	0.997	6
OC PC	CLAY PC	DPTHIN	0.023	-0.004	0.047	0.931	6

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	OC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOILS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05- .05	.05-.002	.002 LT	PORES CAP.	PORES NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A1	1.36	0.63	0.0	0.0	0.0	1.7	0.2	-0.0	0	0	0	28	12	6	22	32	1	5	10	35	20	14	16	16
C 1	1.45	0.67	0.0	0.0	0.0	-1.7	-0.1	0.0	0	0	0	22	17	7	25	29	0	2	7	29	18	18	26	18
C 2	1.41	0.67	0.0	0.0	0.0	-1.5	-0.0	0.0	0	0	1	24	16	8	25	26	1	5	9	28	16	18	22	19
C 3	1.63	0.67	0.0	0.0	0.0	-0.1	-0.3	-0.0	0	0	3	34	13	6	22	22	1	7	14	36	15	13	14	14
C 4	1.45	0.64	0.0	0.0	0.0	1.1	0.3	0.0	0	0	3	35	12	6	0	0	3	7	11	32	21	14	12	14
2C 5	0.72	0.71	0.0	0.0	0.0	0.5	-0.0	-0.0	0	0	0	4	37	13	0	0	0	1	1	2	6	21	69	32

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY	WATER CONTENT TO A. D. 15 BAR
					POUNDS PER ACRE					TONS/ACRE		INCH/INCH	
A1	1.5	0.083	0.93	0.070	629.3	83.5	6.4	445.3	33.4	8.4	8.4	0.188	0.112
C 1	7.0	0.061	0.69	0.047	762.3	92.8	6.4	463.2	0.0	11.0	11.0	0.212	0.129
C 2	15.5	0.065	0.74	0.050	866.4	96.4	72.6	223.8	0.0	12.9	12.9	0.214	0.125
C 3	24.5	0.056	0.63	0.043	897.8	88.5	339.2	50.0	0.0	11.2	11.2	0.184	0.109
C 4	38.5	0.032	0.36	0.024	936.2	96.2	420.3	62.5	0.0	9.6	9.6	0.0	0.0
2C 5	57.0	0.078	0.88	0.060	1970.0	39.7	661.4	77.3	0.0	18.2	18.2	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY	WATER CONTENT TO A. D. 15 BAR
					POUNDS PER ACRE					TONS/ACRE		INCH/INCH	
1	1- 5	0.37	4.2	0.30	3412.7	436.2	31.9	2262.2	100.3	47.2	47.2	0.99	0.59
2	6- 10	0.67	7.6	0.54	7224.4	900.3	63.7	4578.2	100.3	102.4	102.4	2.05	1.23
3	11- 15	1.00	11.3	0.79	11452.4	1378.7	360.4	5936.5	100.3	165.1	165.1	3.12	1.86
4	16- 20	1.32	15.0	1.04	15784.5	1860.6	723.3	7055.4	100.3	229.6	229.6	4.19	2.48
5	21- 25	1.60	18.1	1.25	20273.2	2303.1	2419.4	7305.5	100.3	285.8	285.8	5.11	3.02
6	26- 30	1.86	21.0	1.45	24800.5	2753.3	4196.6	7568.0	100.3	340.3	340.3	6.03	3.56
7	31- 35	2.02	22.8	1.57	29481.6	3234.2	6298.3	7880.6	100.3	388.4	388.4	6.95	4.10
8	36- 40	2.18	24.6	1.70	34162.8	3715.1	8400.0	8193.2	100.3	436.4	436.4	7.87	4.64
9	41- 45	2.33	26.4	1.82	38843.9	4196.1	10501.7	8505.8	100.3	484.5	484.5	8.79	5.18
10	46- 50	2.58	29.3	2.01	45592.7	4564.0	13085.6	8848.1	100.3	549.8	549.8	9.71	5.72
11	51- 55	2.97	33.7	2.31	55442.9	4762.3	16392.7	9234.8	100.3	640.7	640.7	10.63	6.26
12	56- 60	3.36	38.1	2.61	65293.1	4960.6	19699.7	9621.5	100.3	731.5	731.5	11.55	6.80
13	61- 65	3.75	42.5	2.91	75143.1	5158.9	23006.8	10008.2	100.3	822.4	822.4	12.47	7.34

AVERAGE OF CONTROL SECTION 25- 102 CMS. (10- 40 IN.)
SAND (MINUS VFS)= 44.4 PERCENT, SAND = 59.8 PERCENT, SILT (PLUS VFS) = 42.4 PERCENT, CLAY = 13.2 PERCENT,
CARBONATE CLAY = 0.3 PERCENT, 2-250MM= 4.3 PERCENT, 15 BAR = 8.4 PERCENT, CACO3 EQUIVALENT= 7.2 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.31 PERCENT. SAND/CLAY RATIO = 3.4.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 68 49 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES GLENTON LOAM SOIL NO. S68 UTAH. 14- 6 SAMPLE NO. 8 385-8 392 DESERT RANGE AREA

SOIL FAMILY: TYPIC TORRIFLUVENT,COARSE-LMY,MXD(CALCR.),MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING PERCENTAGE PASSING 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	MECHANICAL ANALYSIS SIEVE NO. 4	NO. 10	NO. 40	NO. 200	LESS THAN .02 MM	.005 MM	.002 MM	CUMULATIVE SAND FRACTION LESS THAN 1.0 MM	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC RATIO
8 385	0- 2	A11	100	100	100	100	100	99	98	98	88	65	35	20	11	97	89	84	71	56	0.06	0.039	0.002	34.6	0.0
8 386	2- 4	A12	100	100	100	100	100	97	94	94	80	57	32	20	12	90	82	76	62	49	0.09	0.052	0.001	60.0	0.0
8 387	4- 12	C 1	100	100	100	100	100	100	100	100	93	74	40	21	8	99	94	90	80	67	0.04	0.028	0.002	17.0	0.0
8 388	12- 24	C 2	100	100	100	100	100	99	98	98	94	77	36	18	6	98	94	92	83	66	0.04	0.031	0.003	15.2	0.0
8 389	24- 35	C 3	100	100	100	100	100	97	94	94	90	74	35	18	7	93	91	89	81	61	0.05	0.034	0.003	18.7	0.0
8 390	35- 45	C 4	100	100	100	100	100	91	82	82	76	58	27	16	9	79	76	74	64	47	0.08	0.057	0.002	37.3	0.0
8 391	45- 66	C 5	100	100	100	100	100	88	75	75	64	50	29	18	12	69	65	62	55	43	0.19	0.076	0.001	128.2	0.1
8 392	66- 722	C 6	100	100	100	100	100	69	37	37	27	17	11	7	5	33	28	24	19	15	7.83	6.270	0.016	486.7	222.9

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	REGRESSION COEFFICIENTS A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	-0.306	0.346	19.357	0.372	8
15BR PC	CLAY PC	OC PC	-0.064	0.924	8.826	0.400	8
OC PC	CLAY PC	DPTHIN	0.004	-0.009	0.638	0.955	8

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	DC. PCT.	VOLUME COMPOSITION, PERCENT (VOL) OF SOIL VOLUME: SOILS, SIZE IN MM 250-75	75-20	20-2	2-.05	.05-.002	.002-LT	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS, PERCENT OF SAND PLUS SILT: VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	1.85	0.99	0.0	0.0	0.0	0.6	0.3	-0.1	0	0	1	20	21	5	27	26	2	8	6	15	17	24	28	12
A12	1.62	0.83	0.0	0.0	0.0	-0.3	0.1	0.1	0	0	3	21	18	6	0	0	5	10	7	16	16	21	25	14
C 1	2.58	1.35	0.0	0.0	0.0	-0.3	-0.4	-0.0	0	0	0	14	25	3	33	25	1	6	5	11	14	29	35	9
C 2	3.56	1.82	0.0	0.0	0.0	0.2	-0.2	0.0	0	0	1	14	26	3	27	29	1	3	3	9	19	32	33	6
C 3	3.32	1.64	0.0	0.0	0.0	0.3	0.1	0.0	0	0	3	16	26	3	31	21	2	2	2	10	23	30	33	8
C 4	2.17	0.98	0.0	0.0	0.0	-2.8	-0.4	0.1	0	0	9	18	19	5	0	0	4	4	3	13	24	27	25	12
C 5	1.42	0.75	0.0	0.0	0.0	-2.0	-1.2	0.0	0	0	13	17	16	6	0	0	10	6	4	12	19	22	27	18
2C 6	1.07	0.61	0.0	0.0	0.0	4.4	1.5	-0.1	0	0	44	15	7	4	0	0	13	16	11	16	13	14	17	16

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A11	1.0	0.163	1.85	0.125	634.1	122.4	6.3	225.8	0.0	41.4	41.4	0.248	0.168
A12	3.0	0.119	1.35	0.097	561.8	107.0	6.2	210.7	48.6	45.9	45.9	0.0	0.0
C 1	8.0	0.113	1.28	0.092	527.7	159.8	5.8	225.4	0.0	37.7	37.7	0.297	0.226
C 2	18.0	0.093	1.05	0.076	342.4	334.2	17.6	129.5	0.0	38.3	38.3	0.225	0.164
C 3	29.5	0.073	0.82	0.059	297.6	414.5	128.3	31.1	0.0	34.5	34.5	0.278	0.209
C 4	40.0	0.040	0.45	0.032	339.0	308.1	372.7	19.4	0.0	26.2	26.2	0.0	0.0
C 5	55.5	0.022	0.25	0.018	405.2	225.9	394.7	18.6	0.0	21.4	21.4	0.0	0.0
2C 6	69.0	0.014	0.16	0.011	328.3	219.1	151.7	6.0	0.0	23.0	23.0	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	0.68	7.7	0.54	2919.6	618.6	30.9	1098.4	97.2	212.2	212.2	1.29	0.90
2	6- 10	1.24	14.0	1.00	5558.3	1417.7	59.8	2225.5	97.2	400.7	400.7	2.77	2.03
3	11- 15	1.75	19.8	1.41	7640.9	2740.0	124.2	3064.9	97.2	591.1	591.1	4.04	2.97
4	16- 20	2.21	25.0	1.79	9352.8	4411.1	212.4	3712.7	97.2	782.7	782.7	5.16	3.79
5	21- 25	2.66	30.1	2.15	11020.0	6162.5	411.3	4261.9	97.2	970.6	970.6	6.34	4.65
6	26- 30	3.02	34.2	2.45	12508.0	8235.1	1053.0	4417.4	97.2	1143.3	1143.3	7.73	5.69
7	31- 35	3.38	38.3	2.75	13996.1	10307.8	1694.7	4572.8	97.2	1316.0	1316.0	9.12	6.73
8	36- 40	3.58	40.6	2.91	15691.2	11848.4	3558.1	4670.1	97.2	1446.9	1446.9	10.51	7.77
9	41- 45	3.78	42.8	3.07	17386.4	13388.9	5421.6	4767.3	97.2	1577.8	1577.8	11.90	8.81
10	46- 50	3.89	44.0	3.16	19412.2	14518.6	7394.9	4860.2	97.2	1685.0	1685.0	13.29	9.85
11	51- 55	4.00	45.3	3.25	21438.0	15648.3	9368.3	4953.1	97.2	1792.3	1792.3	14.68	10.89
12	56- 60	4.11	46.5	3.34	23463.8	16778.0	11341.7	5046.1	97.2	1899.5	1899.5	16.07	11.93
13	61- 65	4.22	47.7	3.43	25489.6	17907.7	13315.1	5139.0	97.2	2006.8	2006.8	17.46	12.97
14	66- 70	4.29	48.6	3.49	27207.9	19009.9	14316.6	5181.5	97.2	2120.3	2120.3	18.85	14.01

AVERAGE OF CONTROL SECTION 25- 102 CMS. (10- 40 IN.)
SAND (MINUS VFS)= 16.1 PERCENT, SAND = 35.3 PERCENT, SILT (PLUS VFS) = 76.5 PERCENT, CLAY = 7.4 PERCENT,
CARBONATE CLAY = 1.6 PERCENT, 2-250MM= 6.0 PERCENT, 15 BAR = 8.9 PERCENT, CACO3 EQUIVALENT= 26.6 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.58 PERCENT. SAND/CLAY RATIO = 4.4.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 69177 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES TOBLER FINE SANDY LOAM SOIL NO. S69 UTAH. 27- 1 SAMPLE NO. 9 906-9 910 WASHINGTON CO AREA

SOIL FAMILY: TYPIC TORRIFLUVENT,COARSE-LMY,MXD,(CALC.),THRMC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS - - - PERCENTAGE PASSING SIEVE - - - 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	CUMULATIVE SAND FRACTION LESS 1.0	THAN .5	MM .25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC RATIO
9 906	0- 4	A1	100	100	100	100	100	100	100	100	92	33	12	11	10	100	95	83	46	17	0.14	0.111	0.003	51.8	0.2
9 907	4- 13	C 1	100	100	100	100	100	100	100	100	97	42	16	13	10	100	98	91	56	23	0.11	0.088	0.002	60.5	0.2
9 908	13- 21	C 2	100	100	100	100	100	100	100	100	97	49	20	15	11	100	98	92	62	30	0.10	0.077	0.002	55.7	0.1
9 909	21- 38	C 3	100	100	100	100	100	100	100	100	97	53	23	15	10	100	98	92	65	35	0.09	0.071	0.002	49.1	0.1
9 910	38- 59	C 4	100	100	100	100	100	100	100	100	97	54	22	14	9	100	99	93	67	35	0.09	0.069	0.002	38.1	0.0

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	REGRESSION COEFFICIENTS A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.953	-20.579	-2.215	0.810	5
15BR PC	CLAY PC	OC PC	0.584	-8.223	-1.802	0.808	5
OC PC	CLAY PC	DPTHIN	0.110	-0.007	-0.959	0.998	3

HORIZON	RATIOS AND RESIDUALS --RATIOS TO CLAY-- CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION --PERCENT (VOL) OF SOIL VOLUME-- SOLIDS,SIZE IN MM 250 -75	75 -20	20 -2	2-.05- .05	.05-.002	LT .002	-PORES- CAP.	NON CAP	PSD ON CLAY FREE BASIS ---PERCENT OF SAND PLUS SILT--- VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A1	0.48	0.29	0.04	0.0	0.0	0.7	0.3	0.0	0	0	0	49	5	6	6	34	0	5	13	41	31	6	3	11
C 1	0.52	0.34	0.04	0.0	0.0	-0.2	-0.2	-0.0	0	0	0	44	7	6	11	32	0	2	8	39	37	8	6	12
C 2	0.61	0.35	0.06	0.0	0.0	-0.4	0.0	0.0	0	0	0	40	11	6	18	25	0	2	7	34	36	11	11	12
C 3	0.66	0.38	0.07	0.0	0.0	0.8	0.3	-0.1	0	0	0	37	14	6	28	15	0	2	7	31	33	14	14	12
C 4	0.78	0.42	0.06	0.0	0.0	-0.6	-0.2	-0.3	0	0	0	39	16	6	15	24	0	2	6	29	35	14	14	10

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A1	2.0	0.022	0.25	0.021	1194.8	64.4	3.9	69.8	0.0	3.6	3.6	0.065	0.021
C 1	8.5	0.031	0.35	0.022	1381.1	90.3	7.9	93.3	0.0	6.8	6.8	0.109	0.056
C 2	17.0	0.023	0.26	0.017	1340.1	127.2	23.6	80.0	0.0	12.0	12.0	0.175	0.119
C 3	29.5	0.0	0.0	0.0	1310.9	199.7	7.8	66.2	0.0	13.6	13.6	0.279	0.220
C 4	48.5	0.0	0.0	0.0	1360.7	289.4	49.7	84.2	0.0	12.6	12.6	0.138	0.091

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	0.12	1.3	0.11	6160.2	347.8	23.5	372.3	0.0	21.1	21.1	0.54	0.28
2	6- 10	0.27	3.1	0.22	13065.8	799.1	62.9	839.0	0.0	55.3	55.3	1.08	0.56
3	11- 15	0.41	4.7	0.32	19889.4	1324.2	133.6	1279.0	0.0	99.8	99.8	1.76	0.97
4	16- 20	0.53	6.0	0.40	26589.9	1960.0	251.6	1678.9	0.0	159.6	159.6	2.63	1.56
5	21- 25	0.55	6.3	0.42	33173.4	2885.9	306.4	2023.8	0.0	225.9	225.9	3.92	2.56
6	26- 30	0.55	6.3	0.42	39727.6	3884.4	345.4	2354.9	0.0	293.8	293.8	5.31	3.66
7	31- 35	0.55	6.3	0.42	46281.9	4882.8	384.5	2686.0	0.0	361.7	361.7	6.70	4.76
8	36- 40	0.55	6.3	0.42	52935.9	6060.7	507.3	3053.2	0.0	427.7	427.7	7.81	5.60
9	41- 45	0.55	6.3	0.42	59739.4	7507.8	755.7	3474.4	0.0	490.7	490.7	8.50	6.05
10	46- 50	0.55	6.3	0.42	66542.9	8954.9	1004.1	3895.5	0.0	553.7	553.7	9.19	6.50
11	51- 55	0.55	6.3	0.42	73346.3	10401.9	1252.4	4316.7	0.0	616.7	616.7	9.88	6.95

AVERAGE OF CONTROL SECTION 25- 100 CMS. (10- 39 IN.)
SAND (MINUS VFS)= 36.9 PERCENT, SAND = 67.7 PERCENT, SILT (PLUS VFS) = 52.6 PERCENT, CLAY = 10.4 PERCENT,
CARBONATE CLAY = 0.1 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 3.8 PERCENT, CACO3 EQUIVALENT= 7.5 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.10 PERCENT. SAND/CLAY RATIO = 7.5.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 69178 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES TOBLER FINE SANDY LOAM SOIL NO. S69 UTAH. 27- 2 SAMPLE NO. 9 911-9 916 WASHINGTON CO AREA

SOIL FAMILY: TYPIC TORRIFLUVENT,COARSE-LMY,MXD,(CALC.),THRMC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENT PASSING 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	SIEVE LESS THAN .02 MM	.005 MM	.002 MM	CUMULATIVE SAND FRACTION LESS THAN MM 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC
9 911	0- 2	A1	100	100	100	100	100	100	100	100	96	28	5	4	3	100	98	87	42	10	0.14	0.118	0.047	3.1	0.0
9 912	2- 6	C 1	100	100	100	100	100	100	100	100	95	40	15	12	10	100	98	87	53	22	0.12	0.093	0.002	57.7	0.2
9 913	6- 12	C 2	100	100	100	100	100	100	100	100	96	41	16	12	9	100	98	88	53	25	0.12	0.092	0.003	46.2	0.1
9 914	12- 17	C 3CA	100	100	100	100	100	100	100	100	95	43	17	13	11	100	98	87	54	28	0.12	0.089	0.002	69.4	0.2
9 915	17- 31	C 4	100	100	100	100	100	100	100	100	96	45	15	11	8	100	98	90	58	27	0.11	0.084	0.003	30.7	0.1
9 916	31- 422	C 5	100	100	100	100	100	100	100	100	91	43	19	12	8	99	95	82	54	29	0.12	0.090	0.003	40.3	0.1

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.087	-6.130	4.331	0.981	6
15BR PC	CLAY PC	OC PC	0.200	-2.013	1.619	0.997	6
OC PC	CLAY PC	DPTHIN	-0.018	-0.010	0.355	1.000	3

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250-75	75-20	20-2	2-.05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS, PERCENT OF SAND PLUS SILT: VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A1	0.88	0.52	0.0	0.0	0.0	0.0	0.0	-0.0	0	0	0	53	4	2	0	0	0	1	12	46	33	5	2	3
C 1	0.44	0.33	0.0	0.0	0.0	-0.0	0.0	0.0	0	0	0	50	8	6	8	28	0	2	12	38	34	8	6	11
C 2	0.49	0.37	0.0	0.0	0.0	-0.0	-0.1	-0.0	0	0	0	48	10	6	0	0	0	2	12	38	32	10	7	10
C 3CA	0.47	0.34	0.0	0.0	0.0	0.2	0.1	0.0	0	0	0	42	10	6	9	33	0	2	12	37	30	12	7	12
C 4	0.63	0.39	0.0	0.0	0.0	-0.2	-0.0	-0.1	0	0	0	42	11	5	9	33	0	2	9	35	34	13	7	9
2C 5	0.66	0.42	0.0	0.0	0.0	0.3	0.0	-0.2	0	0	0	41	12	5	0	0	2	4	14	31	27	12	11	9

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A1	1.0	0.076	0.86	0.047	279.0	55.8	8.2	41.9	0.0	1.8	1.8	0.0	0.0
C 1	4.0	0.038	0.43	0.031	956.5	96.4	8.8	74.6	0.0	3.8	3.8	0.071	0.024
C 2	9.0	0.026	0.30	0.021	1476.9	96.4	8.8	74.6	0.0	5.7	5.7	0.0	0.0
C 3CA	14.5	0.0	0.0	0.0	1298.4	88.4	8.1	68.4	0.0	10.5	10.5	0.076	0.029
C 4	24.0	0.0	0.0	0.0	1335.2	86.7	7.9	67.1	0.0	10.3	10.3	0.081	0.038
2C 5	36.5	0.0	0.0	0.0	1466.0	136.3	7.9	53.7	0.0	13.8	13.8	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	0.27	3.0	0.18	3427.6	400.9	42.9	307.5	0.0	15.1	15.1	0.35	0.12
2	6- 10	0.41	4.6	0.30	10291.8	883.0	86.9	680.6	0.0	41.8	41.8	0.70	0.24
3	11- 15	0.46	5.2	0.34	17140.8	1341.1	128.7	1035.1	0.0	84.9	84.9	1.07	0.37
4	16- 20	0.46	5.2	0.34	23743.2	1778.1	168.6	1373.3	0.0	136.9	136.9	1.46	0.54
5	21- 25	0.46	5.2	0.34	30419.3	2211.7	208.1	1708.8	0.0	188.5	188.5	1.86	0.73
6	26- 30	0.46	5.2	0.34	37095.4	2645.3	247.7	2044.3	0.0	240.2	240.2	2.26	0.92
7	31- 35	0.46	5.2	0.34	44294.5	3277.1	287.3	2326.2	0.0	305.5	305.5	2.66	1.11
8	36- 40	0.46	5.2	0.34	51624.4	3958.5	326.9	2594.6	0.0	374.4	374.4	3.06	1.30

AVERAGE OF CONTROL SECTION 25- 100 CMS. (10- 39 IN.)
SAND (MINUS VFS)= 44.2 PERCENT, SAND = 72.4 PERCENT, SILT (PLUS VFS) = 47.0 PERCENT, CLAY = 8.8 PERCENT,
CARBONATE CLAY = 0.3 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 3.3 PERCENT, CACO3 EQUIVALENT= 6.6 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.10 PERCENT. SAND/CLAY RATIO = 10.1.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 68 54 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES PENOYER SILT LOAM (TAXADJUNCT) SOIL NO. S68 UTAH. 1- 7 SAMPLE NO. 8 495-8 501 DESERT RANGE AREA

SOIL FAMILY: TYPIC TORRIFLUVENT,COARSE-SILTY,MXD(CALC.),MESC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	CUMULATIVE SAND FRACTION LESS 1.0	THAN .5	.25	MM .10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC
8 495	0- 3	A1	100	100	100	100	100	100	100	100	98	87	63	35	16	100	98	97	91	83	0.02	0.011	0.001	21.0	0.0
8 496	3- 8	C 1	PSD NOT DETERMINED																						
8 497	8- 18	C 2	100	100	100	100	100	100	100	100	98	85	62	34	15	100	98	96	89	81	0.02	0.011	0.001	20.0	0.0
8 498	18- 26	C 3	PSD NOT DETERMINED																						
8 499	26- 38	C 4	PSD NOT DETERMINED																						
8 500	38- 46	C 5	100	100	100	100	100	100	100	100	100	96	66	40	23	100	100	100	98	93	0.01	0.008	0.001	26.2	0.0
8 501	46- 64	C 6	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	REGRESSION COEFFICIENTS A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.190	3.333	18.881	1.000	3
15BR PC	CLAY PC	OC PC	0.235	0.188	7.587	1.000	3
OC PC	CLAY PC	DPTHIN	0.087	-0.034	-0.227	1.000	3

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	OC.	PYR.	PYR/ FE	FE+AL	O.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A1	1.59	0.72	0.0	0.0	0.0			-0.0	0.0	-0.0	0	0	0	8	32	8	38	14	0	2	2	7	9	24	56	19
C 1					0.0																					
C 2	1.66	0.78	0.0	0.0	0.0			-0.0	-0.0	-0.0	0	0	0	8	28	6	34	24	0	2	3	9	10	22	55	18
C 3					0.0																					
C 4					0.0																					
C 5	1.06	0.56	0.0	0.0	0.0			-0.0	0.0	-0.0	0	0	0	3	30	10	44	13	0	0	0	2	7	34	56	30
C 6					0.0																					

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
		WEIGHTS PER UNIT DEPTH (CM OR INCH)			POUNDS PER ACRE					TONS/ACRE			
A1	1.5	0.245	2.77	0.168	1081.1	113.9	13.2	370.0	5.8	10.1	10.1	0.331	0.229
C 1	5.5	0.140	1.59	0.114	983.5	117.4	12.5	370.8	10.9	13.6	13.6	0.0	0.0
C 2	13.0	0.107	1.21	0.087	813.5	113.6	94.1	319.3	0.0	15.3	15.3	0.302	0.219
C 3	22.0	0.094	1.07	0.077	1044.7	176.5	408.2	128.6	0.0	15.2	15.2	0.0	0.0
C 4	32.0	0.083	0.94	0.067	628.8	136.9	425.7	98.9	0.0	11.4	11.4	0.326	0.231
C 5	42.0	0.070	0.79	0.057	1668.0	43.0	411.9	109.8	0.0	9.0	9.0	0.392	0.296
C 6	55.0	0.065	0.74	0.053	1055.1	39.8	196.9	86.2	82.9	4.1	4.1	0.0	0.0

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
		CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)			POUNDS PER ACRE					TONS/ACRE			
1	1- 5	1.01	11.5	0.73	5210.3	576.3	64.7	1851.8	39.0	57.4	57.4	1.65	1.14
2	6- 10	1.65	18.7	1.25	9787.8	1155.6	290.5	3602.9	71.6	128.8	128.8	3.25	2.26
3	11- 15	2.18	24.7	1.68	13855.5	1723.5	761.2	5199.3	71.6	205.6	205.6	4.76	3.35
4	16- 20	2.69	30.5	2.10	18385.5	2417.3	1860.1	6414.3	71.6	282.0	282.0	6.27	4.44
5	21- 25	3.17	35.8	2.48	23609.0	3299.7	3901.3	7057.0	71.6	358.1	358.1	7.78	5.53
6	26- 30	3.59	40.7	2.83	27169.1	4023.9	6012.5	7581.2	71.6	419.0	419.0	9.39	6.67
7	31- 35	4.01	45.3	3.16	30313.4	4708.5	8141.2	8075.6	71.6	476.0	476.0	11.02	7.82
8	36- 40	4.39	49.7	3.48	35535.9	5205.2	10242.2	8591.8	71.6	528.2	528.2	12.78	9.10
9	41- 45	4.74	53.7	3.76	43876.0	5420.1	12301.6	9140.5	71.6	572.9	572.9	14.74	10.58
10	46- 50	5.07	57.4	4.03	49764.5	5622.2	13501.3	9595.0	403.1	598.5	598.5	16.70	12.06
11	51- 55	5.40	61.1	4.30	55040.1	5821.1	14485.9	10025.9	817.4	619.2	619.2	18.66	13.54
12	56- 60	5.72	64.8	4.56	60315.6	6019.9	15470.6	10456.8	1231.7	639.9	639.9	20.62	15.02

AVERAGE OF CONTROL SECTION 25- 102 CMS. (10- 40 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) = 0.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.3 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 12.0 PERCENT, CACO3 EQUIVALENT= 10.8 PERCENT.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 70 56 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES ST. GEORGE SILT LOAM SOIL NO. S70 UTAH. 27-11 SAMPLE NO. 0 336-0 342 WASHINGTON CO. AREA

SOIL FAMILY: TYPIC TORRIFLUVENT,COARSE-SILTY,MIXED,CALC,THRM RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	CUMULATIVE SAND FRACTION LESS THAN MM .02	.005	.002	1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC
0 336	0- 8	AP	100	100	100	100	100	100	100	100	96	82	52	37	28	97	96	95	88	72	0.03	0.017	0.000	63.5	0.0
0 337	8- 13	C 1	100	100	100	100	100	100	100	100	100	92	64	37	19	100	100	100	97	86	0.02	0.010	0.001	24.4	0.0
0 338	13- 20	C 2	100	100	100	100	100	100	100	100	100	90	51	29	14	100	100	100	97	76	0.03	0.019	0.001	26.5	0.0
0 339	20- 28	C 3	100	100	100	100	100	100	100	100	100	92	68	37	17	100	100	100	96	86	0.01	0.009	0.001	17.7	0.0
0 340	28- 39	C 4	100	100	100	100	100	100	100	100	100	86	57	32	16	100	100	99	92	74	0.02	0.014	0.001	27.5	0.0
0 341	39- 51	C 5	100	100	100	100	100	100	100	100	99	80	57	26	6	100	100	98	83	77	0.02	0.015	0.002	9.6	0.0
0 342	51- 63	C 6	100	100	100	100	100	100	100	100	99	86	67	36	15	100	99	97	87	83	0.01	0.009	0.001	15.7	0.0

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.137	8.052	5.033	0.994	7
15BR PC	CLAY PC	OC PC	-0.197	4.714	11.888	0.594	7
OC PC	CLAY PC	DPTHIN	0.026	-0.006	0.014	0.757	7

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	OC.	PYR. FE	D.C. FE+AL	PYR/ FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	-.05- .002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
AP	0.68	0.52	0.0	0.0	0.0		-0.1	-0.3	-0.3	0	0	0	16	25	16	34	9	4	2	1	10	22	28	33	39
C 1	0.50	0.51	0.0	0.0	0.0		0.2	-0.1	0.2	0	0	0	7	33	9	0	0	0	0	0	3	14	28	55	23
C 2	0.57	0.56	0.0	0.0	0.0		0.5	2.4	0.1	0	0	0	12	29	7	22	30	0	0	0	4	25	28	43	16
C 3	0.50	0.59	0.0	0.0	0.0		0.1	-0.6	0.2	0	0	0	7	33	8	0	0	0	0	0	4	12	22	61	20
C 4	0.56	0.56	0.0	0.0	0.0		-0.3	1.1	0.1	0	0	0	12	27	7	25	29	0	0	0	9	21	21	49	19
C 5	1.14	2.02	0.0	0.0	0.0		-0.1	-0.7	-0.2	0	0	0	11	34	3	0	0	0	0	2	16	6	21	54	6
C 6	0.54	0.76	0.0	0.0	0.0		-0.4	-1.8	-0.0	0	0	0	8	34	7	33	18	0	1	2	12	5	19	61	18

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
AP	4.0	0.241	2.72	0.179	2071.6	156.9	31.7	93.9	0.0	39.6	39.6	0.299	0.160
C 1	10.5	0.056	0.63	0.059	3932.1	49.4	27.1	34.4	0.0	33.8	33.8	0.0	0.0
C 2	16.5	0.041	0.47	0.043	6070.4	51.3	26.2	33.4	0.0	31.4	31.4	0.174	0.122
C 3	24.0	0.028	0.32	0.029	4477.1	37.4	32.5	33.1	0.0	29.7	29.7	0.0	0.0
C 4	33.5	0.026	0.29	0.027	3413.7	40.4	32.3	32.8	0.0	26.7	26.7	0.196	0.146
C 5	45.0	0.022	0.25	0.023	4816.3	31.3	20.0	33.9	0.0	26.1	26.1	0.0	0.0
C 6	57.0	0.016	0.18	0.017	4632.1	53.8	13.7	35.0	0.0	31.4	31.4	0.236	0.187

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	1.20	13.6	0.89	10358.2	784.6	158.3	469.7	0.0	197.9	197.9	1.49	0.80
2	6- 10	2.04	23.0	1.55	24437.4	1354.3	307.4	820.4	0.0	384.3	384.3	2.98	1.60
3	11- 15	2.29	25.9	1.81	48374.6	1605.3	441.2	990.5	0.0	548.6	548.6	4.22	2.32
4	16- 20	2.49	28.2	2.03	78726.5	1862.0	572.4	1157.4	0.0	705.5	705.5	5.09	2.93
5	21- 25	2.63	29.8	2.18	101111.5	2048.8	735.1	1322.9	0.0	854.1	854.1	5.96	3.54
6	26- 30	2.77	31.3	2.32	121369.9	2241.7	897.3	1488.0	0.0	996.5	996.5	6.87	4.20
7	31- 35	2.89	32.8	2.45	138438.3	2443.9	1058.7	1652.2	0.0	1129.9	1129.9	7.85	4.93
8	36- 40	3.02	34.2	2.58	156909.4	2636.9	1207.9	1817.5	0.0	1262.6	1262.6	8.83	5.66
9	41- 45	3.13	35.4	2.70	180990.9	2793.4	1307.8	1987.0	0.0	1393.1	1393.1	9.81	6.39
10	46- 50	3.24	36.7	2.82	205072.5	2949.8	1407.8	2156.5	0.0	1523.5	1523.5	10.79	7.12
11	51- 55	3.32	37.6	2.91	228417.3	3196.3	1482.8	2330.3	0.0	1675.1	1675.1	11.93	8.01
12	56- 60	3.40	38.5	2.99	251577.9	3465.3	1551.5	2505.1	0.0	1832.0	1832.0	13.11	8.94

AVERAGE OF CONTROL SECTION 25- 100 CMS. (10- 39 IN.)
SAND (MINUS VFS)= 5.2 PERCENT, SAND = 20.8 PERCENT, SILT (PLUS VFS) = 78.9 PERCENT, CLAY = 15.9 PERCENT,
CARBONATE CLAY = 0.5 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 8.7 PERCENT, CACO3 EQUIVALENT= 21.4 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.57 PERCENT. SAND/CLAY RATIO = 1.1.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 70 57 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES ST. GEORGE SILT LOAM SOIL NO. S70 UTAH. 27-12 SAMPLE NO. 0 343-0 348 WASHINGTON CO. AREA

SOIL FAMILY: TYPIC TORRIFLUVENT,COARSE-SILTY,MIXED,CALC,THRM RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENT PASSING 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	SILT & CLAY LESS THAN .02 MM	.005 MM	.002 MM	CUMULATIVE SAND FRACTION LESS THAN 1.0 MM	.5 MM	.25 MM	.10 MM	.05 MM	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC RATIO
0 343	0- 9	AP	100	100	100	100	100	100	100	100	99	88	54	32	17	100	99	99	93	81	0.02	0.016	0.001	31.0	0.0
0 344	9- 20	C 1	100	100	100	100	100	100	100	100	99	82	43	25	13	100	99	98	89	70	0.04	0.025	0.001	29.8	0.0
0 345	20- 29	C 2	100	100	100	100	100	100	100	100	99	80	58	34	19	100	99	98	87	72	0.02	0.013	0.001	33.8	0.0
0 346	29- 38	C 3	100	100	100	100	100	100	100	100	100	91	63	36	19	100	100	99	96	84	0.02	0.010	0.001	25.8	0.0
0 347	38- 51	C 4	100	100	100	100	100	100	100	100	99	76	40	22	9	100	100	98	83	63	0.04	0.029	0.002	20.4	0.0
0 348	51- 59	C 5	100	100	100	100	100	100	100	100	100	74	36	20	9	100	100	99	83	60	0.05	0.034	0.002	23.2	0.0

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	REGRESSION COEFFICIENTS A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.200	3.099	3.654	0.987	6
15BR PC	CLAY PC	OC PC	-0.106	0.504	10.055	0.429	6
OC PC	CLAY PC	DPTHIN	-0.005	-0.013	0.792	0.959	6

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOILS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05 .05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
AP	0.54	0.56	0.0	0.0	0.0	0.1	-0.7	-0.1	0	0	0	10	34	9	30	17	0	0	1	6	14	33	45	20
C 1	0.62	0.61	0.0	0.0	0.0	-0.3	1.0	0.1	0	0	0	15	29	7	25	24	0	1	1	11	22	32	34	15
C 2	0.47	0.46	0.0	0.0	0.0	0.2	0.3	-0.0	0	0	0	13	25	9	0	0	0	0	1	14	17	18	48	23
C 3	0.45	0.47	0.0	0.0	0.0	-0.1	-0.1	0.1	0	0	0	7	29	8	27	29	0	0	0	5	14	27	54	23
C 4	0.62	1.13	0.0	0.0	0.0	0.3	-1.1	0.0	0	0	0	17	26	4	0	0	0	0	2	16	22	25	34	10
C 5	0.66	0.94	0.0	0.0	0.0	-0.1	0.7	-0.1	0	0	0	21	26	5	28	20	0	0	1	17	26	26	30	10

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
AP	4.5	0.173	1.96	0.122	3790.8	76.1	29.2	37.1	0.0	34.9	34.9	0.242	0.174
C 1	14.5	0.107	1.21	0.079	7329.2	58.7	21.1	47.7	0.0	32.1	32.1	0.194	0.146
C 2	24.5	0.088	1.00	0.066	4539.3	44.1	19.5	44.1	0.0	32.5	32.5	0.0	0.0
C 3	33.5	0.043	0.48	0.032	4392.0	44.9	18.4	41.7	0.0	30.7	30.7	0.218	0.169
C 4	44.5	0.028	0.32	0.021	7114.6	40.8	19.5	22.1	0.0	21.2	21.2	0.0	0.0
C 5	55.0	0.026	0.29	0.019	4761.9	47.7	28.1	35.8	0.0	29.0	29.0	0.190	0.162

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	0.87	9.8	0.61	18954.2	380.4	145.8	185.4	0.0	174.3	174.3	1.21	0.87
2	6- 10	1.67	18.9	1.18	41446.8	743.3	283.5	381.4	0.0	345.9	345.9	2.37	1.71
3	11- 15	2.20	24.9	1.58	78092.9	1036.7	389.0	619.8	0.0	506.3	506.3	3.34	2.44
4	16- 20	2.74	31.0	1.97	114738.8	1330.1	494.4	858.2	0.0	666.8	666.8	4.31	3.17
5	21- 25	3.18	36.0	2.30	137435.4	1550.9	592.1	1079.0	0.0	829.5	829.5	5.28	3.90
6	26- 30	3.57	40.4	2.59	159984.6	1772.4	688.6	1297.2	0.0	990.4	990.4	6.27	4.65
7	31- 35	3.78	42.8	2.75	181944.3	1996.8	780.8	1505.6	0.0	1144.0	1144.0	7.36	5.49
8	36- 40	3.97	44.9	2.89	209349.2	2212.9	875.1	1674.8	0.0	1278.7	1278.7	8.45	6.33
9	41- 45	4.11	46.5	2.99	244922.0	2416.7	972.8	1785.2	0.0	1384.8	1384.8	9.54	7.17
10	46- 50	4.25	48.1	3.10	280494.8	2620.4	1070.4	1895.5	0.0	1490.9	1490.9	10.63	8.01
11	51- 55	4.38	49.6	3.19	306656.6	2851.9	1202.4	2060.6	0.0	1628.3	1628.3	11.61	8.83

AVERAGE OF CONTROL SECTION 25- 100 CMS. (10- 39 IN.)
SAND (MINUS VFS)= 9.9 PERCENT, SAND = 24.9 PERCENT, SILT (PLUS VFS) = 73.7 PERCENT, CLAY = 16.4 PERCENT,
CARBONATE CLAY = 0.6 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 8.2 PERCENT, CACO3 EQUIVALENT= 22.8 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.61 PERCENT. SAND/CLAY RATIO = 1.6.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 70 58 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES NAPLENE LOAM (TAXADJUNCT) SOIL NO. S70 UTAH. 27-13 SAMPLE NO. 0 349-0 355 WASHINGTON CO. AREA

SOIL FAMILY: USTIC TORRIFLUVENT,COARSE-SILTY,MXD,CALC,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS THAN .02 MM	.005 MM	.002 MM	CUMULATIVE SAND FRACTION LESS THAN 1.0 MM	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC
0 349	0- 2	A11	100	100	100	100	100	99	98	96	92	73	25	14	8	95	92	91	84	51	0.06	0.048	0.003	22.1	0.0
0 350	2- 5	A12	100	100	100	100	100	99	97	94	90	70	28	18	11	93	91	89	81	49	0.06	0.051	0.002	37.6	0.0
0 351	5- 13	C 1	100	100	100	99	99	99	98	97	93	78	39	24	14	95	93	92	87	62	0.05	0.031	0.001	43.5	0.0
0 352	13- 25	C 2	100	100	100	100	100	100	99	98	96	81	39	24	14	97	96	95	90	64	0.04	0.030	0.001	42.8	0.0
0 353	25- 33	C 3	100	100	100	100	100	100	100	100	98	85	46	29	17	99	99	98	93	68	0.04	0.023	0.001	46.2	0.0
0 354	33- 44	C 4	100	100	100	100	100	100	100	100	97	84	44	27	16	98	97	96	92	68	0.04	0.025	0.001	44.7	0.0
0 355	44- 62	C 5	100	100	100	99	99	99	98	97	93	77	36	24	15	95	93	92	87	60	0.05	0.034	0.001	55.3	0.0

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.022	-4.185	7.325	0.957	7
15BR PC	CLAY PC	OC PC	0.503	3.720	-2.458	0.971	7
OC PC	CLAY PC	DPTHIN	-0.037	0.001	0.721	0.930	7

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	D.C. FE+AL	PYR/ D.C.	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME SOILDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	.05-.002	.002 LT	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	0.69	0.42	0.0	0.0	0.0		0.0	-0.1	-0.0	0	0	2	25	24	4	0	0	2	3	2	8	37	30	19	9
A12	0.58	0.36	0.0	0.0	0.0		-0.2	0.1	0.0	0	0	3	25	22	6	0	0	1	3	2	9	38	25	21	13
C 1	0.46	0.35	0.0	0.0	0.0		0.2	0.5	-0.0	0	1	1	20	27	8	15	28	3	2	1	6	30	27	31	17
C 2	0.49	0.39	0.0	0.0	0.0		0.1	-0.2	0.0	0	0	1	18	27	8	0	0	1	1	1	6	32	30	30	17
C 3	0.45	0.40	0.0	0.0	0.0		-0.1	-0.0	-0.0	0	0	0	16	26	9	17	32	1	1	1	5	30	27	35	21
C 4	0.45	0.40	0.0	0.0	0.0		-0.1	-0.0	-0.0	0	0	0	17	27	9	0	0	2	1	1	5	28	29	33	20
C 5	0.44	0.41	0.0	0.0	0.0		0.0	-0.3	0.0	0	1	1	20	24	8	19	27	2	2	2	7	33	29	26	19

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
A11	1.0	0.109	1.24	0.078	779.6	49.8	7.3	62.3	0.0	16.0	16.0	0.0	0.0
A12	3.5	0.060	0.68	0.051	986.7	68.3	7.3	74.0	0.0	17.4	17.4	0.0	0.0
C 1	9.0	0.057	0.64	0.048	1088.4	85.5	7.5	75.8	0.0	21.1	21.1	0.127	0.076
C 2	19.0	0.050	0.57	0.042	1092.0	120.5	7.2	73.4	0.0	22.0	22.0	0.0	0.0
C 3	29.0	0.054	0.61	0.046	936.7	122.8	7.1	72.6	0.0	27.9	27.9	0.152	0.092
C 4	38.5	0.051	0.57	0.043	3258.3	83.7	36.5	61.8	0.0	26.9	26.9	0.0	0.0
C 5	53.0	0.044	0.49	0.037	4242.9	184.0	183.7	49.8	0.0	17.6	17.6	0.158	0.104

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
1	1- 5	0.40	4.5	0.31	4519.1	304.6	36.5	346.6	0.0	84.1	84.1	0.63	0.38
2	6- 10	0.68	7.7	0.55	9961.1	732.2	73.8	725.6	0.0	189.4	189.4	1.26	0.76
3	11- 15	0.95	10.8	0.77	15410.4	1229.7	110.6	1099.9	0.0	296.5	296.5	1.89	1.14
4	16- 20	1.20	13.6	0.99	20870.3	1832.2	146.6	1467.0	0.0	406.3	406.3	2.52	1.52
5	21- 25	1.45	16.4	1.20	26330.2	2434.7	182.7	1834.1	0.0	516.2	516.2	3.15	1.90
6	26- 30	1.72	19.5	1.42	31013.8	3048.8	218.4	2197.0	0.0	655.7	655.7	3.91	2.36
7	31- 35	1.99	22.5	1.65	40340.6	3584.7	312.7	2538.4	0.0	793.4	793.4	4.67	2.82
8	36- 40	2.24	25.4	1.86	56632.3	4003.0	494.9	2847.4	0.0	928.1	928.1	5.43	3.28
9	41- 45	2.49	28.1	2.07	73908.5	4521.8	824.5	3144.5	0.0	1053.4	1053.4	6.20	3.75
10	46- 50	2.70	30.6	2.25	95122.9	5441.9	1743.0	3393.7	0.0	1141.3	1141.3	6.99	4.27
11	51- 55	2.92	33.1	2.43	116337.3	6362.0	2661.6	3642.9	0.0	1229.1	1229.1	7.78	4.79
12	56- 60	3.14	35.6	2.62	137551.6	7282.2	3580.1	3892.1	0.0	1317.0	1317.0	8.57	5.31

AVERAGE OF CONTROL SECTION 25- 100 CMS. (10- 39 IN.)
SAND (MINUS VFS)= 7.7 PERCENT, SAND = 33.4 PERCENT, SILT (PLUS VFS) = 76.7 PERCENT, CLAY = 15.6 PERCENT,
CARBONATE CLAY = 1.2 PERCENT, 2-250MM= 1.2 PERCENT, 15 BAR = 5.6 PERCENT, CACO3 EQUIVALENT= 16.1 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.26 PERCENT. SAND/CLAY RATIO = 3.2.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 70 59 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES NAPLENE LOAM SOIL NO. S70 UTAH. 27-14 SAMPLE NO. 0 356-0 362 WASHINGTON CO. AREA

SOIL FAMILY: USTIC TORRIFLUVENT,FINE-SILTY,MXD,CALC,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS - - - PERCENT PASSING SIEVE - - - 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS THAN .02 MM	LESS THAN .005 MM	LESS THAN .002 MM	CUMULATIVE SAND FRACTION 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC RATIO
0 356	0- 2	A11	100	100	100	100	100	100	100	100	98	84	53	33	20	99	98	97	89	77	0.03	0.016	0.001	42.1	0.0
0 357	2- 6	A12	100	100	100	100	100	100	100	100	98	88	62	39	24	99	99	98	92	82	0.02	0.010	0.001	34.8	0.0
0 358	6- 14	C 1	100	100	100	100	100	100	100	100	98	85	60	38	23	99	99	97	90	79	0.02	0.011	0.001	35.9	0.0
0 359	14- 22	C 2	100	100	100	100	100	100	100	100	99	87	62	42	28	100	99	98	92	81	0.02	0.009	0.000	38.6	0.0
0 360	22- 31	C 3	100	100	100	100	100	100	100	100	98	84	58	39	26	100	99	97	90	77	0.02	0.011	0.000	45.1	0.0
0 361	31- 39	C 4	100	100	100	100	100	100	100	100	97	86	61	39	24	99	98	97	91	80	0.02	0.010	0.001	35.3	0.0
0 362	39- 53	C 5	100	100	100	100	100	100	100	100	98	90	65	42	26	99	98	98	94	86	0.01	0.008	0.000	30.2	0.0

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.266	0.513	4.608	0.856	7
158R PC	CLAY PC	OC PC	0.476	-1.063	-1.754	0.558	7
OC PC	CLAY PC	DPTHIN	-0.008	-0.005	0.756	0.882	7

HORIZON	RATIOS AND RESIDUALS --RATIOS TO CLAY-- CEC	158AR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	158AR PCT.	OC. PCT.	VOLUME COMPOSITION --PERCENT (VOL) OF SOIL VOLUME-- SOILS,SIZE IN MM 250 -75	75 -20	20 -2	2-.05	-.05-.002	LT .002	-PORES- CAP.	NON CAP	PSD ON CLAY FREE BASIS ---PERCENT OF SAND PLUS SILT--- VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	0.52	0.41	0.0	0.0	0.0	0.1	-1.2	-0.0	0	0	0	13	31	11	24	21	1	1	2	10	15	30	41	25
A12	0.48	0.40	0.0	0.0	0.0	-0.1	-0.6	-0.1	0	0	0	10	31	13	0	0	1	1	1	7	13	27	49	32
C 1	0.50	0.21	0.0	0.0	0.0	-0.2	3.6	0.0	0	0	0	11	30	12	22	25	1	1	2	9	14	25	49	30
C 2	0.44	0.40	0.0	0.0	0.0	0.3	-0.1	0.0	0	0	0	10	28	15	0	0	0	1	1	10	15	26	47	39
C 3	0.49	0.40	0.0	0.0	0.0	-0.5	-0.3	0.1	0	0	0	13	29	15	26	17	0	1	2	11	17	26	43	35
C 4	0.46	0.42	0.0	0.0	0.0	0.5	-0.9	0.0	0	0	0	12	33	14	0	0	2	2	1	7	14	25	49	32
C 5	0.47	0.41	0.0	0.0	0.0	-0.1	-0.4	-0.1	0	0	0	9	36	16	29	10	1	1	1	5	11	27	53	36

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
		WEIGHTS PER UNIT DEPTH (CM OR INCH)			POUNDS PER ACRE					TONS/ACRE			
A11	1.0	0.151	1.71	0.106	1245.4	74.3	7.5	152.6	0.0	27.7	27.7	0.213	0.122
A12	4.0	0.148	1.67	0.100	1256.2	101.0	7.4	189.4	0.0	27.5	27.5	0.0	0.0
C 1	10.0	0.119	1.35	0.081	938.5	118.8	7.3	161.8	0.0	28.7	28.7	0.190	0.155
C 2	18.0	0.106	1.20	0.072	1262.6	178.7	7.4	214.6	0.0	25.9	25.9	0.0	0.0
C 3	26.5	0.089	1.01	0.060	1232.0	169.3	15.8	241.6	0.0	29.3	29.3	0.233	0.117
C 4	35.0	0.096	1.09	0.065	1382.6	151.6	16.1	232.7	0.0	31.6	31.6	0.0	0.0
C 5	46.0	0.104	1.18	0.071	1425.5	159.8	41.4	210.6	0.0	34.2	34.2	0.258	0.135

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
		CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)			POUNDS PER ACRE					TONS/ACRE			
1	1- 5	0.74	8.4	0.51	6259.2	451.7	37.3	873.3	0.0	138.0	138.0	1.06	0.61
2	6- 10	1.37	15.5	0.94	11269.4	1027.7	74.2	1710.1	0.0	280.4	280.4	2.03	1.35
3	11- 15	1.95	22.1	1.33	16286.1	1681.4	111.0	2572.1	0.0	421.2	421.2	2.98	2.12
4	16- 20	2.48	28.0	1.69	22599.3	2575.0	148.2	3645.4	0.0	550.7	550.7	3.93	2.89
5	21- 25	2.96	33.5	2.02	28820.5	3440.3	210.6	4799.4	0.0	690.3	690.3	5.01	3.55
6	26- 30	3.40	38.5	2.32	34980.4	4286.9	289.7	6007.3	0.0	836.5	836.5	6.17	4.13
7	31- 35	3.87	43.8	2.64	41742.8	5062.6	370.1	7179.5	0.0	992.1	992.1	7.33	4.71
8	36- 40	4.36	49.4	2.97	48698.8	5828.8	476.1	8320.7	0.0	1152.7	1152.7	8.52	5.31
9	41- 45	4.88	55.2	3.33	55826.3	6627.9	683.1	9373.6	0.0	1323.6	1323.6	9.81	5.98
10	46- 50	5.40	61.1	3.68	62953.8	7427.1	890.1	10426.5	0.0	1494.6	1494.6	11.10	6.65

AVERAGE OF CONTROL SECTION 25- 100 CMS. (10- 39 IN.)
SAND (MINUS VFS)= 9.4 PERCENT, SAND = 20.7 PERCENT, SILT (PLUS VFS) = 64.9 PERCENT, CLAY = 25.7 PERCENT,
CARBONATE CLAY = 1.9 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 9.0 PERCENT, CACO3 EQUIVALENT= 17.7 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.52 PERCENT. SAND/CLAY RATIO = 0.9.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 67 26 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES MAYFIELD SHALY LOAM (TAXADJUNCT) SOIL NO. S67 UTAH. 20-15 SAMPLE NO. 7 425-7 434 SANPETE CO. AREA

SOIL FAMILY: XERIC TORRIFLUVENT COARSE-LMY,CARBONATIC,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE													CUMULATIVE SAND FRACTION					DIAMETERS AT PERCENT (MM)			CU RATIO	CC RATIO
			3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	LESS 1.0	.5	THAN .25	.10	MM .05	60	50	10		
7 425	0- 2	A11	100	100	100	100	100	96	93	93	84	64	41	24	14	90	85	80	69	57	0.06	0.034	0.001	54.6	0.0
7 426	2- 5	A12	100	99	99	98	97	92	86	86	76	64	42	25	15	81	76	73	67	59	0.05	0.031	0.001	55.3	0.0
7 427	5- 11	C 1	100	100	100	100	100	90	81	81	69	58	41	26	17	76	70	67	61	53	0.09	0.040	0.001	115.3	0.0
7 428	11- 222	C 2	100	98	96	94	92	77	61	61	51	43	32	20	13	56	51	49	45	40	1.73	0.332	0.001	1385.9	0.4
7 429	22- 303	C 3	100	100	100	100	100	94	89	89	82	67	46	29	19	87	83	79	71	60	0.05	0.026	0.001	72.4	0.0
7 430	30- 414	C 4	100	93	89	82	77	70	63	63	56	45	31	19	12	60	57	54	48	41	0.94	0.137	0.001	664.4	0.2
7 431	41- 454	C 5	PSD NOT DETERMINED																						
7 432	45- 564	C 6	PSD NOT DETERMINED																						
7 433	56- 654	C 7	PSD NOT DETERMINED																						
7 434	65- 755	C 8	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.834	2.498	-4.256	0.597	6
15BR PC	CLAY PC	OC PC	-0.323	-1.582	13.372	0.430	6
OC PC	CLAY PC	DPTHIN	-0.123	-0.019	2.656	0.926	6

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	.05-.002	.002 LT	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	0.86	0.79	0.03	0.0	0.0	-0.3	-0.1	-0.2	0	0	4	19	23	7	19	28	3	7	6	14	15	21	34	17
A12	0.58	0.65	0.02	0.0	0.0	0.8	0.4	0.3	0	2	6	15	25	8	21	23	6	7	4	9	11	25	38	20
C 1	0.51	0.56	0.02	0.0	0.0	2.0	-1.3	0.1	0	0	10	15	19	9	20	27	8	9	5	10	13	19	38	26
2C 2	0.61	0.34	0.02	0.0	0.0	0.5	1.7	-0.1	0	5	19	13	16	8	19	20	10	10	5	8	11	16	40	26
3C 3	0.85	0.60	0.0	0.0	0.0	-3.5	-1.1	-0.1	0	0	6	15	22	10	24	23	3	6	5	12	16	21	38	27
4C 4	0.52	0.66	0.0	0.0	0.0	0.5	0.4	0.1	0	14	9	14	18	7	20	18	5	8	5	11	15	19	37	23
4C 5					0.0																			
4C 6					0.0																			
4C 7					0.0																			
5C 8					0.0																			

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
A11	1.0	0.371	4.20	0.189	502.7	35.1	67.2	205.2	0.0	71.6	71.6	0.188	0.089
A12	3.5	0.184	2.08	0.112	449.5	17.5	60.4	170.7	0.0	73.0	73.0	0.213	0.112
C 1	8.0	0.085	0.96	0.052	435.1	18.2	40.7	78.9	0.0	65.8	65.8	0.200	0.101
2C 2	16.5	0.073	0.83	0.045	2765.2	57.8	20.1	68.3	0.0	48.1	48.1	0.191	0.137
3C 3	26.0	0.088	1.00	0.054	2512.0	0.0	130.4	44.2	0.0	63.8	63.8	0.243	0.130
4C 4	35.5	0.054	0.61	0.033	1505.6	158.1	140.7	36.7	0.0	58.8	58.8	0.198	0.111
4C 5	43.0	0.051	0.58	0.031	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.195	0.112
4C 6	50.5	0.043	0.49	0.026	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.239	0.117
4C 7	60.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.138	0.066
5C 8	70.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.174	0.059

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
1	1- 5	1.29	14.6	0.71	2353.7	122.7	315.7	922.5	0.0	362.1	362.1	1.01	0.56
2	6- 10	1.72	19.4	0.97	4529.3	213.7	519.3	1317.2	0.0	691.0	691.0	2.01	1.06
3	11- 15	2.09	23.7	1.20	16025.0	463.0	640.6	1669.1	0.0	949.2	949.2	2.97	1.71
4	16- 20	2.46	27.8	1.43	29850.8	751.7	741.2	2010.4	0.0	1189.9	1189.9	3.92	2.39
5	21- 25	2.87	32.5	1.68	42917.1	867.2	1172.7	2279.6	0.0	1477.5	1477.5	5.03	3.05
6	26- 30	3.31	37.5	1.95	55477.3	867.2	1824.8	2500.7	0.0	1796.5	1796.5	6.24	3.70
7	31- 35	3.58	40.5	2.11	63005.4	1657.7	2528.2	2684.2	0.0	2090.5	2090.5	7.23	4.25
8	36- 40	3.85	43.6	2.27	70533.3	2448.1	3231.6	2867.7	0.0	2384.6	2384.6	8.22	4.80
9	41- 45	4.11	46.5	2.43	72038.8	2606.2	3372.3	2904.4	0.0	2443.4	2443.4	9.20	5.36
10	46- 50	4.32	48.9	2.56	72038.8	2606.2	3372.3	2904.4	0.0	2443.4	2443.4	10.39	5.94
11	51- 55	4.54	51.4	2.69	72038.8	2606.2	3372.3	2904.4	0.0	2443.4	2443.4	11.58	6.52
12	56- 60	4.58	51.9	2.72	72038.8	2606.2	3372.3	2904.4	0.0	2443.4	2443.4	12.37	6.90
13	61- 65	4.58	51.9	2.72	72038.8	2606.2	3372.3	2904.4	0.0	2443.4	2443.4	13.06	7.23
14	66- 70	4.58	51.9	2.72	72038.8	2606.2	3372.3	2904.4	0.0	2443.4	2443.4	13.93	7.52
15	71- 75	4.58	51.9	2.72	72038.8	2606.2	3372.3	2904.4	0.0	2443.4	2443.4	14.80	7.81

AVERAGE OF CONTROL SECTION 0- 0 CMS. (0- 0 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) =100.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 0.0 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.67 PERCENT. SAND/CLAY RATIO = 1.8.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 67 18 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES LINDYER LOAM SOIL NO. S67 UTAH. 20- 7 SAMPLE NO. 7 341-7 355 SANPETE CO. AREA

SOIL FAMILY: XERIC TORRIFLUVENT,COARSE-SILTY,MXD(CALC.),MESC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS THAN .02 MM	.005	.002	CUMULATIVE SAND FRACTION LESS THAN MM 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC
7 341	0- 7	AP1	100	100	100	100	100	100	100	100	99	79	47	33	24	100	99	98	87	67	0.04	0.023	0.001	72.1	0.0
7 342	7- 13	AP2	100	100	100	100	100	100	100	100	99	81	48	35	26	100	99	98	88	69	0.03	0.022	0.000	68.2	0.0
7 343	13- 19	C 1	100	100	100	100	100	100	100	100	100	84	38	26	18	100	100	99	93	66	0.04	0.029	0.001	55.4	0.0
7 344	19- 232	C 2	100	100	100	100	100	100	100	100	99	86	37	24	15	100	100	99	94	69	0.04	0.029	0.001	39.7	0.0
7 345	23- 313	A1 B	100	100	100	100	100	100	100	100	100	93	75	51	35	100	100	100	98	87	0.01	0.005	0.000	21.5	0.0
7 346	31- 344	C 1B	100	100	100	100	100	100	100	100	100	92	55	35	21	100	100	100	97	86	0.02	0.014	0.001	39.5	0.0
7 347	34- 375	C 2B	100	100	100	100	100	100	100	100	99	82	53	37	26	100	100	98	88	74	0.03	0.016	0.000	57.2	0.0
7 348	37- 406	C 3B	100	100	100	100	100	100	100	100	99	59	27	18	13	100	100	96	69	44	0.08	0.059	0.001	63.0	0.0
7 349	40- 427	C 4B	100	100	100	100	100	100	100	100	100	87	64	41	26	100	100	99	91	81	0.02	0.009	0.000	32.9	0.0
7 350	42- 458	C 5B	PSD NOT DETERMINED																						
7 351	45- 479	C 6B	PSD NOT DETERMINED																						
7 352	47- 51X	C 7B	PSD NOT DETERMINED																						
7 353	51- 551	C 8B	PSD NOT DETERMINED																						
7 354	55- 582	C 9B	PSD NOT DETERMINED																						
7 355	58- 613	C 10B	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.553	-1.535	4.118	0.911	9
15BR PC	CLAY PC	OC PC	0.466	1.534	0.892	0.955	9
OC PC	CLAY PC	DPTHIN	0.012	-0.021	0.757	0.856	9

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
AP1	0.66	0.57	0.01	0.0	0.0	0.6	0.4	-0.0	0	0	0	17	21	12	26	24	0	0	1	16	27	26	30	32
AP2	0.70	0.62	0.0	0.0	0.0	-0.2	-0.3	-0.3	0	0	0	16	23	13	27	21	0	1	1	14	25	28	30	34
C 1	0.81	0.54	0.01	0.0	0.0	0.1	0.4	0.2	0	0	0	17	25	9	28	21	0	0	0	8	32	34	25	22
2C 2	1.06	0.72	0.0	0.0	0.0	-1.7	-1.3	0.1	0	0	0	16	28	8	31	17	0	0	0	6	29	38	26	17
3A1 B	0.71	0.53	0.01	0.0	0.0	-0.1	-0.4	0.2	0	0	0	7	28	18	27	20	0	0	0	3	16	18	63	53
4C 1B	0.86	0.49	0.0	0.0	0.0	-1.9	0.8	0.0	0	0	0	7	33	11	29	20	0	0	0	3	14	40	43	27
5C 2B	0.67	0.50	0.0	0.0	0.0	1.3	0.5	-0.0	0	0	0	13	25	14	21	27	0	0	2	14	19	30	36	36
6C 3B	0.77	0.52	0.0	0.0	0.0	1.7	0.6	-0.1	0	0	0	30	17	7	25	21	0	0	4	30	29	20	16	15
7C 4B	0.73	0.57	0.03	0.0	0.0	0.2	-0.8	-0.1	0	0	0	10	28	13	26	23	0	0	1	11	14	23	51	35
8C 5B					0.0																			
9C 6B					0.0																			
XC 7B					0.0																			
1C 8B					0.0																			
2C 9B					0.0																			
3C 10B					0.0																			

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
AP1	3.5	0.214	2.42	0.141	482.7	219.9	63.2	83.4	0.0	38.2	38.2	0.256	0.115
AP2	10.0	0.250	2.83	0.167	520.8	226.9	64.2	96.7	0.0	40.3	40.3	0.266	0.109
C 1	16.0	0.081	0.91	0.054	430.6	211.0	55.8	47.3	0.0	44.0	44.0	0.279	0.180
2C 2	21.0	0.068	0.77	0.046	427.8	208.3	78.4	48.4	0.0	38.8	38.8	0.311	0.207
3A1 B	27.0	0.057	0.65	0.038	553.6	373.7	123.0	49.1	0.0	59.8	59.8	0.271	0.088
4C 1B	32.5	0.055	0.62	0.037	457.5	267.3	103.8	46.9	0.0	48.2	48.2	0.291	0.171
5C 2B	35.5	0.057	0.65	0.038	497.0	366.1	108.5	49.1	0.0	51.9	51.9	0.211	0.069
6C 3B	38.5	0.037	0.41	0.025	475.5	169.7	59.1	25.1	0.0	45.0	45.0	0.247	0.176
7C 4B	41.0	0.050	0.57	0.034	445.4	0.0	103.8	46.9	319.0	52.7	52.7	0.259	0.109
8C 5B	43.5	0.024	0.27	0.016	0.0	0.0	0.0	0.0	0.0	41.5	41.5	0.186	0.149
9C 6B	46.0	0.053	0.60	0.035	0.0	0.0	0.0	0.0	0.0	67.6	67.6	0.304	0.164
XC 7B	49.0	0.045	0.51	0.030	0.0	0.0	0.0	0.0	0.0	36.1	36.1	0.243	0.208
1C 8B	53.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.2	50.2	0.326	0.182
2C 9B	56.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.9	35.9	0.196	0.139
3C 10B	59.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.4	31.4	0.257	0.202

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	1.07	12.1	0.70	2413.3	1099.7	316.2	417.0	0.0	190.9	190.9	1.28	0.57
2	6- 10	2.24	25.4	1.49	4941.1	2220.4	635.2	873.9	0.0	388.2	388.2	2.59	1.13
3	11- 15	3.15	35.7	2.10	7364.7	3323.3	939.3	1258.7	0.0	597.0	597.0	3.95	1.82
4	16- 20	3.54	40.1	2.36	9514.8	4375.8	1240.9	1496.3	0.0	811.7	811.7	5.38	2.75
5	21- 25	3.86	43.7	2.57	11905.3	5748.1	1722.1	1739.5	0.0	1047.4	1047.4	6.85	3.55
6	26- 30	4.15	47.0	2.76	14673.2	7616.4	2337.0	1984.8	0.0	1346.2	1346.2	8.20	3.99
7	31- 35	4.43	50.1	2.95	17096.1	9157.9	2880.0	2223.8	0.0	1602.4	1602.4	9.55	4.66
8	36- 40	4.65	52.7	3.10	19516.6	10399.1	3274.4	2397.1	0.0	1841.1	1841.1	10.71	5.33
9	41- 45	4.83	54.7	3.22	20407.5	10399.1	3482.1	2491.0	638.0	2070.9	2070.9	11.79	5.99
10	46- 50	5.07	57.4	3.38	20407.5	10399.1	3482.1	2491.0	638.0	2314.4	2314.4	13.13	6.94
11	51- 55	5.11	57.9	3.41	20407.5	10399.1	3482.1	2491.0	638.0	2551.5	2551.5	14.68	7.88
12	56- 60	5.11	57.9	3.41	20407.5	10399.1	3482.1	2491.0	638.0	2721.9	2721.9	15.78	8.70

AVERAGE OF CONTROL SECTION 0- 0 CMS. (0- 0 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) =100.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 0.0 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.87 PERCENT. SAND/CLAY RATIO = 1.4.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 67 19 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES LINOYER LOAM SOIL NO. S67 UTAH. 20-10 SAMPLE NO. 7 356-7 365 SANPETE CO. AREA

SOIL FAMILY: XERIC TORRIFLUVENT,COARSE-SILTY,MXD(CALC.),MESC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS THAN .02 MM	.005	.002	CUMULATIVE SAND FRACTION LESS THAN MM 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC
7 356	0- 6	AP	100	100	100	100	100	99	99	99	97	79	44	29	19	98	97	95	85	69	0.04	0.025	0.001	53.5	0.0
7 357	6- 12	AP2	100	100	100	100	100	99	99	99	97	80	47	31	20	98	97	95	86	70	0.03	0.023	0.001	53.1	0.0
7 358	12- 18	C 1	100	100	100	100	100	100	100	100	99	85	45	28	16	100	99	98	91	77	0.03	0.023	0.001	36.7	0.0
7 359	18- 24	C 2	100	100	100	100	100	99	99	99	98	84	46	28	15	99	98	97	90	76	0.03	0.023	0.001	34.5	0.0
7 360	24- 36	C 3	100	100	100	100	100	100	100	100	99	86	51	31	18	100	99	98	91	79	0.03	0.019	0.001	38.4	0.0
7 361	36- 42	C 4	100	100	100	99	99	94	88	88	80	57	30	20	13	85	81	76	62	48	0.09	0.055	0.001	80.2	0.0
7 362	42- 472	C 5	100	99	99	98	98	85	71	71	56	18	8	6	4	68	59	45	21	13	0.53	0.319	0.028	19.1	0.4
7 363	47- 543	C 6	100	100	100	100	100	100	100	100	100	91	58	36	20	100	100	99	96	83	0.02	0.012	0.001	34.2	0.0
7 364	54- 603	C 7	100	100	100	100	100	100	100	100	99	87	48	30	18	100	99	99	93	76	0.03	0.021	0.001	39.9	0.0
7 365	60- 673	C 8	100	100	100	100	100	100	100	100	100	97	76	49	31	100	100	100	99	94	0.01	0.005	0.000	21.2	0.0

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.516	1.459	1.638	0.960	10
15BR PC	CLAY PC	OC PC	0.789	-0.427	-2.221	0.955	10
OC PC	CLAY PC	DPTHIN	0.027	-0.019	0.605	0.808	8

HORIZON	RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION PERCENT (VOL) OF SOIL VOLUME SOLIDS, SIZE IN MM 250-75	75-20	20-2	2-.05	.05-.002	.002 LT	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
AP	0.78	0.60	0.02	0.0	0.0	-0.3	-0.3	-0.2	0	0	1	16	27	10	29	17	1	1	2	13	20	31	31	24
AP2	0.74	0.60	0.0	0.0	0.0	0.2	0.0	-0.3	0	0	1	16	27	11	0	0	1	1	3	12	20	29	34	25
C 1	0.78	0.62	0.03	0.0	0.0	-1.2	-0.3	0.4	0	0	0	12	33	9	29	17	0	0	1	8	17	38	34	19
C 2	0.75	0.61	0.0	0.0	0.0	-0.4	-0.5	0.3	0	0	1	13	33	8	0	0	0	1	1	8	17	36	36	18
C 3	0.58	0.52	0.03	0.0	0.0	1.1	1.3	0.2	0	0	0	12	34	10	26	18	0	1	2	8	15	35	40	23
C 4	0.66	0.50	0.0	0.0	0.0	0.1	1.2	0.1	0	1	6	24	20	8	0	0	4	6	7	18	19	24	22	18
2C 5	0.86	0.66	0.0	0.0	0.0	0.1	-1.6	-0.2	0	1	17	37	6	3	0	0	5	12	21	36	11	8	6	6
3C 6	0.57	0.58	0.0	0.0	0.0	1.1	0.9	-0.1	0	0	0	9	35	11	31	14	0	0	0	4	16	31	48	26
3C 7	0.65	0.56	0.0	0.0	0.0	-0.2	0.9	-0.1	0	0	0	13	32	10	0	0	0	0	1	7	21	35	37	21
3C 8	0.61	0.76	0.0	0.0	0.0	-0.5	-1.7	0.0	0	0	0	3	35	17	0	0	0	0	0	1	6	27	65	45

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
AP	3.0	0.270	3.06	0.167	616.0	144.6	51.1	185.7	0.0	58.7	58.7	0.293	0.180
AP2	9.0	0.279	3.16	0.165	594.7	145.8	66.2	137.2	0.0	59.2	59.2	0.0	0.0
C 1	15.0	0.061	0.70	0.036	472.4	151.4	59.5	138.8	0.0	61.5	61.5	0.294	0.187
C 2	21.0	0.060	0.67	0.035	483.2	0.0	67.6	89.1	0.0	65.3	65.3	0.0	0.0
C 3	30.0	0.061	0.69	0.036	428.7	156.7	61.6	91.4	0.0	73.7	73.7	0.257	0.154
C 4	39.0	0.033	0.37	0.020	367.4	156.9	50.1	72.9	0.0	57.6	57.6	0.0	0.0
2C 5	44.5	0.023	0.26	0.013	244.2	65.1	31.2	42.3	0.0	42.1	42.1	0.0	0.0
3C 6	50.5	0.047	0.54	0.028	406.8	173.2	67.9	76.8	0.0	73.8	73.8	0.309	0.179
3C 7	57.0	0.0	0.0	0.0	433.1	177.2	75.5	76.8	0.0	67.3	67.3	0.0	0.0
3C 8	63.5	0.0	0.0	0.0	551.2	173.2	105.6	89.6	0.0	68.9	68.9	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	1.35	15.3	0.83	3079.9	723.9	255.6	928.7	0.0	293.7	293.7	1.46	0.90
2	6- 10	2.74	31.0	1.66	6074.9	1452.0	571.5	1663.2	0.0	589.1	589.1	2.92	1.80
3	11- 15	3.48	39.4	2.10	8681.6	2197.9	882.5	2354.0	0.0	891.8	891.8	4.39	2.72
4	16- 20	3.78	42.8	2.28	11065.3	2652.2	1196.2	2948.7	0.0	1206.8	1206.8	5.86	3.65
5	21- 25	4.08	46.2	2.45	13426.6	2808.9	1528.2	3396.6	0.0	1541.7	1541.7	7.29	4.55
6	26- 30	4.39	49.7	2.63	15569.9	3592.5	1836.3	3853.7	0.0	1910.1	1910.1	8.57	5.32
7	31- 35	4.69	53.1	2.81	17713.1	4376.2	2144.4	4310.8	0.0	2278.4	2278.4	9.85	6.09
8	36- 40	4.89	55.3	2.93	19611.4	5160.6	2406.5	4693.7	0.0	2582.5	2582.5	11.13	6.86
9	41- 45	5.02	56.9	3.01	21078.8	5669.8	2600.4	4966.4	0.0	2823.9	2823.9	12.41	7.63
10	46- 50	5.21	59.0	3.12	22787.7	6319.7	2866.5	5281.3	0.0	3129.5	3129.5	13.85	8.47
11	51- 55	5.40	61.1	3.23	24848.2	7189.8	3213.7	5665.2	0.0	3492.0	3492.0	15.39	9.36
12	56- 60	5.40	61.1	3.23	27013.6	8075.7	3591.0	6049.1	0.0	3828.3	3828.3	16.93	10.25
13	61- 65	5.40	61.1	3.23	29769.6	8941.8	4119.2	6496.9	0.0	4172.8	4172.8	18.47	11.14

AVERAGE OF CONTROL SECTION 0- 0 CMS. (0- 0 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) =100.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 0.0 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.91 PERCENT. SAND/CLAY RATIO = 1.5.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 71 35 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES LINOYER VERY FINE SANDY LOAM SOIL NO. S71 UTAH. 20- 6 SAMPLE NO. 1 223-1 229 SANPETE AREA

SOIL FAMILY: XERIC TORRIFLUVENT,CRSE-SLTY,MXD(CALCAR.),MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	CUMULATIVE SAND FRACTION LESS 1.0	.5	THAN .25	.10	MM .05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC
1 223	0- 3	A11	100	100	100	100	100	100	100	100	98	83	37	21	11	99	99	98	91	67	0.04	0.029	0.002	22.2	0.0
1 224	3- 6	A12	100	100	100	100	100	100	100	100	99	75	25	15	9	100	99	98	89	49	0.06	0.051	0.002	26.6	0.0
1 225	6- 19	C1	100	100	100	100	100	100	100	100	99	77	33	19	9	100	99	98	88	57	0.05	0.038	0.002	23.9	0.0
1 226	19- 27	C2	100	100	100	100	100	100	100	100	99	79	29	19	12	100	99	98	89	60	0.05	0.037	0.001	35.0	0.0
1 227	27- 39	C3	100	100	100	100	100	100	100	100	99	78	31	20	12	100	99	98	89	57	0.05	0.039	0.001	39.4	0.0
1 228	39- 51	C4	100	99	99	98	98	97	95	91	87	60	26	19	14	89	88	84	69	46	0.08	0.057	0.001	75.6	0.0
1 229	51- 55	C5 CA	100	99	99	98	98	98	97	94	86	58	31	24	19	92	88	82	66	47	0.08	0.057	0.001	122.9	0.0

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	REGRESSION COEFFICIENTS A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.341	4.591	6.394	0.530	7
15BR PC	CLAY PC	OC PC	-0.145	-0.070	8.374	0.320	7
OC PC	CLAY PC	DPTHIN	0.012	-0.011	0.567	0.753	7

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	OC. FE	PYR. FE+AL	D.C. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	.05-.002	.002 LT	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	1.54	0.87	0.0	0.0	0.0		0.8	-0.3	-0.4	0	0	0	15	27	5	17	36	1	1	1	7	26	34	30	12
A12	1.31	0.74	0.0	0.0	0.0		0.6	1.2	0.2	0	0	0	25	20	4	17	34	0	1	1	10	44	26	17	10
C1	1.85	1.04	0.0	0.0	0.0		-2.3	0.3	0.2	0	0	0	21	24	4	21	30	0	1	2	11	34	26	27	10
C2	1.31	0.70	0.0	0.0	0.0		-1.5	0.0	0.1	0	0	0	19	23	6	32	20	0	0	1	10	33	35	20	13
C3	1.34	0.75	0.0	0.0	0.0		-2.3	-0.7	0.0	0	0	0	20	21	6	24	29	0	0	1	10	37	30	22	14
C4	0.83	0.55	0.0	0.0	0.0		1.7	0.4	0.0	0	1	4	28	20	9	23	15	2	2	5	20	30	25	16	18
C5 CA	0.91	1.08	0.0	0.0	0.0		3.0	-0.8	-0.1	0	1	2	27	16	11	22	21	3	5	7	22	26	20	16	26

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
		WEIGHTS PER UNIT DEPTH (CM OR INCH)			POUNDS PER ACRE					TONS/ACRE			
A11	1.5	0.217	2.46	0.154	1228.2	142.6	45.6	452.5	0.0	26.9	26.9	0.151	0.079
A12	4.5	0.098	1.11	0.071	1242.0	113.0	27.1	332.9	0.0	26.5	26.5	0.152	0.094
C1	12.5	0.078	0.89	0.065	1295.0	169.5	88.0	183.7	0.0	30.9	30.9	0.181	0.113
C2	23.0	0.073	0.83	0.060	1081.1	224.1	169.2	44.1	0.0	28.3	28.3	0.292	0.232
C3	33.0	0.061	0.69	0.051	1230.8	347.5	269.0	32.6	0.0	23.7	23.7	0.210	0.145
C4	45.0	0.049	0.56	0.041	1502.0	432.3	328.3	26.5	0.0	35.7	35.7	0.206	0.138
C5 CA	53.0	0.047	0.53	0.039	1358.6	475.8	396.2	25.4	0.0	63.4	63.4	0.190	0.100

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
		CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)			POUNDS PER ACRE					TONS/ACRE			
1	1- 5	0.85	9.6	0.60	6168.7	653.9	190.8	2023.3	0.0	133.6	133.6	0.76	0.47
2	6- 10	1.26	14.3	0.93	12590.8	1445.1	569.9	3090.8	0.0	283.7	283.7	1.64	1.02
3	11- 15	1.65	18.7	1.26	19065.8	2292.7	1009.9	4009.1	0.0	438.3	438.3	2.54	1.58
4	16- 20	2.04	23.1	1.53	25326.9	3195.0	1531.2	4787.8	0.0	590.2	590.2	3.56	2.26
5	21- 25	2.40	27.2	1.88	30732.1	4315.6	2377.3	5008.6	0.0	731.7	731.7	5.02	3.42
6	26- 30	2.73	30.9	2.15	36586.8	5806.5	3522.8	5194.6	0.0	859.3	859.3	6.23	4.32
7	31- 35	3.04	34.4	2.41	42741.0	7544.1	4867.8	5357.5	0.0	977.6	977.6	7.28	5.04
8	36- 40	3.33	37.7	2.65	49166.4	9366.5	6272.1	5514.3	0.0	1108.0	1108.0	8.33	5.76
9	41- 45	3.58	40.5	2.85	56676.6	11527.8	7913.4	5646.8	0.0	1286.4	1286.4	9.36	6.45
10	46- 50	3.82	43.3	3.06	64186.7	13689.1	9554.8	5779.3	0.0	1464.8	1464.8	10.39	7.14
11	51- 55	4.06	46.0	3.25	71122.9	16024.7	11467.8	5907.2	0.0	1754.0	1754.0	11.36	7.68

AVERAGE OF CONTROL SECTION 25- 100 CMS. (10- 39 IN.)
SAND (MINUS VFS)= 10.9 PERCENT, SAND = 41.9 PERCENT, SILT (PLUS VFS) = 78.1 PERCENT, CLAY = 11.0 PERCENT,
CARBONATE CLAY = 2.1 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 7.3 PERCENT, CACO3 EQUIVALENT= 19.8 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.49 PERCENT. SAND/CLAY RATIO = 4.7.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 67 28 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES RAVOLA LOAM GYPSIC VARIANT SOIL NO. S67 UTAH. 20-13 SAMPLE NO. 7 443-7 453 SANPETE CO. AREA

SOIL FAMILY: XERIC TORRIFLUVENT,FINE-LOAMY,MXD(CALCR.),MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING PERCENTAGE PASSING 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	MECHANICAL ANALYSIS SIEVE NO. 4	NO. 10	NO. 40	NO. 200	LESS THAN .02 MM	LESS THAN .005 MM	LESS THAN .002 MM	CUMULATIVE SAND FRACTION LESS THAN 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC RATIO
7 443	0- 3	A11	100	100	100	100	100	99	98	98	96	76	40	28	21	98	96	95	83	65	0.04	0.029	0.001	68.8	0.0
7 444	3- 7	A12	100	100	100	100	100	99	98	98	96	77	42	29	21	98	97	95	83	66	0.04	0.027	0.001	67.9	0.0
7 445	7- 18	C 1	100	100	100	100	100	99	98	98	96	77	46	33	24	98	97	95	83	68	0.04	0.023	0.001	68.8	0.0
7 446	18- 27	C 2	100	100	100	100	100	99	99	99	95	73	39	27	20	98	96	92	79	65	0.04	0.029	0.001	64.7	0.0
7 447	27- 44	C 3	100	100	100	100	100	98	97	97	93	70	36	25	18	96	94	91	76	59	0.05	0.035	0.001	74.2	0.0
7 448	44- 50	C 4	100	100	100	100	100	96	93	93	85	63	34	24	17	91	86	82	69	54	0.07	0.041	0.001	83.7	0.0
7 449	50- 55	C 5	100	100	100	100	100	92	84	84	74	55	31	21	14	81	75	71	60	48	0.10	0.055	0.001	99.0	0.0
7 450	55- 60	C 6	100	100	100	100	100	99	99	99	94	70	36	25	18	98	94	91	77	59	0.05	0.035	0.001	72.1	0.0
7 451	60- 64	C 7	100	100	100	100	100	88	76	76	65	47	27	19	14	73	66	61	51	42	0.23	0.094	0.001	208.8	0.1
7 452	64- 72	C 8	100	100	100	100	100	99	98	98	94	73	39	28	20	97	95	92	79	63	0.05	0.030	0.001	72.1	0.0
7 453	0- 0	R	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.086	1.832	6.254	0.331	10
15BR PC	CLAY PC	OC PC	0.387	-11.620	6.857	0.696	10
OC PC	CLAY PC	DPTHIN	0.025	-0.003	-0.030	0.967	7

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	OC. FE	PYR. FE+AL	PYR/ O.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	0.46	0.43	0.01	0.0	0.0	-0.1	0.9	-0.0	0	0	1	20	26	12	30	11	1	2	2	16	23	32	25	27
A12	0.44	0.57	0.01	0.0	0.0	0.0	-1.5	0.0	0	0	1	17	23	11	22	26	0	1	2	15	23	32	26	28
C 1	0.41	0.50	0.01	0.0	0.0	0.1	-0.9	0.0	0	0	1	14	21	11	17	36	0	1	3	16	21	29	30	32
C 2	0.42	0.47	0.01	0.0	0.0	0.7	0.7	-0.0	0	0	0	16	21	9	18	36	1	3	4	16	18	33	25	25
C 3	0.53	0.49	0.01	0.0	0.0	-1.1	1.1	-0.0	0	0	1	19	20	9	28	23	1	3	4	18	22	30	22	23
C 4	0.59	0.65	0.01	0.0	0.0	-1.6	0.2	0.0	0	0	3	19	18	8	20	32	3	6	6	17	19	27	22	22
C 5	0.34	0.73	0.01	0.0	0.0	2.5	-0.5	0.0	0	0	9	19	19	8	25	20	4	8	6	16	17	24	25	21
C 6	0.56	1.03	0.01	0.0	0.0	-1.9	-4.0	0.2	0	0	0	20	20	9	23	28	1	4	4	17	23	28	23	22
C 7	0.40	0.67	0.01	0.0	0.0	0.9	2.0	0.2	0	0	13	19	16	8	19	25	4	12	8	17	15	23	22	22
C 8	0.41	0.63	0.01	0.0	0.0	0.3	2.3	0.2	0	0	1	18	22	10	22	27	1	3	4	16	22	30	25	26
R					0.0																			

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY A. D.	WATER CONTENT TO 15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
A11	1.5	0.119	1.34	0.076	714.4	25.0	0.0	108.2	0.0	38.1	38.1	0.300	0.176
A12	5.0	0.095	1.07	0.059	2553.5	11.0	7.0	83.2	0.0	35.0	35.0	0.218	0.066
C 1	12.5	0.094	1.07	0.059	2460.7	29.8	6.3	86.1	0.0	31.7	31.7	0.169	0.038
C 2	22.5	0.081	0.92	0.051	1479.1	122.1	25.3	85.8	0.0	35.7	35.7	0.176	0.068
C 3	35.5	0.074	0.84	0.047	4430.9	269.3	152.2	56.1	0.0	30.2	30.2	0.281	0.170
C 4	47.0	0.044	0.49	0.027	3558.3	236.1	138.3	32.0	0.0	34.2	34.2	0.196	0.069
C 5	52.5	0.033	0.38	0.021	4137.9	0.0	138.1	42.6	0.0	30.0	30.0	0.254	0.113
C 6	57.5	0.0	0.0	0.0	4929.0	219.7	133.7	45.3	0.0	27.6	27.6	0.232	0.009
C 7	62.0	0.0	0.0	0.0	4322.1	189.6	140.7	49.7	0.0	26.8	26.8	0.189	0.061
C 8	68.0	0.0	0.0	0.0	4838.8	234.0	189.2	71.3	0.0	32.0	32.0	0.215	0.058
R	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY A. D.	WATER CONTENT TO 15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
1	1- 5	0.55	6.2	0.35	7250.1	96.8	14.0	491.0	0.0	184.5	184.5	1.34	0.66
2	6- 10	1.02	11.5	0.64	19739.0	208.2	47.1	915.5	0.0	349.8	349.8	2.28	0.91
3	11- 15	1.49	16.9	0.94	32042.3	357.1	78.8	1345.9	0.0	508.4	508.4	3.12	1.10
4	16- 20	1.94	21.9	1.22	42382.5	690.6	148.4	1775.6	0.0	675.0	675.0	3.98	1.35
5	21- 25	2.34	26.5	1.47	49778.1	1301.0	274.9	2204.5	0.0	853.8	853.8	4.86	1.69
6	26- 30	2.73	30.9	1.71	66029.1	2353.0	782.1	2544.4	0.0	1015.9	1015.9	6.05	2.34
7	31- 35	3.10	35.1	1.95	88183.8	3699.6	1543.1	2824.9	0.0	1166.9	1166.9	7.45	3.19
8	36- 40	3.47	39.3	2.18	110338.5	5046.1	2304.1	3105.5	0.0	1318.0	1318.0	8.85	4.04
9	41- 45	3.81	43.2	2.39	131620.6	6359.5	3051.3	3361.9	0.0	1473.0	1473.0	10.17	4.79
10	46- 50	4.03	45.6	2.53	149412.1	7540.1	3742.7	3521.7	0.0	1643.8	1643.8	11.15	5.13
11	51- 55	4.20	47.5	2.63	170101.5	7540.1	4433.2	3734.6	0.0	1793.9	1793.9	12.42	5.69
12	56- 60	4.20	47.5	2.63	194746.5	8638.7	5101.7	3961.3	0.0	1932.0	1932.0	13.58	6.25
13	61- 65	4.20	47.5	2.63	216873.6	9631.1	5853.6	4231.4	0.0	2071.0	2071.0	14.55	6.55
14	66- 70	4.20	47.5	2.63	241067.6	10801.2	6799.7	4587.9	0.0	2231.0	2231.0	15.62	6.84

AVERAGE OF CONTROL SECTION 0- 0 CMS. (0- 0 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) =100.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 0.0 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.44 PERCENT. SAND/CLAY RATIO = 1.4.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 71 40 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES WALES LOAM SOIL NO. S71 UTAH. 20- 7 SAMPLE NO. 1 256-1 262 SANPETE AREA

SOIL FAMILY: XERIC TORRIFLUVENT,FINE-LMY,MXD(CALCAR.),MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS - - - PERCENT PASSING SIEVE - - - 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS THAN .02 MM	LESS THAN .005 MM	LESS THAN .002 MM	CUMULATIVE SAND FRACTION 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC RATIO
1 256	0- 4	A1	100	100	100	100	100	100	100	99	87	68	52	40	31	96	89	83	71	63	0.04	0.016	0.000	94.5	0.0
1 257	4- 7	C1	100	100	100	100	100	100	100	100	90	73	58	41	30	97	91	86	76	69	0.02	0.010	0.000	55.6	0.0
1 258	7- 14	C2	100	100	100	100	100	100	100	100	97	76	48	31	21	100	98	94	82	68	0.04	0.022	0.001	57.1	0.0
1 259	14- 23	C3	100	100	100	100	100	100	100	100	96	69	44	29	20	100	97	91	75	62	0.04	0.027	0.001	68.7	0.0
1 260	23- 37	C4	100	100	100	100	100	100	99	98	88	51	33	23	16	97	91	80	56	45	0.12	0.068	0.001	137.4	0.0
1 261	37- 49	C5	100	100	100	100	100	99	97	95	90	69	42	29	20	94	92	87	74	61	0.05	0.029	0.001	75.3	0.0
1 262	49- 59	C6	100	100	100	99	99	98	97	95	91	74	49	33	23	94	92	88	79	68	0.03	0.021	0.001	63.0	0.0

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.194	-5.507	7.798	0.639	7
15BR PC	CLAY PC	OC PC	0.010	-0.543	7.747	0.462	4
OC PC	CLAY PC	DPTHIN	0.017	-0.004	0.317	0.911	7

HORIZON	RATIOS AND RESIDUALS --RATIOS TO CLAY-- CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION --PERCENT (VOL) OF SOIL VOLUME-- SOILS,SIZE IN MM 250 -75	75 -20	20 -2	2-.05- .05	.002	LT .002	-PORES- CAP.	NON CAP	PSD ON CLAY FREE BASIS ---PERCENT OF SAND PLUS SILT--- VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A1	0.28	0.24	0.0	0.0	0.0	-0.2	-0.1	-0.1	0	0	0	20	17	17	23	23	5	11	9	17	12	15	31	46
C1	0.29	0.25	0.0	0.0	0.0	0.8	0.1	0.1	0	0	0	17	22	17	24	20	4	9	7	13	10	17	39	43
C2	0.50	0.47	0.0	0.0	0.0	0.3	-0.1	0.1	0	0	0	17	24	11	19	29	0	2	5	16	17	25	34	26
C3	0.51	0.51	0.0	0.0	0.0	0.2	0.1	-0.0	0	0	0	19	21	10	16	34	0	3	8	20	15	23	30	24
C4	0.55	0.0	0.0	0.0	0.0	0.8	7.6	-0.1	0	0	1	27	15	8	16	33	1	7	14	29	14	14	21	19
C5	0.57	0.0	0.0	0.0	0.0	-1.9	7.7	-0.1	0	0	3	17	21	10	22	27	1	3	6	17	17	26	29	27
C6	0.53	0.0	0.0	0.0	0.0	0.1	7.8	0.1	0	1	2	14	23	11	22	27	2	3	5	13	16	26	36	31

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
		WEIGHTS PER UNIT DEPTH (CM OR INCH)			POUNDS PER ACRE					TONS/ACRE			
A1	2.0	0.240	2.72	0.156	1147.6	93.9	7.5	254.3	0.0	45.6	45.6	0.209	0.118
C1	5.5	0.186	2.10	0.127	1467.1	97.8	7.8	304.6	0.0	50.9	50.9	0.222	0.127
C2	10.5	0.108	1.22	0.086	1360.9	92.4	7.1	216.1	0.0	53.9	53.9	0.178	0.088
C3	18.5	0.121	1.37	0.097	1204.4	108.4	13.9	70.5	0.0	55.7	55.7	0.148	0.064
C4	30.0	0.105	1.19	0.084	1309.5	165.8	20.7	46.9	0.0	54.1	54.1	0.147	0.162
C5	43.0	0.111	1.25	0.089	1239.0	260.4	46.0	66.8	0.0	35.7	35.7	0.200	0.222
C6	54.0	0.072	0.82	0.058	1133.5	314.2	92.6	78.5	0.0	47.5	47.5	0.202	0.221

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
		CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)			POUNDS PER ACRE					TONS/ACRE			
1	1- 5	1.15	13.0	0.75	6057.4	473.4	37.8	1321.8	0.0	233.5	233.5	1.06	0.60
2	6- 10	1.84	20.8	1.27	13074.3	946.1	74.7	2579.5	0.0	497.0	497.0	2.04	1.12
3	11- 15	2.39	27.1	1.71	19722.5	1424.0	116.8	3514.5	0.0	768.3	768.3	2.90	1.54
4	16- 20	3.00	33.9	2.19	25744.7	1966.0	186.1	3866.8	0.0	1046.8	1046.8	3.64	1.86
5	21- 25	3.57	40.4	2.65	31977.0	2622.8	269.1	4171.9	0.0	1322.0	1322.0	4.38	2.38
6	26- 30	4.10	46.4	3.07	38524.5	3451.7	372.7	4406.2	0.0	1592.4	1592.4	5.11	3.19
7	31- 35	4.62	52.3	3.49	45071.9	4280.6	476.3	4640.4	0.0	1862.7	1862.7	5.84	4.00
8	36- 40	5.16	58.5	3.93	51408.0	5393.3	655.7	4934.5	0.0	2077.8	2077.8	6.73	4.99
9	41- 45	5.72	64.7	4.37	57603.1	6695.1	885.5	5268.5	0.0	2256.3	2256.3	7.73	6.10
10	46- 50	6.23	70.5	4.78	63692.7	8050.7	1162.0	5614.3	0.0	2446.5	2446.5	8.73	7.21
11	51- 55	6.59	74.6	5.07	69359.9	9621.5	1625.2	6006.9	0.0	2683.8	2683.8	9.74	8.31

AVERAGE OF CONTROL SECTION 0- 0 CMS. (0- 0 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) =100.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 0.0 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.64 PERCENT. SAND/CLAY RATIO = 1.4.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 67 30 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES QUAKER SILTY CLAY LOAM SOIL NO. S67 UTAH. 20- 8 SAMPLE NO. 7 466-7 474 SANPETE CO. AREA

SOIL FAMILY: XERIC TORRIFLUVENT,FINE-SILTY,CARBONATIC,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS - - - PERCENTAGE PASSING SIEVE - - - 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	CUMULATIVE SAND FRACTION LESS THAN .02 MM	.005	.002	DIAMETERS AT PERCENT (MM) LESS THAN 1.0 MM	.5	.25	.10	.05	60	50	10	CU RATIO	CC RATIO
7 466	0- 6	AP	100	100	100	100	100	100	100	100	99	94	74	49	32	100	99	99	96	91	0.01	0.005	0.000	22.2	0.0
7 467	6- 11	AP2	100	100	100	100	100	100	100	100	99	94	73	48	32	100	100	99	97	91	0.01	0.006	0.000	23.1	0.0
7 468	11- 18	C 1	100	100	100	100	100	100	100	100	100	98	87	56	35	100	100	100	99	97	0.01	0.004	0.000	15.8	0.0
7 469	18- 27	C 2	100	100	100	100	100	100	100	100	100	100	91	56	33	100	100	100	100	99	0.01	0.004	0.000	14.6	0.0
7 470	27- 39	C 3	100	100	100	100	100	100	100	100	100	99	90	55	32	100	100	100	100	99	0.01	0.004	0.000	14.7	0.0
7 471	39- 47	C 4	100	100	100	100	100	100	100	100	100	100	96	73	58	100	100	100	100	100	0.00	0.001	0.000	7.5	0.0
7 472	47- 57	C 5	PSD NOT DETERMINED																						
7 473	57- 67	C 6	PSD NOT DETERMINED																						
7 474	67- 77	C 7	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	REGRESSION COEFFICIENTS A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.272	3.799	2.579	0.624	6
15BR PC	CLAY PC	OC PC	0.224	1.933	5.603	0.669	6
OC PC	CLAY PC	DPTHIN	0.006	-0.033	1.411	0.846	6

HORIZON	RATIOS AND RESIDUALS --RATIOS TO CLAY-- CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION --PERCENT (VOL) OF SOIL VOLUME-- SOLIDS,SIZE IN MM 250 -75	75 -20	20 -2	2-.05- .05	.002	LT .002	-PORES- CAP.	NON CAP	PSD ON CLAY FREE BASIS ---PERCENT OF SAND PLUS SILT--- VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
AP	0.63	0.59	0.02	0.0	0.0	1.1	0.9	-0.2	0	0	0	5	29	16	33	17	0	0	0	4	8	24	63	46
AP2	0.73	0.67	0.0	0.0	0.0	-1.1	-0.8	-0.3	0	0	0	5	32	17	35	11	0	0	0	3	9	26	61	46
C 1	0.55	0.58	0.0	0.0	0.0	-0.9	-1.0	0.3	0	0	0	2	33	19	34	12	0	0	0	1	3	16	79	55
C 2	0.27	0.34	0.02	0.0	0.0	4.5	2.8	0.4	0	0	0	0	35	18	33	14	0	0	0	0	1	13	86	50
C 3	0.50	0.53	0.0	0.0	0.0	-0.6	-0.1	0.0	0	0	0	1	34	17	33	15	0	0	0	0	1	13	86	47
C 4	0.46	0.44	0.0	0.0	0.0	-3.0	-1.9	-0.3	0	0	0	0	21	29	34	16	0	0	0	0	0	8	91	140
C 5					0.0																			
C 6					0.0																			
C 7					0.0																			

W E I G H T S P E R U N I T D E P T H (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
AP	3.0	0.365	4.13	0.219	675.9	213.4	136.4	104.0	0.0	66.7	66.7	0.333	0.167
AP2	8.5	0.374	4.23	0.236	647.2	213.6	148.8	75.7	0.0	74.4	74.4	0.346	0.147
C 1	14.5	0.175	1.98	0.120	701.9	222.1	168.8	124.4	0.0	84.5	84.5	0.342	0.159
C 2	22.5	0.119	1.35	0.082	478.1	0.0	137.4	85.9	0.0	88.1	88.1	0.325	0.169
C 3	33.0	0.094	1.07	0.065	496.0	226.9	171.1	108.8	0.0	82.2	82.2	0.334	0.181
C 4	43.0	0.115	1.30	0.079	509.4	305.6	265.0	82.8	0.0	65.2	65.2	0.338	0.107
C 5	52.0	0.095	1.07	0.065	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.366	0.105
C 6	62.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.355	0.084
C 7	72.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.400	0.103

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG.	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
1	1- 5	1.82	20.6	1.10	3379.4	1067.2	681.8	520.2	0.0	333.5	333.5	1.66	0.83
2	6- 10	3.68	41.7	2.26	6643.9	2134.8	1413.5	927.2	0.0	697.9	697.9	3.38	1.58
3	11- 15	4.76	53.8	2.98	10098.7	3236.7	2237.5	1500.6	0.0	1110.5	1110.5	5.09	2.36
4	16- 20	5.52	62.5	3.50	13160.6	3902.8	3018.7	2045.6	0.0	1540.3	1540.3	6.77	3.17
5	21- 25	6.12	69.2	3.91	15551.0	3902.8	3706.0	2475.0	0.0	1980.6	1980.6	8.39	4.01
6	26- 30	6.64	75.1	4.27	17995.2	4583.6	4494.3	2973.1	0.0	2403.2	2403.2	10.04	4.89
7	31- 35	7.11	80.5	4.59	20475.3	5718.2	5349.9	3517.2	0.0	2814.0	2814.0	11.71	5.79
8	36- 40	7.60	86.0	4.93	22968.7	6931.5	6299.4	4035.2	0.0	3207.8	3207.8	13.38	6.62
9	41- 45	8.18	92.6	5.32	25515.8	8459.8	7624.4	4449.1	0.0	3533.7	3533.7	15.07	7.15
10	46- 50	8.69	98.4	5.67	26534.6	9071.1	8154.5	4614.7	0.0	3664.1	3664.1	16.84	7.68
11	51- 55	9.17	103.8	6.00	26534.6	9071.1	8154.5	4614.7	0.0	3664.1	3664.1	18.67	8.20
12	56- 60	9.36	105.9	6.13	26534.6	9071.1	8154.5	4614.7	0.0	3664.1	3664.1	20.47	8.66
13	61- 65	9.36	105.9	6.13	26534.6	9071.1	8154.5	4614.7	0.0	3664.1	3664.1	22.24	9.08
14	66- 70	9.36	105.9	6.13	26534.6	9071.1	8154.5	4614.7	0.0	3664.1	3664.1	24.15	9.56
15	71- 75	9.36	105.9	6.13	26534.6	9071.1	8154.5	4614.7	0.0	3664.1	3664.1	26.15	10.07

AVERAGE OF CONTROL SECTION 0- 0 CMS. (0- 0 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) =100.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 0.0 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 1.31 PERCENT. SAND/CLAY RATIO = 0.2.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 67 27 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES QUAKER SILT LOAM SOIL NO. S67 UTAH. 20-16 SAMPLE NO. 7 435-7 442 SANPETE CO. AREA

SOIL FAMILY: XERIC TORRIFLUVENT,FINE-SILTY,CARBONATIC,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENT PASSING SIEVE													CUMULATIVE SAND FRACTION					DIAMETERS AT PERCENT (MM)			CU RATIO	CC RATIO
			3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	LESS 1.0	THAN .5	MM .25	.10	.05	60	50	10		
7 435	0- 6	AP	100	100	100	100	100	100	100	100	99	90	69	45	29	100	99	98	93	87	0.01	0.007	0.000	26.4	0.0
7 436	6- 17	C 1	100	100	100	100	100	100	100	100	100	92	71	47	31	100	100	99	96	88	0.01	0.006	0.000	25.4	0.0
7 437	17- 27	C 2	100	100	100	100	100	100	100	100	100	95	77	50	32	100	100	99	97	92	0.01	0.005	0.000	20.7	0.0
7 438	27- 35	C 3	100	100	100	100	100	100	100	100	99	93	78	51	33	100	99	98	95	90	0.01	0.005	0.000	20.0	0.0
7 439	35- 36	C 4	100	100	100	100	100	100	100	100	100	97	87	56	35	100	100	100	98	96	0.01	0.004	0.000	15.7	0.0
7 440	36- 44	C 5	100	100	100	100	100	100	100	100	99	93	76	50	33	100	99	99	96	91	0.01	0.005	0.000	21.3	0.0
7 441	44- 52	C 6	100	100	100	100	100	100	100	100	99	90	67	44	29	100	99	98	93	86	0.01	0.007	0.000	29.4	0.0
7 442	52- 60	C 7	100	100	100	100	100	100	100	100	99	92	72	47	31	100	99	99	95	89	0.01	0.006	0.000	24.6	0.0

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	REGRESSION COEFFICIENTS A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.415	1.179	1.913	0.881	8
15BR PC	CLAY PC	OC PC	0.332	-0.541	3.664	0.934	8
OC PC	CLAY PC	DPTHIN	0.034	-0.010	0.098	0.867	7

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS, PERCENT OF SAND PLUS SILT: VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
AP	0.57	0.47	0.02	0.0	0.0	-0.4	-0.1	-0.1	0	0	0	7	29	14	24	26	0	1	1	7	10	24	57	41
C 1	0.52	0.47	0.01	0.0	0.0	0.2	0.2	0.1	0	0	0	6	28	15	24	27	0	0	1	6	11	25	58	45
C 2	0.50	0.48	0.01	0.0	0.0	0.5	-0.3	0.1	0	0	0	4	30	16	26	24	0	0	1	3	7	23	66	47
C 3	0.52	0.47	0.01	0.0	0.0	0.0	-0.1	0.0	0	0	0	5	29	17	28	21	0	1	2	5	7	19	66	50
C 4	0.53	0.45	0.0	0.0	0.0	-0.5	-0.1	-0.1	0	0	0	2	28	17	32	21	0	0	0	2	3	14	80	55
C 5	0.48	0.45	0.0	0.0	0.0	0.7	0.4	0.1	0	0	0	5	29	17	28	21	0	1	1	5	7	22	64	50
C 6	0.53	0.48	0.0	0.0	0.0	-0.1	0.1	-0.1	0	0	0	7	29	15	26	23	0	1	2	8	9	27	54	40
C 7	0.52	0.50	0.0	0.0	0.0	-0.5	-0.2	0.3	0	0	0	5	30	16	30	19	0	1	1	5	8	26	59	45

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
AP	3.0	0.222	2.51	0.143	632.0	86.7	0.0	223.0	0.0	54.2	54.2	0.241	0.097
C 1	11.5	0.145	1.64	0.101	576.6	120.0	0.0	126.2	0.0	61.8	61.8	0.236	0.096
C 2	22.0	0.143	1.62	0.100	509.4	222.0	7.0	82.8	0.0	65.2	65.2	0.261	0.106
C 3	31.0	0.133	1.51	0.093	418.5	354.5	7.1	96.0	0.0	66.2	66.2	0.279	0.121
C 4	35.5	0.161	1.82	0.113	181.0	0.0	6.5	88.3	599.7	56.6	56.6	0.317	0.162
C 5	40.0	0.113	1.28	0.079	285.0	378.4	7.0	82.8	0.0	62.2	62.2	0.280	0.128
C 6	48.0	0.097	1.10	0.068	297.2	349.3	13.9	59.1	0.0	0.0	0.0	0.260	0.119
C 7	56.0	0.0	0.0	0.0	311.6	340.9	70.3	71.5	0.0	0.0	0.0	0.295	0.140

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
1	1- 5	1.11	12.6	0.71	3160.1	433.4	0.0	1115.1	0.0	270.9	270.9	1.20	0.48
2	6- 10	1.91	21.6	1.26	6098.4	1000.2	0.0	1842.9	0.0	572.1	572.1	2.38	0.96
3	11- 15	2.64	29.9	1.77	8981.3	1600.3	0.0	2473.9	0.0	881.0	881.0	3.56	1.44
4	16- 20	3.36	38.0	2.27	11662.7	2506.2	20.9	2974.6	0.0	1200.2	1200.2	4.81	1.95
5	21- 25	4.07	46.1	2.77	14209.8	3616.0	55.8	3388.5	0.0	1526.1	1526.1	6.11	2.48
6	26- 30	4.76	53.8	3.25	16484.2	5123.5	91.0	3842.1	0.0	1855.0	1855.0	7.47	3.05
7	31- 35	5.42	61.4	3.72	18576.9	6896.1	126.4	4322.2	0.0	2185.8	2185.8	8.86	3.65
8	36- 40	6.04	68.3	4.14	19898.0	8409.7	160.8	4741.6	599.7	2491.0	2491.0	10.30	4.32
9	41- 45	6.58	74.5	4.53	21335.3	10272.7	202.6	5131.8	599.7	2739.7	2739.7	11.68	4.95
10	46- 50	7.07	80.0	4.87	22821.0	12019.3	272.4	5427.4	599.7	2739.7	2739.7	12.98	5.54
11	51- 55	7.26	82.2	5.00	24350.1	13740.6	511.0	5760.1	599.7	2739.7	2739.7	14.38	6.20
12	56- 60	7.26	82.2	5.00	25908.1	15445.2	862.3	6117.5	599.7	2739.7	2739.7	15.85	6.90

AVERAGE OF CONTROL SECTION 0- 0 CMS. (0- 0 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) =100.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 0.0 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.77 PERCENT. SAND/CLAY RATIO = 0.4.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 67 31 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES WOODROW SILTY CLAY LOAM SOIL NO. S67 UTAH. 20- 9 SAMPLE NO. 7 475-7 484 SANPETE CO. AREA

SOIL FAMILY: XERIC TORRIFLUVENT,FINE-SILTY,MXD(CALCR.),MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING PERCENTAGE PASSING 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	MECHANICAL ANALYSIS SIEVE NO. 10	NO. 40	NO. 200	LESS THAN .02 MM	.005	.002	CUMULATIVE SAND FRACTION LESS THAN MM 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC
7 475	0- 6	AP	100	100	100	100	100	100	100	100	99	86	59	42	31	100	99	98	92	79	0.02	0.009	0.000	48.6	0.0
7 476	6- 12	A12	100	100	100	100	100	100	100	100	99	87	61	43	31	100	99	98	92	80	0.02	0.009	0.000	45.5	0.0
7 477	12- 21	C 1	100	100	100	100	100	100	100	100	99	89	61	44	33	100	100	99	94	82	0.02	0.008	0.000	44.0	0.0
7 478	21- 25	C 2	100	100	100	100	100	100	100	100	100	78	41	28	20	100	100	99	86	64	0.04	0.028	0.001	65.8	0.0
7 479	25- 342	C 3	100	100	100	100	100	100	100	100	100	99	92	69	54	100	100	100	99	99	0.00	0.002	0.000	9.5	0.0
7 480	34- 422	C 4	100	100	100	100	100	100	100	100	100	94	76	57	44	100	100	100	97	90	0.01	0.003	0.000	18.3	0.0
7 481	42- 443	C 5	100	100	100	100	100	100	100	100	100	91	58	38	25	100	100	100	96	84	0.02	0.011	0.000	43.5	0.0
7 482	44- 494	C 6	PSD NOT DETERMINED																						
7 483	49- 545	C 7	PSD NOT DETERMINED																						
7 484	54- 606	C 8	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.479	1.327	1.059	0.988	7
15BR PC	CLAY PC	OC PC	0.388	1.122	1.235	0.985	7
OC PC	CLAY PC	DPTHIN	0.009	-0.030	1.114	0.869	7

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05- .05	.05-.002	.002 LT	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
AP	0.60	0.47	0.01	0.0	0.0	-0.0	0.8	-0.2	0	0	0	11	25	16	32	16	0	1	1	9	18	28	41	44
A12	0.60	0.53	0.0	0.0	0.0	-0.2	-0.9	-0.2	0	0	0	11	26	16	0	0	0	1	1	9	18	28	43	45
C 1	0.49	0.49	0.0	0.0	0.0	1.5	-0.7	0.3	0	0	0	10	27	18	28	17	0	0	1	7	19	30	43	49
C 2	0.60	0.46	0.01	0.0	0.0	-0.5	0.4	0.3	0	0	0	20	24	11	0	0	0	0	1	17	27	28	27	25
2C 3	0.53	0.42	0.0	0.0	0.0	-0.5	0.3	0.1	0	0	0	1	24	28	35	12	0	0	0	1	1	14	84	116
2C 4	0.51	0.44	0.0	0.0	0.0	0.2	-0.2	-0.1	0	0	0	5	23	23	0	0	0	0	0	4	14	24	58	80
3C 5	0.56	0.45	0.0	0.0	0.0	-0.5	0.2	-0.2	0	0	0	8	30	13	0	0	0	0	0	5	16	36	44	34
4C 6					0.0																			
5C 7					0.0																			
6C 8					0.0																			

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
AP	3.0	0.341	3.86	0.200	707.8	192.0	21.2	132.0	0.0	43.1	43.1	0.317	0.154
A12	9.0	0.306	3.46	0.190	658.9	186.3	21.9	111.2	0.0	45.9	45.9	0.0	0.0
C 1	16.5	0.134	1.52	0.096	612.0	179.6	30.6	38.9	0.0	44.9	44.9	0.281	0.097
C 2	23.0	0.075	0.85	0.054	557.8	200.8	30.2	102.4	0.0	41.0	41.0	0.0	0.0
2C 3	29.5	0.122	1.38	0.088	641.6	0.0	94.0	24.5	723.4	50.3	50.3	0.346	0.089
2C 4	38.0	0.089	1.01	0.064	644.8	390.6	85.6	120.9	0.0	45.0	45.0	0.0	0.0
3C 5	43.0	0.063	0.71	0.045	443.2	236.3	70.8	72.0	0.0	47.7	47.7	0.0	0.0
4C 6	46.5	0.060	0.68	0.043	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.313	0.163
5C 7	51.5	0.042	0.48	0.031	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6C 8	57.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.227	0.116

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
1	1- 5	1.71	19.3	1.00	3539.1	960.2	106.2	660.1	0.0	215.4	215.4	1.58	0.77
2	6- 10	3.27	37.0	1.96	6882.6	1897.3	214.8	1236.9	0.0	442.2	442.2	3.16	1.54
3	11- 15	4.28	48.5	2.63	10036.5	2808.7	350.4	1576.1	0.0	668.8	668.8	4.64	2.14
4	16- 20	4.95	56.1	3.11	13096.6	3706.8	503.4	1770.6	0.0	893.3	893.3	6.04	2.62
5	21- 25	5.39	61.0	3.42	15939.7	4689.6	654.7	2219.0	0.0	1102.3	1102.3	7.44	3.10
6	26- 30	6.00	67.9	3.86	19147.9	4689.6	1124.9	2341.7	3617.1	1353.9	1353.9	9.17	3.54
7	31- 35	6.57	74.4	4.28	22359.3	5080.2	1586.7	2560.7	6510.8	1600.2	1600.2	10.90	3.98
8	36- 40	7.02	79.5	4.60	25583.4	7033.2	2014.5	3165.2	6510.8	1824.9	1824.9	12.63	4.42
9	41- 45	7.39	83.6	4.86	27759.3	8287.1	2327.2	3551.1	6510.8	2010.2	2010.2	14.33	4.94
10	46- 50	7.67	86.8	5.07	27759.3	8287.1	2327.2	3551.1	6510.8	2010.2	2010.2	15.89	5.75
11	51- 55	7.84	88.7	5.19	27759.3	6287.1	2327.2	3551.1	6510.8	2010.2	2010.2	17.37	6.52
12	56- 60	7.84	88.7	5.19	27759.3	8287.1	2327.2	3551.1	6510.8	2010.2	2010.2	18.50	7.10

AVERAGE OF CONTROL SECTION 0- 0 CMS. (0- 0 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) =100.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 0.0 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 1.16 PERCENT. SAND/CLAY RATIO = 0.6.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 67 29 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES RAVOLA LOAM GYPSIC VARIANT SOIL NO. S67 UTAH. 20-14 SAMPLE NO. 7 454-7 465 SANPETE CO. AREA

SOIL FAMILY: XERIC TORRIFLUVENT,FINE-SILTY,MXD(CALCR.),MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENT PASSING SIEVE NO. 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	CUMULATIVE SAND FRACTION LESS THAN .02 MM	.005 MM	.002 MM	LESS THAN 1.0 MM	.5 MM	.25 MM	.10 MM	.05 MM	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC RATIO
7 454	0- 5	A11	100	100	100	100	100	94	88	88	82	71	42	30	22	86	83	80	75	68	0.04	0.027	0.001	67.2	0.0
7 455	5- 8	A12	100	100	100	100	100	97	94	94	87	73	41	30	22	92	87	84	78	68	0.04	0.027	0.001	67.6	0.0
7 456	8- 15	C 1	100	100	100	100	100	91	82	82	67	45	28	21	16	79	69	61	47	41	0.24	0.120	0.001	288.8	0.1
7 457	15- 24	C 2	100	100	100	100	100	94	88	88	82	73	42	30	22	86	83	81	76	67	0.04	0.027	0.001	67.7	0.0
7 458	24- 322	C 3	100	100	100	100	100	100	100	100	98	91	57	42	33	99	98	98	95	85	0.02	0.010	0.000	54.1	0.0
7 459	32- 372	C 4	PSD NOT DETERMINED																						
7 460	37- 482	C 5	PSD NOT DETERMINED																						
7 461	48- 562	C 6	PSD NOT DETERMINED																						
7 462	56- 642	C 7	PSD NOT DETERMINED																						
7 463	64- 683	C 8	100	100	100	100	100	98	97	97	86	74	44	39	36	93	87	84	78	68	0.04	0.025	0.000	95.6	0.0
7 464	68- 803	C 9	PSD NOT DETERMINED																						
7 465	0- 0	R	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.221	3.876	-0.615	0.897	6
15BR PC	CLAY PC	OC PC	-0.103	-2.219	18.545	0.653	6
OC PC	CLAY PC	DPTHIN	0.064	-0.045	-0.392	0.820	5

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOILS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	-.05 .002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS, PERCENT OF SAND PLUS SILT: VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	0.38	0.58	0.01	0.0	0.0	-1.1	-0.7	0.2	0	0	7	11	25	12	28	17	2	6	4	9	11	39	30	34
A12	0.33	0.62	0.01	0.0	0.0	1.1	-0.2	-0.3	0	0	3	13	22	11	20	31	3	6	4	9	14	37	27	31
C 1	0.20	0.85	0.01	0.0	0.0	0.2	-0.7	0.2	0	0	9	20	12	8	15	36	5	16	12	20	9	20	18	25
C 2	0.29	0.55	0.01	0.0	0.0	-0.5	1.2	-0.1	0	0	6	10	22	11	23	28	2	5	3	7	14	38	30	34
2C 3	0.24	0.44	0.01	0.0	0.0	-0.3	1.3	0.1	0	0	0	8	27	17	26	22	1	1	1	3	16	40	37	49
2C 4					0.0																			
2C 5					0.0																			
2C 6					0.0																			
2C 7					0.0																			
3C 8	0.19	0.43	0.0	0.0	0.0	0.5	-1.0	-1.0	0	0	1	14	16	17	24	28	6	10	5	9	16	39	14	58
3C 9					0.0																			
R					0.0																			

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A11	2.5	0.195	2.21	0.126	4846.9	13.7	6.6	66.9	0.0	20.0	20.0	0.276	0.092
A12	6.5	0.227	2.57	0.120	5238.2	6.6	6.4	43.2	0.0	20.8	20.8	0.201	0.030
C 1	11.5	0.020	0.23	0.011	4958.8	5.9	5.6	38.3	0.0	12.3	12.3	0.148	0.0
C 2	19.5	0.087	0.99	0.046	4150.4	27.6	17.7	59.9	0.0	19.2	19.2	0.234	0.078
2C 3	28.0	0.057	0.65	0.030	2157.7	286.9	188.1	49.1	0.0	31.5	31.5	0.260	0.072
2C 4	34.5	0.068	0.76	0.036	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.285	0.108
2C 5	42.5	0.059	0.67	0.031	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.300	0.117
2C 6	52.0	0.048	0.55	0.026	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.304	0.104
2C 7	60.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.293	0.087
3C 8	66.0	0.0	0.0	0.0	4686.0	237.6	269.4	32.6	0.0	18.1	18.1	0.237	0.043
3C 9	74.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.262	0.077
R	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	0.98	11.1	0.63	24234.7	68.6	32.9	334.4	0.0	100.0	100.0	1.38	0.15
2	6- 10	1.70	19.2	1.01	49866.9	100.3	63.2	540.5	0.0	186.8	186.8	2.28	0.30
3	11- 15	1.80	20.4	1.07	74660.8	129.7	91.5	731.7	0.0	248.2	248.2	3.02	0.45
4	16- 20	2.24	25.3	1.30	95412.3	267.9	179.7	1031.1	0.0	344.1	344.1	4.19	0.84
5	21- 25	2.65	30.0	1.51	114171.2	665.3	438.4	1319.7	0.0	452.3	452.3	5.39	1.22
6	26- 30	2.93	33.2	1.67	124959.3	2099.5	1378.9	1565.0	0.0	609.6	609.6	6.69	1.58
7	31- 35	3.25	36.8	1.83	129274.6	2673.3	1755.1	1663.2	0.0	672.5	672.5	8.06	2.05
8	36- 40	3.56	40.3	2.00	129274.6	2673.3	1755.1	1663.2	0.0	672.5	672.5	9.53	2.62
9	41- 45	3.86	43.7	2.16	129274.6	2673.3	1755.1	1663.2	0.0	672.5	672.5	11.03	3.20
10	46- 50	4.13	46.8	2.30	129274.6	2673.3	1755.1	1663.2	0.0	672.5	672.5	12.54	3.76
11	51- 55	4.38	49.5	2.43	129274.6	2673.3	1755.1	1663.2	0.0	672.5	672.5	14.06	4.28
12	56- 60	4.42	50.1	2.46	129274.6	2673.3	1755.1	1663.2	0.0	672.5	672.5	15.54	4.73
13	61- 65	4.42	50.1	2.46	133960.6	2910.9	2024.5	1695.8	0.0	690.6	690.6	16.95	5.12
14	66- 70	4.42	50.1	2.46	148018.6	3623.8	2832.9	1793.7	0.0	745.0	745.0	18.18	5.40
15	71- 75	4.42	50.1	2.46	148018.6	3623.8	2832.9	1793.7	0.0	745.0	745.0	19.49	5.78
16	76- 80	4.42	50.1	2.46	148018.6	3623.8	2832.9	1793.7	0.0	745.0	745.0	20.80	6.16

AVERAGE OF CONTROL SECTION 0- 0 CMS. (0- 0 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) =100.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 0.0 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.56 PERCENT. SAND/CLAY RATIO = 1.7.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 70 37 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES ABRAHAM LOAM SOIL NO. S68 UTAH. 14-24 SAMPLE NO. 0 234-0 237 DELTA AREA

SOIL FAMILY: AQUIC XEROFLUVENT,COARSE-SILTY,MXD(CALC.),MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS - - - PERCENTAGE PASSING SIEVE - - - 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS THAN .02 MM	LESS THAN .005 MM	LESS THAN .002 MM	CUMULATIVE SAND FRACTION 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC RATIO
0 234	0- 8	AP	PSD NOT DETERMINED																						
0 235	8- 33	C 1	PSD NOT DETERMINED																						
0 236	33- 53	C 2	PSD NOT DETERMINED																						
0 237	53- 63	C 3	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.0	0.0	0.0	0.0	0
15BR PC	CLAY PC	OC PC	0.0	0.0	0.0	0.0	0
OC PC	CLAY PC	DPTHIN	0.0	0.0	0.0	0.0	0

HORIZON	RATIOS AND RESIDUALS --RATIOS TO CLAY-- CEC 15BAR	DC.	PYR. FE	PYR/ D.C. FE+AL	RESIDUALS CEC 15BAR MEQ.	OC. PCT.	PCT.	VOLUME COMPOSITION --PERCENT (VOL) OF SOIL VOLUME-- SOLIDS,SIZE IN MM 250 -75	75 -20	20 -2	2-.05 .05	-.05 .002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
AP				0.0																			
C 1				0.0																			
C 2				0.0																			
C 3				0.0																			

PERCENT OF SAND PLUS SILT

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
AP	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C 1	20.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C 2	43.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C 3	58.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	6- 10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	11- 15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	16- 20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	21- 25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	26- 30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	31- 35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	36- 40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	41- 45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	46- 50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	51- 55	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	56- 60	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

AVERAGE OF CONTROL SECTION 10- 40 CMS. (4- 16 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) = 0.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 7.1 PERCENT, CACO3 EQUIVALENT= 25.8 PERCENT.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 70 38 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES ABRAHAM SILTY CLAY LOAM SOIL NO. S68 UTAH. 14-63 SAMPLE NO. 0 238-0 243 DELTA AREA

SOIL FAMILY: AQUIC XEROFLUVENT,COARSE-SILTY,MXD(CALC.),MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS - - - PERCENTAGE PASSING SIEVE - - - 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	CUMULATIVE SAND FRACTION LESS THAN .02 MM	.005 MM	.002 MM	DIAMETERS AT PERCENT (MM) LESS THAN 1.0	.5	.25	.10	.05	60	50	10	CU RATIO	CC
0 238	0- 12	A 1	PSD NOT DETERMINED																						
0 239	12- 24	C 1	PSD NOT DETERMINED																						
0 240	24- 36	C 2	PSD NOT DETERMINED																						
0 241	36- 39	C 3	PSD NOT DETERMINED																						
0 242	39- 48	C 3	PSD NOT DETERMINED																						
0 243	48- 60	C 3	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.0	0.0	0.0	0.0	0
15BR PC	CLAY PC	OC PC	0.0	0.0	0.0	0.0	0
OC PC	CLAY PC	DPTHIN	0.0	0.0	0.0	0.0	0

HORIZON	RATIOS AND RESIDUALS --RATIOS TO CLAY-- CEC	15BAR	OC. FE	PYR. FE+AL	PYR/ O.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	--VOLUME COMPOSITION-- --PERCENT (VOL) OF SOIL VOLUME-- SOLIDS,SIZE IN MM 250 -75	75 -20	20 -2	2-.05 .05	.05-.002	LT .002	CAP.	PORES- NON CAP	---PSD ON CLAY FREE BASIS--- VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
																	---PERCENT OF SAND PLUS SILT---							
A 1					0.0																			
C 1					0.0																			
C 2					0.0																			
C 3					0.0																			
C 3					0.0																			
C 3					0.0																			

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A 1	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C 1	18.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C 2	30.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C 3	37.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C 3	43.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C 3	54.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	6- 10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	11- 15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	16- 20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	21- 25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	26- 30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	31- 35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	36- 40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	41- 45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	46- 50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	51- 55	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	56- 60	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

AVERAGE OF CONTROL SECTION 10- 40 CMS. (4- 16 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) = 0.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 7.7 PERCENT, CACO3 EQUIVALENT= 25.8 PERCENT.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 67 14 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES EPHRAIM SILTY CLAY LOAM SOIL NO. S67 UTAH. 20- 3 SAMPLE NO. 7 305-7 314 SANPETE CO. AREA

SOIL FAMILY: AQUIC XEROFLUVENT,FINE-SILTY,CARBONATIC,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING PERCENTAGE PASSING 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	MECHANICAL ANALYSIS SIEVE LESS .02	THAN .005	MM .002	CUMULATIVE SAND FRACTION LESS 1.0	.5	THAN .25	.10	MM .05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC
7 305	0- 10	A11	100	100	100	100	100	100	100	100	98	88	73	52	37	99	98	97	91	85	0.01	0.005	0.000	23.1	0.0
7 306	10- 18	A12	100	100	100	100	100	100	100	100	99	93	80	57	42	100	100	99	95	90	0.01	0.003	0.000	17.0	0.0
7 307	18- 25	C 1	100	100	100	100	100	100	100	100	100	94	82	59	44	100	100	99	96	91	0.01	0.003	0.000	15.5	0.0
7 308	25- 33	C 2	100	100	100	100	100	100	100	100	100	96	82	55	37	100	100	99	98	93	0.01	0.004	0.000	17.4	0.0
7 309	33- 41	C 3	100	100	100	100	100	100	100	100	100	98	86	59	42	100	100	100	99	97	0.01	0.003	0.000	15.0	0.0
7 310	41- 462	A1 B	100	100	100	100	100	100	100	100	100	99	93	65	47	100	100	100	100	99	0.00	0.002	0.000	11.7	0.0
7 311	46- 522	C 1B	100	100	100	100	100	100	100	100	99	95	79	53	35	100	100	99	97	92	0.01	0.004	0.000	19.2	0.0
7 312	52- 562	C 2B	100	100	100	100	100	100	100	100	100	99	96	68	50	100	100	100	99	99	0.00	0.002	0.000	10.3	0.0
7 313	56- 593	A1 B	100	100	100	100	100	100	100	100	99	87	67	47	35	100	100	99	92	81	0.01	0.006	0.000	31.2	0.0
7 314	59- 703	C 1B	100	100	100	100	100	100	100	100	99	86	57	39	27	100	100	99	91	76	0.02	0.012	0.000	50.0	0.0

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.0	0.0	0.0	0.0	0
15BR PC	CLAY PC	OC PC	0.329	1.370	3.232	0.986	10
OC PC	CLAY PC	DPTHIN	-0.048	-0.042	3.303	0.824	7

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05- .05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	0.0	0.54	0.02	0.0	0.0	0.0	0.0	-0.6	0	0	0	8	23	18	29	22	1	2	2	10	10	18	57	59
A12	0.0	0.45	0.0	0.0	0.0	0.0	0.3	0.2	0	0	0	5	25	22	31	17	0	0	1	6	9	18	65	74
C 1	0.0	0.47	0.01	0.0	0.0	0.0	-0.8	0.3	0	0	0	5	26	24	31	14	0	0	1	5	9	16	69	78
C 2	0.0	0.48	0.0	0.0	0.0	0.0	0.0	0.5	0	0	0	4	33	22	31	10	0	0	1	3	8	17	71	59
C 3	0.0	0.46	0.03	0.0	0.0	0.0	-0.4	0.0	0	0	0	2	33	25	32	8	0	0	0	1	4	19	76	71
2A1 B	0.0	0.44	0.0	0.0	0.0	0.0	0.4	-0.4	0	0	0	0	27	25	30	18	0	0	0	0	1	12	87	89
2C 1B	0.0	0.47	0.0	0.0	0.0	0.0	0.2	-0.1	0	0	0	4	32	20	29	15	0	0	1	3	7	21	68	55
2C 2B	0.0	0.41	0.0	0.0	0.0	0.0	0.4	-0.6	0	0	0	1	28	29	31	11	0	0	0	1	1	6	91	102
3A1 B	0.0	0.49	0.0	0.0	0.0	0.0	-0.3	-0.2	0	0	0	8	20	15	20	37	0	1	1	10	17	21	50	53
3C 1B	0.0	0.51	0.0	0.0	0.0	0.0	0.1	-0.2	0	0	0	14	29	16	27	14	0	0	1	10	21	27	41	38

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A11	5.0	0.494	5.59	0.290	870.8	211.8	33.8	344.2	0.0	51.5	51.5	0.286	0.075
A12	14.0	0.196	2.22	0.143	861.8	268.0	21.7	196.3	0.0	55.0	55.0	0.308	0.095
C 1	21.5	0.121	1.37	0.099	866.7	293.3	67.4	25.4	0.0	68.4	68.4	0.314	0.091
C 2	29.0	0.100	1.13	0.082	682.1	247.2	89.9	13.9	0.0	88.8	88.8	0.308	0.120
C 3	37.0	0.074	0.84	0.060	712.3	0.0	91.0	84.2	0.0	75.5	75.5	0.323	0.099
2A1 B	43.5	0.103	1.17	0.085	0.0	0.0	0.0	0.0	0.0	80.8	80.8	0.299	0.113
2C 1B	49.0	0.064	0.73	0.053	0.0	0.0	0.0	0.0	0.0	86.5	86.5	0.291	0.126
2C 2B	54.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	81.4	81.4	0.315	0.099
3A1 B	57.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	59.6	59.6	0.203	0.075
3C 1B	64.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	77.7	77.7	0.271	0.133

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	2.47	28.0	1.45	4353.8	1059.0	169.2	1720.9	0.0	257.4	257.4	1.43	0.47
2	6- 10	4.94	55.9	2.90	8707.6	2118.1	338.3	3441.8	0.0	514.8	514.8	2.86	0.94
3	11- 15	5.92	67.0	3.61	13016.6	3458.0	446.8	4423.2	0.0	790.0	790.0	4.40	1.41
4	16- 20	6.75	76.4	4.24	17335.5	4848.4	646.8	5062.8	0.0	1092.0	1092.0	5.95	1.88
5	21- 25	7.36	83.3	4.74	21669.2	6314.7	984.1	5189.9	0.0	1434.1	1434.1	7.52	2.33
6	26- 30	7.86	88.9	5.15	25079.5	7550.9	1433.4	5259.1	0.0	1878.2	1878.2	9.06	2.93
7	31- 35	8.30	94.0	5.51	28550.3	8292.6	1885.1	5469.1	0.0	2295.7	2295.7	10.63	3.49
8	36- 40	8.67	98.2	5.82	32111.9	8292.6	2340.2	5890.0	0.0	2673.4	2673.4	12.24	3.98
9	41- 45	9.16	103.7	6.22	32824.2	8292.6	2431.2	5974.2	0.0	3072.1	3072.1	13.76	4.53
10	46- 50	9.52	107.8	6.51	32824.2	8292.6	2431.2	5974.2	0.0	3499.1	3499.1	15.22	5.15
11	51- 55	9.65	109.2	6.62	32824.2	8292.6	2431.2	5974.2	0.0	3916.3	3916.3	16.75	5.70
12	56- 60	9.65	109.2	6.62	32824.2	8292.6	2431.2	5974.2	0.0	4254.0	4254.0	17.94	6.16
13	61- 65	9.65	109.2	6.62	32824.2	8292.6	2431.2	5974.2	0.0	4642.3	4642.3	19.29	6.82
14	66- 70	9.65	109.2	6.62	32824.2	8292.6	2431.2	5974.2	0.0	5030.5	5030.5	20.64	7.48

AVERAGE OF CONTROL SECTION 0- 0 CMS. (0- 0 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) =100.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 0.0 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 1.69 PERCENT. SAND/CLAY RATIO = 0.3.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 67 15 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES EPHRAIM SILTY CLAY LOAM SOIL NO. S67 UTAH. 20- 4 SAMPLE NO. 7 315-7 324 SANPETE CO. AREA

SOIL FAMILY: AQUIC XEROFLUVENT FINE-SILTY,CARBONATIC,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE													CUMULATIVE SAND FRACTION					DIAMETERS AT PERCENT (MM)			CU RATIO	CC RATIO
			3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	LESS 1.0	THAN .5	THAN .25	THAN .10	MM .05	60	50	10		
7 315	0- 6	A11	100	100	100	100	100	100	100	100	98	89	67	45	30	99	98	97	92	84	0.01	0.007	0.000	29.5	0.0
7 316	6- 13	A12	100	100	100	100	100	100	100	100	99	92	71	46	30	100	99	99	95	88	0.01	0.006	0.000	25.3	0.0
7 317	13- 21	C 1	100	100	100	100	100	100	100	100	100	94	77	50	32	100	100	99	97	90	0.01	0.005	0.000	20.3	0.0
7 318	21- 30	C 2	100	100	100	100	100	100	100	100	100	95	75	49	33	100	100	100	98	91	0.01	0.005	0.000	22.0	0.0
7 319	30- 332	A1 B	100	100	100	100	100	100	100	100	100	99	92	66	48	100	100	100	99	98	0.00	0.002	0.000	11.5	0.0
7 320	33- 352	C 1B	100	100	100	100	100	100	100	100	100	99	92	64	45	100	100	100	99	99	0.00	0.003	0.000	12.6	0.0
7 321	35- 373	A1 B	100	100	100	100	100	100	100	100	100	97	84	58	41	100	100	100	99	95	0.01	0.003	0.000	15.6	0.0
7 322	37- 413	C 1B	100	100	100	100	100	100	100	100	98	81	61	42	29	100	99	97	87	75	0.02	0.009	0.000	42.0	0.0
7 323	41- 514	A1 B	100	100	100	100	100	100	100	100	99	91	73	54	42	100	100	99	95	86	0.01	0.004	0.000	22.2	0.0
7 324	51- 624	C 1B	100	100	100	100	100	100	100	100	99	87	60	41	28	100	99	98	92	79	0.02	0.010	0.000	45.4	0.0

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.513	1.711	2.070	0.966	10
15BR PC	CLAY PC	OC PC	0.258	0.853	5.793	0.688	10
OC PC	CLAY PC	DPTHIN	0.036	-0.033	0.844	0.753	8

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC FE	15BAR FE	DC. PYR. FE+AL	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	0.73	0.60	0.02	0.0	0.0	1.0	0.5	-0.6	0	0	0	7	26	14	34	19	1	1	2	7	11	24	53	43
A12	0.70	0.57	0.0	0.0	0.0	0.1	0.7	0.3	0	0	0	6	27	14	33	20	0	1	1	5	11	24	58	43
C 1	0.67	0.72	0.02	0.0	0.0	-0.1	-3.0	0.4	0	0	0	5	29	16	33	17	0	0	1	4	9	19	66	48
C 2	0.69	0.68	0.0	0.0	0.0	-0.5	-2.3	0.1	0	0	0	5	35	19	33	8	0	0	0	3	10	25	63	49
2A1 B	0.64	0.46	0.0	0.0	0.0	-0.4	-0.1	0.1	0	0	0	1	26	26	0	0	0	0	0	1	3	11	84	94
2C 1B	0.64	0.46	0.02	0.0	0.0	-0.6	0.4	0.1	0	0	0	1	31	25	0	0	0	0	0	1	1	12	86	81
3A1 B	0.68	0.49	0.0	0.0	0.0	-1.2	0.3	-0.2	0	0	0	3	30	23	0	0	0	0	0	2	6	18	74	70
3C 1B	0.67	0.47	0.0	0.0	0.0	-0.2	2.1	-0.3	0	0	0	14	26	17	0	0	0	2	3	14	17	19	45	42
4A1 B	0.53	0.44	0.0	0.0	0.0	1.5	-0.1	0.5	0	0	0	8	25	24	32	11	0	1	1	7	14	23	53	72
4C 1B	0.61	0.49	0.0	0.0	0.0	0.3	1.5	-0.4	0	0	0	9	23	13	19	36	0	1	1	9	18	28	44	40

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
A11	3.0	0.443	5.01	0.257	565.7	105.2	26.0	496.4	0.0	66.5	66.5	0.337	0.182
A12	9.5	0.193	2.18	0.127	530.3	154.0	19.7	89.0	0.0	72.7	72.7	0.330	0.194
C 1	17.0	0.141	1.59	0.100	573.5	204.3	6.9	58.2	0.0	80.6	80.6	0.327	0.135
C 2	25.5	0.166	1.88	0.118	585.9	313.4	8.1	55.1	0.0	90.0	90.0	0.326	0.107
2A1 B	31.5	0.217	2.45	0.154	601.9	0.0	7.3	74.1	658.9	76.0	76.0	0.0	0.0
2C 1B	34.0	0.175	1.98	0.125	461.6	391.0	7.8	79.4	135.8	84.9	84.9	0.0	0.0
3A1 B	36.0	0.209	2.36	0.149	515.9	464.3	7.8	79.4	0.0	84.9	84.9	0.0	0.0
3C 1B	39.0	0.147	1.66	0.105	434.4	350.3	7.8	66.2	0.0	74.7	74.7	0.0	0.0
4A1 B	46.0	0.0	0.0	0.0	533.0	389.5	7.9	106.6	0.0	61.5	61.5	0.315	0.097
4C 1B	56.5	0.0	0.0	0.0	301.2	223.4	6.3	32.0	0.0	67.1	67.1	0.195	0.086

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
1	1- 5	2.21	25.1	1.29	2828.7	526.1	130.1	2482.2	0.0	332.4	332.4	1.68	0.91
2	6- 10	3.43	38.8	2.05	5515.7	1247.2	234.8	3334.4	0.0	689.7	689.7	3.34	1.87
3	11- 15	4.29	48.5	2.63	8253.8	2117.8	307.6	3717.8	0.0	1069.1	1069.1	4.98	2.72
4	16- 20	4.99	56.5	3.13	11121.3	3139.3	341.9	4009.0	0.0	1472.3	1472.3	6.61	3.39
5	21- 25	5.80	65.6	3.71	14038.5	4597.4	381.3	4287.5	0.0	1913.0	1913.0	8.24	3.95
6	26- 30	6.63	75.0	4.30	16968.2	6164.6	421.9	4562.8	0.0	2363.1	2363.1	9.87	4.48
7	31- 35	7.63	86.3	5.01	19697.1	6946.6	459.4	4944.1	2248.3	2760.9	2760.9	11.50	5.01
8	36- 40	8.49	96.1	5.62	22032.2	8926.0	498.4	5301.4	2248.3	3154.6	3154.6	13.13	5.54
9	41- 45	8.63	97.7	5.72	24598.6	10834.3	537.6	5794.0	2248.3	3475.2	3475.2	14.72	6.03
10	46- 50	8.63	97.7	5.72	27263.6	12781.8	576.9	6327.0	2248.3	3782.7	3782.7	16.29	6.51
11	51- 55	8.63	97.7	5.72	29001.4	14065.0	610.0	6561.7	2248.3	4112.6	4112.6	17.38	6.95
12	56- 60	8.63	97.7	5.72	30507.4	15182.2	641.5	6721.9	2248.3	4448.0	4448.0	18.35	7.38

AVERAGE OF CONTROL SECTION 0- 0 CMS. (0- 0 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) =100.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 0.0 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 1.28 PERCENT. SAND/CLAY RATIO = 0.4.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 67 16 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES EPHRAIM SILTY CLAY LOAM SOIL NO. S67 UTAH. 20- 5 SAMPLE NO. 7 325-7 333 SANPETE CO. AREA

SOIL FAMILY: AQUIC XEROFLUVENT,FINE-SILTY,CARBONATIC,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	CUMULATIVE SAND FRACTION LESS 1.0	THAN .5	.25	.10	MM .05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC RATIO
7 325	0- 5	AP1	100	100	100	100	100	100	100	100	99	93	77	52	35	99	99	98	95	90	0.01	0.004	0.000	20.3	0.0
7 326	5- 11	AP2	100	100	100	100	100	100	100	100	98	93	79	54	38	100	99	97	94	92	0.01	0.004	0.000	18.9	0.0
7 327	11- 18	C 1	100	100	100	100	100	100	100	100	99	96	86	59	42	100	99	98	96	94	0.01	0.003	0.000	14.9	0.0
7 328	18- 212	A11B	100	100	100	100	100	100	100	100	100	99	90	64	48	100	100	100	99	98	0.00	0.002	0.000	12.1	0.0
7 329	21- 252	A12B	100	100	100	100	100	100	100	100	100	99	84	61	46	100	100	100	99	98	0.00	0.003	0.000	14.4	0.0
7 330	25- 412	A13B	100	100	100	100	100	100	100	100	100	97	85	64	49	100	100	99	99	96	0.00	0.002	0.000	12.4	0.0
7 331	41- 492	C 1B	100	100	100	100	100	100	100	100	100	96	84	62	48	100	100	100	98	93	0.00	0.002	0.000	13.5	0.0
7 332	49- 582	C 2B	PSD NOT DETERMINED																						
7 333	58- 732	C 3B	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.496	1.093	2.625	0.894	7
15BR PC	CLAY PC	OC PC	0.188	3.338	8.097	0.859	7
OC PC	CLAY PC	DPTHIN	-0.034	-0.035	2.855	0.913	7

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOILS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	.05-.002	.002 LT	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
AP1	0.72	0.77	0.02	0.0	0.0	-0.7	0.3	-0.3	0	0	0	5	28	18	34	15	1	1	1	5	7	20	65	55
AP2	0.63	0.74	0.0	0.0	0.0	0.8	-1.2	-0.2	0	0	0	4	27	19	33	17	0	2	2	5	4	20	66	61
C 1	0.60	0.51	0.01	0.0	0.0	0.7	1.9	0.4	0	0	0	3	27	21	35	14	1	1	2	3	3	15	76	72
2A11B	0.60	0.53	0.0	0.0	0.0	0.2	-0.3	0.2	0	0	0	1	27	26	37	9	0	0	0	1	3	15	80	91
2A12B	0.64	0.54	0.01	0.0	0.0	-1.0	0.1	0.2	0	0	0	1	28	25	37	9	0	0	0	1	2	27	70	85
2A13B	0.59	0.47	0.0	0.0	0.0	-0.0	0.3	-0.3	0	0	0	2	25	27	36	10	0	0	0	2	6	20	71	98
2C 1B	0.59	0.52	0.01	0.0	0.0	-0.0	-1.2	-0.1	0	0	0	4	25	26	35	10	0	0	0	2	10	19	69	92
2C 2B					0.0																			
2C 3B					0.0																			

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
		WEIGHTS PER UNIT DEPTH (CM OR INCH)			POUNDS PER ACRE					TONS/ACRE			
AP1	2.5	0.497	5.62	0.272	763.7	198.0	56.2	83.4	0.0	61.1	61.1	0.344	0.078
AP2	8.0	0.413	4.68	0.238	623.2	187.0	21.1	285.9	0.0	64.2	64.2	0.331	0.055
C 1	14.5	0.207	2.35	0.139	667.1	287.5	55.8	35.5	0.0	72.8	72.8	0.351	0.154
2A11B	19.5	0.217	2.45	0.135	689.0	362.2	83.0	25.6	0.0	72.2	72.2	0.368	0.116
2A12B	23.0	0.199	2.25	0.124	692.5	0.0	22.3	126.2	504.8	76.0	76.0	0.366	0.130
2A13B	33.0	0.176	1.99	0.109	632.1	410.6	37.5	101.7	0.0	58.7	58.7	0.364	0.120
2C 1B	45.0	0.068	0.77	0.042	403.0	340.9	38.0	64.4	171.8	66.1	66.1	0.350	0.117
2C 2B	53.5	0.0	0.0	0.0	413.8	340.9	24.2	54.7	0.0	0.0	0.0	0.314	0.107
2C 3B	65.5	0.0	0.0	0.0	525.5	351.2	23.0	51.9	0.0	0.0	0.0	0.328	0.093

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
		CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)			POUNDS PER ACRE					TONS/ACRE			
1	1- 5	2.48	28.1	1.36	3818.5	989.8	281.0	417.0	0.0	305.5	305.5	1.72	0.27
2	6- 10	4.55	51.5	2.55	6934.5	1924.5	386.4	1846.6	0.0	626.2	626.2	3.37	0.54
3	11- 15	5.79	65.6	3.35	10226.0	3261.3	630.7	2274.5	0.0	981.5	981.5	5.10	1.21
4	16- 20	6.85	77.5	4.03	13605.3	4848.1	964.1	2432.1	0.0	1344.2	1344.2	6.89	1.90
5	21- 25	7.86	89.0	4.66	17064.1	5210.3	1136.4	2962.5	2019.1	1720.5	1720.5	8.72	2.54
6	26- 30	8.74	98.9	5.21	20224.7	7263.1	1323.8	3470.8	2019.1	2013.8	2013.8	10.54	3.14
7	31- 35	9.62	108.9	5.75	23385.3	9315.9	1511.1	3979.1	2019.1	2307.0	2307.0	12.36	3.74
8	36- 40	10.50	118.8	6.30	26546.0	11368.7	1698.5	4487.4	2019.1	2600.3	2600.3	14.18	4.34
9	41- 45	10.94	123.9	6.58	28790.2	13142.9	1887.9	4846.7	2706.3	2923.2	2923.2	15.94	4.93
10	46- 50	11.21	126.9	6.74	30816.2	14847.5	2064.1	5159.1	3393.4	3187.5	3187.5	17.65	5.50
11	51- 55	11.21	126.9	6.74	32885.4	16552.0	2185.1	5432.7	3393.4	3187.5	3187.5	19.22	6.03
12	56- 60	11.21	126.9	6.74	35178.0	18277.2	2303.6	5700.6	3393.4	3187.5	3187.5	20.82	6.54
13	61- 65	11.21	126.9	6.74	37805.8	20033.4	2418.3	5960.0	3393.4	3187.5	3187.5	22.46	7.00
14	66- 70	11.21	126.9	6.74	40433.5	21789.6	2533.1	6219.4	3393.4	3187.5	3187.5	24.10	7.46

AVERAGE OF CONTROL SECTION 0- 0 CMS. (0- 0 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) =100.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 0.0 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 1.62 PERCENT. SAND/CLAY RATIO = 0.2.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 67 17 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES EPHRAIM SILTY CLAY LOAM SOIL NO. S67 UTAH. 20- 6 SAMPLE NO. 7 334-7 340 SANPETE CO. AREA

SOIL FAMILY: AQUIC XEROFLUVENT,FINE-SILTY,CARBONATIC,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS THAN .02	.005	.002	CUMULATIVE SAND FRACTION LESS THAN MM 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC RATIO
7 334	0- 5	AP	100	100	100	100	100	100	100	100	99	93	78	55	39	100	99	99	95	91	0.01	0.004	0.000	19.0	0.0
7 335	5- 10	AP2	100	100	100	100	100	100	100	100	99	94	82	58	42	100	99	99	96	92	0.01	0.003	0.000	16.3	0.0
7 336	10- 192	A11B	100	100	100	100	100	100	100	100	99	96	84	62	47	100	100	99	98	94	0.00	0.002	0.000	13.5	0.0
7 337	19- 302	A12B	100	100	100	100	100	100	100	100	99	91	74	55	43	100	99	98	94	86	0.01	0.003	0.000	21.2	0.0
7 338	30- 412	C 1B	100	100	100	100	100	100	100	100	100	95	78	55	40	100	100	100	97	91	0.01	0.004	0.000	18.9	0.0
7 339	41- 472	C 2B	PSD NOT DETERMINED																						
7 340	47- 652	C 3B	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	REGRESSION COEFFICIENTS A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.566	1.352	1.524	0.996	5
15BR PC	CLAY PC	OC PC	0.034	-0.064	13.868	0.576	5
OC PC	CLAY PC	DPTHIN	-0.045	-0.051	3.093	0.996	5

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME SOLIDS, SIZE IN MM 250-75	75-20	20-2	2-.05	.05-.002	.002-LT	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
AP	0.71	0.54	0.01	0.0	0.0	-0.2	-0.1	-0.0	0	0	0	5	27	21	31	16	0	1	1	6	8	21	64	65
AP2	0.67	0.50	0.0	0.0	0.0	0.4	0.1	0.0	0	0	0	4	27	23	0	0	0	1	1	5	6	18	69	74
2A11B	0.64	0.44	0.01	0.0	0.0	0.1	-0.2	0.0	0	0	0	3	25	26	31	15	0	0	1	3	7	18	70	90
2A12B	0.67	0.52	0.0	0.0	0.0	-0.4	0.4	-0.1	0	0	0	8	26	26	0	0	0	1	2	8	13	23	54	75
2C 1B	0.66	0.72	0.02	0.0	0.0	0.1	-0.2	0.0	0	0	0	6	32	25	29	8	0	0	1	4	11	22	63	68
2C 2B					0.0																			
2C 3B					0.0																			

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
AP	2.5	0.412	4.66	0.244	950.4	216.7	14.6	148.3	0.0	69.7	69.7	0.311	0.104
AP2	7.5	0.325	3.68	0.198	996.1	277.6	7.4	87.7	0.0	73.9	73.9	0.0	0.0
2A11B	14.5	0.183	2.07	0.119	847.2	363.6	7.5	76.2	0.0	68.4	68.4	0.305	0.086
2A12B	24.5	0.179	2.02	0.116	608.2	408.4	16.7	70.6	0.0	76.0	76.0	0.0	0.0
2C 1B	35.5	0.089	1.01	0.058	370.3	494.2	17.4	44.2	0.0	107.7	107.7	0.287	0.042
2C 2B	44.0	0.065	0.74	0.042	0.0	0.0	0.0	0.0	0.0	110.1	110.1	0.279	0.114
2C 3B	56.0	0.045	0.51	0.029	0.0	0.0	0.0	0.0	0.0	98.9	98.9	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	2.06	23.3	1.22	4751.9	1083.4	72.9	741.3	0.0	348.5	348.5	1.55	0.52
2	6- 10	3.68	41.7	2.21	9732.3	2471.5	109.8	1179.9	0.0	718.0	718.0	3.10	1.04
3	11- 15	4.60	52.0	2.80	13968.2	4289.7	147.3	1561.1	0.0	1060.1	1060.1	4.62	1.47
4	16- 20	5.51	62.4	3.39	17965.1	6152.6	193.9	1936.7	0.0	1409.8	1409.8	6.14	1.90
5	21- 25	6.40	72.5	3.97	21006.0	8194.4	277.2	2289.7	0.0	1790.0	1790.0	7.66	2.33
6	26- 30	7.30	82.6	4.55	24047.0	10236.2	360.4	2642.6	0.0	2170.1	2170.1	9.18	2.76
7	31- 35	7.74	87.6	4.84	25898.4	12707.3	447.3	2863.7	0.0	2708.5	2708.5	10.61	2.97
8	36- 40	8.19	92.7	5.13	27749.9	15178.4	534.3	3084.7	0.0	3247.0	3247.0	12.04	3.18
9	41- 45	8.54	96.6	5.36	28120.2	15672.7	551.6	3128.9	0.0	3795.2	3795.2	13.44	3.68
10	46- 50	8.80	99.6	5.53	28120.2	15672.7	551.6	3128.9	0.0	4312.2	4312.2	14.83	4.25
11	51- 55	9.03	102.2	5.68	28120.2	15672.7	551.6	3128.9	0.0	4806.9	4806.9	16.22	4.82
12	56- 60	9.26	104.8	5.83	28120.2	15672.7	551.6	3128.9	0.0	5301.5	5301.5	17.61	5.39
13	61- 65	9.48	107.4	5.97	28120.2	15672.7	551.6	3128.9	0.0	5796.2	5796.2	19.00	5.96

AVERAGE OF CONTROL SECTION 0- 0 CMS. (0- 0 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) =100.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 0.0 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 1.23 PERCENT. SAND/CLAY RATIO = 0.2.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 70 35 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES ANCO SILTY CLAY LOAM SOIL NO. S68 UTAH. 14-25 SAMPLE NO. 0 222-0 228 DELTA AREA

SOIL FAMILY: AQUIC XEROFLUVENT,FIN-SLTY,MXD,CALC,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS - - - PERCENTAGE PASSING SIEVE - - - 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS THAN .02 MM	.005	.002	CUMULATIVE SAND FRACTION LESS THAN MM 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC RATIO
0 222	0- 7	AP	PSD NOT DETERMINED																						
0 223	7- 16	C 1	PSD NOT DETERMINED																						
0 224	16- 21	C 2	PSD NOT DETERMINED																						
0 225	21- 33	C 3	PSD NOT DETERMINED																						
0 226	33- 412	C 4	PSD NOT DETERMINED																						
0 227	41- 493	C 5	PSD NOT DETERMINED																						
0 228	49- 613	C 6	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.0	0.0	0.0	0.0	0
15BR PC	CLAY PC	OC PC	0.0	0.0	0.0	0.0	0
OC PC	CLAY PC	DPTHIN	0.0	0.0	0.0	0.0	0

HORIZON	RATIOS AND RESIDUALS --RATIOS TO CLAY-- CEC	15BAR	OC.	PYR. FE	PYR/ D.C. FE+AL	D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION --PERCENT (VOL) OF SOIL VOLUME-- SOLIDS,SIZE IN MM 250 -75	75 -20	20 -2	2-.05- .05	LT .002	CAP. .002	PORES- CAP	NON CAP	PSD ON CLAY FREE BASIS VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
										PERCENT OF SAND PLUS SILT															
AP							0.0																		
C 1							0.0																		
C 2							0.0																		
C 3							0.0																		
2C 4							0.0																		
3C 5							0.0																		
3C 6							0.0																		

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
AP	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C 1	11.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C 2	18.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C 3	27.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2C 4	37.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3C 5	45.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3C 6	55.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	6- 10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	11- 15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	16- 20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	21- 25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	26- 30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	31- 35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	36- 40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	41- 45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	46- 50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	51- 55	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	56- 60	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

AVERAGE OF CONTROL SECTION 10- 40 CMS. (4- 16 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) = 0.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 16.6 PERCENT, CACO3 EQUIVALENT= 39.3 PERCENT.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 70 39 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES ANCO SILTY CLAY LOAM SOIL NO. S68 UTAH. 14-62 SAMPLE NO. 0 244-0 249 DELTA AREA

SOIL FAMILY: AQUIC XEROFLUVENT,FINE-SILTY,MIXED,CALC.,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS - - - PERCENTAGE PASSING SIEVE - - - 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	CUMULATIVE SAND FRACTION LESS 1.0	THAN .5	MM .25	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC
0 244	0- 4	A11	PSD NOT DETERMINED																				
0 245	4- 7	A12	PSD NOT DETERMINED																				
0 246	7- 17	C 1	PSD NOT DETERMINED																				
0 247	17- 26	C 2	PSD NOT DETERMINED																				
0 248	26- 48	C 3	PSD NOT DETERMINED																				
0 249	48- 60	C 4	PSD NOT DETERMINED																				

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	REGRESSION COEFFICIENTS A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.0	0.0	0.0	0.0	0
15BR PC	CLAY PC	OC PC	0.0	0.0	0.0	0.0	0
OC PC	CLAY PC	DPTHIN	0.0	0.0	0.0	0.0	0

HORIZON	RATIOS AND RESIDUALS --RATIOS TO CLAY-- CEC 15BAR FE	DC. PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC 15BAR MEQ.	OC. PCT.	VOLUME COMPOSITION --PERCENT (VOL) OF SOIL VOLUME-- SOLIDS,SIZE IN MM 250 -75	75 -20	20 -2	2-.05 .05	.05-.002	.002	-PORES- LT CAP.	NON CAP	PSD ON CLAY FREE BASIS VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11			0.0																		
A12			0.0																		
C 1			0.0																		
C 2			0.0																		
C 3			0.0																		
C 4			0.0																		

PERCENT OF SAND PLUS SILT

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A11	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
A12	5.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C 1	12.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C 2	21.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C 3	37.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C 4	54.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	6- 10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	11- 15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	16- 20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	21- 25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	26- 30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	31- 35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	36- 40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	41- 45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	46- 50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	51- 55	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	56- 60	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

AVERAGE OF CONTROL SECTION 10- 40 CMS. (4- 16 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) = 0.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 13.0 PERCENT, CACO3 EQUIVALENT= 32.2 PERCENT.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 68 45 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES VANET GRAVELLY LOAM SOIL NO. S68 UTAH. 9- 3 SAMPLE NO. 8 260-8 266 PAUNSAUGUNT AREA

SOIL FAMILY: TYPIC USTOCHREPT,LOAMY-SKELETAL,CARB.,FRGD,SHLW RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE													CUMULATIVE SAND FRACTION					DIAMETERS AT PERCENT (MM)			CU	CC
			3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	LESS 1.0	THAN .5	MM .25	.10	.05	60	50	10	RATIO	
8 260	0- 1	A1	100	94	89	83	78	70	62	62	61	48	22	15	10	62	61	61	54	39	0.23	0.084	0.002	125.2	0.1
8 261	1- 7	B2	100	90	84	74	67	53	39	39	38	32	19	13	9	39	38	38	34	28	13.40	8.136	0.002	5894.0	24.2
8 262	7- 11	B3	100	93	88	81	76	64	51	51	47	39	26	17	12	49	47	46	42	35	7.77	1.371	0.001	5270.5	4.7
8 263	11- 14	C 1CA	100	93	88	81	76	63	49	49	45	38	26	17	11	47	46	44	40	34	8.30	4.950	0.002	4999.5	4.9
8 264	14- 212	C 2CA	100	95	92	87	84	70	55	55	49	40	30	20	13	52	49	48	43	37	5.98	0.582	0.001	5034.6	2.3
8 265	21- 322	C 3CA	100	96	94	90	87	66	45	45	38	28	16	8	3	42	38	37	32	23	7.74	5.550	0.007	1107.0	8.5
8 266	32- 0	R	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.726	3.859	-0.328	0.993	6
15BR PC	CLAY PC	OC PC	-0.063	4.470	3.703	0.818	6
OC PC	CLAY PC	DPTHIN	-0.091	-0.129	4.310	0.842	6

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250-75	75-20	20-2	2-.05	.05-.002	.002 LT	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A1	1.27	0.51	0.05	0.0	0.0	-1.7	3.3	0.6	0	11	8	11	14	5	0	0	1	1	1	14	28	33	23	20
B2	0.93	0.47	0.04	0.0	0.0	0.7	-2.3	-0.1	0	21	18	7	12	6	24	12	1	1	1	12	23	29	32	32
B3	1.29	0.90	0.04	0.0	0.0	0.8	0.7	-0.4	0	12	13	8	12	6	26	23	5	5	3	10	18	22	37	29
C 1CA	1.73	1.57	0.05	0.0	0.0	0.0	0.3	-0.4	0	13	14	8	12	6	24	23	4	5	3	10	17	19	41	29
2C 2CA	2.09	3.20	0.07	0.0	0.0	0.3	-3.1	-0.2	10	7	14	9	11	6	28	15	6	7	4	11	15	17	39	31
2C 3CA	0.88	1.19	0.12	0.0	0.0	-0.1	1.2	0.4	5	7	23	12	11	2	0	0	7	9	4	12	20	19	29	8
R					0.0																			

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A1	0.5	0.284	3.22	0.112	505.8	83.6	4.2	57.2	102.7	3.7	3.7	0.0	0.0
B2	4.0	0.179	2.03	0.078	510.7	82.9	3.5	128.9	0.0	7.5	7.5	0.225	0.169
B3	9.0	0.262	2.97	0.104	431.0	67.9	3.5	11.9	0.0	38.2	38.2	0.250	0.181
C 1CA	12.5	0.269	3.04	0.106	368.1	55.2	3.6	6.2	0.0	48.4	48.4	0.228	0.149
2C 2CA	17.5	0.207	2.34	0.082	287.7	42.7	3.6	6.0	0.0	57.2	57.2	0.268	0.178
2C 3CA	26.5	0.018	0.20	0.007	111.8	15.9	1.6	5.7	0.0	47.1	47.1	0.0	0.0
R	16.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	254.0	254.0	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	1.00	11.3	0.42	2552.4	415.3	18.0	572.7	102.7	33.7	33.7	1.12	0.84
2	6- 10	2.15	24.3	0.89	4866.6	784.6	35.5	866.2	102.7	163.3	163.3	2.32	1.72
3	11- 15	3.42	38.7	1.40	6689.5	1060.8	53.5	902.7	102.7	403.9	403.9	3.52	2.53
4	16- 20	4.46	50.4	1.81	8127.7	1274.2	71.3	932.8	102.7	690.1	690.1	4.86	3.42
5	21- 25	4.73	53.6	1.92	8862.8	1380.5	81.4	961.8	102.7	935.6	935.6	6.20	4.31
6	26- 30	4.82	54.6	1.95	9422.0	1459.9	89.7	990.5	102.7	1171.1	1171.1	7.54	5.20

AVERAGE OF CONTROL SECTION 25- 81 CMS. (10- 32 IN.)
SAND (MINUS VFS)= 25.1 PERCENT, SAND = 40.3 PERCENT, SILT (PLUS VFS) = 59.6 PERCENT, CLAY = 15.3 PERCENT,
CARBONATE CLAY = 11.4 PERCENT, 2-250MM= 56.2 PERCENT, 15 BAR = 8.4 PERCENT, CACO3 EQUIVALENT= 51.5 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 1.92 PERCENT. SAND/CLAY RATIO = 1.4.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 68 46 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES VANET GRAVELLY LOAM SOIL NO. S68 UTAH. 9- 4 SAMPLE NO. 8 267-8 272 PAUNSAUGUNT AREA

SOIL FAMILY: TYPIC USTOCHREPT,LOAMY-SKELETAL,CARB.,FRGD,SHLW RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	CUMULATIVE SAND FRACTION LESS .02	THAN .005	MM .002	LESS 1.0	THAN .5	MM .25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC
8 267	0- 1	A1	100	100	100	100	100	80	60	60	55	38	21	15	10	57	56	53	42	33	4.70	0.192	0.002	2523.9	3.9
8 268	1- 6	B2	100	97	95	92	90	75	60	60	56	43	26	19	13	58	56	55	47	38	4.70	0.146	0.001	4139.2	2.9
8 269	6- 14	C 1CA	100	82	70	52	39	34	29	29	27	21	14	10	7	28	27	26	22	18	30.48	24.338	0.005	5813.5	*****
8 270	14- 19	C 2CA	100	82	69	51	38	33	27	27	25	20	13	10	7	26	25	25	21	18	30.93	24.784	0.006	5187.4	*****
8 271	19- 292	C 3CA	100	73	54	27	8	7	5	5	5	3	2	1	1	5	5	4	4	3	41.29	35.561	19.576	2.1	*****
8 272	29- 36	R	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	REGRESSION COEFFICIENTS A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	-0.202	7.138	-0.463	1.000	3
15BR PC	CLAY PC	OC PC	-2.029	-7.922	69.433	0.977	4
OC PC	CLAY PC	DPTHIN	-0.166	-0.137	6.350	0.611	5

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS, PERCENT OF SAND PLUS SILT: VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A1	1.18	0.66	0.04	0.0	0.0	-0.0	0.5	0.3	0	0	18	13	11	5	0	0	5	4	5	22	18	23	22	21
B2	0.0	0.56	0.03	0.0	0.0	10.7	0.5	0.3	0	4	11	12	14	7	24	28	4	3	3	18	18	25	28	28
C 1CA	0.0	1.27	0.03	0.0	0.0	18.0	-1.8	-0.5	0	42	7	7	7	5	0	0	4	4	4	19	19	21	29	34
C 2CA	2.24	2.29	0.04	0.0	0.0	0.0	0.8	-1.0	0	43	8	6	7	5	0	0	3	5	4	17	18	21	32	35
2C 3CA	1.21	0.0	0.05	0.0	0.0	-0.0	48.1	0.8	16	67	2	2	2	1	0	0	3	6	5	18	18	20	29	25
R					0.0																			

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A1	0.5	0.406	4.60	0.155	518.0	46.1	1.9	45.6	18.4	15.0	15.0	0.0	0.0
B2	3.5	0.327	3.70	0.125	0.0	0.0	0.0	0.0	0.0	18.2	18.2	0.212	0.138
C 1CA	10.0	0.262	2.97	0.092	0.0	0.0	0.0	0.0	0.0	24.2	24.2	0.0	0.0
C 2CA	16.5	0.285	3.22	0.087	366.1	49.3	2.6	4.3	28.8	32.2	32.2	0.0	0.0
2C 3CA	24.0	0.031	0.35	0.010	53.7	7.7	0.8	1.3	0.0	11.2	11.2	0.0	0.0
R	32.5	0.288	3.26	0.088	0.0	0.0	0.0	0.0	0.0	161.9	161.9	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	1.71	19.4	0.66	518.0	46.1	1.9	45.6	18.4	87.8	87.8	1.06	0.69
2	6- 10	3.09	35.0	1.15	518.0	46.1	1.9	45.6	18.4	203.0	203.0	2.12	1.38
3	11- 15	4.42	50.1	1.61	884.0	95.4	4.4	49.9	47.3	332.1	332.1	3.18	2.07
4	16- 20	5.60	63.3	1.97	2402.1	300.1	15.4	68.6	162.6	472.0	472.0	4.24	2.76
5	21- 25	5.75	65.1	2.01	2670.3	338.8	19.3	75.2	162.6	528.1	528.1	5.30	3.45
6	26- 30	6.16	69.8	2.14	2885.0	369.8	22.4	80.5	162.6	734.8	734.8	6.36	4.14
7	31- 35	7.60	86.1	2.58	2885.0	369.8	22.4	80.5	162.6	1544.2	1544.2	7.42	4.83

AVERAGE OF CONTROL SECTION 25- 74 CMS. (10- 29 IN.)
SAND (MINUS VFS)= 24.0 PERCENT, SAND = 38.3 PERCENT, SILT (PLUS VFS) = 53.5 PERCENT, CLAY = 22.5 PERCENT,
CARBONATE CLAY = 14.7 PERCENT, 2-250MM= 84.2 PERCENT, 15 BAR = 0.0 PERCENT, CACO3 EQUIVALENT= 58.6 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 2.78 PERCENT. SAND/CLAY RATIO = 1.6.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 67 3 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES BLUFFDALE SILTY CLAY LOAM (TAXADJUNCT) SOIL NO. S67 UTAH. 18- 2 SAMPLE NO. 7 211-7 219 SALT LAKE CO. AREA

SOIL FAMILY: CALCIXEROLLIC XEROCHREPT,FINE-SILTY,MIXED,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING PERCENTAGE PASSING 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	MECHANICAL ANALYSIS NO. 4	NO. 10	NO. 40	NO. 200	SIEVE LESS .02	THAN .005	MM .002	CUMULATIVE SAND FRACTION LESS 1.0	.5	THAN .25	.10	MM .05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC
7 211	0- 7	AP1	100	100	100	100	100	100	100	100	99	91	69	48	34	100	99	99	94	87	0.01	0.006	0.000	28.2	0.0
7 212	7- 12	AP2	100	100	100	100	100	100	100	100	99	92	70	50	36	100	99	99	94	88	0.01	0.005	0.000	26.3	0.0
7 213	12- 24	B2 T	100	100	100	100	100	100	100	100	100	98	87	60	42	100	100	100	99	98	0.01	0.003	0.000	14.6	0.0
7 214	24- 36	B3 T	100	100	100	100	100	100	100	100	100	97	82	57	41	100	100	99	98	97	0.01	0.003	0.000	16.6	0.0
7 215	36- 482	C 1	100	100	100	100	100	100	100	100	100	98	82	53	34	100	100	100	99	96	0.01	0.004	0.000	17.7	0.0
7 216	48- 682	C 2	PSD NOT DETERMINED																						
7 217	68- 733	C 3	PSD NOT DETERMINED																						
7 218	73- 764	C 4	PSD NOT DETERMINED																						
7 219	76- 855	C 5	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	-0.451	0.068	32.671	0.318	5
15BR PC	CLAY PC	OC PC	0.260	-3.768	7.318	0.937	5
DC PC	CLAY PC	DPTHIN	0.127	-0.049	-2.900	0.993	4

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC.	PYR. FE	PYR. FE+AL	D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	-.05 .002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
AP1	0.57	0.37	0.02	0.0		0.0	-0.1	-0.1	-0.1	0	0	0	6	27	17	29	21	0	1	1	6	11	28	53	52
AP2	0.54	0.38	0.01	0.0		0.0	-1.0	-0.2	0.1	0	0	0	6	27	19	28	20	0	0	1	7	10	27	54	56
B2 T	0.44	0.42	0.01	0.0		0.0	3.8	1.1	0.0	0	0	0	1	32	25	35	7	0	0	0	1	2	20	77	74
B3 T	0.47	0.45	0.02	0.0		0.0	-0.2	-0.1	-0.0	0	0	0	2	28	20	32	18	0	0	1	3	2	25	70	69
2C 1	0.66	0.51	0.03	0.0		0.0	-2.4	-0.7	-1.0	0	0	0	1	22	12	53	12	0	0	0	1	3	22	72	53
2C 2						0.0																			
3C 3						0.0																			
4C 4						0.0																			
5C 5						0.0																			

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
AP1	3.5	0.246	2.78	0.165	629.3	194.3	70.3	285.9	0.0	10.7	10.7	0.287	0.128
AP2	9.5	0.207	2.35	0.150	595.2	234.4	78.4	193.4	0.0	14.0	14.0	0.283	0.104
B2 T	18.0	0.077	0.87	0.082	606.3	280.2	72.1	95.1	0.0	50.5	50.5	0.349	0.141
B3 T	30.0	0.043	0.49	0.046	517.7	368.4	76.1	46.9	0.0	24.1	24.1	0.318	0.105
2C 1	42.0	0.0	0.0	0.0	460.1	273.5	4.9	33.5	0.0	15.1	15.1	0.529	0.375
2C 2	58.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.9	12.9	0.508	0.350
3C 3	70.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.191	0.134
4C 4	74.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.277	0.235
5C 5	80.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	1.23	13.9	0.82	3146.5	971.4	351.3	1429.7	0.0	53.5	53.5	1.43	0.64
2	6- 10	2.34	26.5	1.61	6190.7	2063.1	727.1	2581.9	0.0	116.7	116.7	2.85	1.21
3	11- 15	2.99	33.8	2.15	9200.0	3372.3	1100.4	3254.1	0.0	296.2	296.2	4.46	1.84
4	16- 20	3.37	38.2	2.56	12231.6	4773.1	1461.0	3729.8	0.0	548.8	548.8	6.20	2.54
5	21- 25	3.72	42.1	2.94	15174.4	6262.1	1825.7	4157.2	0.0	775.0	775.0	7.91	3.21
6	26- 30	3.94	44.6	3.17	17762.7	8104.0	2206.4	4392.0	0.0	895.4	895.4	9.50	3.73
7	31- 35	4.16	47.1	3.40	20350.9	9945.8	2587.1	4626.7	0.0	1015.7	1015.7	11.09	4.25
8	36- 40	4.20	47.6	3.45	22709.0	11408.1	2683.0	4807.8	0.0	1100.0	1100.0	13.52	5.85
9	41- 45	4.20	47.6	3.45	25009.5	12775.5	2707.8	4975.5	0.0	1175.3	1175.3	16.16	7.72
10	46- 50	4.20	47.6	3.45	26389.8	13596.0	2722.6	5076.1	0.0	1246.3	1246.3	18.76	9.54
11	51- 55	4.20	47.6	3.45	26389.8	13596.0	2722.6	5076.1	0.0	1311.0	1311.0	21.30	11.29
12	56- 60	4.20	47.6	3.45	26389.8	13596.0	2722.6	5076.1	0.0	1375.8	1375.8	23.84	13.04
13	61- 65	4.20	47.6	3.45	26389.8	13596.0	2722.6	5076.1	0.0	1440.5	1440.5	26.38	14.79
14	66- 70	4.20	47.6	3.45	26389.8	13596.0	2722.6	5076.1	0.0	1479.6	1479.6	28.29	16.11
15	71- 75	4.20	47.6	3.45	26389.8	13596.0	2722.6	5076.1	0.0	1480.3	1480.3	29.42	16.98
16	76- 80	4.20	47.6	3.45	26389.8	13596.0	2722.6	5076.1	0.0	1481.1	1481.1	30.80	18.15
17	81- 85	4.20	47.6	3.45	26389.8	13596.0	2722.6	5076.1	0.0	1481.9	1481.9	32.18	19.32

AVERAGE OF CONTROL SECTION 0- 0 CMS. (0- 0 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) =100.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 0.0 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.81 PERCENT. SAND/CLAY RATIO = 0.3.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 67 4 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES BLUFFDALE SILTY CLAY LOAM (TAXADJUNCT) SOIL NO. S67 UTAH. 18- 3 SAMPLE NO. 7 220-7 229 SALT LAKE CO. AREA

SOIL FAMILY: CALCIXEROLLIC XEROCHREPT,FINE-SILTY,MIXED,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS - - - PERCENTAGE PASSING SIEVE - - - 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	CUMULATIVE SAND FRACTION LESS 1.0	THAN .5	MM .25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC
7 220	0- 9	AP	100	100	100	100	100	100	100	100	99	93	70	47	32	100	99	99	96	89	0.01	0.006	0.000	26.3	0.0
7 221	9- 16	B1	100	100	100	100	100	100	100	100	99	96	80	56	41	100	100	99	98	94	0.01	0.003	0.000	17.6	0.0
7 222	16- 23	B2 T	100	100	100	100	100	100	100	100	100	98	83	59	42	100	100	100	99	96	0.01	0.003	0.000	15.8	0.0
7 223	23- 33	B3 CA	100	100	100	100	100	100	100	100	100	98	86	61	44	100	100	100	99	97	0.00	0.003	0.000	14.4	0.0
7 224	33- 432	C 1CA	100	100	100	100	100	100	100	100	100	97	75	47	28	100	100	100	99	94	0.01	0.006	0.000	21.0	0.0
7 225	43- 582	C 2	100	100	100	100	100	100	100	100	100	97	71	43	25	100	100	100	99	94	0.01	0.007	0.001	22.6	0.0
7 226	58- 772	C 3	PSD NOT DETERMINED																						
7 227	77- 822	C 4	PSD NOT DETERMINED																						
7 228	82- 953	C 5	PSD NOT DETERMINED																						
7 229	95- 03	C 6	100	100	100	100	100	100	100	100	99	78	27	19	13	100	99	98	89	59	0.05	0.038	0.001	41.9	0.0

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.118	4.749	13.371	0.770	7
15BR PC	CLAY PC	OC PC	0.308	-0.278	5.258	0.838	7
OC PC	CLAY PC	DPTHIN	-0.216	-0.024	8.792	0.995	4

HORIZON	RATIOS AND RESIDUALS --RATIOS TO CLAY-- CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION --PERCENT (VOL) OF SOIL VOLUME-- SOLIDS,SIZE IN MM 250 -75	75 -20	20 -2	2-.05	-.05 .002	LT .002	-PORES- CAP.	NON CAP	PSD ON CLAY FREE BASIS ---PERCENT OF SAND PLUS SILT--- VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
AP	0.82	0.47	0.02	0.0	0.0	-0.4	-0.4	-0.0	0	0	0	5	30	17	34	14	0	0	1	4	10	28	56	47
B1	0.56	0.42	0.02	0.0	0.0	-0.3	1.0	-0.0	0	0	0	3	28	22	35	12	0	0	0	2	6	24	66	69
B2 T	0.49	0.46	0.01	0.0	0.0	1.5	-0.2	0.1	0	0	0	2	28	22	37	11	0	0	0	2	4	23	71	73
B3 CA	0.45	0.42	0.02	0.0	0.0	2.0	1.3	-0.1	0	0	0	1	29	24	40	6	0	0	0	1	3	21	75	78
2C 1CA	0.79	0.61	0.02	0.0	0.0	-2.4	-1.8	2.8	0	0	0	2	25	11	52	10	0	0	0	1	6	26	66	39
2C 2	0.96	0.67	0.02	0.0	0.0	-4.9	-2.7	2.9	0	0	0	3	28	10	55	4	0	0	0	1	7	30	62	33
2C 3					0.0																			
2C 4					0.0																			
3C 5					0.0																			
3C 6	0.82	0.50	0.0	0.0	0.0	4.4	2.8	4.9	0	0	0	22	26	7	37	8	0	1	1	11	33	37	17	15

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
		WEIGHTS PER UNIT DEPTH (CM OR INCH)			POUNDS PER ACRE					TONS/ACRE			
AP	4.5	0.427	4.83	0.256	893.1	277.3	79.0	401.9	0.0	4.7	4.7	0.343	0.137
B1	12.5	0.128	1.44	0.101	842.7	258.5	72.9	284.2	0.0	20.6	20.6	0.350	0.132
B2 T	19.5	0.086	0.97	0.068	757.6	230.9	70.3	214.4	0.0	32.1	32.1	0.367	0.144
B3 CA	28.0	0.050	0.56	0.040	721.8	228.4	83.0	153.6	0.0	37.7	37.7	0.400	0.178
2C 1CA	38.0	0.0	0.0	0.0	492.9	169.4	46.4	96.1	0.0	24.6	24.6	0.517	0.376
2C 2	50.5	0.0	0.0	0.0	581.7	240.5	50.6	57.2	0.0	19.6	19.6	0.549	0.392
2C 3	67.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.603	0.454
2C 4	79.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.389	0.258
3C 5	88.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.256	0.201
3C 6	47.5	0.0	0.0	0.0	352.6	0.0	91.8	38.9	246.1	11.6	11.6	0.369	0.274

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
		CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)			POUNDS PER ACRE					TONS/ACRE			
1	1- 5	2.14	24.2	1.28	4465.4	1386.5	395.0	2009.4	0.0	23.4	23.4	1.71	0.68
2	6- 10	3.97	44.9	2.41	8880.5	2754.2	783.9	3901.2	0.0	62.7	62.7	3.43	1.36
3	11- 15	4.61	52.2	2.91	13093.8	4046.7	1148.2	5322.0	0.0	165.7	165.7	5.18	2.02
4	16- 20	5.08	57.5	3.29	16966.8	5228.9	1502.1	6463.9	0.0	314.6	314.6	7.00	2.73
5	21- 25	5.44	61.5	3.57	20683.3	6378.5	1878.9	7414.4	0.0	486.3	486.3	8.90	3.52
6	26- 30	5.69	64.4	3.77	24292.3	7520.3	2294.0	8182.1	0.0	674.9	674.9	10.90	4.41
7	31- 35	5.84	66.1	3.89	27443.6	8544.1	2635.7	8835.0	0.0	837.4	837.4	13.13	5.70
8	36- 40	5.84	66.1	3.89	29908.2	9391.0	2867.6	9315.6	0.0	960.7	960.7	15.71	7.58
9	41- 45	5.84	66.1	3.89	32550.3	10380.2	3108.0	9718.3	0.0	1073.7	1073.7	18.36	9.49
10	46- 50	5.84	66.1	3.89	35458.8	11582.7	3360.9	10004.3	0.0	1171.5	1171.5	21.10	11.45
11	51- 55	5.84	66.1	3.89	38367.3	12785.2	3613.9	10290.3	0.0	1269.2	1269.2	23.84	13.41
12	56- 60	5.84	66.1	3.89	40112.4	13506.7	3765.7	10461.8	0.0	1327.9	1327.9	26.69	15.49
13	61- 65	5.84	66.1	3.89	40112.4	13506.7	3765.7	10461.8	0.0	1327.9	1327.9	29.70	17.76
14	66- 70	5.84	66.1	3.89	40112.4	13506.7	3765.7	10461.8	0.0	1327.9	1327.9	32.71	20.03
15	71- 75	5.84	66.1	3.89	40112.4	13506.7	3765.7	10461.8	0.0	1327.9	1327.9	35.72	22.30
16	76- 80	5.84	66.1	3.89	40112.4	13506.7	3765.7	10461.8	0.0	1327.9	1327.9	38.09	23.98
17	81- 85	5.84	66.1	3.89	40112.4	13506.7	3765.7	10461.8	0.0	1327.9	1327.9	39.64	25.10
18	86- 90	5.84	66.1	3.89	40112.4	13506.7	3765.7	10461.8	0.0	1327.9	1327.9	40.92	26.10
19	91- 95	5.84	66.1	3.89	40112.4	13506.7	3765.7	10461.8	0.0	1327.9	1327.9	42.20	27.10

AVERAGE OF CONTROL SECTION 0- 0 CMS. (0- 0 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) =100.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 0.0 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 1.24 PERCENT. SAND/CLAY RATIO = 0.2.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 67 7 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES CHIPMAN SILTY CLAY LOAM SOIL NO. S67 UTAH. 18- 4 SAMPLE NO. 7 243-7 249 SALT LAKE CO. AREA

SOIL FAMILY: TYPIC CALCIAQUOLL,FINE-SILTY,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENT PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	CUMULATIVE SAND FRACTION LESS THAN .02 MM	.005	.002	LESS THAN MM 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC RATIO
7 243	0- 5	AP	100	100	100	100	100	100	100	100	99	89	70	50	37	100	99	98	93	85	0.01	0.005	0.000	26.5	0.0
7 244	5- 16	A12	100	100	100	100	100	100	100	100	99	89	67	46	33	100	99	98	93	84	0.01	0.006	0.000	30.5	0.0
7 245	16- 26	C 1CA	100	100	100	100	100	100	100	100	98	88	70	51	38	99	98	97	91	85	0.01	0.005	0.000	26.1	0.0
7 246	26- 36	C 2CA	100	100	100	100	100	100	100	100	98	92	76	56	43	99	99	98	94	89	0.01	0.003	0.000	19.3	0.0
7 247	36- 48	C 3	100	100	100	100	100	100	100	100	95	89	73	56	44	98	95	93	90	87	0.01	0.003	0.000	20.9	0.0
7 248	48- 60	C 4	PSD NOT DETERMINED																						
7 249	60- 84	C 5	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.599	3.204	-1.134	0.993	5
15BR PC	CLAY PC	OC PC	-0.359	0.245	33.651	0.605	5
OC PC	CLAY PC	DPTHIN	0.028	-0.057	2.412	0.960	5

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME SOILDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05-	.05.002	.002 LT	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
AP	0.84	0.55	0.01	0.0	0.0	0.7	3.9	0.1	0	0	0	7	20	16	42	15	1	1	2	8	14	23	52	60
A12	0.93	1.10	0.0	0.0	0.0	-0.8	-4.8	-0.3	0	0	0	7	20	13	47	13	1	1	2	8	13	24	51	49
C 1CA	0.76	1.05	0.00	0.0	0.0	-0.1	0.7	0.3	0	0	0	6	19	15	46	14	1	2	2	9	11	23	53	61
C 2CA	0.72	0.98	0.0	0.0	0.0	0.5	1.7	-0.1	0	0	0	5	18	17	45	15	1	1	2	7	9	23	57	76
C 3	0.67	0.53	0.01	0.0	0.0	-0.3	-1.5	-0.0	0	0	0	6	19	20	46	9	3	6	4	6	6	24	53	78
C 4					0.0																			
C 5					0.0																			

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
AP	2.5	0.596	6.74	0.330	2089.7	380.8	516.2	311.9	0.0	15.5	15.5	0.422	0.212
A12	10.5	0.521	5.90	0.287	1396.1	434.7	811.1	262.0	0.0	18.0	18.0	0.465	0.152
C 1CA	21.0	0.275	3.12	0.132	1314.6	351.2	595.9	131.0	0.0	37.2	37.2	0.457	0.193
C 2CA	31.0	0.258	2.92	0.115	818.5	325.4	417.7	113.3	0.0	44.8	44.8	0.448	0.195
C 3	42.0	0.225	2.55	0.095	1142.9	416.6	319.4	177.0	0.0	22.7	22.7	0.455	0.206
C 4	54.0	0.075	0.85	0.054	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.450	0.218
C 5	72.0	0.495	5.60	0.141	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.512	0.343

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	2.98	33.7	1.65	10448.4	1903.9	2581.1	1559.5	0.0	77.4	77.4	2.11	1.06
2	6- 10	5.59	63.2	3.08	17429.1	4077.3	6636.4	2869.3	0.0	167.4	167.4	4.43	1.82
3	11- 15	8.19	92.7	4.52	24409.8	6250.7	10691.7	4179.1	0.0	257.3	257.3	6.75	2.58
4	16- 20	9.81	111.1	5.33	31064.3	8090.1	13886.3	4964.9	0.0	424.0	424.0	9.04	3.50
5	21- 25	11.19	126.7	5.99	37637.2	9846.1	16865.7	5619.8	0.0	609.9	609.9	11.32	4.46
6	26- 30	12.49	141.4	6.58	42225.6	11499.1	19132.4	6204.1	0.0	826.3	826.3	13.57	5.43
7	31- 35	13.78	156.0	7.16	46318.0	13126.4	21220.9	6770.7	0.0	1050.3	1050.3	15.81	6.40
8	36- 40	14.94	169.1	7.65	51708.0	15118.1	22916.1	7592.2	0.0	1185.9	1185.9	18.08	7.42
9	41- 45	16.07	181.9	8.13	57422.5	17200.9	24512.9	8477.4	0.0	1299.4	1299.4	20.35	8.45
10	46- 50	16.89	191.2	8.52	60851.2	18450.7	25471.0	9008.5	0.0	1367.5	1367.5	22.61	9.50
11	51- 55	17.27	195.5	8.79	60851.2	18450.7	25471.0	9008.5	0.0	1367.5	1367.5	24.86	10.59
12	56- 60	17.64	199.7	9.06	60851.2	18450.7	25471.0	9008.5	0.0	1367.5	1367.5	27.11	11.68
13	61- 65	20.12	227.7	9.76	60851.2	18450.7	25471.0	9008.5	0.0	1367.5	1367.5	29.67	13.39
14	66- 70	22.59	255.7	10.46	60851.2	18450.7	25471.0	9008.5	0.0	1367.5	1367.5	32.23	15.10
15	71- 75	25.07	283.7	11.17	60851.2	18450.7	25471.0	9008.5	0.0	1367.5	1367.5	34.79	16.81
16	76- 80	27.54	311.8	11.87	60851.2	18450.7	25471.0	9008.5	0.0	1367.5	1367.5	37.35	18.52

AVERAGE OF CONTROL SECTION 0- 0 CMS. (0- 0 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) =100.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 0.0 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 2.92 PERCENT. SAND/CLAY RATIO = 0.5.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 67 8 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES MAGNA SILTY CLAY LOAM SOIL NO. S67 UTAH. 18-12 SAMPLE NO. 7 250-7 258 SALT LAKE CO. AREA

SOIL FAMILY: TYPIC CALCIAQUOLL,FINE,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE													CUMULATIVE SAND FRACTION					DIAMETERS AT PERCENT (MM)			CU RATIO	CC RATIO
			3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	LESS 1.0	.5	THAN .25	.10	MM .05	60	50	10		
7 250	0- 7	A11	100	100	100	100	100	100	100	100	98	89	64	44	30	99	98	97	93	85	0.02	0.008	0.000	35.6	0.0
7 251	7- 12	A12	100	100	100	100	100	100	100	100	98	90	68	47	34	99	98	97	93	86	0.01	0.006	0.000	29.1	0.0
7 252	12- 18	A13	100	100	100	100	100	100	100	100	99	93	77	61	51	100	99	98	95	90	0.00	0.002	0.000	14.1	0.0
7 253	18- 30	C 1CA	100	100	100	100	100	100	100	100	96	92	79	60	47	99	97	96	93	90	0.01	0.003	0.000	15.7	0.0
7 254	30- 40	C 2CA	100	100	100	100	100	100	100	100	99	90	62	45	33	100	99	99	96	83	0.02	0.008	0.000	43.5	0.0
7 255	40- 46	C 3	100	100	100	100	100	100	100	100	99	94	63	44	31	99	99	99	97	90	0.02	0.008	0.000	39.0	0.0
7 256	46- 502	C 4	PSD NOT DETERMINED																						
7 257	50- 593	C 5	PSD NOT DETERMINED																						
7 258	59- 834	C 6	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.382	2.904	6.883	0.973	6
15BR PC	CLAY PC	OC PC	0.272	1.163	8.211	0.617	6
OC PC	CLAY PC	DPTHIN	-0.105	-0.094	7.492	0.993	6

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOILS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS, PERCENT OF SAND PLUS SILT: VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	1.08	0.72	0.01	0.0	0.0	0.3	0.8	-0.1	0	0	0	5	19	11	46	19	1	2	2	6	11	30	48	44
A12	0.98	0.69	0.0	0.0	0.0	-0.8	-0.1	-0.0	0	0	0	6	21	14	0	0	1	2	2	6	10	27	52	51
A13	0.63	0.60	0.00	0.0	0.0	1.4	-3.0	0.2	0	0	0	4	18	24	45	9	1	1	2	7	9	27	54	104
C 1CA	0.60	0.43	0.0	0.0	0.0	-0.8	1.7	-0.2	0	0	0	5	23	25	0	0	2	3	2	5	6	21	61	88
C 2CA	0.64	0.44	0.0	0.0	0.0	-0.8	2.9	0.3	0	0	0	9	26	18	0	0	0	1	0	5	20	31	43	50
C 3	0.60	0.62	0.02	0.0	0.0	0.7	-2.4	-0.2	0	0	0	6	33	18	41	2	1	1	0	3	10	39	46	46
2C 4					0.0																			
3C 5					0.0																			
4C 6					0.0																			

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A11	3.5	0.683	7.74	0.339	874.5	94.9	33.5	300.5	16.7	11.5	11.5	0.455	0.273
A12	9.5	0.638	7.23	0.326	833.0	200.5	50.1	321.1	33.9	13.3	13.3	0.0	0.0
A13	15.0	0.343	3.88	0.192	924.1	303.9	89.6	271.4	0.0	25.1	25.1	0.449	0.154
C 1CA	24.0	0.161	1.83	0.078	1020.1	509.4	240.4	259.5	0.0	14.3	14.3	0.0	0.0
C 2CA	35.0	0.084	0.95	0.063	925.0	414.4	291.4	135.9	0.0	1.6	1.6	0.0	0.0
C 3	43.0	0.070	0.79	0.053	676.5	352.6	440.1	133.3	0.0	1.7	1.7	0.410	0.117
2C 4	48.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3C 5	54.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4C 6	71.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	3.42	38.7	1.70	4372.5	474.7	167.6	1502.3	83.3	57.3	57.3	2.27	1.36
2	6- 10	6.70	75.8	3.35	8620.5	1266.1	385.0	3066.5	218.3	120.1	120.1	4.54	2.72
3	11- 15	9.00	101.9	4.58	13058.8	2579.0	754.2	4522.8	286.1	221.9	221.9	6.80	3.73
4	16- 20	10.35	117.2	5.31	17871.2	4509.6	1503.9	5855.8	286.1	325.6	325.6	9.04	4.50
5	21- 25	11.16	126.3	5.70	22971.5	7056.6	2706.2	7153.1	286.1	396.8	396.8	11.28	5.27
6	26- 30	11.97	135.5	6.09	28071.9	9603.6	3908.4	8450.3	286.1	468.1	468.1	13.52	6.04
7	31- 35	12.39	140.2	6.40	32697.1	11675.4	5365.6	9129.8	286.1	476.0	476.0	15.76	6.81
8	36- 40	12.81	145.0	6.72	37322.2	13747.2	6822.8	9809.3	286.1	484.0	484.0	18.00	7.58
9	41- 45	13.16	149.0	6.99	40704.7	15510.2	9023.2	10475.6	286.1	492.5	492.5	20.05	8.16
10	46- 50	13.23	149.7	7.04	41381.2	15862.8	9463.2	10608.8	286.1	494.2	494.2	22.10	8.74
11	51- 55	13.23	149.7	7.04	41381.2	15862.8	9463.2	10608.8	286.1	494.2	494.2	24.15	9.32
12	56- 60	13.23	149.7	7.04	41381.2	15862.8	9463.2	10608.8	286.1	494.2	494.2	26.20	9.90
13	61- 65	13.23	149.7	7.04	41381.2	15862.8	9463.2	10608.8	286.1	494.2	494.2	28.25	10.48
14	66- 70	13.23	149.7	7.04	41381.2	15862.8	9463.2	10608.8	286.1	494.2	494.2	30.30	11.06
15	71- 75	13.23	149.7	7.04	41381.2	15862.8	9463.2	10608.8	286.1	494.2	494.2	32.35	11.64
16	76- 80	13.23	149.7	7.04	41381.2	15862.8	9463.2	10608.8	286.1	494.2	494.2	34.40	12.22

AVERAGE OF CONTROL SECTION 0- 0 CMS. (0- 0 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) =100.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 0.0 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 3.38 PERCENT. SAND/CLAY RATIO = 0.4.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 68 39 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES SHOWALTER GRAVELLY LOAM SOIL NO. S68 UTAH. 9- 9 SAMPLE NO. 8 216-8 224 PAUNSAUGUNT AREA

SOIL FAMILY: TYPIC ARGIBOROLL LOAMY-SKELETAL,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE--- 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS THAN .02 MM	.005	.002	CUMULATIVE SAND FRACTION LESS THAN MM 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU	CC RATIO
8 216	0- 5	A1	100	98	96	94	92	85	77	77	71	47	29	22	17	76	72	66	52	41	0.17	0.088	0.001	216.5	0.1
8 217	5- 10	B1	100	99	99	98	98	93	88	88	81	54	34	27	22	87	83	76	59	47	0.10	0.060	0.001	177.5	0.0
8 218	10- 17	B21T	100	98	97	95	94	89	84	84	77	48	31	25	21	83	79	71	53	41	0.14	0.083	0.001	240.2	0.1
8 219	17- 222	B22T	100	90	83	73	66	60	54	54	49	31	21	17	15	53	50	45	35	27	9.45	0.492	0.00110	248.1	43.6
8 220	22- 302	B23T	100	87	78	64	55	46	36	36	30	18	12	10	9	35	31	27	20	16	22.13	13.155	0.006	3898.3	719.3
8 221	30- 362	B3 CA	100	87	78	64	55	43	30	30	24	14	10	8	6	28	25	22	15	13	22.13	14.369	0.021	1037.5	*****
8 222	36- 483	C 1CA	100	98	96	94	92	86	80	80	73	49	30	22	17	79	75	69	55	42	0.14	0.077	0.001	177.6	0.1
8 223	48- 563	C 2	100	97	96	93	91	88	85	85	76	37	21	16	13	83	78	69	44	30	0.18	0.126	0.001	145.3	0.4
8 224	0- 10	A1+B1	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.632	-2.444	11.295	0.878	8
15BR PC	CLAY PC	OC PC	0.344	-1.482	4.013	0.928	8
OC PC	CLAY PC	DPTHIN	-0.046	-0.037	2.462	0.950	5

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC 15BAR	DC.	PYR.	PYR/ D.C.	RESIDUALS CEC 15BAR OC.			VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05- .05	.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
		FE	FE+AL	FE+AL	MEQ.	PCT.	PCT.																		
A1	0.99	0.43	0.04	0.0	0.0	0.1	0.2	-0.0	0	4	8	20	13	9	24	22	2	6	9	24	19	19	20	29
B1	0.98	0.46	0.04	0.0	0.0	-0.2	-0.5	-0.1	0	1	5	22	13	12	28	19	1	6	11	25	19	19	19	33
B21T	0.94	0.43	0.04	0.0	0.0	2.1	1.0	0.2	0	4	6	25	12	13	30	10	1	7	12	28	19	17	15	34
2B22T	1.00	0.47	0.03	0.0	0.0	-0.2	-0.1	-0.1	10	21	8	17	8	10	21	5	2	8	12	28	19	17	14	39
2B23T	1.16	0.51	0.03	0.0	0.0	-2.4	-0.5	-0.0	16	28	12	13	4	5	16	6	5	13	14	27	14	14	12	31
2B3 CA	1.22	0.61	0.03	0.0	0.0	2.1	-0.2	0.5	21	28	15	10	4	4	10	8	7	13	14	27	12	11	15	26
3C 1CA	1.43	0.64	0.02	0.0	0.0	-0.8	-0.6	0.2	0	4	6	20	13	9	33	15	2	6	9	23	21	18	21	27
3C 2	1.50	0.58	0.03	0.0	0.0	-0.7	0.7	-0.1	5	5	3	28	9	7	27	16	3	7	12	36	19	13	11	18
A1+B1					0.0																				

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY A. D.	WATER CONTENT TO 15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
A1	2.5	0.252	2.85	0.144	938.9	87.4	11.5	117.5	0.0	0.0	0.0	0.213	0.136
B1	7.5	0.247	2.80	0.137	1166.1	95.1	19.5	77.3	0.0	0.0	0.0	0.243	0.140
B21T	13.5	0.127	1.43	0.079	1118.6	107.1	13.7	69.6	71.4	0.0	0.0	0.260	0.158
2B22T	19.5	0.077	0.87	0.048	851.9	84.0	14.2	48.2	119.4	0.0	0.0	0.176	0.092
2B23T	26.0	0.043	0.48	0.027	688.8	62.5	12.3	26.0	0.0	0.2	0.2	0.138	0.087
2B3 CA	33.0	0.0	0.0	0.0	352.9	37.4	2.5	21.0	0.0	9.1	9.1	0.093	0.058
3C 1CA	42.0	0.0	0.0	0.0	773.1	124.3	11.6	49.3	80.9	31.6	31.6	0.297	0.217
3C 2	52.0	0.0	0.0	0.0	807.6	126.7	12.1	41.2	47.5	11.9	11.9	0.245	0.180
A1+B1	5.0	0.250	2.82	0.155	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY A. D.	WATER CONTENT TO 15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
1	1- 5	1.26	14.2	0.72	4694.3	436.8	57.7	587.4	0.0	0.0	0.0	1.06	0.68
2	6- 10	2.50	28.2	1.41	10525.0	912.3	155.4	973.8	0.0	0.0	0.0	2.27	1.38
3	11- 15	3.13	35.4	1.80	16117.8	1447.8	223.8	1321.8	357.0	0.0	0.0	3.57	2.17
4	16- 20	3.61	40.9	2.10	20910.6	1913.8	293.8	1605.5	857.8	0.0	0.0	4.62	2.76
5	21- 25	3.89	44.1	2.28	24680.8	2269.2	359.0	1779.9	1096.5	0.6	0.6	5.39	3.20
6	26- 30	4.10	46.5	2.41	28124.7	2581.5	420.4	1910.0	1096.5	1.5	1.5	6.08	3.63
7	31- 35	4.10	46.5	2.41	29889.1	2768.7	432.8	2014.9	1096.5	47.2	47.2	6.54	3.92
8	36- 40	4.10	46.5	2.41	33334.5	3303.4	481.8	2233.0	1419.9	182.7	182.7	7.82	4.85
9	41- 45	4.10	46.5	2.41	37200.3	3925.0	539.9	2479.3	1824.2	340.6	340.6	9.30	5.93
10	46- 50	4.10	46.5	2.41	41135.0	4551.3	599.0	2709.5	2161.8	459.1	459.1	10.68	6.94
11	51- 55	4.10	46.5	2.41	45173.2	5184.7	659.7	2915.4	2399.3	518.5	518.5	11.90	7.84

AVERAGE OF CONTROL SECTION 25- 76 CMS. (10- 30 IN.)
SAND (MINUS VFS)= 40.1 PERCENT, SAND = 52.7 PERCENT, SILT (PLUS VFS) = 34.6 PERCENT, CLAY = 25.3 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 47.3 PERCENT, 15 BAR = 11.9 PERCENT, CACO3 EQUIVALENT= 0.1 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.98 PERCENT. SAND/CLAY RATIO = 2.0.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 68 40 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES SHOWALTER GRAVELLY LOAM SOIL NO. S68 UTAH. 9-10 SAMPLE NO. 8 225-8 231 PAUNSAUGUNT AREA

SOIL FAMILY: TYPIC ARGIBOROLL LOAMY-SKELETAL,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENT PASSING SIEVE													CUMULATIVE SAND FRACTION					DIAMETERS AT PERCENT (MM)			CU RATIO	CC RATIO
			3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	LESS 1.0	THAN .5	.25	.10	MM .05	60	50	10		
8 225	0- 2	A11	100	99	98	97	96	92	88	88	76	41	20	12	7	86	78	68	47	33	0.18	0.113	0.003	54.2	0.1
8 226	2- 6	A12	100	99	99	98	97	93	88	88	80	52	29	20	15	87	82	74	57	44	0.12	0.069	0.001	118.2	0.1
8 227	6- 11	B1	100	93	89	82	77	71	65	65	58	35	22	17	15	64	59	52	39	29	0.55	0.216	0.001	567.3	1.5
8 228	11- 23	B2T	100	85	75	60	50	40	30	30	24	17	12	10	8	28	25	22	18	15	25.00	19.000	0.006	4432.8	*****
8 229	23- 30	B3	100	85	74	59	48	36	23	23	12	5	3	2	2	18	12	9	5	4	26.08	20.030	0.298	87.4	*****
8 230	30- 40	C 1	100	82	69	50	37	27	16	16	8	4	2	2	2	13	8	6	4	3	31.37	25.223	0.666	47.1	*****
8 231	40- 48	C 2	100	88	80	68	60	44	28	28	19	10	7	6	5	24	20	16	11	9	19.00	12.279	0.070	273.2	*****

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.618	-4.512	10.732	0.942	7
15BR PC	CLAY PC	OC PC	0.478	-3.181	2.002	0.980	6
OC PC	CLAY PC	DPTHIN	-0.008	-0.040	1.328	0.939	5

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	OC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05- .05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	1.33	0.0	0.11	0.0	0.0	-1.3	1.8	-0.1	0	2	4	29	14	4	29	18	3	9	13	25	17	17	15	9
A12	0.93	0.42	0.05	0.0	0.0	1.3	-0.1	0.1	0	2	5	26	17	8	31	11	2	6	11	23	19	19	20	20
B1	0.83	0.44	0.04	0.0	0.0	3.3	1.1	0.2	5	14	7	21	9	9	26	9	2	9	15	26	19	15	14	29
B2T	0.99	0.51	0.03	0.0	0.0	-2.4	-0.8	-0.2	11	34	13	10	4	6	16	6	7	16	13	20	14	14	16	39
B3	1.92	0.73	0.08	0.0	0.0	-0.0	-0.4	0.0	9	37	18	14	1	1	15	5	22	28	15	19	6	5	5	8
C 1	1.68	0.67	0.07	0.0	0.0	0.3	0.1	-0.2	20	43	14	9	1	1	0	0	24	30	15	15	6	6	5	11
C 2	1.28	0.58	0.05	0.0	0.0	-1.0	0.2	-0.6	20	25	20	12	2	3	0	0	16	19	16	23	9	8	9	21

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A11	1.0	0.284	3.21	0.148	267.6	33.5	2.6	97.9	248.6	0.0	0.0	0.275	0.287
A12	4.0	0.218	2.47	0.137	470.2	73.3	7.0	71.4	305.3	0.0	0.0	0.294	0.220
B1	8.5	0.105	1.19	0.069	530.1	87.3	5.4	54.9	168.9	0.0	0.0	0.234	0.155
B2T	17.0	0.052	0.59	0.034	427.5	62.3	2.8	18.8	132.8	0.0	0.0	0.140	0.086
B3	26.5	0.012	0.14	0.008	174.4	33.7	9.2	19.5	48.1	0.2	0.2	0.146	0.129
C 1	35.0	0.0	0.0	0.0	138.1	26.0	4.7	13.2	32.5	0.1	0.1	0.0	0.0
C 2	44.0	0.0	0.0	0.0	294.6	48.2	7.1	24.1	72.1	0.1	0.1	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	1.22	13.8	0.71	1945.8	286.7	26.3	410.0	1413.2	0.0	0.0	1.43	1.23
2	6- 10	1.86	21.1	1.12	4536.3	709.0	54.9	701.0	2394.0	0.0	0.0	2.66	2.07
3	11- 15	2.17	24.6	1.33	6776.3	1045.5	71.4	831.2	3094.2	0.0	0.0	3.45	2.57
4	16- 20	2.44	27.6	1.50	8913.8	1357.1	85.3	925.4	3758.4	0.0	0.0	4.15	3.00
5	21- 25	2.62	29.6	1.62	10545.2	1611.4	112.1	1021.1	4253.2	0.3	0.3	4.86	3.52
6	26- 30	2.68	30.3	1.66	11417.3	1779.8	158.2	1118.8	4493.7	1.1	1.1	5.59	4.16
7	31- 35	2.68	30.3	1.66	12107.8	1909.8	181.5	1184.8	4656.2	1.6	1.6	6.32	4.80
8	36- 40	2.68	30.3	1.66	12798.3	2039.7	204.9	1250.8	4818.7	2.1	2.1	7.05	5.44
9	41- 45	2.68	30.3	1.66	14271.3	2280.8	240.4	1371.3	5179.2	2.6	2.6	7.78	6.08

AVERAGE OF CONTROL SECTION 28- 58 CMS. (11- 23 IN.)
SAND (MINUS VFS)= 39.9 PERCENT, SAND = 50.2 PERCENT, SILT (PLUS VFS) = 31.9 PERCENT, CLAY = 28.2 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 74.0 PERCENT, 15 BAR = 14.5 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.76 PERCENT. SAND/CLAY RATIO = 3.0.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 70 55 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES KOLOB SILT LOAM (TAX ADJUNCT) SOIL NO. S70 UTAH. 27-10 SAMPLE NO. 0 330-0 335 WASHINGTON CO. AREA

SOIL FAMILY: TYPIC ARGIBOROLL,FINE-LOAMY,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING PERCENT 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	MECHANICAL ANALYSIS PASSING NO. 4	NO. 10	NO. 40	NO. 200	SIEVE LESS .02	THAN .005	MM .002	CUMULATIVE SAND FRACTION LESS 1.0	.5	THAN .25	.10	MM .05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC RATIO
0 330	0- 6	A1	100	98	97	94	93	91	88	88	86	71	47	35	26	87	86	86	76	63	0.04	0.024	0.000	86.2	0.0
0 331	6- 10	B1T	100	100	100	100	100	99	97	97	96	79	53	42	35	96	96	96	86	69	0.03	0.014	0.000	76.8	0.0
0 332	10- 18	B21T	100	97	95	92	90	84	78	76	75	60	39	30	24	76	75	75	66	52	0.08	0.045	0.001	143.2	0.0
0 333	18- 28	B22T	100	94	90	84	80	66	52	47	46	39	26	19	14	46	46	46	42	35	7.01	3.339	0.001	6879.1	6.5
0 334	28- 39	B23T	100	95	92	87	84	71	58	52	50	42	27	20	15	51	50	50	45	37	5.23	0.376	0.001	5442.3	3.8
0 335	39- 52	B24T	100	97	96	93	91	78	65	58	58	55	43	28	18	58	58	58	57	53	2.55	0.038	0.001	3487.9	0.1

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	REGRESSION COEFFICIENTS A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.561	3.514	3.692	0.992	6
15BR PC	CLAY PC	OC PC	0.776	-1.376	-9.356	0.989	6
OC PC	CLAY PC	DPTHIN	-0.361	-0.117	15.201	0.827	6

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	OC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A1	1.29	0.23	0.04	0.0	0.0	-0.1	0.1	-1.2	0	3	2	9	14	10	22	40	1	1	1	15	21	27	34	43
B1T	0.83	0.46	0.03	0.0	0.0	-0.1	-0.2	-0.4	0	0	2	12	15	16	29	26	0	0	0	17	27	26	30	56
B21T	0.79	0.44	0.04	0.0	0.0	-0.7	0.2	1.5	0	6	8	14	16	14	30	12	1	1	1	18	27	25	28	45
B22T	0.73	0.41	0.04	0.0	0.0	1.7	0.4	0.7	0	13	22	8	14	9	20	14	3	1	1	12	21	27	35	43
B23T	0.80	0.44	0.04	0.0	0.0	-0.2	-0.8	0.2	0	11	22	10	15	10	21	11	4	1	1	13	22	27	33	39
B24T	0.76	0.42	0.05	0.0	0.0	-0.6	0.3	-0.9	0	6	21	3	22	11	26	11	0	0	0	3	10	23	64	44

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A1	3.0	0.761	8.62	0.311	1393.5	35.2	18.0	99.2	0.0	0.0	0.0	0.180	0.166
B1T	8.0	0.325	3.68	0.171	1412.2	40.5	11.9	131.6	0.0	0.0	0.0	0.230	0.099
B21T	14.0	0.158	1.78	0.092	1492.6	35.6	18.6	105.1	0.0	1.3	1.3	0.248	0.140
B22T	23.0	0.122	1.38	0.071	1017.2	20.3	13.0	73.5	0.0	3.8	3.8	0.160	0.092
B23T	33.5	0.122	1.38	0.071	1258.4	19.8	9.5	72.4	0.0	8.3	8.3	0.171	0.097
B24T	45.5	0.058	0.66	0.034	1413.4	18.4	10.1	68.5	0.0	8.8	8.8	0.215	0.141

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	3.81	43.1	1.56	6967.7	176.2	90.0	496.2	0.0	0.0	0.0	0.90	0.83
2	6- 10	5.87	66.4	2.55	14009.9	373.4	155.8	1121.8	0.0	0.0	0.0	2.00	1.39
3	11- 15	6.66	75.4	3.01	21472.7	551.2	248.8	1647.2	0.0	6.7	6.7	3.24	2.09
4	16- 20	7.37	83.5	3.43	27984.6	698.6	330.5	2109.3	0.0	18.3	18.3	4.30	2.69
5	21- 25	7.98	90.4	3.78	33070.6	800.3	395.5	2476.6	0.0	37.1	37.1	5.10	3.15
6	26- 30	8.59	97.3	4.13	38638.9	900.9	453.5	2841.9	0.0	65.0	65.0	5.92	3.62
7	31- 35	9.20	104.2	4.49	44930.9	999.9	500.9	3203.9	0.0	106.2	106.2	6.77	4.10
8	36- 40	9.75	110.4	4.81	51377.9	1097.6	549.0	3562.0	0.0	148.0	148.0	7.67	4.63
9	41- 45	10.04	113.7	4.98	58444.9	1189.8	599.4	3904.4	0.0	191.9	191.9	8.74	5.33
10	46- 50	10.33	117.0	5.15	65511.9	1281.9	649.9	4246.8	0.0	235.8	235.8	9.81	6.03

AVERAGE OF CONTROL SECTION 25- 75 CMS. (10- 29 IN.)
SAND (MINUS VFS)= 12.5 PERCENT, SAND = 28.8 PERCENT, SILT (PLUS VFS) = 57.0 PERCENT, CLAY = 30.5 PERCENT,
CARBONATE CLAY = -0.0 PERCENT, 2-250MM= 41.0 PERCENT, 15 BAR = 12.9 PERCENT, CACO3 EQUIVALENT= 2.5 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 2.62 PERCENT. SAND/CLAY RATIO = 0.9.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 69187 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES DALCAN EXTREMELY STONY LOAM (TAXADJUNCT) SOIL NO. S69 UTAH. 27-11 SAMPLE NO. 9 958-9 961 WASHINGTON CO AREA

SOIL FAMILY: PACHIC ARGIBOROLL,LOAMY-SKELETAL,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING PERCENTAGE PASSING 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	MECHANICAL ANALYSIS SIEVE LESS THAN .02	.005	.002	CUMULATIVE SAND FRACTION LESS THAN MM 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU	CC RATIO
9 958	0- 4	A1	100	100	100	100	100	96	91	89	84	57	32	23	17	87	84	82	64	47	0.09	0.056	0.001	105.9	0.0
9 959	4- 9	B1 T	100	100	100	100	100	99	97	96	94	65	36	26	20	95	94	93	73	53	0.06	0.043	0.001	101.6	0.0
9 960	9- 16	B21T	100	100	100	100	100	94	88	86	84	61	37	28	23	86	85	84	68	51	0.07	0.046	0.001	128.7	0.0
9 961	16- 27	B22T	100	100	100	100	100	89	78	75	71	56	41	34	30	74	71	70	60	51	0.10	0.046	0.000	222.9	0.0

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	REGRESSION COEFFICIENTS A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.143	-37.097	60.846	0.999	4
15BR PC	CLAY PC	OC PC	0.271	-12.104	17.573	1.000	4
OC PC	CLAY PC	DPTHIN	-0.006	-0.011	1.386	0.998	4

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION, PERCENT (VOL) OF SOIL VOLUME: SOILS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	-.05.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS, PERCENT OF SAND PLUS SILT: VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A1	0.92	0.40	0.10	0.0	0.0	0.0	-0.0	-0.0	10	0	5	19	14	8	24	20	3	4	3	26	23	21	22	23
B1 T	0.99	0.43	0.11	0.0	0.0	-0.3	0.1	0.0	20	0	2	18	14	8	0	0	1	2	2	26	27	22	21	26
B21T	0.91	0.44	0.09	0.0	0.0	0.3	-0.1	-0.0	30	0	5	14	11	9	20	11	1	1	2	24	26	23	22	36
B22T	0.84	0.44	0.08	0.0	0.0	-0.1	0.0	0.0	30	0	10	10	9	12	0	0	3	5	3	21	21	21	26	66

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT FIELD CAPACITY TO 15 BAR
					POUNDS PER ACRE					TONS/ACRE		INCH/INCH	
A1	2.0	0.236	2.67	0.124	585.9	104.3	5.7	29.0	69.5	0.0	0.0	0.220	0.160
B1 T	6.5	0.215	2.43	0.122	677.4	130.6	5.6	28.3	87.1	0.0	0.0	0.0	0.0
B21T	12.5	0.167	1.89	0.089	621.0	137.9	9.3	23.6	88.7	0.0	0.0	0.175	0.097
B22T	21.5	0.127	1.44	0.076	755.6	187.6	21.4	21.8	137.7	0.0	0.0	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT FIELD CAPACITY TO 15 BAR
					POUNDS PER ACRE					TONS/ACRE		INCH/INCH	
1	1- 5	1.16	13.1	0.62	3020.9	547.7	28.4	144.5	365.1	0.0	0.0	1.10	0.80
2	6- 10	2.19	24.7	1.20	6351.4	1208.2	59.9	281.3	802.2	0.0	0.0	2.15	1.54
3	11- 15	3.02	34.2	1.64	9456.2	1897.7	106.3	399.2	1245.8	0.0	0.0	3.02	2.02
4	16- 20	3.70	41.8	2.03	13099.4	2785.9	201.2	509.9	1885.3	0.0	0.0	3.89	2.50
5	21- 25	4.33	49.0	2.42	16877.3	3723.9	308.2	618.8	2573.9	0.0	0.0	4.76	2.98

AVERAGE OF CONTROL SECTION 23- 69 CMS. (9- 27 IN.)
SAND (MINUS VFS)= 19.9 PERCENT, SAND = 35.3 PERCENT, SILT (PLUS VFS) = 45.7 PERCENT, CLAY = 34.4 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 54.7 PERCENT, 15 BAR = 15.1 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 1.15 PERCENT. SAND/CLAY RATIO = 2.0.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 69186 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES DALCAN EXTREMELY STONY LOAM SOIL NO. S69 UTAH. 27-10 SAMPLE NO. 9 952-9 957 WASHINGTON CO AREA

SOIL FAMILY: PACHIC ARGIBOROLL,CLAYEY-SKELETAL,MONT. RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING PERCENTAGE PASSING 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	MECHANICAL ANALYSIS SIEVE NO. 4	NO. 10	NO. 40	NO. 200	CUMULATIVE SAND FRACTION LESS THAN .02 MM	.005 MM	.002 MM	LESS THAN 1.0 MM	.5 MM	.25 MM	.10 MM	.05 MM	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC RATIO
9 952	0- 5	A1	100	100	100	100	100	97	93	90	86	60	34	24	17	89	87	84	66	53	0.07	0.044	0.001	94.6	0.0
9 953	5- 9	B1 T	100	99	99	98	97	96	94	91	88	65	43	31	24	90	89	86	71	58	0.06	0.031	0.001	104.8	0.0
9 954	9- 14	B21T	100	100	100	100	100	99	97	96	91	69	49	38	31	94	92	88	74	62	0.04	0.021	0.000	98.9	0.0
9 955	14- 21	B22T	100	100	100	100	100	98	95	95	93	87	81	70	64	94	94	93	88	85	0.00	0.001	0.000	6.1	0.0
9 956	21- 29	C	100	91	85	75	69	67	64	60	51	42	35	26	20	56	51	49	44	40	2.00	0.335	0.001	3092.5	0.3
9 957	29- 0	R	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	REGRESSION COEFFICIENTS A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.316	-17.347	41.374	0.977	5
15BR PC	CLAY PC	OC PC	0.307	-9.759	18.407	0.986	5
OC PC	CLAY PC	DPTHIN	-0.004	-0.058	2.028	0.996	5

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOILS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05- .05	.05-.002	.002-LT	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A1	1.01	0.44	0.08	0.0	0.0	-3.5	-1.9	-0.1	0	0	5	19	18	9	35	14	2	2	4	24	19	26	23	23
B1 T	0.83	0.41	0.08	0.0	0.0	2.4	1.3	0.0	20	1	2	14	14	10	21	18	1	2	4	23	18	23	29	35
B21T	0.88	0.47	0.09	0.0	0.0	3.8	2.1	0.1	21	0	1	13	12	11	26	16	3	4	5	22	17	20	29	47
B22T	0.75	0.48	0.04	0.0	0.0	-0.8	-0.5	-0.0	20	0	2	3	7	21	43	4	1	3	3	13	12	13	54	206
C	1.40	0.77	0.08	0.0	0.0	-1.9	-1.0	-0.0	30	10	3	6	7	6	33	5	10	11	6	13	9	13	38	49
R					0.0																			

W E I G H T S P E R U N I T D E P T H (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
A1	2.5	0.389	4.40	0.161	743.7	124.1	6.4	65.4	78.3	0.0	0.0	0.326	0.248
B1 T	7.0	0.252	2.85	0.126	676.2	127.1	20.7	35.2	54.1	0.0	0.0	0.183	0.103
B21T	11.5	0.185	2.09	0.095	711.0	162.9	19.8	33.6	189.6	0.0	0.0	0.223	0.116
B22T	17.5	0.103	1.17	0.055	1215.8	390.1	29.6	35.8	0.0	0.0	0.0	0.353	0.164
C	25.0	0.040	0.45	0.021	652.7	206.3	32.1	13.6	32.5	0.0	0.0	0.290	0.203
R	14.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
1	1- 5	1.94	22.0	0.80	3718.7	620.7	32.2	327.1	391.5	0.0	0.0	1.63	1.24
2	6- 10	3.14	35.5	1.40	7134.5	1292.1	134.9	501.4	797.4	0.0	0.0	2.58	1.77
3	11- 15	3.98	45.0	1.84	11194.2	2333.7	243.8	671.6	1555.8	0.0	0.0	3.82	2.40
4	16- 20	4.49	50.9	2.11	17273.1	4284.1	391.6	850.7	1555.8	0.0	0.0	5.58	3.22
5	21- 25	4.76	53.8	2.25	21099.8	5499.3	549.4	940.9	1685.9	0.0	0.0	7.09	4.20

AVERAGE OF CONTROL SECTION 13- 53 CMS. (5- 21 IN.)
SAND (MINUS VFS)= 15.8 PERCENT, SAND = 24.5 PERCENT, SILT (PLUS VFS) = 38.3 PERCENT, CLAY = 45.9 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 39.7 PERCENT, 15 BAR = 21.5 PERCENT, CACU3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 1.38 PERCENT. SAND/CLAY RATIO = 1.4.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 69188 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES DETRA (08) FINE SANDY LOAM SOIL NO. S69 UTAH. 27-12 SAMPLE NO. 9 962-9 967 WASHINGTON CO AREA

SOIL FAMILY: PACHIC ARGIBOROLL,FINE-LOAMY,MIXED RIVERSIDE SOIL SURVEY LABCRATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE													CUMULATIVE SAND FRACTION					DIAMETERS AT PERCENT (MM)			CU RATIO	CC RATIO
			3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	LESS 1.0	THAN .5	MM .25	.10	.05	60	50	10		
9 962	0- 3	A11	100	100	100	100	100	100	100	100	98	57	27	19	13	99	98	96	66	45	0.08	0.058	0.001	71.1	0.0
9 963	3- 8	A12	100	100	100	100	100	100	100	100	99	59	27	21	17	100	99	98	69	45	0.08	0.057	0.001	98.0	0.1
9 964	8- 14	B1 T	100	100	100	100	100	100	100	100	99	60	29	23	19	100	100	99	70	46	0.07	0.056	0.001	111.7	0.0
9 965	14- 28	B21T	100	100	100	100	100	100	100	100	99	61	27	22	18	100	100	99	71	47	0.07	0.055	0.001	100.4	0.1
9 966	28- 44	B22T	100	100	100	100	100	100	100	100	100	68	40	33	29	100	100	99	77	55	0.06	0.037	0.000	131.2	0.0
9 967	44+	R	100	100	100	100	100	100	100	100	100	61	28	19	14	100	100	99	72	47	0.07	0.055	0.001	70.0	0.0

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.392	2.603	5.033	0.929	6
15BR PC	CLAY PC	OC PC	0.404	1.240	-1.477	0.981	6
OC PC	CLAY PC	DPTHIN	-0.028	-0.037	2.246	0.777	6

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	OC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	-.05 .002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	1.32	0.57	0.03	0.0	0.0	-0.0	-0.2	-1.0	0	0	0	26	15	6	26	27	1	1	3	34	24	22	15	15
A12	0.96	0.40	0.04	0.0	0.0	-1.0	0.2	0.2	0	0	0	27	14	8	19	32	0	0	1	35	28	22	13	20
B1 T	0.80	0.38	0.04	0.0	0.0	0.2	0.4	0.2	0	0	0	29	15	10	21	25	0	0	1	35	30	21	13	24
B21T	0.79	0.39	0.04	0.0	0.0	-0.3	-0.5	0.3	0	0	0	30	17	10	21	22	0	0	1	34	29	24	12	22
B22T	0.59	0.37	0.04	0.0	0.0	0.2	-0.1	-0.2	0	0	0	27	16	18	33	6	0	0	1	32	30	22	15	41
A	0.94	0.41	0.05	0.0	0.0	0.9	0.2	0.5	0	0	0	26	16	7	0	0	0	0	1	32	29	22	16	16

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A11	1.5	0.593	6.72	0.267	747.1	64.5	6.5	99.3	73.6	0.0	0.0	0.245	0.171
A12	5.5	0.307	3.47	0.179	711.3	68.1	6.9	116.6	71.7	0.0	0.0	0.168	0.099
B1 T	11.0	0.271	3.06	0.139	770.5	62.2	7.4	101.0	51.8	0.0	0.0	0.190	0.109
B21T	21.0	0.167	1.89	0.110	729.6	41.3	7.9	67.1	123.9	0.0	0.0	0.187	0.103
B22T	36.0	0.100	1.14	0.066	1188.3	52.8	8.4	71.5	0.0	0.0	0.0	0.293	0.157
A	0.0	0.304	3.44	0.200	875.2	55.6	6.7	101.7	0.0	0.0	0.0	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	2.39	27.1	1.16	3663.9	329.8	33.3	531.1	364.2	0.0	0.0	1.07	0.71
2	6- 10	3.85	43.6	1.98	7338.7	658.6	68.8	1082.8	683.0	0.0	0.0	1.95	1.22
3	11- 15	5.10	57.8	2.64	11150.4	948.5	106.5	1553.9	1014.0	0.0	0.0	2.90	1.76
4	16- 20	5.94	67.2	3.19	14798.1	1155.0	146.1	1889.4	1633.5	0.0	0.0	3.83	2.27
5	21- 25	6.78	76.7	3.75	18445.9	1361.5	185.6	2225.0	2252.9	0.0	0.0	4.76	2.78
6	26- 30	7.48	84.7	4.21	23011.2	1591.0	226.3	2569.3	2624.6	0.0	0.0	5.91	3.40
7	31- 35	7.98	90.3	4.54	28952.8	1855.1	268.4	2926.9	2624.6	0.0	0.0	7.37	4.18
8	36- 40	8.48	96.0	4.87	34894.4	2119.1	310.6	3284.5	2624.6	0.0	0.0	8.83	4.96

AVERAGE OF CONTROL SECTION 70- 112 CMS. (28- 44 IN.)
SAND (MINUS VFS)= 23.3 PERCENT, SAND = 44.7 PERCENT, SILT (PLUS VFS) = 47.8 PERCENT, CLAY = 28.9 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 10.7 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 1.43 PERCENT. SAND/CLAY RATIO = 3.2.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 68 35 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES GUBEN GRAVELLY LOAM SOIL NO. S68 UTAH. 9- 1 SAMPLE NO. 8 187-8 194 PAUNSAUGUNT AREA

SOIL FAMILY: TYPIC CALCIBOROLL LOAMY-SKELETAL,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE												CUMULATIVE SAND FRACTION LESS THAN MM					DIAMETERS AT PERCENT (MM)			CU RATIO	CC
			3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	1.0	.5	.25	.10	.05	60	50	10		
8 187	0- 1	A11	100	97	96	93	91	83	74	74	61	34	18	14	11	71	64	54	38	29	0.38	0.200	0.002	212.6	0.6
8 188	1- 4	A12	100	99	98	96	95	88	81	81	69	40	23	17	13	78	71	61	45	34	0.23	0.132	0.001	189.0	0.2
8 189	4- 10	B1	100	99	99	98	98	92	86	86	74	45	28	21	16	84	76	66	50	39	0.18	0.101	0.001	205.2	0.1
8 190	10- 14	B2	100	94	90	83	79	75	70	70	61	37	24	19	16	69	63	54	41	32	0.39	0.188	0.001	448.8	0.7
8 191	14- 22	B3 CA	100	94	90	84	80	75	69	69	61	42	30	23	19	68	63	56	45	37	0.37	0.152	0.001	558.9	0.2
8 192	22- 40	C 1CA	100	91	85	75	69	60	50	50	38	25	18	14	11	46	39	34	27	23	9.80	4.700	0.002	6043.1	134.1
8 193	40- 44	C 2CA	100	93	89	82	77	58	38	38	27	14	9	6	5	34	28	23	15	12	10.34	7.224	0.029	358.4	133.9
8 194	44- 54	C 3	100	90	83	73	66	49	32	32	22	8	4	3	2	29	24	18	9	6	14.85	9.846	0.114	130.5	181.5

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.522	1.267	8.610	0.943	8
15BR PC	CLAY PC	OC PC	-0.070	-0.076	10.937	0.150	8
OC PC	CLAY PC	DPTHIN	-0.082	-0.050	2.969	0.932	8

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	DC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOILS SIZE IN MM 250 -75	75 -20	20 -2	2-.05- .05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	1.36	0.61	0.0	0.0	0.0	-0.5	1.1	-0.4	0	5	9	23	9	5	29	20	4	11	16	24	15	16	12	17
A12	1.22	0.51	0.0	0.0	0.0	-0.7	1.7	0.2	0	2	7	23	11	6	32	19	4	10	14	24	16	16	15	19
B1	1.08	0.49	0.0	0.0	0.0	-0.2	0.5	-0.0	0	1	6	22	11	7	28	25	3	11	14	23	16	15	17	23
B2	0.99	0.55	0.0	0.0	0.0	0.5	-1.0	0.1	5	11	5	21	9	8	24	17	2	11	16	25	16	15	15	29
B3 CA	1.16	1.06	0.0	0.0	0.0	1.4	-3.7	0.1	20	7	4	12	7	7	27	16	2	10	13	23	15	15	21	39
C 1CA	1.83	2.32	0.0	0.0	0.0	1.5	-3.4	0.3	10	18	11	16	7	6	21	11	11	18	12	18	11	11	19	28
C 2CA	2.22	1.87	0.0	0.0	0.0	-0.0	0.4	-0.0	11	14	23	15	4	3	18	12	12	16	16	24	10	8	13	14
C 3	1.95	0.79	0.0	0.0	0.0	-2.1	4.4	-0.2	16	21	21	16	2	2	0	0	9	18	21	30	9	6	7	8

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A11	0.5	0.372	4.21	0.199	636.9	35.2	2.5	132.1	106.2	1.1	1.1	0.266	0.199
A12	2.5	0.249	2.82	0.151	781.0	31.8	5.5	94.0	38.6	2.4	2.4	0.299	0.236
B1	7.0	0.199	2.25	0.136	894.6	28.6	5.5	46.4	0.0	4.8	4.8	0.252	0.182
B2	12.0	0.118	1.34	0.078	888.3	27.5	5.3	17.9	0.0	9.2	9.2	0.212	0.132
B3 CA	18.0	0.097	1.10	0.064	442.0	20.1	3.5	11.9	0.0	28.2	28.2	0.261	0.182
C 1CA	31.0	0.083	0.94	0.055	382.8	27.1	4.0	6.8	0.0	44.4	44.4	0.199	0.104
C 2CA	42.0	0.045	0.50	0.029	247.7	30.4	9.2	5.2	10.7	25.3	25.3	0.171	0.121
C 3	49.0	0.011	0.12	0.007	271.0	32.8	10.9	4.6	14.3	4.2	4.2	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	1.32	14.9	0.79	3874.5	159.2	24.6	460.5	221.9	13.1	13.1	1.41	1.09
2	6- 10	2.31	26.2	1.46	8347.4	302.0	52.0	692.5	221.9	36.9	36.9	2.67	2.00
3	11- 15	2.88	32.6	1.84	12342.5	432.0	76.6	775.8	221.9	101.7	101.7	3.78	2.71
4	16- 20	3.37	38.1	2.16	14552.5	532.6	94.1	835.3	221.9	242.7	242.7	5.08	3.62
5	21- 25	3.81	43.2	2.45	16584.9	654.3	113.1	879.4	221.9	432.2	432.2	6.20	4.30
6	26- 30	4.23	47.9	2.73	18499.0	790.0	133.1	913.3	221.9	654.1	654.1	7.19	4.82
7	31- 35	4.65	52.6	3.00	20413.1	925.7	153.1	947.3	221.9	876.0	876.0	8.18	5.34
8	36- 40	5.06	57.3	3.27	22327.2	1061.4	173.1	981.2	221.9	1097.8	1097.8	9.17	5.86
9	41- 45	5.25	59.4	3.40	23589.1	1215.7	220.8	1006.6	278.8	1203.2	1203.2	10.02	6.46
10	46- 50	5.31	60.1	3.43	24944.1	1379.7	275.5	1029.8	350.1	1224.0	1224.0	10.87	7.06

AVERAGE OF CONTROL SECTION 25- 102 CMS. (10- 40 IN.)
SAND (MINUS VFS)= 42.5 PERCENT, SAND = 52.1 PERCENT, SILT (PLUS VFS) = 33.9 PERCENT, CLAY = 23.6 PERCENT,
CARBONATE CLAY = 14.5 PERCENT, 2-250MM= 54.3 PERCENT, 15 BAR = 13.4 PERCENT, CACO3 EQUIVALENT= 36.8 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 1.08 PERCENT. SAND/CLAY RATIO = 2.9.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 68 36 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES GUBEN GRAVELLY LOAM SOIL NO. S68 UTAH. 9- 2 SAMPLE NO. 8 195-8 200 PAUNSAUGUNT AREA

SOIL FAMILY: TYPIC CALCIBOROLL LOAMY-SKELETAL,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENT PASSING 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	SIEVE LESS .02	THAN .005	MM .002	CUMULATIVE SAND FRACTION LESS 1.0	.5	THAN .25	.10	MM .05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC
8 195	0- 3	A1	100	97	95	91	89	76	63	63	56	36	18	13	10	61	58	52	40	29	0.76	0.209	0.002	374.1	1.0
8 196	3- 9	B1	100	99	98	96	95	86	77	77	67	43	26	20	16	75	69	61	47	37	0.23	0.121	0.001	273.0	0.2
8 197	9- 17	B2	100	95	91	86	82	74	65	65	59	41	27	21	17	64	60	55	44	36	0.50	0.162	0.001	661.2	0.5
8 198	17- 24	C 1CA	100	93	89	82	77	59	40	40	33	23	17	13	11	38	34	30	24	21	10.00	6.856	0.002	5789.7	361.9
8 199	24- 32	C 2CA	100	87	78	64	55	44	32	32	22	14	11	9	8	29	23	19	15	13	22.13	14.024	0.008	2617.2	*****
8 200	32- 42	C 3	100	87	78	64	55	39	23	23	15	7	5	4	4	20	16	12	8	6	22.13	15.274	0.167	132.6	*****

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	REGRESSION COEFFICIENTS A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.631	3.759	2.897	0.999	6
15BR PC	CLAY PC	OC PC	-0.433	3.146	14.040	0.356	6
OC PC	CLAY PC	DPTHIN	0.008	-0.036	1.508	0.991	6

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	DC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A1	1.17	0.48	0.0	0.0	0.0	0.0	4.4	0.1	0	6	14	19	11	6	0	0	3	7	10	23	21	20	16	19
B1	1.06	0.50	0.0	0.0	0.0	-0.2	-0.4	-0.1	0	2	9	20	10	8	0	0	4	10	12	23	17	17	16	26
B2	1.03	0.83	0.0	0.0	0.0	0.3	-3.7	0.1	10	10	9	15	10	9	0	0	3	8	11	22	18	16	21	37
C 1CA	1.21	1.38	0.0	0.0	0.0	-0.0	-2.6	-0.0	10	14	23	12	7	7	0	0	7	14	12	20	10	13	23	36
C 2CA	1.11	1.01	0.0	0.0	0.0	-0.1	-0.2	-0.1	4	30	15	12	4	5	0	0	14	22	17	18	6	9	15	32
C 3	0.93	0.54	0.0	0.0	0.0	-0.0	2.6	0.1	11	32	23	12	2	3	0	0	14	22	22	22	6	6	9	20

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A1	1.5	0.241	2.73	0.138	571.5	45.4	4.8	8.2	121.9	0.4	0.4	0.0	0.0
B1	6.0	0.263	2.98	0.166	901.7	46.4	5.2	35.5	0.0	5.7	5.7	0.0	0.0
B2	13.0	0.170	1.93	0.108	695.4	34.6	4.7	16.0	0.0	25.7	25.7	0.0	0.0
C 1CA	20.5	0.101	1.14	0.064	378.0	25.4	3.5	5.9	0.0	34.8	34.8	0.0	0.0
C 2CA	28.0	0.062	0.71	0.040	297.3	41.5	2.9	10.0	0.0	24.4	24.4	0.0	0.0
C 3	37.0	0.015	0.17	0.009	179.0	39.3	2.2	7.5	0.0	11.1	11.1	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	1.25	14.1	0.75	3517.7	229.0	25.0	95.6	365.6	12.6	12.6	0.0	0.0
2	6- 10	2.47	28.0	1.52	7819.8	449.4	50.7	253.7	365.6	61.1	61.1	0.0	0.0
3	11- 15	3.32	37.6	2.06	11297.0	622.2	74.3	334.0	365.6	189.7	189.7	0.0	0.0
4	16- 20	3.97	44.9	2.47	13821.8	767.6	94.2	383.8	365.6	345.5	345.5	0.0	0.0
5	21- 25	4.43	50.2	2.76	15631.0	910.7	111.1	417.4	365.6	508.9	508.9	0.0	0.0
6	26- 30	4.75	53.7	2.96	17117.7	1118.3	125.8	467.3	365.6	630.7	630.7	0.0	0.0
7	31- 35	4.91	55.6	3.07	18249.3	1319.1	138.3	509.9	365.6	712.6	712.6	0.0	0.0
8	36- 40	4.99	56.4	3.11	19144.1	1515.4	149.4	547.4	365.6	767.9	767.9	0.0	0.0

AVERAGE OF CONTROL SECTION 25- 102 CMS. (10- 40 IN.)
SAND (MINUS VFS)= 48.7 PERCENT, SAND = 56.1 PERCENT, SILT (PLUS VFS) = 28.0 PERCENT, CLAY = 23.3 PERCENT,
CARBONATE CLAY = 11.0 PERCENT, 2-250MM= 65.7 PERCENT, 15 BAR = 11.5 PERCENT, CACO3 EQUIVALENT= 26.6 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 1.33 PERCENT. SAND/CLAY RATIO = 2.3.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 68 37 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES PAHREAH GRAVELLY LOAM SOIL NO. S68 UTAH. 13- 3 SAMPLE NO. 8 201-8 206 PAUNSAUGUNT AREA

SOIL FAMILY: TYPIC CRYOBOROLL LOAMY-SKELETAL,CARBONATIC,SHLW RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS - - - PERCENTAGE PASSING SIEVE - - - 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	CUMULATIVE SAND FRACTION LESS THAN .02 MM	.005 MM	.002 MM	LESS 1.0	THAN .5	THAN .25 MM	.10 MM	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU	CC. RATIO
8 201	1- 0	01+02	PSD NOT DETERMINED																						
8 202	0- 2	A1	100	100	100	100	100	76	52	52	50	43	26	17	11	51	50	50	46	39	5.93	0.261	0.002	3745.7	2.6
8 203	2- 9	B2	100	87	78	65	56	42	28	28	27	23	15	11	8	28	27	27	25	21	21.53	14.085	0.004	5420.0	*****
8 204	9- 15	C 1CA	100	86	76	61	51	37	22	22	20	17	12	8	6	21	20	20	18	15	24.45	18.106	0.010	2397.7	*****
8 205	15- 23	C 2CA	100	88	79	66	57	42	26	26	24	20	14	10	7	25	24	23	21	18	20.91	13.860	0.005	3974.9	*****
8 206	23- 30	R	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.696	3.956	-1.108	0.801	4
15BR PC	CLAY PC	OC PC	-0.644	-2.768	37.109	0.842	4
OC PC	CLAY PC	OPTHIN	-0.202	-0.052	8.284	0.953	4

REGRESSION COEFFICIENTS

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION, PERCENT (VOL) OF SOIL VOLUME: SOILDS, SIZE IN MM 250-75	75-20	20-2	2-.05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS, PERCENT OF SAND PLUS SILT: VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
01+02					0.0																			
A1	1.41	0.56	0.07	0.0	0.0	-1.0	0.7	0.0	0	0	29	8	17	7	0	0	2	1	1	10	16	32	37	27
B2	1.00	0.45	0.06	0.0	0.0	-0.5	0.4	0.1	5	31	20	5	9	6	0	0	2	2	1	10	19	29	37	38
C 1CA	1.13	0.63	0.05	0.0	0.0	1.8	-1.3	-0.3	3	38	23	5	8	4	0	0	5	5	3	12	16	22	37	35
C 2CA	1.30	0.79	0.05	0.0	0.0	-0.3	0.2	0.1	2	31	22	6	8	5	0	0	6	6	4	12	14	22	36	38
R					0.0																			

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
01+02	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
A1	1.0	0.548	6.21	0.191	734.7	26.9	4.3	94.5	290.9	3.7	3.7	0.0	0.0
B2	5.5	0.206	2.33	0.078	471.0	20.1	2.7	51.3	129.1	4.8	4.8	0.0	0.0
C 1CA	12.0	0.257	2.91	0.096	386.1	18.5	1.1	28.0	103.8	12.8	12.8	0.0	0.0
C 2CA	19.0	0.275	3.11	0.116	416.2	6.8	2.6	26.5	131.2	21.5	21.5	0.0	0.0
R	26.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	102.8	102.8	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	1.71	19.4	0.62	2882.3	113.9	16.8	342.9	969.1	21.8	21.8	0.0	0.0
2	6- 10	2.80	31.7	1.03	5152.3	212.8	28.9	576.1	1589.3	53.8	53.8	0.0	0.0
3	11- 15	4.08	46.2	1.50	7083.0	305.2	34.2	716.3	2108.4	118.0	118.0	0.0	0.0
4	16- 20	5.45	61.7	2.08	9163.8	339.1	47.2	848.6	2764.3	225.4	225.4	0.0	0.0
5	21- 25	6.28	71.1	2.43	10412.2	359.5	55.0	928.0	3157.9	495.4	495.4	0.0	0.0
6	26- 30	6.28	71.1	2.43	10412.2	359.5	55.0	928.0	3157.9	1009.3	1009.3	0.0	0.0

AVERAGE OF CONTROL SECTION 25- 58 CMS. (10- 23 IN.)
SAND (MINUS VFS)= 19.4 PERCENT, SAND = 30.3 PERCENT, SILT (PLUS VFS) = 53.6 PERCENT, CLAY = 26.9 PERCENT,
CARBONATE CLAY = 6.6 PERCENT, 2-250MM= 75.5 PERCENT, 15 BAR = 15.1 PERCENT, CACO3 EQUIVALENT= 27.4 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 2.91 PERCENT. SAND/CLAY RATIO = 1.0.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 68 38 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES PAHREAH GRAVELLY LOAM SOIL NO. S68 UTAH. 13- 4 SAMPLE NO. 8 207-8 215 PAUNSAUGUNT AREA

SOIL FAMILY: TYPIC CRYOBOROLL LOAMY-SKELETAL,CARBONATIC,SHLW RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS - - - PERCENTAGE PASSING SIEVE - - - 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	CUMULATIVE SAND FRACTION LESS 1.0	THAN .5	MM .25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC
8 207	1- 0	01	PSD NOT DETERMINED																						
8 208	0- 0	A1	PSD NOT DETERMINED																						
8 209	0- 5	B2	100	98	97	95	94	71	48	48	45	38	25	16	11	46	45	44	41	35	6.77	4.994	0.002	3898.3	3.9
8 210	5- 9	B3	100	91	85	75	69	54	38	38	34	29	21	14	9	36	34	34	31	27	12.67	8.071	0.002	5620.8	42.5
8 211	9- 12	C 1CA	100	96	93	89	86	67	48	48	43	38	31	21	14	46	44	42	39	36	7.31	5.059	0.001	6666.0	2.0
8 212	12- 172	C 2CA	100	97	94	91	88	63	37	37	31	28	26	16	10	35	32	30	29	28	8.82	6.710	0.002	4379.1	275.8
8 213	17- 262	C 3CA	100	96	93	88	85	60	35	35	26	23	21	12	6	31	27	25	23	22	9.45	7.147	0.004	2502.6	*****
8 214	26- 382	C 4CA	100	100	100	100	100	100	100	100	41	22	14	8	4	67	44	35	24	19	0.81	0.603	0.007	111.1	3.1
8 215	38- 43	R	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.603	4.655	0.095	0.997	6
15BR PC	CLAY PC	OC PC	-0.001	3.602	2.425	0.990	6
OC PC	CLAY PC	DPTHIN	-0.560	-0.806	19.200	0.830	5

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME: SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05- .05	.05-.002	.002 LT	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
O1					0.0																			
A1					0.0																			
B2	1.38	0.60	0.05	0.0	0.0	-1.3	1.4	0.9	0	3	20	6	11	5	19	36	5	4	1	8	17	26	39	29
B3	1.39	0.89	0.04	0.0	0.0	1.2	-1.6	-0.1	0	17	17	6	10	5	18	27	6	6	3	10	14	20	41	33
C 1CA	2.15	1.45	0.04	0.0	0.0	0.8	-0.4	-1.5	0	6	16	5	10	6	24	33	5	8	4	8	9	16	51	39
2C 2CA	3.76	2.61	0.03	0.0	0.0	-1.0	0.6	0.1	0	8	32	6	11	6	19	18	7	13	6	5	3	7	59	37
2C 3CA	1.07	2.07	0.07	0.0	0.0	0.3	0.2	0.6	0	11	36	9	12	4	23	5	12	16	6	6	3	4	53	20
2C 4CA	1.20	5.20	0.20	0.0	0.0	-0.2	-0.2	-7.3	70	0	0	23	4	1	2	0	34	25	9	12	5	5	10	5
R					0.0																			

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR
					----------POUNDS PER ACRE----------					---TONS/ACRE---		INCH/INCH	
01	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
A1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B2	2.5	0.332	3.75	0.097	470.9	29.0	2.9	29.8	244.3	9.5	9.5	0.174	0.116
B3	7.0	0.309	3.50	0.115	449.3	88.9	2.9	24.5	5.0	25.1	25.1	0.167	0.096
C 1CA	10.5	0.427	4.84	0.145	452.4	105.3	2.8	14.5	64.3	35.8	35.8	0.222	0.135
2C 2CA	14.5	0.406	4.59	0.118	406.9	89.8	1.4	11.0	63.7	59.3	59.3	0.175	0.094
2C 3CA	21.5	0.021	0.23	0.006	111.3	16.2	3.5	2.2	0.0	72.9	72.9	0.226	0.208
2C 4CA	32.0	0.0	0.0	0.0	136.9	26.7	3.9	1.4	0.0	89.0	89.0	0.022	0.002
R	40.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	259.0	259.0	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR
					----------POUNDS PER ACRE----------					---TONS/ACRE---		INCH/INCH	
1	1- 5	1.66	18.8	0.49	2354.3	145.1	14.6	148.9	1221.7	47.7	47.7	0.87	0.58
2	6- 10	3.32	37.6	1.09	4604.1	605.9	29.0	261.3	1306.1	184.0	184.0	1.76	1.10
3	11- 15	5.39	61.0	1.74	6729.6	1086.0	39.0	323.2	1625.9	433.7	433.7	2.73	1.65
4	16- 20	6.27	70.9	1.99	7877.1	1314.5	52.2	351.8	1753.4	771.1	771.1	3.76	2.46
5	21- 25	6.37	72.1	2.02	8433.5	1395.7	69.5	362.7	1753.4	1135.8	1135.8	4.89	3.50
6	26- 30	6.39	72.3	2.03	9092.5	1518.7	88.7	370.6	1753.4	1564.7	1564.7	5.20	4.54
7	31- 35	6.39	72.3	2.03	9777.1	1652.2	108.4	377.8	1753.4	2009.8	2009.8	5.31	5.58
8	36- 40	6.39	72.3	2.03	10187.9	1732.3	120.2	382.1	1753.4	2794.8	2794.8	5.42	6.62

AVERAGE OF CONTROL SECTION 25- 97 CMS. (10- 38 IN.)
SAND (MINUS VFS)= 48.6 PERCENT, SAND = 52.6 PERCENT, SILT (PLUS VFS) = 37.4 PERCENT, CLAY = 14.0 PERCENT,
CARBONATE CLAY = 11.8 PERCENT, 2-250MM= 66.3 PERCENT, 15 BAR = 6.2 PERCENT, CACO3 EQUIVALENT= 81.2 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 3.68 PERCENT. SAND/CLAY RATIO = 1.1.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 71 39 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES TINGEY STONY SILT LOAM SOIL NO. S71 UTAH. 20- 5 SAMPLE NO. 1 250-1 255 SANPETE AREA

SOIL FAMILY: ARGIC CRYOBOROLL,FINE-LOAMY,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS - - - PERCENTAGE PASSING SIEVE - - - 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	CUMULATIVE SAND FRACTION LESS 1.0	.5	THAN .25	.10	MM .05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC
1 250	0- 2	A1	100	100	100	99	99	97	94	90	85	59	32	23	17	88	86	82	66	48	0.08	0.053	0.001	102.2	0.0
1 251	2- 9	A3	100	99	98	97	96	93	89	85	82	60	34	26	21	84	83	80	67	48	0.08	0.053	0.001	127.1	0.0
1 252	9- 24	B2 T	100	99	98	97	96	95	93	93	89	69	44	35	29	92	90	87	76	58	0.05	0.030	0.000	122.9	0.0
1 253	24- 35	B31T	100	94	89	83	78	77	76	72	70	54	33	26	22	72	71	69	59	45	0.11	0.064	0.001	184.1	0.0
1 254	35- 49	B32T	100	98	96	94	92	90	87	83	81	61	34	27	21	83	82	79	68	50	0.07	0.049	0.001	123.8	0.0
1 255	49- 67	C	100	96	93	88	85	83	80	77	75	56	32	24	20	77	75	73	63	46	0.09	0.060	0.001	139.1	0.0

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.264	3.590	2.453	0.998	6
15BR PC	CLAY PC	OC PC	0.184	0.876	3.574	0.992	6
OC PC	CLAY PC	DPTHIN	-0.239	-0.043	8.977	0.923	6

HORIZON	RATIOS AND RESIDUALS --RATIOS TO CLAY-- CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION --PERCENT (VOL) OF SOIL VOLUME-- SOLIDS,SIZE IN MM 250 -75	75 -20	20 -2	2-.05- .05	.05-.002	LT .002	-PORES- CAP.	NON CAP	PSD ON CLAY FREE BASIS ---PERCENT OF SAND PLUS SILT--- VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A1	1.35	0.61	0.04	0.0	0.0	0.1	-0.1	-0.7	0	0	4	18	13	7	14	44	2	3	6	22	25	22	21	23
A3	0.64	0.39	0.03	0.0	0.0	-0.5	0.2	1.1	0	2	6	21	15	12	15	29	1	2	5	20	29	22	20	32
B2 T	0.47	0.33	0.03	0.0	0.0	0.0	-0.1	-0.4	10	2	2	18	15	15	19	19	2	3	4	17	28	22	23	46
B31T	0.43	0.32	0.03	0.0	0.0	0.0	0.1	-0.3	9	13	4	16	14	13	17	14	1	2	4	18	29	24	22	43
B32T	0.44	0.34	0.03	0.0	0.0	-0.3	0.0	0.5	10	4	5	18	16	12	18	17	1	1	4	18	29	26	21	35
C	0.41	0.35	0.04	0.0	0.0	0.6	-0.2	-0.2	10	8	5	18	15	11	19	14	1	2	5	18	30	24	21	34

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A1	1.0	0.903	10.22	0.355	1116.3	156.3	10.7	117.9	0.0	0.3	0.3	0.056	0.024
A3	5.5	0.382	4.32	0.174	844.6	126.7	6.6	133.5	0.0	0.0	0.0	0.132	0.034
B2 T	16.5	0.245	2.77	0.120	835.5	132.3	13.3	158.4	0.0	0.0	0.0	0.165	0.054
B31T	30.5	0.143	1.62	0.074	731.8	112.9	6.0	81.5	0.0	0.0	0.0	0.149	0.057
B32T	42.0	0.098	1.11	0.051	684.7	93.8	6.2	52.6	0.0	0.0	0.0	0.163	0.075
C	58.0	0.100	1.13	0.052	547.0	86.7	5.9	40.2	0.0	1.3	1.3	0.174	0.088

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	2.95	33.4	1.23	4766.5	692.6	41.1	636.5	0.0	0.7	0.7	0.66	0.17
2	6- 10	4.72	53.4	2.05	8980.6	1331.7	80.7	1329.0	0.0	0.7	0.7	1.35	0.36
3	11- 15	5.94	67.3	2.65	13158.2	1993.2	147.4	2121.0	0.0	0.7	0.7	2.17	0.63
4	16- 20	7.17	81.1	3.25	17335.7	2654.6	214.1	2913.0	0.0	0.7	0.7	2.99	0.90
5	21- 25	8.31	94.1	3.84	21671.4	3322.6	277.9	3599.7	0.0	3.0	3.0	3.81	1.20
6	26- 30	9.05	102.4	4.25	25592.2	3913.1	312.4	3979.0	0.0	5.2	5.2	4.57	1.51
7	31- 35	9.76	110.5	4.62	29251.1	4477.6	342.5	4386.7	0.0	5.2	5.2	5.31	1.79
8	36- 40	10.25	116.0	4.88	32674.7	4946.6	373.5	4649.5	0.0	5.2	5.2	6.12	2.16
9	41- 45	10.74	121.6	5.13	36098.3	5415.7	404.5	4912.3	0.0	5.2	5.2	6.93	2.53
10	46- 50	11.24	127.2	5.39	39384.1	5877.6	435.2	5162.8	0.0	6.5	6.5	7.76	2.92
11	51- 55	11.74	132.9	5.65	42119.0	6311.0	464.9	5364.1	0.0	13.0	13.0	8.63	3.36
12	56- 60	12.24	138.5	5.91	44853.8	6744.5	494.6	5565.3	0.0	19.4	19.4	9.50	3.80
13	61- 65	12.74	144.2	6.17	47588.6	7177.9	524.2	5766.5	0.0	25.9	25.9	10.37	4.24

AVERAGE OF CONTROL SECTION 22- 72 CMS. (9- 28 IN.)
SAND (MINUS VFS)= 18.4 PERCENT, SAND = 37.4 PERCENT, SILT (PLUS VFS) = 50.9 PERCENT, CLAY = 30.7 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 26.7 PERCENT, 15 BAR = 10.3 PERCENT, CACO3 EQUIVALENT= 0.2 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 1.89 PERCENT. SAND/CLAY RATIO = 1.6.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 68 33 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES CALLINGS LOAM SOIL NO. S68 UTAH. 9- 7 SAMPLE NO. 8 172-8 179 PAUNSAUGUNT AREA

SOIL FAMILY: BORALFIC CRYOBOROLL LOAMY-SKELETAL,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	CUMULATIVE SAND FRACTION LESS 1.0	THAN .5	MM .25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC
8 172	1- 0	O1+O2	PSD NOT DETERMINED																						
8 173	0- 3	A11	100	97	94	91	88	76	63	63	55	42	25	16	10	61	56	53	46	38	0.92	0.170	0.002	427.4	0.3
8 174	3- 11	A12	100	94	90	84	80	74	67	67	58	45	27	17	10	64	59	55	48	41	0.58	0.123	0.002	287.3	0.2
8 175	11- 18	A2	100	83	71	53	41	38	35	35	26	18	11	7	4	32	27	24	19	15	29.57	23.427	0.016	1903.0	*****
8 176	18- 24	B21T	100	83	71	53	41	39	36	36	27	17	12	9	6	33	28	25	19	15	29.57	23.427	0.009	3257.9	*****
8 177	24- 32	B22T	100	83	72	55	43	39	35	35	28	19	14	11	9	33	29	26	20	17	28.62	22.490	0.004	7908.5	*****
8 178	32- 45	B3 T	100	80	66	46	32	24	15	15	11	7	5	4	3	13	11	10	7	6	33.44	27.327	0.222	150.5	*****
8 179	45- 55	C	100	84	72	56	44	32	19	19	12	7	5	4	3	15	12	11	8	6	28.13	22.011	0.209	134.7	*****

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.581	2.067	7.424	0.743	7
15BR PC	CLAY PC	OC PC	0.491	0.227	2.146	0.859	7
OC PC	CLAY PC	DPTHIN	0.100	-0.124	1.965	0.771	6

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME: SOLIDS 250 -75	75 -20	20 -2	SIZE IN MM 2-.05- .05	.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT: VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
C1+O2					0.0																			
A11	1.81	0.74	0.07	0.0	0.0	-0.8	-0.5	-1.8	0	6	12	12	13	4	0	0	5	8	6	14	14	24	29	18
A12	1.25	0.58	0.07	0.0	0.0	1.0	1.2	0.8	0	9	6	12	14	5	0	0	5	10	6	12	14	24	30	18
A2	1.03	0.64	0.07	0.0	0.0	2.9	0.4	0.9	16	34	3	11	6	2	13	15	10	15	9	16	13	15	21	14
B21T	0.84	0.55	0.04	0.0	0.0	3.5	1.2	0.7	31	28	2	10	4	3	0	0	11	17	10	19	13	11	18	22
B22T	0.84	0.56	0.04	0.0	0.0	1.6	0.5	0.6	30	28	4	9	4	4	16	5	8	14	11	23	14	11	19	33
B3 T	1.10	0.65	0.04	0.0	0.0	-2.0	-1.0	-1.2	29	41	10	6	2	2	0	0	14	15	9	25	14	9	14	24
C	1.40	0.73	0.04	0.0	0.0	-6.1	-1.9	-2.6	11	40	18	10	2	2	0	0	27	18	8	19	11	7	10	20

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
O1+O2	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
A11	1.5	0.668	7.57	0.268	699.5	55.1	4.1	137.8	98.9	0.0	0.0	0.0	0.0
A12	7.0	0.242	2.74	0.124	471.5	38.5	4.3	147.1	86.8	0.0	0.0	0.0	0.0
A2	14.5	0.043	0.48	0.026	198.2	26.4	2.8	66.8	29.4	0.0	0.0	0.121	0.089
B21T	21.0	0.029	0.33	0.018	211.0	36.9	2.4	55.9	6.1	0.0	0.0	0.0	0.0
B22T	28.0	0.027	0.31	0.017	294.4	53.6	2.3	59.4	12.2	0.0	0.0	0.139	0.093
B3 T	38.5	0.014	0.15	0.008	161.9	30.0	1.2	46.6	0.0	0.0	0.0	0.0	0.0
C	50.0	0.0	0.0	0.0	267.8	44.5	1.9	78.8	5.1	0.0	0.0	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
1	1- 5	2.49	28.2	1.05	3041.4	242.3	20.9	707.5	470.3	0.0	0.0	0.60	0.44
2	6- 10	3.70	41.9	1.68	5398.8	434.6	42.6	1443.0	904.0	0.0	0.0	1.20	0.88
3	11- 15	4.11	46.6	1.91	6663.2	578.8	58.1	1857.4	1108.2	0.0	0.0	1.80	1.32
4	16- 20	4.30	48.7	2.02	7679.9	731.9	71.3	2169.7	1208.6	0.0	0.0	2.40	1.76
5	21- 25	4.44	50.3	2.11	8818.2	933.0	83.1	2452.8	1245.4	0.0	0.0	3.02	2.21
6	26- 30	4.58	51.8	2.19	10290.2	1201.0	94.7	2749.7	1306.3	0.0	0.0	3.71	2.67
7	31- 35	4.67	52.9	2.25	11364.8	1398.2	103.2	3008.3	1330.7	0.0	0.0	4.40	3.13
8	36- 40	4.74	53.6	2.29	12174.4	1548.1	109.4	3241.4	1330.7	0.0	0.0	5.09	3.59
9	41- 45	4.81	54.4	2.33	12984.0	1698.1	115.7	3474.5	1330.7	0.0	0.0	5.78	4.05
10	46- 50	4.81	54.4	2.33	14323.1	1920.4	125.3	3868.7	1355.9	0.0	0.0	6.47	4.51
11	51- 55	4.81	54.4	2.33	15662.2	2142.8	135.0	4262.8	1381.2	0.0	0.0	7.16	4.97

AVERAGE OF CONTROL SECTION 46- 97 CMS. (18- 38 IN.)
SAND (MINUS VFS)= 46.3 PERCENT, SAND = 57.1 PERCENT, SILT (PLUS VFS) = 32.5 PERCENT, CLAY = 21.2 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 82.0 PERCENT, 15 BAR = 12.4 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 1.92 PERCENT. SAND/CLAY RATIO = 3.3.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 68 34 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES CALLINGS LOAM SOIL NO. S68 UTAH. 9- 8 SAMPLE NO. 8 180-8 186 PAUNSAUGUNT AREA

SOIL FAMILY: BORALFIC CRYOBOROLL LOAMY-SKELETAL,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	CUMULATIVE SAND FRACTION LESS THAN .02 MM	.005 MM	.002 MM	DIAMETERS AT PERCENT (MM) LESS THAN 1.0 MM	.5	.25	.10	.05	60	50	10	CU	CC RATIO
8 180	1- 0	01+02	PSD NOT DETERMINED																						
8 181	0- 5	A11	100	93	88	81	76	57	38	38	33	26	15	9	5	35	33	32	28	23	10.55	7.306	0.006	1747.1	43.2
8 182	5- 11	A12	100	89	81	70	62	49	36	36	31	24	14	9	5	34	32	31	26	22	17.06	9.971	0.007	2419.1	119.9
8 183	11- 20	A2	100	87	77	64	54	43	32	32	27	17	10	6	4	29	27	26	19	15	22.73	14.738	0.020	1143.2	*****
8 184	20- 25	B21T	100	85	75	60	49	41	32	32	27	13	8	7	5	30	27	25	15	11	25.55	19.518	0.038	677.0	743.1
8 185	25- 33	B22T	100	87	78	64	55	43	31	31	23	11	7	6	4	28	24	22	13	9	22.13	14.203	0.064	348.1	906.0
8 186	33- 40	C	100	91	84	75	68	50	32	32	16	9	6	5	4	24	17	15	10	7	13.93	9.450	0.103	134.9	387.7

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	REGRESSION COEFFICIENTS A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.660	3.241	5.165	0.989	6
15BR PC	CLAY PC	OC PC	0.479	0.715	1.275	0.955	6
OC PC	CLAY PC	DPTHIN	0.144	-0.113	0.948	0.922	5

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	.05-.002	.002 LT	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
01+02					0.0																			
A11	1.78	0.75	0.07	0.0	0.0	-0.3	-0.3	-0.5	0	14	22	9	11	3	30	11	8	7	3	13	14	25	30	16
A12	1.43	0.62	0.07	0.0	0.0	0.3	0.6	0.2	2	23	16	8	10	3	22	16	7	7	4	13	14	25	30	16
A2	1.14	0.62	0.06	0.0	0.0	0.8	-0.1	0.4	3	31	15	12	7	3	19	10	9	9	5	24	15	16	22	14
B21T	1.05	0.57	0.05	0.0	0.0	-0.1	0.0	0.4	17	32	11	13	3	3	16	5	8	10	8	38	16	8	12	19
B22T	1.06	0.59	0.05	0.0	0.0	0.2	-0.2	-0.5	19	25	14	13	2	3	17	7	12	15	9	33	15	6	10	17
C	1.15	0.58	0.05	0.0	0.0	-1.0	0.0	-1.4	21	19	21	14	2	2	15	6	30	24	7	18	8	5	7	14

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT FIELD CAPACITY TO 15 BAR
					POUNDS PER ACRE					TONS/ACRE		INCH/INCH	
01+02	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
A11	2.5	0.313	3.55	0.135	439.3	46.9	3.1	110.4	83.5	0.0	0.0	0.286	0.238
A12	8.0	0.170	1.93	0.083	256.5	30.8	2.9	85.0	146.2	0.0	0.0	0.210	0.173
A2	15.5	0.047	0.53	0.028	225.0	37.2	3.0	55.5	46.6	0.0	0.0	0.175	0.141
B21T	22.5	0.030	0.34	0.018	445.6	77.8	2.7	36.8	0.0	0.0	0.0	0.149	0.113
B22T	29.0	0.019	0.22	0.011	194.2	39.3	2.4	32.9	42.2	0.0	0.0	0.157	0.127
C	36.5	0.0	0.0	0.0	206.3	45.8	2.6	30.6	20.2	0.0	0.0	0.137	0.111

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT FIELD CAPACITY TO 15 BAR
					POUNDS PER ACRE					TONS/ACRE		INCH/INCH	
1	1- 5	1.57	17.7	0.67	2196.5	234.5	15.5	551.8	417.7	0.0	0.0	1.43	1.19
2	6- 10	2.42	27.4	1.09	3478.8	388.3	30.2	976.9	1148.7	0.0	0.0	2.48	2.05
3	11- 15	2.78	31.4	1.28	4635.3	568.1	45.1	1283.8	1481.1	0.0	0.0	3.39	2.79
4	16- 20	3.01	34.1	1.42	5760.4	754.3	60.0	1561.2	1713.8	0.0	0.0	4.26	3.49
5	21- 25	3.17	35.8	1.51	7988.5	1143.3	73.5	1745.1	1713.8	0.0	0.0	5.00	4.05
6	26- 30	3.26	36.9	1.57	8959.5	1339.7	85.7	1909.8	1924.9	0.0	0.0	5.78	4.68
7	31- 35	3.32	37.6	1.60	9954.8	1549.0	98.1	2069.8	2092.0	0.0	0.0	6.52	5.28
8	36- 40	3.32	37.6	1.60	10986.4	1777.7	111.0	2222.9	2192.9	0.0	0.0	7.20	5.83

AVERAGE OF CONTROL SECTION 51- 84 CMS. (20- 33 IN.)
SAND (MINUS VFS)= 57.0 PERCENT, SAND = 70.0 PERCENT, SILT (PLUS VFS) = 27.9 PERCENT, CLAY = 15.1 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 76.2 PERCENT, 15 BAR = 8.8 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 1.76 PERCENT. SAND/CLAY RATIO = 3.3.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 72 80 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES POLELINE GRAVELLY LOAM SOIL NO. S72 UTAH. 29- 5 SAMPLE NO. 2 486-2 492 MORGAN&E.WEBER AREA

SOIL FAMILY: PACHIC CRYOBOROLL,LOAMY-SKELETAL,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE													CUMULATIVE SAND FRACTION					DIAMETERS AT PERCENT (MM)			CU RATIO	CC
			3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS THAN .02 MM	LESS THAN .005 MM	LESS THAN .002 MM	1.0	.5	.25	.10	.05	60	50	10		
2 486	0- 4	A11	100	98	97	94	93	85	76	67	56	51	34	23	15	61	57	55	52	49	0.89	0.064	0.001	961.7	0.1
2 487	4- 8	A12	100	98	96	94	92	84	76	68	60	54	38	25	16	64	61	59	56	52	0.38	0.043	0.001	456.4	0.0
2 488	8- 15	A13	100	96	94	90	87	76	65	55	46	41	29	19	12	50	46	45	42	39	3.07	1.030	0.001	2305.8	1.1
2 489	15- 24	A14	100	94	90	84	80	72	63	53	42	38	27	17	11	47	43	41	39	36	3.64	1.450	0.002	2320.2	1.7
2 490	24- 36	B21	100	90	83	72	65	59	53	45	34	30	22	14	9	40	35	33	30	28	10.62	3.412	0.002	4322.7	31.4
2 491	36- 48	B22	100	88	79	67	58	48	38	30	20	16	12	8	5	25	20	18	16	15	20.28	10.867	0.010	2059.2	*****
2 492	48- 52	R	100	100	100	100	100	100	100	100	54	33	22	13	7	79	57	47	35	30	0.55	0.304	0.003	176.2	0.5

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.594	3.376	-0.823	0.997	7
15BR PC	CLAY PC	OC PC	-0.864	-15.530	114.588	0.813	7
OC PC	CLAY PC	DPTHIN	-0.185	-0.151	9.441	0.916	7

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	OC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME SOILS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05 .05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	1.45	0.76	0.08	0.0	0.0	0.3	-16.0	-1.1	0	2	8	5	10	5	18	52	12	8	4	6	5	29	37	29
A12	1.21	0.64	0.08	0.0	0.0	-1.0	12.1	-0.2	0	3	10	6	15	7	0	0	7	7	3	6	7	27	43	31
A13	0.86	0.46	0.10	0.0	0.0	1.4	48.5	1.2	0	7	18	9	15	7	26	18	12	8	4	5	7	24	40	28
A14	0.87	4.41	0.09	0.0	0.0	-0.3	-25.4	0.7	0	12	16	10	15	7	25	15	15	9	4	5	6	22	38	27
B21	0.76	5.07	0.11	0.0	0.0	-0.5	-17.6	0.2	25	18	10	8	10	4	15	10	15	14	5	6	6	18	37	24
B22	0.69	5.72	0.12	0.0	0.0	0.1	-10.7	-0.9	25	24	16	8	5	3	0	0	21	19	7	9	5	11	28	21
R	0.67	13.34	0.44	0.0	0.0	-0.0	9.1	0.2	0	0	0	66	22	7	9	-4	23	23	10	13	6	8	17	8

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A11	2.0	0.563	6.37	0.232	501.2	54.3	19.7	66.8	156.5	0.0	0.0	0.159	0.084
A12	6.0	0.544	6.16	0.256	642.9	60.3	23.1	84.9	157.4	0.0	0.0	0.0	0.0
A13	11.5	0.333	3.77	0.173	473.8	48.9	21.3	72.2	88.8	0.0	0.0	0.242	0.177
A14	19.5	0.263	2.98	0.149	434.9	47.2	30.2	43.9	123.7	0.0	0.0	0.232	0.0
B21	30.0	0.106	1.20	0.077	218.9	27.6	21.8	21.1	105.4	0.0	0.0	0.135	0.0
B22	42.0	0.060	0.68	0.053	140.9	15.7	13.9	11.8	54.3	0.0	0.0	0.0	0.0
R	50.0	0.168	1.91	0.139	318.2	40.9	65.4	22.2	79.6	0.0	0.0	0.073	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	2.80	31.6	1.19	2647.9	277.4	101.8	351.9	783.3	0.0	0.0	0.79	0.88
2	6- 10	5.10	57.7	2.30	5524.2	555.9	213.7	750.9	1433.1	0.0	0.0	1.75	1.76
3	11- 15	6.76	76.5	3.17	7893.3	800.2	320.1	1111.8	1877.3	0.0	0.0	2.96	2.64
4	16- 20	8.08	91.5	3.91	10067.8	1036.4	471.0	1331.1	2496.0	0.0	0.0	4.12	3.52
5	21- 25	9.24	104.6	4.58	12026.3	1253.0	613.5	1527.7	3096.2	0.0	0.0	5.18	4.40
6	26- 30	9.77	110.6	4.97	13120.9	1390.8	722.3	1633.1	3623.3	0.0	0.0	5.85	5.28
7	31- 35	10.30	116.6	5.35	14215.5	1528.7	831.1	1738.5	4150.3	0.0	0.0	6.52	6.16
8	36- 40	10.64	120.4	5.64	14998.0	1619.0	908.4	1806.7	4473.1	0.0	0.0	7.19	7.04
9	41- 45	10.94	123.8	5.91	15702.4	1697.5	977.8	1865.5	4744.8	0.0	0.0	7.86	7.92
10	46- 50	11.45	129.7	6.34	16761.5	1826.4	1150.2	1945.2	5066.9	0.0	0.0	8.41	8.80

AVERAGE OF CONTROL SECTION 61- 111 CMS. (24- 44 IN.)
SAND (MINUS VFS)= 37.9 PERCENT, SAND = 42.3 PERCENT, SILT (PLUS VFS) = 43.5 PERCENT, CLAY = 18.6 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 74.0 PERCENT, 15 BAR = 98.9 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 3.74 PERCENT. SAND/CLAY RATIO = 1.2.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 72 81 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES POLELINE GRAVELLY LOAM SOIL NO. S72 UTAH. 29- 6 SAMPLE NO. 2 493-2 498 MORGAN&E.WEBER AREA

SOIL FAMILY: PACHIC CRYOBOROLL,LOAMY-SKELETAL,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS - - - PERCENTAGE PASSING SIEVE - - - 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	CUMULATIVE SAND FRACTION LESS 1.0	.5	THAN .25	.10	MM .05	DIAMETERS AT PERCENT (MM) 60	50	10	CU	CC RATIO
2 493	0- 5	A11	100	96	94	90	87	76	65	55	45	38	27	17	11	49	46	44	39	35	3.07	1.065	0.002	1929.5	1.6
2 494	5- 17	A12	100	98	97	94	93	85	76	76	62	52	37	24	16	67	63	60	54	49	0.24	0.058	0.001	273.3	0.0
2 495	17- 24	B21	100	92	86	78	72	63	53	53	43	34	24	15	10	48	44	41	37	32	7.86	1.318	0.002	3806.9	6.3
2 496	24- 36	B22	100	83	72	55	43	34	25	25	19	15	12	8	5	22	19	18	16	14	28.62	22.490	0.012	2475.4	*****
2 497	36- 48	B3	100	80	66	45	31	25	18	18	13	10	8	5	3	16	13	12	11	10	33.84	27.730	0.061	556.1	*****
2 498	48- 54	R	100	100	100	100	100	100	100	100	58	39	29	17	9	78	59	52	42	35	0.51	0.209	0.002	233.3	0.1

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.385	3.109	2.784	0.994	6
15BR PC	CLAY PC	OC PC	0.156	-0.548	14.087	0.574	6
OC PC	CLAY PC	DPTHIN	-0.171	-0.136	8.478	0.890	6

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	D.C. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	-.05.002	.002 LT	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	1.39	0.78	0.0	0.0	0.0		-0.1	-1.6	-1.0	0	4	9	5	7	3	21	51	13	9	5	10	9	20	35	25
A12	1.07	0.61	0.0	0.0	0.0		-0.0	2.7	-0.2	0	2	6	9	11	5	0	0	14	8	4	10	9	20	35	26
B21	0.57	0.90	0.0	0.0	0.0		1.0	-0.1	1.7	5	16	11	12	13	6	16	21	12	10	5	11	11	19	32	23
B22	0.63	0.89	0.0	0.0	0.0		-0.3	-0.2	0.6	25	33	10	6	6	3	0	0	15	13	5	10	9	14	34	24
B3	0.68	0.96	0.0	0.0	0.0		-1.1	-1.0	-0.9	46	32	6	4	3	2	0	0	17	15	7	11	8	10	34	23
R	0.72	1.65	0.0	0.0	0.0		-0.0	0.3	-0.2	0	0	0	58	24	8	14	-4	24	21	8	11	7	7	22	10

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A11	2.5	0.389	4.41	0.179	350.1	36.3	14.8	46.5	66.0	0.0	0.0	0.202	0.148
A12	11.0	0.432	4.89	0.194	515.5	46.9	21.6	73.1	37.5	0.0	0.0	0.0	0.0
B21	20.5	0.102	1.16	0.064	269.7	31.0	21.2	36.0	33.3	0.0	0.0	0.149	0.021
B22	30.0	0.032	0.36	0.020	153.0	18.8	10.0	13.6	8.7	0.0	0.0	0.0	0.0
B3	42.0	0.019	0.21	0.012	93.7	11.6	7.0	6.0	5.1	0.0	0.0	0.0	0.0
R	51.0	0.033	0.37	0.020	517.3	38.8	74.4	63.0	32.3	0.0	0.0	0.121	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	1.95	22.0	0.90	1750.5	181.5	73.8	232.3	329.9	0.0	0.0	1.01	0.74
2	6- 10	4.11	46.5	1.87	4328.0	415.8	181.6	597.9	517.4	0.0	0.0	2.02	1.48
3	11- 15	6.27	70.9	2.64	6905.6	650.1	289.4	963.4	704.9	0.0	0.0	3.03	2.22
4	16- 20	7.44	84.2	3.42	8745.8	836.9	396.2	1217.7	879.6	0.0	0.0	3.88	2.58
5	21- 25	7.88	89.2	3.70	9977.7	979.9	491.2	1375.4	1021.3	0.0	0.0	4.62	2.68
6	26- 30	8.04	91.0	3.79	10742.7	1073.8	541.2	1443.2	1064.8	0.0	0.0	5.36	2.78
7	31- 35	8.20	92.8	3.89	11507.7	1167.7	591.2	1511.0	1108.2	0.0	0.0	6.10	2.88
8	36- 40	8.30	94.0	3.96	12035.7	1232.9	629.3	1548.4	1137.3	0.0	0.0	6.84	2.98
9	41- 45	8.40	95.1	4.02	12504.3	1291.0	664.4	1578.2	1162.8	0.0	0.0	7.58	3.08
10	46- 50	8.52	96.5	4.09	13820.0	1403.4	834.2	1722.2	1242.7	0.0	0.0	8.27	3.16

AVERAGE OF CONTROL SECTION 43- 91 CMS. (17- 36 IN.)
SAND (MINUS VFS)= 33.6 PERCENT, SAND = 41.5 PERCENT, SILT (PLUS VFS) = 47.4 PERCENT, CLAY = 18.9 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 70.6 PERCENT, 15 BAR = 16.9 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 4.25 PERCENT. SAND/CLAY RATIO = 1.8.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 68 43 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES SYRETT GRAVELLY SANDY LOAM SOIL NO. S68 UTAH. 9- 5 SAMPLE NO. 8 249-8 254 PAUNSAUGUNT AREA

SOIL FAMILY: ENTIC HAPLOBOROLL LOAMY-SKELETAL,CARBONATIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	CUMULATIVE SAND FRACTION LESS 1.0	THAN .5	MM .25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC
8 249	0- 1	A11	100	96	93	88	85	66	46	46	43	33	17	11	8	44	43	42	37	27	7.76	5.424	0.003	2260.9	8.8
8 250	1- 4	A12	100	96	93	89	86	68	50	50	47	39	22	16	11	48	47	47	42	33	6.93	4.700	0.002	4351.9	6.3
8 251	4- 12	A13	100	97	94	91	88	73	57	57	53	45	26	18	14	55	53	53	48	38	5.38	0.137	0.001	4892.4	3.6
8 252	12- 232	C 1	100	95	91	86	82	69	55	55	51	42	26	18	13	52	51	50	46	37	6.09	0.245	0.001	5008.5	4.2
8 253	23- 382	C 2CA	100	88	79	66	57	44	30	30	28	24	17	11	6	29	28	28	25	22	20.91	13.227	0.004	4679.5	*****
8 254	38- 0	R	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	REGRESSION COEFFICIENTS A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.913	3.872	-5.431	0.998	5
15BR PC	CLAY PC	OC PC	0.363	0.755	2.244	0.874	5
OC PC	CLAY PC	DPTHIN	0.117	-0.039	0.446	0.936	5

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	OC.	PYR. FE	PYR. FE+AL	D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250-75	75-20	20-2	2-.05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	1.16	0.55	0.04	0.0		0.0	-0.1	1.0	-0.1	0	9	24	12	12	5	21	17	5	3	2	15	26	27	22	21
A12	1.10	0.52	0.03	0.0		0.0	0.7	0.9	0.1	0	8	21	10	13	7	28	13	4	3	1	12	23	28	29	29
A13	1.10	0.57	0.03	0.0		0.0	-0.4	-0.2	0.3	0	6	16	10	12	7	22	27	5	3	1	11	24	27	29	31
2C 1	1.13	0.70	0.03	0.0		0.0	-0.2	-1.9	-0.5	0	9	13	9	12	6	28	23	6	4	2	10	22	26	30	30
2C 2CA	0.50	0.57	0.06	0.0		0.0	0.1	0.2	0.2	0	31	19	6	12	5	25	2	3	4	2	10	13	23	45	26
R						0.0																			

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
A11	0.5	0.315	3.57	0.140	500.5	59.6	3.9	53.5	20.6	15.4	15.4	0.192	0.141
A12	2.5	0.341	3.86	0.147	633.0	70.0	4.1	41.4	10.6	18.6	18.6	0.251	0.198
A13	8.0	0.298	3.38	0.134	602.2	76.8	4.0	40.5	31.2	20.8	20.8	0.202	0.132
2C 1	17.5	0.290	3.28	0.124	554.4	77.7	3.8	38.8	0.0	28.2	28.2	0.258	0.187
2C 2CA	30.5	0.027	0.31	0.012	145.7	38.1	3.0	5.2	0.0	41.1	41.1	0.245	0.212
R	19.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	191.8	191.8	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
1	1- 5	1.64	18.5	0.71	3001.8	346.5	20.1	218.1	83.6	91.9	91.9	1.15	0.87
2	6- 10	3.13	35.4	1.38	6013.0	730.7	40.0	420.6	239.3	195.7	195.7	2.16	1.53
3	11- 15	4.60	52.0	2.02	8880.8	1117.5	59.4	618.1	301.6	321.9	321.9	3.34	2.35
4	16- 20	6.05	68.4	2.64	11652.9	1505.9	78.5	812.3	301.6	463.0	463.0	4.63	3.28
5	21- 25	6.97	78.9	3.04	13607.6	1815.3	96.1	939.2	301.6	629.8	629.8	5.89	4.26
6	26- 30	7.11	80.5	3.09	14336.0	2006.0	111.3	965.0	301.6	835.1	835.1	7.11	5.32
7	31- 35	7.24	82.0	3.15	15064.4	2196.7	126.5	990.8	301.6	1040.4	1040.4	8.33	6.38

AVERAGE OF CONTROL SECTION 25- 97 CMS. (10- 38 IN.)
SAND (MINUS VFS)= 15.8 PERCENT, SAND = 29.1 PERCENT, SILT (PLUS VFS) = 62.3 PERCENT, CLAY = 21.9 PERCENT,
CARBONATE CLAY = 8.2 PERCENT, 2-250MM= 58.3 PERCENT, 15 BAR = 8.9 PERCENT, CACO3 EQUIVALENT= 39.4 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 2.34 PERCENT. SAND/CLAY RATIO = 1.5.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 68 44 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES SYRETT LOAM SOIL NO. S68 UTAH. 9- 6 SAMPLE NO. 8 255-8 259 PAUNSAUGUNT AREA

SOIL FAMILY: ENTIC HAPLOBOROLL LOAMY-SKELETAL,CARBONATIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS - - - PERCENTAGE PASSING SIEVE - - - 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	CUMULATIVE SAND FRACTION LESS 1.0	THAN .5	MM .25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC
8 255	0- 1	A11	100	100	100	100	100	82	63	63	55	44	28	18	12	59	56	54	48	40	1.18	0.145	0.001	873.8	0.5
8 256	1- 6	A12	100	100	100	100	100	88	75	75	67	55	37	26	19	72	68	66	59	50	0.11	0.049	0.001	158.4	0.0
8 257	6- 17	A13	100	85	74	59	48	38	27	27	25	21	15	11	8	26	25	24	22	19	26.08	20.030	0.004	7163.2	*****
8 258	17- 272	C	100	98	96	94	92	75	57	57	51	42	28	19	12	55	51	50	45	37	5.30	0.295	0.001	4011.0	2.2
8 259	27- 29	R	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	1.239	3.206	-7.872	1.000	3
15BR PC	CLAY PC	OC PC	1.066	-1.156	-0.272	0.780	4
OC PC	CLAY PC	DPTHIN	0.081	-0.106	2.334	0.975	4

HORIZON	RATIOS AND RESIDUALS --RATIOS TO CLAY-- CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION --PERCENT (VOL) OF SOIL VOLUME-- SOILS,SIZE IN MM 250 -75	75 -20	20 -2	2-.05- .05	.05-.002	LT .002	-PORES- CAP.	NON CAP	PSD ON CLAY FREE BASIS VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
																	---PERCENT OF SAND PLUS SILT----							
A11	1.48	0.79	0.03	0.0	0.0	0.0	-0.1	-0.2	0	0	18	11	14	6	0	0	8	7	4	12	14	24	31	24
A12	1.34	0.74	0.01	0.0	0.0	0.0	2.3	0.4	0	0	12	12	15	9	0	0	6	6	4	12	16	24	32	33
A13	1.30	1.01	0.06	0.0	0.0	-0.0	-2.5	-0.3	30	25	10	4	5	4	0	0	6	7	4	12	15	23	34	45
2C	0.0	0.94	0.03	0.0	0.0	8.8	0.3	0.1	10	4	16	9	12	6	0	0	4	8	4	9	18	20	36	27
R					0.0																			

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A11	0.5	0.520	5.89	0.212	686.9	15.6	4.3	57.9	141.1	40.8	40.8	0.0	0.0
A12	3.5	0.509	5.77	0.204	789.0	7.9	5.0	59.8	263.0	50.4	50.4	0.0	0.0
A13	11.5	0.169	1.91	0.063	328.1	25.7	1.8	9.3	0.0	22.2	22.2	0.0	0.0
2C	22.0	0.095	1.08	0.037	0.0	0.0	0.0	0.0	0.0	65.8	65.8	0.0	0.0
R	28.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	241.6	241.6	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	2.56	29.0	1.03	3842.7	47.2	24.4	297.2	1193.0	242.5	242.5	0.0	0.0
2	6- 10	3.74	42.4	1.48	5943.9	157.7	36.8	394.2	1456.0	381.6	381.6	0.0	0.0
3	11- 15	4.58	51.9	1.79	7584.1	286.1	45.9	440.5	1456.0	492.6	492.6	0.0	0.0
4	16- 20	5.21	58.9	2.03	8240.2	337.5	49.5	459.0	1456.0	734.2	734.2	0.0	0.0
5	21- 25	5.68	64.3	2.22	8240.2	337.5	49.5	459.0	1456.0	1063.1	1063.1	0.0	0.0

AVERAGE OF CONTROL SECTION 25- 69 CMS. (10- 27 IN.)
SAND (MINUS VFS)= 20.0 PERCENT, SAND = 32.4 PERCENT, SILT (PLUS VFS) = 54.7 PERCENT, CLAY = 25.4 PERCENT,
CARBONATE CLAY = 11.9 PERCENT, 2-250MM= 65.4 PERCENT, 15 BAR = 13.8 PERCENT, CACO3 EQUIVALENT= 58.7 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 2.94 PERCENT. SAND/CLAY RATIO = 1.1.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 68124 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES LUCKY STAR SILT LOAM (TAXADJUNCT) SOIL NO. S68 UTAH. 3- 2 SAMPLE NO. 8 934-8 940 WASATCH A. CACHE AREA

SOIL FAMILY: ABRUPTIC CRYIC PALEBOROLL,LOAMY-SKELETAL,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING PERCENTAGE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	MECHANICAL ANALYSIS PASSING NO. 4	NO. 10	NO. 40	NO. 200	SIEVE LESS .02	THAN .005	MM .002	CUMULATIVE SAND FRACTION LESS 1.0	.5	THAN .25	.10	MM .05	DIAMETERS AT PERCENT (MM) 60	50	10	CU	CC RATIO
8 934	0- 4	A11	100	100	100	100	100	90	80	77	72	59	34	21	12	75	72	71	64	53	0.08	0.044	0.001	55.4	0.0
8 935	4- 15	A12	100	97	95	91	89	84	78	74	69	58	31	19	11	72	70	68	63	51	0.09	0.047	0.002	54.4	0.0
8 936	15- 30	A21	100	88	80	68	60	53	45	42	37	26	10	7	4	40	37	36	30	19	19.00	7.487	0.017	1137.7	13.1
8 937	30- 43	A22	100	85	75	60	50	44	37	35	30	19	7	4	3	33	30	29	23	13	25.00	19.000	0.033	751.3	142.9
8 938	43- 55	A+B	100	87	77	64	54	45	35	33	29	17	6	4	3	32	29	27	21	11	22.73	14.159	0.039	579.5	225.5
8 939	55- 67	B+A	100	88	80	68	60	54	48	44	39	29	18	15	14	42	40	38	32	23	19.00	5.932	0.0011	7562.2	125.4
8 940	67- 87	B2 T	100	82	69	50	37	30	22	21	20	15	10	8	7	21	20	19	17	12	31.37	25.223	0.023	1337.1	*****

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	REGRESSION COEFFICIENTS A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.579	5.204	-2.311	1.000	5
15BR PC	CLAY PC	OC PC	0.366	1.979	-0.202	0.999	7
OC PC	CLAY PC	DPTHIN	0.133	-0.115	3.465	0.912	6

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	DC. PCT.	VOLUME COMPOSITION, PERCENT (VOL) OF SOIL VOLUME: SOILS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	-.05 .002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS, PERCENT OF SAND PLUS SILT: VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	2.55	1.19	0.05	0.0	0.0	0.4	-0.3	-1.1	0	0	8	9	15	4	0	0	3	4	3	10	18	28	35	18
A12	1.92	0.87	0.05	0.0	0.0	-0.6	0.5	0.1	5	4	6	9	15	4	24	33	3	4	3	9	18	32	32	18
A21	0.51	0.39	0.06	0.0	0.0	0.0	0.2	1.8	0	25	11	15	9	3	18	19	5	7	5	16	28	22	17	11
A22	0.43	0.40	0.06	0.0	0.0	0.1	-0.0	0.1	0	34	10	16	7	2	0	0	5	9	5	17	33	18	12	9
A+B	0.0	0.42	0.05	0.0	0.0	3.9	-0.3	-1.2	15	27	12	13	5	2	0	0	3	10	7	20	33	16	11	10
B+A	0.0	0.38	0.03	0.0	0.0	17.4	0.1	0.2	21	20	8	11	5	7	0	0	6	8	5	19	32	17	13	45
B2 T	0.51	0.36	0.04	0.0	0.0	-0.0	-0.1	-0.7	8	46	12	7	3	5	14	5	3	6	5	18	33	18	16	54

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A11	2.0	0.803	9.09	0.362	1126.4	58.0	3.8	104.0	26.7	0.0	0.0	0.0	0.0
A12	9.5	0.537	6.08	0.260	733.3	42.2	3.9	97.9	113.8	0.0	0.0	0.194	0.141
A21	22.5	0.039	0.44	0.023	114.8	11.5	3.7	12.4	15.9	0.0	0.0	0.160	0.157
A22	36.5	0.025	0.29	0.015	75.8	8.7	3.4	11.4	2.9	0.0	0.0	0.0	0.0
A+B	49.0	0.017	0.19	0.010	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B+A	61.0	0.033	0.38	0.020	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B2 T	77.0	0.0	0.0	0.0	206.8	44.7	2.1	21.8	39.1	0.0	0.0	0.129	0.089

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	3.75	42.4	1.71	5239.0	274.1	19.2	513.9	220.5	0.0	0.0	0.97	0.70
2	6- 10	6.43	72.8	3.00	8905.5	485.1	38.4	1003.6	789.7	0.0	0.0	1.94	1.40
3	11- 15	9.11	103.2	4.30	12572.1	696.0	57.7	1493.3	1359.0	0.0	0.0	2.91	2.10
4	16- 20	9.31	105.4	4.42	13145.8	753.4	76.0	1555.4	1438.7	0.0	0.0	3.71	2.88
5	21- 25	9.50	107.6	4.53	13719.6	810.8	94.3	1617.6	1518.4	0.0	0.0	4.51	3.66
6	26- 30	9.70	109.8	4.65	14293.4	868.2	112.7	1679.8	1598.1	0.0	0.0	5.31	4.44
7	31- 35	9.82	111.2	4.72	14672.5	911.9	129.4	1736.6	1612.6	0.0	0.0	6.11	5.22
8	36- 40	9.95	112.6	4.80	15051.5	955.7	146.2	1793.5	1627.2	0.0	0.0	6.91	6.00
9	41- 45	10.06	113.9	4.87	15279.0	981.9	156.3	1827.6	1636.0	0.0	0.0	7.71	6.78
10	46- 50	10.15	114.8	4.92	15279.0	981.9	156.3	1827.6	1636.0	0.0	0.0	8.51	7.56
11	51- 55	10.23	115.8	4.97	15279.0	981.9	156.3	1827.6	1636.0	0.0	0.0	9.31	8.34
12	56- 60	10.40	117.7	5.07	15279.0	981.9	156.3	1827.6	1636.0	0.0	0.0	10.11	9.12
13	61- 65	10.56	119.6	5.16	15279.0	981.9	156.3	1827.6	1636.0	0.0	0.0	10.91	9.90
14	66- 70	10.63	120.3	5.20	15899.3	1116.0	162.7	1893.0	1753.3	0.0	0.0	11.62	10.48
15	71- 75	10.63	120.3	5.20	16933.2	1339.6	173.4	2002.0	1948.9	0.0	0.0	12.26	10.92
16	76- 80	10.63	120.3	5.20	17967.0	1563.1	184.1	2110.9	2144.5	0.0	0.0	12.90	11.36
17	81- 85	10.63	120.3	5.20	19000.8	1786.6	194.8	2219.9	2340.1	0.0	0.0	13.54	11.80

AVERAGE OF CONTROL SECTION 0- 0 CMS. (0- 0 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) =100.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 0.0 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 4.51 PERCENT. SAND/CLAY RATIO = 2.3.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 68125 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES ROUNDY LOAM SOIL NO. S68 UTAH. 26- 1 SAMPLE NO. 8 941-8 950 WASATCH A. CACHE AREA

SOIL FAMILY: ABRUPTIC CRYIC PALEBOROLL,FINE,MONTMORILLONITIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENT PASSING SIEVE										CUMULATIVE SAND FRACTION LESS THAN MM								DIAMETERS AT PERCENT (MM)			CU RATIO	CC RATIO
			3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	1.0	.5	.25	.10	.05	60	50	10		
8 941	1- 0	O2	100	100	100	100	100	97	93	93	84	61	30	17	8	90	85	81	68	51	0.07	0.047	0.002	30.6	0.0
8 942	0- 6	A11	100	96	93	89	86	79	71	66	64	49	26	17	10	65	64	63	54	42	0.19	0.079	0.002	105.2	0.1
8 943	6- 15	A12	100	99	98	96	95	86	76	74	71	56	28	18	11	73	72	70	61	47	0.09	0.058	0.002	61.3	0.0
8 944	15- 22	A21	100	90	83	73	66	62	57	53	51	39	17	11	6	52	51	50	44	32	7.49	0.240	0.005	1659.3	3.2
8 945	22- 29	A22	100	92	87	79	74	72	70	69	68	50	17	11	7	68	68	67	58	37	0.13	0.078	0.004	28.5	0.0
8 946	29- 40	B21T	100	100	100	100	100	99	98	91	91	68	15	11	8	91	91	91	84	37	0.07	0.061	0.004	18.6	0.0
8 947	29- 40	B21T	100	100	100	100	100	100	100	100	100	87	48	43	40	100	100	99	97	68	0.03	0.021	0.000	96.5	0.0
8 948	40- 53	B22T	100	100	100	100	100	100	99	97	95	52	11	9	7	97	96	92	69	24	0.09	0.075	0.010	9.0	0.0
8 949	40- 53	B22T	100	100	100	100	100	100	100	100	100	84	47	43	41	100	100	100	96	60	0.05	0.025	0.000	143.1	0.0
8 950	53- 68	C+B	100	100	100	100	100	84	68	66	65	43	12	9	7	66	65	64	54	22	0.17	0.091	0.009	18.8	0.1

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	REGRESSION COEFFICIENTS A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.848	2.581	-0.401	0.996	8
15BR PC	CLAY PC	OC PC	0.452	2.308	-1.504	0.987	9
OC PC	CLAY PC	DPTHIN	0.007	-0.206	7.731	0.712	9

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250-75	75-20	20-2	2-.05	.05-.002	.002 LT	PORES CAP.	PORES NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
O2	5.21	4.35	0.0	0.0	0.0	-0.5	-1.6	-7.8	0	0	1	7	7	1	0	0	3	6	5	16	19	25	25	10
A11	1.58	0.86	0.04	0.0	0.0	1.1	3.8	2.0	0	7	10	12	15	5	20	31	2	2	2	15	22	28	28	19
A12	1.18	0.56	0.05	0.0	0.0	0.6	2.3	3.2	0	2	10	12	16	5	19	36	2	2	2	14	23	30	27	18
A21	0.76	0.39	0.05	0.0	0.0	1.8	0.3	3.4	0	21	8	13	16	4	16	22	2	2	2	14	25	31	24	13
A22	0.76	0.37	0.05	0.0	0.0	0.9	-0.3	2.3	25	12	2	15	14	3	14	15	1	1	1	15	34	32	16	10
B21T	1.02	0.0	0.05	0.0	0.0	-1.4	2.9	0.4	0	0	5	32	17	5	28	13	0	0	0	8	57	26	9	10
B21T	0.86	0.43	0.02	0.0	0.0	-0.4	-0.2	0.5	0	0	0	17	15	22	41	5	0	0	0	5	48	32	14	67
B22T	0.0	0.49	0.04	0.0	0.0	5.9	-1.6	-2.0	0	0	2	41	9	4	0	0	0	1	4	26	51	13	5	8
B22T	0.0	0.46	0.02	0.0	0.0	34.8	-1.1	-2.0	0	0	0	22	10	22	38	8	0	0	0	6	62	21	11	69
C+B	1.01	0.46	0.06	0.0	0.0	-2.1	-1.6	-4.8	0	0	25	32	11	5	13	14	0	1	2	16	54	18	8	12

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
O2	0.5	1.044	11.82	0.413	901.9	52.7	2.1	90.9	0.0	0.0	0.0	0.0	0.0
A11	3.0	0.741	8.39	0.343	722.7	54.8	4.4	89.0	95.1	0.0	0.0	0.164	0.087
A12	10.5	0.364	4.12	0.180	780.7	43.5	2.0	54.9	0.0	0.0	0.0	0.176	0.115
A21	18.5	0.070	0.79	0.041	221.9	18.4	4.4	22.4	57.4	0.0	0.0	0.144	0.123
A22	25.5	0.024	0.28	0.014	200.6	22.7	2.1	14.8	24.7	0.0	0.0	0.121	0.109
B21T	34.5	0.047	0.53	0.028	368.8	93.2	7.4	12.6	38.8	0.0	0.0	0.269	0.283
B21T	34.5	0.054	0.62	0.032	1532.3	434.3	7.5	76.3	0.0	0.0	0.0	0.292	0.157
B22T	46.5	0.025	0.28	0.015	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B22T	46.5	0.065	0.74	0.038	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.266	0.104
C+B	60.5	0.0	0.0	0.0	344.6	101.6	6.7	11.4	99.3	0.0	0.0	0.095	0.063

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	3.71	42.0	1.72	3613.3	273.9	21.9	445.0	475.4	0.0	0.0	0.82	0.57
2	6- 10	5.90	66.8	2.78	7459.0	502.5	34.1	753.7	570.5	0.0	0.0	1.69	1.14
3	11- 15	7.72	87.4	3.68	11362.7	719.8	43.8	1028.4	570.5	0.0	0.0	2.57	1.71
4	16- 20	8.07	91.4	3.89	12472.2	811.6	65.8	1140.3	857.5	0.0	0.0	3.29	2.32
5	21- 25	8.28	93.8	4.01	13517.6	916.5	80.9	1229.4	1046.3	0.0	0.0	3.94	2.89
6	26- 30	8.44	95.5	4.10	15852.1	1441.5	96.7	1364.7	1145.0	0.0	0.0	4.72	3.48
7	31- 35	8.71	98.6	4.26	23513.5	3612.8	134.2	1746.1	1145.0	0.0	0.0	6.18	4.26
8	36- 40	8.98	101.7	4.42	31174.8	5784.0	171.7	2127.5	1145.0	0.0	0.0	7.64	5.04
9	41- 45	9.31	105.4	4.62	31174.8	5784.0	171.7	2127.5	1145.0	0.0	0.0	8.97	5.56
10	46- 50	9.63	109.0	4.81	31174.8	5784.0	171.7	2127.5	1145.0	0.0	0.0	10.30	6.08
11	51- 55	9.83	111.3	4.92	31864.1	5987.3	185.1	2150.3	1343.6	0.0	0.0	11.29	6.52
12	56- 60	9.83	111.3	4.92	33587.2	6495.5	218.7	2207.3	1840.1	0.0	0.0	11.76	6.83
13	61- 65	9.83	111.3	4.92	35310.3	7003.6	252.3	2264.2	2336.6	0.0	0.0	12.23	7.14

AVERAGE OF CONTROL SECTION 0- 0 CMS. (0- 0 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) =100.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 0.0 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 3.29 PERCENT. SAND/CLAY RATIO = 2.4.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 68123 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES LUCKY STAR SILT LOAM SOIL NO. S68 UTAH. 3- 1 SAMPLE NO. 8 924-8 933 WASATCH A. CACHE AREA

SOIL FAMILY: CRYIC PALEBOROLL,LOAMY-SKELETAL,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE													CUMULATIVE SAND FRACTION LESS THAN MM					DIAMETERS AT PERCENT (MM)			CU RATIO	CC
			3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	1.0	.5	.25	.10	.05	60	50	10		
8 924	0- 4	A11	100	100	100	100	100	89	77	72	65	51	28	18	12	69	66	63	55	43	0.17	0.074	0.001	120.3	0.1
8 925	4- 13	A12	100	100	100	100	100	88	76	73	65	51	26	17	11	69	66	64	56	42	0.16	0.074	0.002	94.2	0.1
8 926	13- 25	A21	100	100	100	100	100	88	76	71	61	45	19	11	6	67	62	59	50	35	0.31	0.098	0.004	78.6	0.1
8 927	25- 35	A22	100	84	72	56	44	41	37	33	29	20	8	5	2	31	29	27	23	14	28.13	22.011	0.027	1045.6	513.5
8 928	35- 41	A23	100	89	82	71	63	51	39	30	26	17	7	4	2	28	26	25	20	13	15.96	8.916	0.032	500.9	*****
8 929	41- 53	A+B	100	92	87	79	74	56	37	31	26	18	9	6	4	29	27	25	21	14	11.20	7.678	0.023	480.4	995.6
8 930	53- 61	B+A	100	100	100	100	100	78	56	48	39	26	12	8	5	44	40	37	30	20	5.34	2.476	0.010	517.0	4.9
8 931	53- 61	B+A	100	90	82	72	64	59	54	52	44	33	20	16	13	48	45	43	37	27	10.87	1.415	0.001	9504.7	34.8
8 932	61- 76	B2 T	100	100	100	100	100	86	71	57	46	29	13	8	5	51	47	44	35	20	2.40	0.842	0.009	262.7	1.7
8 933	61- 76	B2 T	100	85	75	60	49	42	34	30	26	19	12	10	8	29	27	26	21	15	25.55	19.518	0.006	4052.1	*****

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.435	4.136	-0.125	0.993	8
15BR PC	CLAY PC	OC PC	0.381	1.642	-0.230	0.999	10
OC PC	CLAY PC	DPTHIN	0.149	-0.100	3.585	0.839	9

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC 15BAR		DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOILS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05 .05	-.05 .002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	2.33	1.17	0.05	0.0	0.0	2.2	0.1	-2.2	0	0	10	11	11	4	24	40	5	6	4	13	21	24	27	19
A12	2.23	1.01	0.05	0.0	0.0	-3.1	-0.2	-0.9	11	0	8	10	10	3	24	34	6	6	3	12	24	25	25	18
A21	0.79	0.49	0.07	0.0	0.0	-0.5	-0.1	2.3	65	0	5	7	5	1	0	0	6	8	4	13	24	24	20	9
A22	0.64	0.45	0.08	0.0	0.0	-0.2	-0.2	1.3	10	35	7	12	8	2	8	18	6	8	5	15	27	22	18	8
A23	0.0	0.42	0.08	0.0	0.0	4.5	-0.1	0.6	0	27	24	12	7	2	0	0	7	8	4	16	29	18	18	8
A+B	0.0	0.37	0.05	0.0	0.0	7.0	0.3	0.6	0	18	30	12	6	3	18	13	8	9	5	17	27	16	19	16
B+A	0.39	0.36	0.05	0.0	0.0	1.1	0.3	-0.9	0	0	32	17	9	3	0	0	10	9	5	16	25	18	17	11
B+A	0.43	0.38	0.04	0.0	0.0	1.2	0.2	1.3	0	22	7	15	9	8	25	14	10	9	5	14	25	18	19	34
B2 T	0.45	0.39	0.06	0.0	0.0	0.4	-0.1	-2.2	0	0	23	20	8	3	0	0	11	9	5	17	29	14	15	10
B2 T	0.47	0.38	0.04	0.0	0.0	-1.1	-0.3	0.7	0	36	13	10	5	6	19	11	7	8	6	19	29	15	17	37

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE		INCH/INCH	
A11	2.0	0.964	10.91	0.416	1309.6	66.8	3.7	74.4	0.0	0.0	0.0	0.200	0.110
A12	8.5	0.594	6.72	0.288	789.8	47.2	3.1	42.3	10.9	0.0	0.0	0.195	0.145
A21	19.0	0.038	0.43	0.022	75.0	6.6	1.8	6.1	15.6	0.0	0.0	0.0	0.0
A22	30.0	0.033	0.38	0.019	80.0	9.0	2.9	9.7	15.0	0.0	0.0	0.074	0.065
A23	38.0	0.029	0.33	0.017	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
A+B	47.0	0.026	0.30	0.015	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.168	0.152
B+A	57.0	0.024	0.27	0.014	99.1	14.9	4.1	6.9	7.1	0.0	0.0	0.0	0.0
B+A	57.0	0.037	0.42	0.022	314.9	56.9	4.4	22.2	0.0	0.0	0.0	0.223	0.170
B2 T	68.5	0.021	0.24	0.012	124.3	20.3	1.7	7.3	0.0	0.0	0.0	0.0	0.0
B2 T	68.5	0.0	0.0	0.0	279.3	49.4	2.9	14.6	0.0	0.0	0.0	0.176	0.136

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE		INCH/INCH	
1	1- 5	4.45	50.4	1.95	6028.2	314.2	17.7	339.9	10.9	0.0	0.0	0.99	0.58
2	6- 10	7.42	84.0	3.39	9977.2	550.4	33.3	551.6	65.1	0.0	0.0	1.96	1.30
3	11- 15	9.27	105.0	4.30	12496.6	705.2	46.3	690.8	129.0	0.0	0.0	2.93	2.02
4	16- 20	9.46	107.1	4.40	12871.5	738.0	55.3	721.2	207.1	0.0	0.0	3.90	2.74
5	21- 25	9.65	109.3	4.51	13246.4	770.8	64.3	751.7	285.2	0.0	0.0	4.87	3.46
6	26- 30	9.82	111.2	4.61	13646.3	815.8	78.6	800.4	360.2	0.0	0.0	5.24	3.78
7	31- 35	9.99	113.0	4.71	14046.2	860.7	93.0	849.2	435.1	0.0	0.0	5.61	4.10
8	36- 40	10.13	114.7	4.79	14046.2	860.7	93.0	849.2	435.1	0.0	0.0	5.98	4.42
9	41- 45	10.27	116.2	4.87	14046.2	860.7	93.0	849.2	435.1	0.0	0.0	6.73	5.09
10	46- 50	10.40	117.7	4.94	14046.2	860.7	93.0	849.2	435.1	0.0	0.0	7.57	5.85
11	51- 55	10.55	119.4	5.03	14675.9	974.5	101.7	893.5	435.1	0.0	0.0	8.52	6.65
12	56- 60	10.74	121.6	5.14	16250.2	1259.1	123.6	1004.5	435.1	0.0	0.0	9.63	7.50
13	61- 65	10.78	122.0	5.16	17682.4	1513.5	139.4	1085.1	435.1	0.0	0.0	10.56	8.21
14	66- 70	10.78	122.0	5.16	19079.0	1760.4	153.7	1158.0	435.1	0.0	0.0	11.44	8.89
15	71- 75	10.78	122.0	5.16	20475.7	2007.3	168.1	1231.0	435.1	0.0	0.0	12.32	9.57

AVERAGE OF CONTROL SECTION 0- 0 CMS. (0- 0 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) =100.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 0.0 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 5.35 PERCENT. SAND/CLAY RATIO = 3.4.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 68120 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES BAIRD HOLLOW LOAM (TAXADJUNCT) SOIL NO. S68 UTAH. 26- 3 SAMPLE NO. 8 903-8 908 WASATCH A.CACHE AREA

SOIL FAMILY: CRYIC PALEBOROLL,FINE-LOAMY,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	CUMULATIVE SAND FRACTION LESS THAN .02	.005	.002	MM LESS THAN MM 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU	CC RATIO
8 903	0- 7	A11	100	99	99	98	97	87	77	77	62	46	29	20	14	71	63	59	49	42	0.31	0.106	0.001	304.4	0.1
8 904	7- 17	A12	100	99	99	98	97	90	83	73	58	43	27	19	13	67	59	55	46	39	0.54	0.150	0.001	473.0	0.3
8 905	17- 23	A2	100	97	95	91	89	88	86	84	60	40	25	17	12	73	62	55	44	36	0.42	0.164	0.001	327.1	0.3
8 906	23- 37	B+A	100	98	97	95	94	91	87	87	59	41	28	21	17	75	61	53	44	37	0.47	0.180	0.001	626.7	0.4
8 907	37- 48	B21T	100	99	99	98	97	93	88	87	65	46	30	24	19	77	67	60	49	41	0.24	0.105	0.001	365.1	0.1
8 908	48- 64	B22T	100	99	99	98	97	96	94	90	75	59	45	37	32	84	76	71	62	55	0.09	0.032	0.000	210.6	0.0

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.605	2.912	5.255	1.000	6
15BR PC	CLAY PC	OC PC	0.443	1.372	0.151	0.994	6
OC PC	CLAY PC	DPTHIN	0.495	-0.189	-3.003	0.979	5

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	-.05.002	.002 LT	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	1.71	0.81	0.06	0.0	0.0	0.1	0.5	0.2	0	1	9	15	12	6	25	32	9	12	8	15	12	20	24	23
A12	1.55	0.80	0.05	0.0	0.0	-0.1	-0.6	-0.5	0	1	12	17	13	7	26	24	11	12	8	14	12	19	24	22
A2	1.07	0.51	0.07	0.0	0.0	-0.1	-0.1	-0.1	30	5	2	21	10	5	14	13	15	16	9	16	12	15	17	17
B+A	0.91	0.47	0.05	0.0	0.0	0.1	0.0	0.7	20	3	3	24	9	8	24	9	17	21	10	14	10	13	15	25
B21T	0.87	0.45	0.05	0.0	0.0	0.0	0.3	-0.4	21	1	5	23	11	10	23	6	15	15	9	16	12	16	16	29
B22T	0.75	0.45	0.03	0.0	0.0	-0.1	-0.1	4.1	19	1	3	17	11	15	29	5	10	14	9	16	12	16	22	56

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A11	3.5	0.800	9.06	0.389	915.8	67.8	4.6	157.3	161.4	0.0	0.0	0.200	0.116
A12	12.0	0.689	7.80	0.358	922.1	55.6	5.1	163.5	145.6	0.0	0.0	0.203	0.116
A2	20.0	0.085	0.96	0.055	495.4	54.3	5.0	58.8	60.3	0.0	0.0	0.109	0.068
B+A	30.0	0.064	0.72	0.041	640.3	82.7	5.7	67.2	78.8	0.0	0.0	0.203	0.138
B21T	42.5	0.043	0.49	0.028	695.4	99.6	6.0	60.7	103.8	0.0	0.0	0.136	0.112
B22T	56.0	0.0	0.0	0.0	949.8	173.4	5.9	100.7	103.2	0.0	0.0	0.217	0.109

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	4.00	45.3	1.95	4579.1	338.9	23.2	786.7	806.9	0.0	0.0	1.00	0.58
2	6- 10	7.67	86.8	3.80	9177.1	641.2	47.7	1591.8	1566.4	0.0	0.0	2.01	1.16
3	11- 15	11.11	125.8	5.59	13787.7	919.2	73.1	2409.1	2294.4	0.0	0.0	3.02	1.74
4	16- 20	12.74	144.3	6.47	17118.0	1193.2	98.1	2912.5	2766.6	0.0	0.0	3.75	2.18
5	21- 25	13.13	148.6	6.72	19884.7	1521.5	124.3	3223.3	3105.1	0.0	0.0	4.48	2.66
6	26- 30	13.44	152.2	6.93	23086.3	1935.3	152.6	3559.5	3499.1	0.0	0.0	5.49	3.35
7	31- 35	13.76	155.8	7.13	26287.9	2349.0	180.9	3895.7	3893.2	0.0	0.0	6.50	4.04
8	36- 40	14.02	158.7	7.30	29654.8	2813.4	210.1	4212.3	4362.2	0.0	0.0	7.31	4.65
9	41- 45	14.24	161.2	7.44	33131.7	3311.6	240.0	4515.9	4881.1	0.0	0.0	7.99	5.21
10	46- 50	14.37	162.6	7.52	37117.5	3957.4	269.8	4899.3	5399.0	0.0	0.0	8.83	5.76
11	51- 55	14.37	162.6	7.52	41866.4	4824.6	299.4	5402.6	5915.1	0.0	0.0	9.91	6.30
12	56- 60	14.37	162.6	7.52	46615.4	5691.8	329.1	5905.9	6431.3	0.0	0.0	10.99	6.84

AVERAGE OF CONTROL SECTION 0- 0 CMS. (0- 0 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) =100.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 0.0 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 4.60 PERCENT. SAND/CLAY RATIO = 2.5.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 71 27 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES CHARCOL GRAVELLY SANDY LOAM SOIL NO. S71 UTAH. 15- 7 SAMPLE NO. 1 166-1 172 MORGAN-SUMMIT AREA

SOIL FAMILY: CRYIC PACHIC PALEBOROLL,LOAMY-SKELETAL,MXD,FRGD RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING PERCENTAGE PASSING 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	MECHANICAL ANALYSIS SIEVE NO. 4	NO. 10	NO. 40	NO. 200	LESS THAN .02 MM	.005	.002	CUMULATIVE SAND FRACTION LESS THAN MM 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU	CC RATIO
1 166	0- 5	A11	100	96	93	89	86	73	60	53	44	29	18	12	8	50	45	40	31	26	4.70	1.073	0.004	1330.7	10.1
1 167	5- 11	A12	100	96	94	90	87	77	66	59	49	32	20	13	9	55	50	44	35	29	2.26	0.488	0.003	846.0	2.8
1 168	11- 22	A13	100	95	91	86	82	72	62	56	47	32	19	13	8	53	49	44	35	29	3.54	0.623	0.003	1193.9	4.1
1 169	22- 31	A21	100	90	84	74	67	60	52	46	39	25	14	8	5	44	40	36	28	22	9.90	3.535	0.008	1317.6	23.2
1 170	31- 42	A22	100	94	89	83	78	71	63	58	51	33	17	10	6	56	53	47	36	28	2.81	0.356	0.005	579.2	1.9
1 171	42- 55	A+B	100	93	88	80	75	66	57	51	44	30	17	10	6	48	45	41	32	26	5.93	1.540	0.005	1254.7	7.3
1 172	55- 65	B+A	100	85	75	60	50	44	37	33	29	24	17	13	10	32	30	28	26	23	25.00	19.000	0.0021	1973.7	*****

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.564	4.011	-1.593	0.994	7
15BR PC	CLAY PC	OC PC	0.314	1.424	0.285	0.999	7
OC PC	CLAY PC	DPTHIN	0.099	-0.085	2.574	0.971	7

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	1.54	0.74	0.0	0.0	0.0	1.0	0.1	-0.4	0	8	18	15	10	4	17	28	7	10	11	19	12	18	22	17
A12	1.40	0.66	0.0	0.0	0.0	-0.2	0.0	-0.1	0	7	15	17	11	5	0	0	7	10	11	19	13	18	22	17
A13	1.21	0.57	0.0	0.0	0.0	-1.6	-0.1	0.2	0	10	15	16	12	5	0	0	7	8	10	18	14	20	23	17
A21	0.71	0.45	0.0	0.0	0.0	-0.2	-0.0	0.6	0	22	14	16	11	3	13	21	5	9	11	20	14	19	22	11
A22	0.45	0.36	0.0	0.0	0.0	0.4	0.2	0.2	5	13	12	18	13	3	0	0	3	7	11	21	15	22	21	11
A+B	0.45	0.37	0.0	0.0	0.0	0.3	-0.1	-0.6	5	16	16	16	13	4	0	0	6	7	9	19	14	21	25	13
B+A	0.55	0.34	0.0	0.0	0.0	0.2	0.0	0.1	21	32	11	7	8	6	11	4	6	8	6	11	13	25	31	43

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
		WEIGHTS PER UNIT DEPTH (CM OR INCH)			POUNDS PER ACRE					TONS/ACRE			
A11	2.5	0.552	6.25	0.282	703.2	51.1	8.2	117.7	0.0	0.0	0.0	0.158	0.092
A12	8.0	0.503	5.70	0.265	695.4	51.3	8.9	121.2	0.0	0.0	0.0	0.0	0.0
A13	16.5	0.346	3.91	0.207	585.8	44.5	9.0	99.0	0.0	0.0	0.0	0.0	0.0
A21	26.5	0.100	1.14	0.067	220.8	19.5	8.3	35.3	0.0	0.0	0.0	0.124	0.094
A22	36.5	0.033	0.37	0.022	156.6	17.3	4.7	16.1	0.0	0.0	0.0	0.0	0.0
A+B	48.5	0.024	0.27	0.016	175.7	24.0	9.2	15.6	0.0	0.0	0.0	0.0	0.0
B+A	60.0	0.031	0.35	0.021	290.9	47.1	5.8	19.7	30.4	0.0	0.0	0.099	0.054

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
		CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)			POUNDS PER ACRE					TONS/ACRE			
1	1- 5	2.76	31.2	1.41	3516.2	255.7	40.8	588.7	0.0	0.0	0.0	0.79	0.47
2	6- 10	5.28	59.7	2.74	6993.3	512.1	85.5	1194.8	0.0	0.0	0.0	1.58	0.94
3	11- 15	7.16	81.1	3.83	10032.0	741.5	130.4	1712.0	0.0	0.0	0.0	2.37	1.41
4	16- 20	8.89	100.6	4.87	12961.0	964.1	175.3	2207.0	0.0	0.0	0.0	3.16	1.88
5	21- 25	9.88	111.9	5.48	14795.1	1111.8	218.2	2510.9	0.0	0.0	0.0	3.85	2.35
6	26- 30	10.38	117.5	5.82	15899.2	1209.5	259.9	2687.4	0.0	0.0	0.0	4.47	2.82
7	31- 35	10.62	120.2	5.97	16746.4	1298.3	287.2	2786.9	0.0	0.0	0.0	5.09	3.29
8	36- 40	10.78	122.0	6.08	17529.2	1384.8	310.8	2867.3	0.0	0.0	0.0	5.71	3.76
9	41- 45	10.92	123.6	6.17	18369.5	1491.3	347.9	2946.2	0.0	0.0	0.0	6.33	4.23
10	46- 50	11.04	125.0	6.25	19248.1	1611.2	393.8	3024.0	0.0	0.0	0.0	6.95	4.70
11	51- 55	11.16	126.3	6.33	20126.7	1731.0	439.7	3101.9	0.0	0.0	0.0	7.57	5.17
12	56- 60	11.31	128.1	6.44	21581.3	1966.2	468.8	3200.6	151.8	0.0	0.0	8.06	5.44
13	61- 65	11.47	129.8	6.54	23036.0	2201.5	497.9	3299.2	303.6	0.0	0.0	8.55	5.71

AVERAGE OF CONTROL SECTION 56- 106 CMS. (22- 42 IN.)
SAND (MINUS VFS)= 38.9 PERCENT, SAND = 51.7 PERCENT, SILT (PLUS VFS) = 51.0 PERCENT, CLAY = 10.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 50.1 PERCENT, 15 BAR = 4.0 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 3.28 PERCENT. SAND/CLAY RATIO = 3.5.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 72 78 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES CHARCOL GRAVELLY SANDY LOAM SOIL NO. S72 UTAH. 15- 3 SAMPLE NO. 2 471-2 477 MORGAN&E.WEBER AREA

SOIL FAMILY: CRYIC PACHIC PALEBOROLL,LOAMY-SKELETAL,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	CUMULATIVE SAND FRACTION LESS THAN MM .02	.005	.002	LESS THAN MM 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC
2 471	0- 13	A11	100	92	86	78	72	62	51	46	37	25	15	10	6	43	38	33	27	22	8.55	3.962	0.006	1529.1	36.1
2 472	13- 21	A12	100	91	84	75	68	61	53	48	38	24	14	9	6	45	40	34	27	21	9.02	2.815	0.006	1389.7	31.0
2 473	21- 30	A21	100	87	77	64	54	46	38	32	25	15	7	5	3	30	26	22	17	12	22.73	13.399	0.033	684.7	862.7
2 474	30- 38	A22	100	86	76	62	52	43	33	29	21	11	5	3	2	27	22	18	12	8	23.89	16.402	0.067	356.9	*****
2 475	38- 44	AB	100	89	81	70	62	50	38	32	27	18	11	7	4	31	27	24	20	15	16.91	9.450	0.015	1110.5	742.7
2 476	44- 54	B2 T	100	97	95	92	90	72	54	52	47	37	27	19	13	51	47	44	40	34	5.93	0.809	0.001	5153.0	4.6
2 477	54- 62	C	100	84	73	57	46	39	31	28	21	9	5	3	2	27	22	17	11	7	27.12	21.034	0.087	310.7	*****

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	REGRESSION COEFFICIENTS A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.227	4.876	0.891	0.986	7
15BR PC	CLAY PC	OC PC	0.242	1.724	0.752	0.996	7
OC PC	CLAY PC	DPTHIN	0.018	-0.049	2.290	0.849	7

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC 15BAR	DC. FE	PYR. FE+AL	PYR/D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250-75	75-20	20-2	2-.05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	1.33	0.67	0.06	0.0	0.0	0.8	0.2	-0.9	0	18	16	15	10	4	0	0	8	12	12	16	13	18	21	16
A12	0.94	0.51	0.06	0.0	0.0	-1.6	-0.3	0.3	16	17	10	14	8	3	8	24	7	13	13	16	14	17	19	14
A21	0.81	0.49	0.08	0.0	0.0	-1.0	-0.3	0.5	31	24	11	10	5	1	0	0	8	13	14	18	16	16	16	9
A22	0.53	0.41	0.11	0.0	0.0	0.4	0.2	0.4	30	27	13	11	3	1	6	9	7	18	16	19	16	12	12	7
AB	0.33	0.32	0.12	0.0	0.0	0.7	0.2	0.3	31	21	17	10	6	2	5	8	3	13	12	16	17	14	24	15
B2 T	0.30	0.29	0.13	0.0	0.0	0.1	0.0	0.1	0	8	31	15	17	11	14	4	2	9	9	12	15	18	36	34
C	0.44	0.44	0.15	0.0	0.0	0.7	0.0	-0.7	0	48	16	19	5	1	0	0	4	17	21	23	14	9	12	6

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
A11	6.5	0.401	4.54	0.321	659.9	41.2	19.8	100.5	0.0	0.0	0.0	0.0	0.0
A12	17.0	0.154	1.74	0.123	283.2	25.6	14.0	53.4	0.0	0.0	0.0	0.071	0.035
A21	25.5	0.049	0.55	0.039	142.1	15.6	11.5	15.6	0.0	0.0	0.0	0.0	0.0
A22	34.0	0.022	0.25	0.017	59.2	5.7	8.8	3.7	0.0	0.0	0.0	0.056	0.046
AB	41.0	0.019	0.21	0.015	95.1	11.7	12.4	4.2	0.0	0.0	0.0	0.053	0.035
B2 T	49.0	0.048	0.54	0.038	328.5	51.6	23.3	9.9	0.0	0.0	0.0	0.132	0.058
C	58.0	0.022	0.25	0.018	96.1	11.2	17.8	6.0	0.0	0.0	0.0	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
1	1- 5	2.00	22.7	1.61	3299.3	206.2	98.8	502.6	0.0	0.0	0.0	0.35	0.17
2	6- 10	4.01	45.4	3.21	6598.6	412.4	197.6	1005.2	0.0	0.0	0.0	0.70	0.34
3	11- 15	5.52	62.5	4.42	9144.6	587.3	284.9	1413.7	0.0	0.0	0.0	1.05	0.51
4	16- 20	6.29	71.2	5.04	10560.7	715.2	355.0	1681.0	0.0	0.0	0.0	1.40	0.68
5	21- 25	6.64	75.1	5.32	11412.3	803.2	415.0	1796.9	0.0	0.0	0.0	1.75	0.85
6	26- 30	6.88	77.9	5.51	12122.8	881.3	472.5	1874.9	0.0	0.0	0.0	2.10	1.02
7	31- 35	6.99	79.1	5.60	12418.7	909.9	516.4	1893.5	0.0	0.0	0.0	2.38	1.25
8	36- 40	7.09	80.3	5.68	12786.4	950.4	567.7	1913.1	0.0	0.0	0.0	2.65	1.46
9	41- 45	7.21	81.7	5.78	13495.4	1048.7	640.6	1939.8	0.0	0.0	0.0	2.99	1.66
10	46- 50	7.45	84.4	5.97	15138.2	1306.5	756.9	1989.1	0.0	0.0	0.0	3.65	1.95
11	51- 55	7.67	86.8	6.14	16548.4	1523.9	867.7	2034.6	0.0	0.0	0.0	4.31	2.24
12	56- 60	7.78	88.1	6.23	17028.8	1579.7	956.8	2064.8	0.0	0.0	0.0	4.97	2.53

AVERAGE OF CONTROL SECTION 112- 137 CMS. (44- 54 IN.)
SAND (MINUS VFS)= 24.0 PERCENT, SAND = 35.0 PERCENT, SILT (PLUS VFS) = 50.7 PERCENT, CLAY = 25.3 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 48.0 PERCENT, 15 BAR = 7.3 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 2.74 PERCENT. SAND/CLAY RATIO = 4.0.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 72 79 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES CHARCOL GRAVELLY SANDY LAOM SOIL NO. S72 UTAH. 29- 4 SAMPLE NO. 2 478-2 485 MORGAN&E.WEBER AREA

SOIL FAMILY: CRYIC PACHIC PALEBOROLL,LOAMY-SKELETAL,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING PERCENT 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	MECHANICAL ANALYSIS PASSING NO. 4	NO. 10	NO. 40	NO. 200	SIEVE LESS .02	THAN .005	MM .002	CUMULATIVE SAND FRACTION LESS 1.0	.5	THAN .25	.10	MM .05	DIAMETERS AT PERCENT (MM) 60	50	10	CU	CC RATIO
2 478	0- 4	A11	100	97	96	93	91	84	77	72	56	36	23	15	11	67	58	50	39	32	0.60	0.259	0.002	352.5	0.6
2 479	4- 10	A12	100	97	96	93	91	85	79	73	57	36	23	16	11	68	59	51	40	32	0.55	0.239	0.002	337.2	0.6
2 480	10- 20	A13	100	95	91	86	82	76	69	64	51	34	20	14	10	62	53	46	37	30	0.88	0.365	0.002	416.0	1.1
2 481	20- 27	A14	100	90	84	74	67	62	57	53	43	28	17	12	8	50	44	39	31	25	7.15	0.971	0.003	2186.8	17.2
2 482	27- 39	A2	100	87	78	64	55	52	49	46	39	26	15	10	7	44	40	35	28	22	22.13	5.932	0.004	4926.5	73.9
2 483	39- 48	B21T	100	91	84	75	68	63	57	51	39	27	17	13	11	47	41	36	29	23	6.88	1.672	0.002	3924.9	51.6
2 484	48- 58	B22T	100	92	86	77	71	64	56	51	40	26	14	10	8	48	41	36	29	21	6.82	1.582	0.004	1543.4	18.5
2 485	58- 72	C	100	100	100	100	100	100	100	100	94	81	61	46	36	99	95	91	84	76	0.02	0.007	0.000	48.7	0.0

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	REGRESSION COEFFICIENTS A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.074	3.174	7.582	0.945	8
15BR PC	CLAY PC	OC PC	0.240	1.207	1.747	0.998	8
OC PC	CLAY PC	DPTHIN	0.053	-0.056	1.873	0.870	8

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	D.C. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05 .05.002	-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	1.34	0.66	0.0	0.0	0.0		0.3	-0.1	-1.1	0	4	9	18	10	5	12	42	9	15	13	17	12	16	19	18
A12	0.99	0.51	0.0	0.0	0.0		-0.1	0.0	0.4	0	4	9	20	10	5	0	0	8	16	13	17	13	15	19	18
A13	0.87	0.45	0.0	0.0	0.0		-0.5	0.1	0.5	5	10	10	18	11	5	13	28	5	15	13	17	13	17	20	18
A14	0.82	0.43	0.0	0.0	0.0		-0.6	0.1	0.3	11	18	7	15	9	4	0	0	6	13	12	17	14	17	20	18
A2	0.57	0.38	0.0	0.0	0.0		1.0	0.0	0.4	16	30	6	16	10	5	10	7	4	12	12	18	17	18	20	19
B21T	0.61	0.36	0.0	0.0	0.0		-2.4	-0.2	0.2	0	22	12	19	9	7	19	12	10	16	13	16	14	15	17	26
B22T	0.53	0.38	0.0	0.0	0.0		1.6	-0.1	-0.6	0	20	14	21	9	5	0	0	7	16	11	16	19	15	15	18
C	0.28	0.29	0.0	0.0	0.0		0.6	0.1	-0.1	0	0	0	17	27	25	26	5	2	6	5	11	13	23	39	57

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
		WEIGHTS PER UNIT DEPTH (CM OR INCH)			POUNDS PER ACRE					TONS/ACRE			
A11	2.0	0.534	6.04	0.264	582.9	48.6	26.6	188.2	0.0	0.0	0.0	0.101	0.032
A12	7.0	0.307	3.48	0.182	434.0	38.3	24.5	132.7	42.5	0.0	0.0	0.0	0.0
A13	15.0	0.196	2.22	0.120	418.3	36.5	18.7	55.4	12.2	0.0	0.0	0.117	0.066
A14	23.5	0.131	1.49	0.086	352.2	28.7	23.6	33.3	0.0	0.0	0.0	0.0	0.0
A2	33.0	0.053	0.61	0.042	292.2	30.3	24.9	21.1	0.0	0.0	0.0	0.090	0.049
B21T	43.5	0.055	0.62	0.043	428.6	56.0	24.4	24.8	0.0	0.0	0.0	0.182	0.125
B22T	53.0	0.047	0.53	0.037	326.8	28.0	24.4	16.6	0.0	0.0	0.0	0.0	0.0
C	65.0	0.057	0.64	0.045	691.5	65.0	47.9	32.5	0.0	0.0	0.0	0.237	0.063

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
		CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)			POUNDS PER ACRE					TONS/ACRE			
1	1- 5	2.44	27.6	1.24	2765.7	232.9	131.0	885.6	42.5	0.0	0.0	0.50	0.33
2	6- 10	3.98	45.0	2.15	4935.5	424.3	253.3	1549.3	255.3	0.0	0.0	1.00	0.66
3	11- 15	4.96	56.1	2.75	7026.8	607.0	346.7	1826.4	316.2	0.0	0.0	1.58	0.99
4	16- 20	5.94	67.2	3.35	9118.0	789.8	440.1	2103.5	377.1	0.0	0.0	2.16	1.32
5	21- 25	6.59	74.6	3.78	10879.1	933.4	558.1	2270.2	377.1	0.0	0.0	2.74	1.65
6	26- 30	7.02	79.4	4.08	12460.2	1081.8	680.0	2400.2	377.1	0.0	0.0	3.24	1.93
7	31- 35	7.28	82.4	4.29	13921.4	1233.3	804.4	2505.8	377.1	0.0	0.0	3.69	2.17
8	36- 40	7.55	85.5	4.50	15519.0	1410.5	928.4	2615.0	377.1	0.0	0.0	4.23	2.49
9	41- 45	7.83	88.6	4.72	17662.0	1690.6	1050.4	2739.1	377.1	0.0	0.0	5.14	3.11
10	46- 50	8.08	91.5	4.93	19601.3	1914.7	1172.4	2846.7	377.1	0.0	0.0	6.05	3.73
11	51- 55	8.32	94.1	5.11	21235.1	2054.7	1294.4	2929.5	377.1	0.0	0.0	6.96	4.35
12	56- 60	8.57	97.0	5.31	23598.4	2268.7	1463.5	3044.1	377.1	0.0	0.0	7.98	4.85
13	61- 65	8.86	100.2	5.54	27056.0	2593.6	1703.0	3206.6	377.1	0.0	0.0	9.16	5.16
14	66- 70	9.14	103.5	5.76	30513.6	2918.6	1942.5	3369.0	377.1	0.0	0.0	10.34	5.47

AVERAGE OF CONTROL SECTION 99- 149 CMS. (39- 59 IN.)
SAND (MINUS VFS)= 41.4 PERCENT, SAND = 55.0 PERCENT, SILT (PLUS VFS) = 39.8 PERCENT, CLAY = 18.8 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 46.5 PERCENT, 15 BAR = 6.8 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 2.10 PERCENT. SAND/CLAY RATIO = 3.7.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 68122 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES FLYGARE LOAM SOIL NO. S68 UTAH. 26- 2 SAMPLE NO. 8 917-8 923 WASATCH A. CACHE AREA

SOIL FAMILY: CRYIC PACHIC PALEBOROLL,LOAMY-SKELETAL,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE										CUMULATIVE SAND FRACTION									DIAMETERS AT PERCENT (MM)			CU RATIO	CC RATIO
			3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	LESS 1.0	THAN .5	.25	.10	MM .05		60	50	10		
8 917	0- 7	A11	100	98	96	94	92	91	90	90	75	51	33	24	18	87	77	70	56	46		0.13	0.068	0.001	181.6	0.0
8 918	7- 19	A12	100	99	98	96	95	93	90	90	76	51	33	23	17	86	78	70	56	45		0.13	0.069	0.001	165.2	0.0
8 919	19- 28	A13	100	92	87	79	73	72	71	71	60	40	25	18	13	68	62	56	44	35		0.41	0.160	0.001	330.4	0.3
8 920	28- 36	A2	100	97	96	93	91	90	88	88	71	39	24	16	11	84	73	63	44	33		0.21	0.132	0.002	135.7	0.2
8 921	36- 46	B2 T	100	95	92	87	84	83	82	82	63	39	26	18	13	76	65	58	43	34		0.31	0.153	0.001	271.5	0.3
8 922	46- 54	B3 T	100	95	91	86	82	82	81	81	66	40	25	17	12	78	68	60	44	34		0.24	0.137	0.001	178.7	0.2
8 923	54- 60	C	100	92	87	79	74	73	72	72	57	30	17	12	8	69	60	51	35	25		0.52	0.233	0.003	153.5	0.8

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.357	2.183	16.524	0.935	7
15BR PC	CLAY PC	OC PC	0.123	1.402	8.018	0.944	7
OC PC	CLAY PC	DPTHIN	0.333	-0.092	-0.763	0.974	6

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	-.05 .002	-.002	PORES LT CAP.	PORES NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	1.92	0.99	0.04	0.0	0.0	-1.2	-0.7	-0.7	0	3	1	15	10	6	28	37	5	13	10	20	14	17	22	25
A12	1.67	0.84	0.04	0.0	0.0	0.5	0.0	0.3	0	2	2	20	12	7	22	35	5	12	10	20	15	16	22	23
A13	1.50	0.69	0.05	0.0	0.0	1.7	1.4	0.5	25	10	1	13	8	5	14	24	4	12	10	20	15	17	21	22
A2	1.41	0.65	0.06	0.0	0.0	4.2	2.0	0.0	20	4	1	24	9	5	20	17	5	14	13	25	14	11	17	15
B2 T	1.47	0.68	0.05	0.0	0.0	-0.7	-0.5	0.5	35	6	1	18	8	5	17	10	8	16	11	21	14	12	18	19
B3 T	1.66	0.78	0.05	0.0	0.0	-2.2	-1.3	-0.7	35	7	0	18	8	4	18	10	5	13	11	23	16	13	18	17
C	2.08	0.95	0.06	0.0	0.0	-2.3	-1.0	-2.4	40	9	1	17	6	3	15	9	5	15	13	25	16	11	15	12

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A11	3.5	0.856	9.69	0.396	992.5	81.9	4.2	151.1	195.5	0.0	0.0	0.216	0.120
A12	13.0	0.696	7.87	0.369	1031.5	82.3	5.4	147.6	222.4	0.0	0.0	0.160	0.059
A13	23.5	0.295	3.34	0.159	596.1	49.7	3.7	68.4	127.5	0.0	0.0	0.108	0.052
A2	32.0	0.080	0.90	0.052	705.3	65.5	5.2	53.2	0.0	0.0	0.0	0.153	0.116
B2 T	41.0	0.050	0.57	0.033	649.8	78.9	4.2	56.9	54.8	0.0	0.0	0.117	0.085
B3 T	50.0	0.032	0.36	0.021	634.2	84.8	4.2	49.5	83.4	0.0	0.0	0.130	0.086
C	57.0	0.0	0.0	0.0	522.6	71.5	3.5	35.8	30.6	0.0	0.0	0.113	0.078

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	4.28	48.5	1.98	4962.3	409.5	21.2	755.4	977.7	0.0	0.0	1.08	0.60
2	6- 10	8.08	91.5	3.88	10041.7	820.3	46.0	1500.5	2036.0	0.0	0.0	1.99	1.02
3	11- 15	11.56	130.8	5.72	15199.3	1232.0	73.2	2238.6	3147.9	0.0	0.0	2.79	1.31
4	16- 20	14.64	165.7	7.36	19921.5	1611.0	98.7	2897.5	4165.0	0.0	0.0	3.54	1.60
5	21- 25	16.11	182.4	8.15	22902.0	1859.7	117.0	3239.4	4802.5	0.0	0.0	4.08	1.86
6	26- 30	17.16	194.2	8.73	26101.0	2139.9	138.5	3551.0	5185.1	0.0	0.0	4.71	2.25
7	31- 35	17.56	198.7	8.99	29627.7	2467.6	164.6	3817.2	5185.1	0.0	0.0	5.47	2.83
8	36- 40	17.84	201.9	9.18	32932.2	2848.5	186.6	4098.2	5404.1	0.0	0.0	6.09	3.29
9	41- 45	18.09	204.7	9.34	36181.1	3242.8	207.6	4383.0	5677.9	0.0	0.0	6.67	3.71
10	46- 50	18.26	206.7	9.46	39367.8	3660.8	228.5	4637.8	6066.1	0.0	0.0	7.31	4.14
11	51- 55	18.39	208.2	9.54	42427.4	4071.6	248.7	4871.4	6430.1	0.0	0.0	7.94	4.56
12	56- 60	18.39	208.2	9.54	45040.6	4429.2	266.3	5050.2	6582.9	0.0	0.0	8.50	4.95

AVERAGE OF CONTROL SECTION 0- 0 CMS. (0- 0 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) =100.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 0.0 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 4.85 PERCENT. SAND/CLAY RATIO = 2.6.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 70 31 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES SKYLICK SILT LOAM SOIL NO. S70 UTAH. 20- 7 SAMPLE NO. 0 197-0 202 SANPETE AREA

SOIL FAMILY: CRYIC PACHIC PALEBOROLL,FINE-LOAMY,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENT PASSING SIEVE											CUMULATIVE SAND FRACTION					DIAMETERS AT PERCENT (MM)			CU RATIO	CC RATIO
			3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	LESS THAN .005	LESS THAN .002	MM 1.0	MM .5	MM .25	MM .10	MM .05	60	50	10		
0 197	0- 5	A11	100	99	98	96	95	93	90	87	80	66	47	33	24	84	80	77	70	62	0.04	0.024	0.001	85.0	0.0
0 198	5- 17	A12	100	99	98	96	95	92	88	85	78	66	46	33	24	83	79	76	69	62	0.05	0.025	0.001	88.3	0.0
0 199	17- 36	A13	100	98	97	94	93	91	89	86	80	67	48	34	25	84	81	78	71	62	0.04	0.023	0.000	86.7	0.0
0 200	36- 45	B21T	100	97	96	93	91	89	87	84	76	61	45	33	25	81	77	74	65	56	0.07	0.030	0.000	133.4	0.0
0 201	45- 51	B22T	100	97	94	91	88	85	82	79	70	55	42	32	25	75	71	67	59	50	0.11	0.048	0.001	227.5	0.0
0 202	51- 60	B23T	100	90	83	72	65	63	61	59	54	40	29	22	18	57	54	51	43	36	3.07	0.216	0.001	4228.2	2.0

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	REGRESSION COEFFICIENTS A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.963	1.462	16.276	0.649	6
15BR PC	CLAY PC	OC PC	0.792	1.058	-5.151	0.895	6
OC PC	CLAY PC	DPTHIN	-0.775	-0.121	30.522	0.973	6

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC 15BAR	DC. FE	PYR. FE+AL	D.C. PYR/ FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	2.19	1.03	0.04	0.0	0.0	-3.9	-1.6	-1.0	0	2	3	9	13	8	0	0	5	6	5	12	12	23	37	39
A12	1.73	0.78	0.05	0.0	0.0	3.1	1.6	0.9	0	2	4	8	13	9	26	38	4	6	5	11	13	25	36	40
A13	1.60	0.74	0.05	0.0	0.0	4.0	1.3	-0.1	0	3	3	11	18	12	0	0	3	6	5	12	14	23	38	42
B21T	1.38	0.64	0.06	0.0	0.0	5.0	0.6	1.1	0	5	4	14	16	13	38	10	5	7	6	15	15	20	33	43
B22T	1.53	0.66	0.06	0.0	0.0	-1.0	-0.2	-0.6	3	6	4	14	13	12	39	9	8	7	6	16	16	16	31	47
B23T	1.77	0.70	0.07	0.0	0.0	-7.2	-1.8	-0.3	35	14	2	9	7	7	21	5	5	6	7	21	16	16	28	43

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A11	2.5	1.33	115.06	0.573	1345.5	166.7	4.2	363.6	413.2	0.0	0.0	0.0	0.0
A12	11.0	0.831	9.40	0.407	1085.9	111.9	4.2	263.8	402.2	0.0	0.0	0.221	0.084
A13	26.5	0.859	9.72	0.434	1550.3	122.2	5.7	242.2	467.1	0.0	0.0	0.0	0.0
B21T	40.5	0.194	2.19	0.112	1447.3	166.9	5.9	231.0	309.0	0.0	0.0	0.316	0.160
B22T	48.0	0.109	1.23	0.067	1678.2	185.6	10.8	219.4	178.1	0.0	0.0	0.320	0.173
B23T	55.5	0.059	0.66	0.036	1147.3	120.5	6.3	118.0	57.8	0.0	0.0	0.165	0.078

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	6.65	75.3	2.87	6727.7	833.6	21.0	1818.1	2065.8	0.0	0.0	1.10	0.42
2	6- 10	10.81	122.3	4.90	12157.4	1393.1	42.0	3137.2	4076.8	0.0	0.0	2.20	0.84
3	11- 15	14.96	169.3	6.93	17587.1	1952.5	63.1	4456.2	6087.8	0.0	0.0	3.30	1.26
4	16- 20	19.20	217.3	9.05	24409.9	2543.0	88.6	5710.5	8293.5	0.0	0.0	4.40	1.68
5	21- 25	23.49	265.9	11.22	32161.6	3154.2	117.2	6921.7	10628.9	0.0	0.0	5.50	2.10
6	26- 30	27.78	314.5	13.38	39913.3	3765.4	145.8	8132.9	12964.4	0.0	0.0	6.60	2.52
7	31- 35	32.08	363.1	15.55	47664.9	4376.5	174.3	9344.1	15299.8	0.0	0.0	7.70	2.94
8	36- 40	33.71	381.6	16.43	55004.5	5166.3	203.7	10510.3	17003.0	0.0	0.0	9.18	3.66
9	41- 45	34.68	392.6	16.99	62241.1	6000.7	233.4	11665.4	18548.2	0.0	0.0	10.76	4.46
10	46- 50	35.22	398.7	17.33	70632.1	6928.9	287.3	12762.3	19438.9	0.0	0.0	12.36	5.32
11	51- 55	35.57	402.6	17.54	76899.3	7596.5	323.4	13453.8	19848.1	0.0	0.0	13.34	5.80
12	56- 60	35.86	405.9	17.72	82635.6	8199.0	355.0	14043.9	20137.0	0.0	0.0	14.16	6.19

AVERAGE OF CONTROL SECTION 91- 141 CMS. (36- 55 IN.)
SAND (MINUS VFS)= 24.4 PERCENT, SAND = 35.2 PERCENT, SILT (PLUS VFS) = 44.8 PERCENT, CLAY = 30.8 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 30.5 PERCENT, 15 BAR = 20.2 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 7.10 PERCENT. SAND/CLAY RATIO = 1.0.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 70 32 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES SKYLICK SILT LOAM SOIL NO. S70 UTAH. 20- 8 SAMPLE NO. 0 203-0 209 SANPETE AREA

SOIL FAMILY: CRYIC PACHIC PALEBOROLL,FINE-LOAMY,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS THAN .02	.005	.002	CUMULATIVE SAND FRACTION LESS THAN MM 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC
0 203	0- 5	A11	100	100	100	100	100	100	100	100	93	65	41	30	22	98	95	89	71	57	0.06	0.033	0.001	100.7	0.0
0 204	5- 17	A12	100	100	100	100	100	100	100	100	96	66	40	30	23	99	97	91	72	58	0.05	0.033	0.001	101.1	0.0
0 205	17- 26	A13	100	100	100	100	100	100	100	100	97	67	40	30	24	100	98	93	74	57	0.06	0.034	0.001	106.3	0.0
0 206	26- 42	B21T	100	100	100	100	100	100	100	100	96	65	42	34	29	100	98	92	72	56	0.06	0.034	0.000	132.5	0.0
0 207	42- 51	B22T	100	97	95	91	89	89	89	89	86	50	32	27	23	89	87	82	57	42	0.11	0.073	0.001	208.6	0.0
0 208	51- 64	B23T	100	92	86	77	71	71	71	69	65	40	25	20	17	68	66	61	45	32	0.23	0.132	0.001	312.0	0.4
0 209	64- 79	B3 T	100	97	95	92	90	88	86	84	79	48	29	23	19	83	80	75	54	40	0.13	0.082	0.001	187.9	0.1

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	REGRESSION COEFFICIENTS A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.268	3.970	8.117	0.995	7
15BR PC	CLAY PC	OC PC	0.437	2.352	-3.139	0.982	7
OC PC	CLAY PC	DPTHIN	-0.566	-0.091	19.502	0.958	7

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05- .05	.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	2.12	1.23	0.04	0.0	0.0	-0.2	-1.3	-1.4	0	0	0	14	11	7	33	35	2	4	8	23	17	21	24	28
A12	1.35	0.68	0.04	0.0	0.0	-0.2	1.4	0.9	0	0	0	15	13	8	32	32	1	3	8	25	18	23	22	31
A13	1.05	0.51	0.04	0.0	0.0	1.0	2.0	1.1	0	0	0	19	15	11	33	22	0	2	7	24	23	22	22	31
B21T	0.58	0.37	0.03	0.0	0.0	0.9	-0.2	-0.3	0	0	0	26	16	17	29	12	0	3	8	28	22	20	18	40
B22T	0.65	0.38	0.04	0.0	0.0	-0.0	-0.6	0.1	25	5	0	22	9	11	21	7	0	3	7	39	22	15	14	35
B23T	0.74	0.38	0.04	0.0	0.0	-2.3	-0.7	-0.5	19	15	1	19	8	9	17	12	2	4	9	31	25	15	14	34
B3 T	0.66	0.36	0.04	0.0	0.0	0.8	-0.7	0.1	25	4	3	20	10	8	19	11	1	4	9	32	22	17	15	28

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A11	2.5	1.192	13.49	0.640	1585.7	99.3	4.4	142.6	0.0	0.0	0.0	0.288	0.096
A12	11.0	0.708	8.02	0.373	1191.0	78.2	5.0	110.2	0.0	0.0	0.0	0.287	0.164
A13	21.5	0.591	6.69	0.290	1084.6	70.5	6.1	104.2	80.1	0.0	0.0	0.301	0.189
B21T	34.0	0.124	1.41	0.092	966.8	72.5	8.2	110.9	35.5	0.0	0.0	0.257	0.127
B22T	46.5	0.081	0.91	0.060	672.5	47.5	5.7	57.9	44.5	0.0	0.0	0.186	0.105
B23T	57.5	0.062	0.70	0.046	687.1	43.5	4.9	41.6	12.8	0.0	0.0	0.150	0.084
B3 T	71.5	0.060	0.68	0.045	1004.8	43.5	5.2	26.5	0.0	3.4	3.4	0.172	0.115

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	5.96	67.4	3.20	7928.5	496.5	22.1	713.0	0.0	0.0	0.0	1.44	0.82
2	6- 10	9.50	107.5	5.06	13883.7	887.7	47.1	1264.0	0.0	0.0	0.0	2.87	1.64
3	11- 15	13.04	147.6	6.93	19838.9	1278.9	72.1	1814.9	0.0	0.0	0.0	4.30	2.46
4	16- 20	16.23	183.7	8.54	25474.9	1647.0	100.6	2347.9	240.4	0.0	0.0	5.78	3.35
5	21- 25	19.18	217.2	9.99	30898.1	1999.6	131.3	2868.8	641.2	0.0	0.0	7.28	4.29
6	26- 30	20.27	229.5	10.65	35850.0	2360.2	170.1	3416.6	863.5	0.0	0.0	8.61	4.99
7	31- 35	20.89	236.5	11.11	40684.1	2722.8	211.0	3971.1	1041.2	0.0	0.0	9.89	5.62
8	36- 40	21.51	243.5	11.57	45518.2	3085.3	251.9	4525.6	1218.9	0.0	0.0	11.17	6.25
9	41- 45	22.00	249.1	11.94	49469.2	3372.8	285.3	4920.9	1423.5	0.0	0.0	12.24	6.82
10	46- 50	22.41	253.6	12.24	52831.5	3610.1	313.7	5210.2	1646.0	0.0	0.0	13.17	7.34
11	51- 55	22.73	257.4	12.48	56252.3	3831.7	339.0	5434.5	1741.7	0.0	0.0	13.96	7.78
12	56- 60	23.04	260.8	12.71	59687.7	4049.3	363.6	5642.5	1805.8	0.0	0.0	14.71	8.20
13	61- 65	23.35	264.3	12.94	63440.9	4266.9	388.4	5835.4	1857.0	3.4	3.4	15.48	8.65
14	66- 70	23.65	267.7	13.16	68464.9	4464.1	414.4	5967.8	1857.0	20.4	20.4	16.34	9.22
15	71- 75	23.95	271.1	13.39	73488.9	4701.4	440.5	6100.2	1857.0	37.3	37.3	17.20	9.79

AVERAGE OF CONTROL SECTION 67- 117 CMS. (26- 46 IN.)
SAND (MINUS VFS)= 29.9 PERCENT, SAND = 45.5 PERCENT, SILT (PLUS VFS) = 42.0 PERCENT, CLAY = 28.1 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 8.4 PERCENT, 15 BAR = 10.4 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 5.50 PERCENT. SAND/CLAY RATIO = 1.8.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE BEDON NUMBER C 68121 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES ELZINGA LOAM SOIL NO. S68 UTAH. 3- 3 SAMPLE NO. 8 909-8 916 WASATCH A. CACHE AREA

SOIL FAMILY: PACHIC PALEBOROLL,LOAMY-SKELETAL,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE													CUMULATIVE SAND FRACTION					DIAMETERS AT PERCENT (MM)			CU RATIO	CC RATIO
			3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	LESS 1.0	THAN .5	MM .25	.10	.05	60	50	10		
8 909	0- 9	A11	100	100	100	100	100	100	100	98	96	90	56	35	21	97	96	96	94	86	0.02	0.013	0.001	36.4	0.0
8 910	9- 18	A12	100	100	100	100	100	98	96	96	95	90	56	35	21	96	95	95	93	85	0.02	0.013	0.001	37.4	0.0
8 911	18- 31	A13	100	100	100	100	100	99	97	97	96	90	56	35	21	97	96	95	94	86	0.02	0.014	0.001	37.9	0.0
8 912	31- 41	A21	100	97	95	91	89	88	86	86	85	80	49	30	17	86	85	85	83	76	0.03	0.021	0.001	38.8	0.0
8 913	41- 51	A22	100	96	93	88	85	85	84	84	83	77	46	27	15	84	83	83	81	73	0.03	0.023	0.001	34.5	0.0
8 914	51- 63	A+B	100	97	94	91	88	88	87	87	86	81	51	31	18	87	86	86	84	77	0.03	0.019	0.001	39.7	0.0
8 915	63- 72	B21T	100	96	94	90	87	87	86	86	85	81	57	42	31	86	85	85	84	78	0.02	0.011	0.000	54.5	0.0
8 916	72- 88	B22T	100	92	87	79	74	74	73	73	72	69	49	36	27	73	72	72	71	66	0.04	0.021	0.000	75.4	0.0

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.570	4.105	1.142	0.980	8
15BR PC	CLAY PC	OC PC	0.491	1.941	-3.129	0.994	8
OC PC	CLAY PC	DPTHIN	0.128	-0.124	4.033	0.981	7

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME: SOLIDS 250 -75	75 -20	20 -2	SIZE IN MM 2-.05	-.05 .002	.002 LT	PORES CAP.	PORES NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT: VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	1.76	0.98	0.05	0.0	0.0	3.1	-0.6	-0.5	0	0	1	4	21	7	35	32	1	1	1	2	10	39	47	27
A12	1.67	0.79	0.06	0.0	0.0	-2.1	0.0	0.1	0	0	1	4	24	8	34	29	0	1	1	2	10	38	47	28
A13	1.43	0.62	0.05	0.0	0.0	-2.9	1.0	0.1	0	0	1	5	27	9	33	25	0	1	1	2	10	40	46	27
A21	0.91	0.45	0.05	0.0	0.0	-0.4	0.3	0.8	5	6	2	5	30	9	28	15	0	1	1	2	10	40	46	25
A22	0.63	0.38	0.06	0.0	0.0	1.6	-0.4	0.2	10	8	1	6	33	8	21	13	0	1	1	2	12	38	45	22
A+B	0.69	0.39	0.05	0.0	0.0	0.1	-0.3	-0.8	45	4	0	4	21	7	10	9	0	1	1	2	11	38	47	27
B21T	0.59	0.41	0.03	0.0	0.0	1.1	0.3	0.1	10	6	0	4	22	15	41	2	1	1	1	2	11	38	47	57
B22T	0.62	0.42	0.03	0.0	0.0	-0.7	-0.4	-1.3	30	13	0	3	19	13	18	4	0	1	1	2	10	37	48	57

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A11	4.5	0.930	10.53	0.463	1406.4	96.0	4.3	130.6	0.0	0.0	0.0	0.289	0.176
A12	13.5	0.805	9.12	0.435	1091.8	93.6	9.7	106.9	219.2	0.0	0.0	0.290	0.181
A13	24.5	0.651	7.37	0.358	1026.4	95.9	11.1	113.3	237.2	0.0	0.0	0.275	0.189
A21	36.0	0.268	3.03	0.174	656.7	70.5	12.3	62.5	170.9	0.0	0.0	0.257	0.173
A22	46.0	0.080	0.90	0.064	432.1	61.4	6.5	33.3	79.6	0.0	0.0	0.178	0.124
A+B	57.0	0.052	0.59	0.041	370.5	54.4	8.7	22.1	68.1	0.0	0.0	0.074	0.034
B21T	67.5	0.039	0.44	0.031	797.6	147.7	28.3	38.4	0.0	0.0	0.0	0.351	0.247
B22T	80.0	0.0	0.0	0.0	643.0	115.0	34.3	33.2	80.9	0.0	0.0	0.124	0.041

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	4.65	52.6	2.32	7032.0	480.0	21.4	653.0	0.0	0.0	0.0	1.44	0.88
2	6- 10	9.18	103.9	4.60	13749.5	957.5	48.2	1282.2	219.2	0.0	0.0	2.89	1.76
3	11- 15	13.20	149.5	6.78	19208.6	1425.4	96.7	1816.5	1315.3	0.0	0.0	4.34	2.66
4	16- 20	16.92	191.5	8.80	24536.8	1897.9	148.0	2363.7	2447.3	0.0	0.0	5.76	3.58
5	21- 25	20.18	228.4	10.59	29668.6	2377.2	203.7	2930.1	3633.5	0.0	0.0	7.13	4.52
6	26- 30	23.43	265.2	12.39	34800.4	2856.5	259.4	3496.6	4819.6	0.0	0.0	8.50	5.46
7	31- 35	25.15	284.7	13.44	38453.8	3234.3	319.6	3859.8	5740.2	0.0	0.0	9.80	6.34
8	36- 40	26.49	299.9	14.31	41737.5	3586.7	381.1	4172.1	6594.5	0.0	0.0	11.08	7.20
9	41- 45	27.08	306.5	14.73	44122.4	3902.7	419.5	4367.6	7083.7	0.0	0.0	12.05	7.87
10	46- 50	27.48	311.1	15.05	46282.7	4209.7	452.2	4533.9	7481.7	0.0	0.0	12.94	8.49
11	51- 55	27.76	314.3	15.28	48196.8	4488.9	493.5	4655.6	7833.5	0.0	0.0	13.41	8.75
12	56- 60	28.02	317.2	15.49	50049.5	4761.1	537.0	4766.2	8173.8	0.0	0.0	13.78	8.92
13	61- 65	28.26	319.9	15.68	52756.2	5219.8	619.7	4909.3	8377.9	0.0	0.0	14.70	9.52
14	66- 70	28.45	322.1	15.84	56744.0	5958.3	761.2	5101.3	8377.9	0.0	0.0	16.45	10.75
15	71- 75	28.53	323.0	15.90	60268.3	6598.6	920.7	5277.7	8620.6	0.0	0.0	17.52	11.37
16	76- 80	28.53	323.0	15.90	63483.5	7173.5	1092.1	5443.8	9025.2	0.0	0.0	18.14	11.57
17	81- 85	28.53	323.0	15.90	66698.6	7748.4	1263.5	5609.9	9429.8	0.0	0.0	18.76	11.77

AVERAGE OF CONTROL SECTION 0- 0 CMS. (0- 0 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) =100.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 0.0 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 5.90 PERCENT. SAND/CLAY RATIO = 0.5.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 69189 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES KINESAVA FINE SANDY LOAM SOIL NO. S69 UTAH. 27-13 SAMPLE NO. 9 968-9 974 WASHINGTON CO AREA

SOIL FAMILY: PACHIC PALEBOROLL,FINE,MIXED RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENT PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	CUMULATIVE SAND FRACTION LESS THAN .02 MM	.005	.002	LESS THAN 1.0 MM	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC RATIO
9 968	0- 5	A11	100	100	100	100	100	100	100	100	98	47	18	13	9	99	98	96	58	33	0.10	0.080	0.002	42.2	0.1
9 969	5- 16	A12	100	100	100	100	100	100	100	100	99	50	21	15	11	100	100	98	61	36	0.10	0.074	0.002	64.5	0.1
9 970	16- 25	A13	100	100	100	100	100	100	100	100	100	51	22	16	12	100	100	99	63	36	0.09	0.072	0.001	73.4	0.1
9 971	25- 31	A14	100	100	100	100	100	100	100	100	100	53	23	18	14	100	100	99	64	38	0.09	0.069	0.001	89.2	0.1
9 972	31- 39	B1 T	100	100	100	100	100	100	100	100	100	64	38	32	28	100	100	99	73	51	0.07	0.046	0.000	143.6	0.0
9 973	39- 49	B21T	100	100	100	100	100	100	100	100	100	72	51	45	40	100	100	99	81	60	0.05	0.016	0.000	134.9	0.0
9 974	49- 59	B22T	100	100	100	100	100	100	99	97	97	91	80	65	56	97	97	97	93	87	0.00	0.002	0.000	9.8	0.0

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	REGRESSION COEFFICIENTS A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.917	3.991	-5.752	0.995	7
15BR PC	CLAY PC	OC PC	0.463	1.568	-2.170	0.998	7
OC PC	CLAY PC	DPTHIN	0.055	-0.087	1.868	0.906	7

HORIZON	RATIOS AND RESIDUALS --RATIOS TO CLAY-- CEC	15BAR	OC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION --PERCENT (VOL) OF SOIL VOLUME-- SOILS,SIZE IN MM 250 -75	75 -20	20 -2	2-.05- .05	.05-.002	LT .002	-PORES- CAP.	NON CAP	PSD ON CLAY FREE BASIS ---PERCENT OF SAND PLUS SILT--- VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	1.38	0.67	0.04	0.0	0.0	0.4	-0.0	-0.5	0	0	0	36	13	5	22	24	1	1	2	42	28	16	10	10
A12	0.84	0.40	0.05	0.0	0.0	-1.3	-0.1	0.6	0	0	0	35	13	6	13	33	0	0	1	42	29	17	11	13
A13	0.72	0.36	0.04	0.0	0.0	-0.9	0.0	0.2	0	0	0	36	13	7	14	30	0	0	1	41	31	16	11	14
A14	0.67	0.37	0.04	0.0	0.0	-0.5	-0.2	-0.2	0	0	0	38	14	9	20	19	0	0	1	41	30	17	11	17
B1 T	0.65	0.38	0.04	0.0	0.0	3.3	0.8	-0.1	0	0	0	27	13	15	38	7	0	0	1	36	31	17	15	38
B21T	0.79	0.44	0.03	0.0	0.0	0.4	-0.8	0.0	0	0	0	22	11	23	40	4	0	0	1	32	34	16	18	68
B22T	0.86	0.43	0.03	0.0	0.0	-1.3	0.2	0.0	0	0	1	4	15	26	47	7	0	0	1	8	14	18	59	136

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A11	2.5	0.635	7.19	0.296	720.1	69.4	3.6	100.3	0.0	0.0	0.0	0.207	0.133
A12	10.5	0.221	2.51	0.118	537.4	54.4	3.6	88.4	0.0	0.0	0.0	0.114	0.061
A13	20.5	0.152	1.72	0.087	495.8	48.9	3.7	66.2	0.0	0.0	0.0	0.126	0.072
A14	28.0	0.122	1.38	0.069	539.5	61.2	4.2	56.9	18.2	0.0	0.0	0.188	0.119
B1 T	35.0	0.102	1.15	0.058	871.2	144.8	7.7	65.3	46.9	0.0	0.0	0.342	0.223
B21T	44.0	0.064	0.73	0.037	1507.8	264.9	23.4	79.5	163.0	0.0	0.0	0.325	0.129
B22T	54.0	0.067	0.76	0.038	2415.6	287.2	38.0	85.8	0.0	0.0	0.0	0.383	0.166

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	3.18	35.9	1.48	3600.7	347.2	18.1	501.5	0.0	0.0	0.0	1.03	0.66
2	6- 10	4.28	48.5	2.07	6287.8	619.2	36.2	943.4	0.0	0.0	0.0	1.60	0.96
3	11- 15	5.39	61.0	2.66	8974.9	891.1	54.3	1385.4	0.0	0.0	0.0	2.17	1.26
4	16- 20	6.22	70.4	3.13	11495.6	1141.1	72.7	1738.6	0.0	0.0	0.0	2.79	1.61
5	21- 25	6.98	79.0	3.56	13974.7	1385.6	91.1	2069.7	0.0	0.0	0.0	3.42	1.97
6	26- 30	7.59	85.9	3.90	16672.0	1691.8	112.0	2354.1	91.2	0.0	0.0	4.36	2.56
7	31- 35	8.12	91.9	4.21	20696.2	2332.0	147.0	2672.3	297.0	0.0	0.0	5.92	3.57
8	36- 40	8.59	97.2	4.47	25688.7	3175.9	201.3	3013.1	647.7	0.0	0.0	7.61	4.59
9	41- 45	8.91	100.9	4.66	33227.8	4500.4	318.5	3410.4	1462.7	0.0	0.0	9.23	5.23
10	46- 50	9.24	104.6	4.84	41674.7	5847.1	450.1	3814.1	2114.8	0.0	0.0	10.91	5.91
11	51- 55	9.57	108.4	5.03	53752.5	7283.3	640.0	4243.3	2114.8	0.0	0.0	12.82	6.74

AVERAGE OF CONTROL SECTION 79- 129 CMS. (31- 51 IN.)
SAND (MINUS VFS)= 20.8 PERCENT, SAND = 40.3 PERCENT, SILT (PLUS VFS) = 42.2 PERCENT, CLAY = 37.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.3 PERCENT, 15 BAR = 15.5 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 1.43 PERCENT. SAND/CLAY RATIO = 6.2.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 70 53 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES CAVAL FINE SANDY LOAM (TAXADJUNCT) SOIL NO. S70 UTAH. 27- 8 SAMPLE NO. 0 317-0 322 WASHINGTON CO. AREA

SOIL FAMILY: TYPIC HAPLUSTOLL,SANDY,MIXED,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	SIEVE LESS .02	THAN .005	MM .002	CUMULATIVE SAND FRACTION LESS 1.0	THAN .5	MM .25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU	CC RATIO
0 317	0- 11	A11	100	100	100	100	100	100	100	100	96	21	7	6	4	100	99	89	32	14	0.16	0.134	0.029	5.4	0.0
0 318	11- 24	A12	100	100	100	100	100	100	100	100	97	26	9	7	5	100	99	91	36	17	0.15	0.126	0.022	6.8	0.0
0 319	24- 32	C 1	100	100	100	100	100	100	100	100	98	24	8	6	5	100	100	91	34	17	0.15	0.129	0.023	6.5	0.0
0 320	32- 40	C 2	100	100	100	100	100	100	100	100	98	25	8	6	5	100	100	93	35	17	0.15	0.126	0.024	6.1	0.0
0 321	40- 43	B1 B	100	100	100	100	100	100	100	100	98	29	12	11	9	100	100	92	40	20	0.14	0.119	0.003	42.9	0.2
0 322	43- 59	B2 T B	100	100	100	100	100	100	100	100	98	27	17	15	15	100	100	92	36	21	0.15	0.125	0.001	152.1	0.9

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.563	3.278	0.100	0.999	6
15BR PC	CLAY PC	OC PC	-1.028	-16.981	16.947	0.505	6
OC PC	CLAY PC	DPTHIN	0.021	-0.017	0.646	0.940	5

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME: SOLIDS 250 -75	75 -20	20 -2	SIZE IN MM 2-.05	-.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT: VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	1.11	0.45	0.07	0.0	0.0	0.0	-1.8	-0.1	0	0	0	52	6	3	7	32	0	1	10	60	19	6	3	5
A12	0.83	0.37	0.06	0.0	0.0	-0.2	3.9	0.1	0	0	0	50	7	3	0	0	0	0	9	58	20	8	4	5
C 1	0.73	0.37	0.06	0.0	0.0	0.0	6.5	0.0	0	0	0	51	8	3	7	31	0	0	9	60	18	9	4	5
C 2	0.71	3.92	0.06	0.0	0.0	0.0	-10.0	-0.1	0	0	0	51	7	3	0	0	0	0	7	60	20	9	4	5
B1 B	0.61	0.19	0.06	0.0	0.0	0.1	3.0	-0.0	0	0	0	49	7	6	12	26	0	0	8	58	22	9	4	10
B2 T B	0.58	0.23	0.04	0.0	0.0	-0.1	-1.5	0.1	0	0	0	51	4	9	19	17	0	0	9	65	18	5	3	17

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
		WEIGHTS PER UNIT DEPTH (CM OR INCH)			POUNDS PER ACRE					TONS/ACRE			
A11	5.5	0.197	2.23	0.097	305.6	21.6	33.1	70.2	0.0	0.0	0.0	0.067	0.043
A12	17.5	0.094	1.06	0.060	333.3	17.4	33.3	42.4	0.0	0.0	0.0	0.0	0.0
C 1	28.0	0.061	0.69	0.039	300.7	22.0	33.7	42.9	0.0	0.0	0.0	0.062	0.039
C 2	36.0	0.053	0.60	0.034	300.7	22.0	33.7	28.6	0.0	0.0	0.0	0.0	0.0
B1 B	41.5	0.042	0.48	0.027	420.7	48.7	34.0	43.2	0.0	0.0	0.0	0.103	0.088
B2 T	51.0	0.0	0.0	0.0	569.6	87.8	35.4	45.0	0.0	0.0	0.0	0.156	0.127

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
		CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)			POUNDS PER ACRE					TONS/ACRE			
1	1- 5	0.98	11.1	0.49	1547.9	108.0	165.6	351.0	0.0	0.0	0.0	0.31	0.19
2	6- 10	1.97	22.3	0.97	3095.8	216.0	331.2	702.0	0.0	0.0	0.0	0.62	0.38
3	11- 15	2.54	28.8	1.31	4738.4	307.1	497.6	941.7	0.0	0.0	0.0	0.93	0.57
4	16- 20	3.01	34.1	1.61	6404.7	394.1	664.2	1153.6	0.0	0.0	0.0	1.24	0.76
5	21- 25	3.44	39.0	1.89	8038.5	485.6	831.3	1366.0	0.0	0.0	0.0	1.55	0.95
6	26- 30	3.75	42.5	2.08	9542.2	595.7	1000.0	1580.6	0.0	0.0	0.0	1.86	1.14
7	31- 35	4.03	45.6	2.26	11045.9	705.7	1168.7	1752.2	0.0	0.0	0.0	2.17	1.33
8	36- 40	4.30	48.6	2.43	12549.7	815.7	1337.4	1895.3	0.0	0.0	0.0	2.48	1.52
9	41- 45	4.42	50.1	2.51	14951.0	1137.4	1510.1	2114.9	0.0	0.0	0.0	3.10	2.04
10	46- 50	4.42	50.1	2.51	17799.1	1576.1	1687.1	2340.0	0.0	0.0	0.0	3.88	2.67
11	51- 55	4.42	50.1	2.51	20647.2	2014.9	1864.2	2565.2	0.0	0.0	0.0	4.66	3.30

AVERAGE OF CONTROL SECTION 25- 100 CMS. (10- 39 IN.)
SAND (MINUS VFS)= 64.7 PERCENT, SAND = 83.1 PERCENT, SILT (PLUS VFS) = 30.3 PERCENT, CLAY = 5.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 6.0 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.60 PERCENT. SAND/CLAY RATIO = 18.5.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 72 87 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES YEATES HOLLOW STONY LOAM (TAXADJUNCT) SOIL NO. S72 UTAH. 29- 3 SAMPLE NO. 2 533-2 540 MORGAN&E.WEBER AREA

SOIL FAMILY: TYPIC ARGIXEROLL,LOAMY-SKELETAL,MIXED,FRIGID RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	CUMULATIVE SAND FRACTION LESS THAN .02 MM	.005 MM	.002 MM	1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC RATIO
2 533	0- 10	A11	100	95	92	87	84	79	73	69	59	49	30	19	11	65	60	56	51	46	0.52	0.086	0.002	336.8	0.1
2 534	10- 19	A12	100	84	72	56	44	42	40	38	33	28	18	12	8	36	33	32	29	26	28.13	22.011	0.003	8051.3	156.4
2 535	19- 28	B1	100	84	73	57	46	44	41	38	33	28	19	13	9	36	34	32	30	27	27.12	21.034	0.00211	299.8	168.8
2 536	28- 33	B21T	100	85	75	60	50	49	47	45	40	34	24	17	12	43	40	38	36	33	25.00	19.000	0.00119	053.9	27.3
2 537	33- 40	B22T	100	88	79	67	58	56	54	52	45	39	28	22	17	49	46	43	40	37	20.28	1.198	0.00126	936.5	15.0
2 538	40- 49	B23T	100	90	83	73	66	61	56	52	36	26	21	18	16	45	37	33	27	24	8.22	1.619	0.001	9574.9	249.5
2 539	49- 55	B24T	100	100	100	100	100	100	100	100	89	62	45	33	26	97	90	85	67	55	0.07	0.032	0.000	136.5	0.0
2 540	55- 59	R	100	100	100	100	100	100	99	99	69	31	20	12	7	96	73	57	35	26	0.28	0.186	0.004	78.1	0.4

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	REGRESSION COEFFICIENTS A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.588	2.802	0.571	0.957	8
15BR PC	CLAY PC	OC PC	0.341	0.461	1.196	0.965	8
OC PC	CLAY PC	DPTHIN	-0.019	-0.040	2.527	0.902	8

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	1.13	0.52	0.07	0.0	0.0	-1.0	-0.5	-0.6	50	4	4	6	10	3	9	14	7	9	7	8	8	29	32	19
A12	0.74	0.40	0.06	0.0	0.0	0.5	0.4	0.5	51	19	2	4	6	3	0	0	6	9	6	8	10	28	34	25
B1	0.62	0.36	0.05	0.0	0.0	1.8	1.1	0.4	51	19	3	4	6	3	7	7	6	9	7	8	9	27	35	32
B21T	0.60	0.37	0.05	0.0	0.0	2.0	0.6	0.1	36	24	2	6	10	6	0	0	6	8	6	8	9	27	35	37
B22T	0.63	0.37	0.04	0.0	0.0	0.5	0.3	-0.1	14	26	4	9	12	11	16	8	8	10	7	9	9	25	32	50
B23T	0.71	0.43	0.05	0.0	0.0	-2.7	-1.4	-0.1	0	23	9	19	6	11	0	0	18	22	13	15	8	8	15	44
B24T	0.66	0.41	0.06	0.0	0.0	-1.0	-0.4	-0.2	0	0	0	20	13	12	50	5	4	9	7	24	17	14	25	35
R	0.70	0.54	0.18	0.0	0.0	-0.1	-0.1	0.1	0	0	1	51	14	5	15	14	3	25	17	25	9	7	14	7

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE		INCH/INCH	
A11	5.0	0.224	2.54	0.103	309.7	29.6	12.9	48.1	20.2	0.0	0.0	0.080	0.047
A12	14.5	0.061	0.70	0.041	217.1	20.9	12.8	21.6	0.0	0.0	0.0	0.0	0.0
B1	23.5	0.046	0.52	0.034	168.3	25.7	11.4	16.1	19.8	0.0	0.0	0.062	0.036
B21T	30.5	0.061	0.69	0.045	381.9	48.3	17.9	25.3	0.0	0.0	0.0	0.0	0.0
B22T	36.5	0.076	0.86	0.055	647.1	135.5	26.4	44.8	0.0	0.0	0.0	0.142	0.058
B23T	44.5	0.033	0.38	0.024	694.2	142.2	43.0	32.4	0.0	0.0	0.0	0.0	0.0
B24T	52.0	0.031	0.35	0.023	777.0	130.4	62.5	21.2	0.0	0.0	0.0	0.473	0.368
R	57.0	0.006	0.07	0.005	258.5	40.0	57.5	16.3	8.3	0.0	0.0	0.138	0.079

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE		INCH/INCH	
1	1- 5	1.12	12.7	0.51	1548.4	148.1	64.5	240.7	101.0	0.0	0.0	0.31	0.18
2	6- 10	2.24	25.4	1.03	3096.8	296.2	129.0	481.4	202.0	0.0	0.0	0.62	0.36
3	11- 15	2.55	28.9	1.23	4182.4	400.8	192.8	589.5	202.0	0.0	0.0	0.93	0.54
4	16- 20	2.84	32.2	1.43	5219.2	510.2	255.2	692.1	221.8	0.0	0.0	1.24	0.72
5	21- 25	3.07	34.7	1.60	6060.9	639.0	312.2	772.6	320.8	0.0	0.0	1.55	0.90
6	26- 30	3.33	37.7	1.79	7329.8	812.9	382.2	871.5	380.2	0.0	0.0	1.86	1.08
7	31- 35	3.66	41.5	2.04	9769.8	1228.9	488.8	1037.1	380.2	0.0	0.0	2.33	1.30
8	36- 40	4.04	45.8	2.31	13005.2	1906.6	620.9	1261.1	380.2	0.0	0.0	3.04	1.59
9	41- 45	4.21	47.6	2.44	16476.0	2617.4	836.0	1423.2	380.2	0.0	0.0	3.75	1.88
10	46- 50	4.37	49.5	2.56	20029.7	3316.5	1070.6	1574.1	380.2	0.0	0.0	4.79	2.48
11	51- 55	4.53	51.2	2.67	23914.7	3968.5	1383.0	1680.1	380.2	0.0	0.0	7.15	4.32

AVERAGE OF CONTROL SECTION 71- 121 CMS. (28- 48 IN.)
SAND (MINUS VFS)= 32.1 PERCENT, SAND = 38.3 PERCENT, SILT (PLUS VFS) = 37.2 PERCENT, CLAY = 30.6 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 58.0 PERCENT, 15 BAR = 12.1 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 2.03 PERCENT. SAND/CLAY RATIO = 1.8.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 72 82 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES OSTLER LOAM SOIL NO. S72 UTAH. 15- 1 SAMPLE NO. 2 499-2 506 MORGAN&E.WEBER AREA

SOIL FAMILY: TYPIC ARGIXEROLL,FINE,MONTMORILLONITIC,FRIGID RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	CUMULATIVE SAND FRACTION LESS 1.0	THAN .5	MM .25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC
2 499	0- 4	A11	100	100	100	99	99	99	98	98	84	66	48	34	25	90	85	81	69	61	0.05	0.023	0.001	94.0	0.0
2 500	4- 8	A12	100	100	100	100	100	99	98	98	87	69	50	37	28	93	88	84	73	63	0.04	0.020	0.000	86.0	0.0
2 501	8- 20	B21T	100	100	100	100	100	100	100	100	92	78	61	50	42	96	93	90	81	73	0.02	0.005	0.000	48.5	0.0
2 502	20- 31	B22T	100	100	100	100	100	100	100	100	90	73	58	48	41	96	91	87	77	68	0.02	0.007	0.000	67.1	0.0
2 503	31- 42	B23T	100	100	100	100	100	100	100	100	96	82	66	52	43	98	96	94	86	76	0.01	0.004	0.000	32.4	0.0
2 504	42- 54	B3	100	100	100	100	100	100	100	100	96	81	63	47	36	99	97	95	86	76	0.02	0.007	0.000	42.5	0.0
2 505	54- 60	C	100	100	100	100	100	91	82	82	82	68	49	31	20	82	82	81	73	60	0.05	0.022	0.001	76.9	0.0
2 506	60- 63	R	100	100	100	100	100	100	100	100	90	23	10	7	5	100	94	77	28	16	0.18	0.150	0.021	8.5	0.1

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	REGRESSION COEFFICIENTS A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	1.032	9.546	7.385	0.975	8
15BR PC	CLAY PC	OC PC	0.382	0.991	4.458	0.934	8
OC PC	CLAY PC	DPTHIN	-0.047	-0.057	4.243	0.912	8

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	-.05 .002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	2.65	0.70	0.02	0.0	0.0	1.5	-0.1	-0.8	0	0	0	14	14	10	35	27	11	7	6	16	12	18	31	34
A12	2.16	0.62	0.01	0.0	0.0	-1.6	0.1	0.2	0	0	1	15	16	12	0	0	7	7	5	16	14	19	32	39
B21T	1.46	0.50	0.01	0.0	0.0	-3.9	0.3	0.7	0	0	0	13	16	21	42	8	7	5	5	16	14	20	33	73
B22T	1.35	0.49	0.01	0.0	0.0	-1.1	0.6	0.4	0	0	0	16	14	20	0	0	7	7	7	17	15	16	30	68
B23T	1.14	0.46	0.01	0.0	0.0	6.4	1.4	-0.2	0	0	0	12	16	21	45	6	3	4	4	14	17	18	40	75
B3	1.25	0.52	0.01	0.0	0.0	2.3	-0.1	-0.5	0	0	0	12	19	18	0	0	1	3	4	14	16	21	41	57
C	1.70	0.76	0.02	0.0	0.0	-6.4	-4.3	-0.3	0	0	10	12	21	10	41	6	0	0	1	12	21	19	46	32
R	2.02	0.88	0.0	0.0	0.0	2.8	2.1	0.5	0	0	0	84	11	5	0	0	0	6	17	52	13	6	5	5

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
		WEIGHTS PER UNIT DEPTH (CM OR INCH)			----------POUNDS PER ACRE----------					---TONS/ACRE---			
A11	2.0	0.643	7.27	0.287	2217.6	211.2	84.1	1613.8	0.0	0.0	0.0	0.315	0.171
A12	6.0	0.468	5.30	0.229	2407.4	232.0	88.9	1226.4	0.0	0.0	0.0	0.0	0.0
B21T	14.0	0.167	1.89	0.096	3517.0	419.1	249.3	317.1	0.0	0.0	0.0	0.360	0.144
B22T	25.5	0.105	1.19	0.061	2950.9	350.5	242.4	117.4	0.0	0.0	0.0	0.0	0.0
B23T	36.5	0.082	0.93	0.047	2868.9	344.3	206.2	104.9	0.0	0.0	0.0	0.385	0.193
B3	48.0	0.072	0.81	0.041	2725.4	307.3	148.9	80.3	0.0	0.0	0.0	0.0	0.0
C	57.0	0.045	0.51	0.026	2836.2	260.8	119.0	60.6	0.0	7.8	7.8	0.346	0.198
R	61.5	0.009	0.10	0.005	2915.8	144.0	110.4	46.8	0.0	75.0	75.0	0.0	0.0

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
		CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)			----------POUNDS PER ACRE----------					---TONS/ACRE---			
1	1- 5	3.04	34.4	1.38	11277.8	1077.0	425.5	7681.7	0.0	0.0	0.0	1.57	0.85
2	6- 10	4.78	54.1	2.26	25534.1	2611.2	1190.9	11995.0	0.0	0.0	0.0	3.23	1.65
3	11- 15	5.61	63.5	2.74	43119.0	4706.9	2437.5	13580.4	0.0	0.0	0.0	5.03	2.37
4	16- 20	6.45	73.0	3.22	60704.0	6802.6	3684.1	15165.7	0.0	0.0	0.0	6.83	3.09
5	21- 25	6.97	78.9	3.53	75458.4	8555.1	4896.0	15752.9	0.0	0.0	0.0	8.63	3.81
6	26- 30	7.50	84.9	3.83	90212.8	10307.6	6108.0	16340.1	0.0	0.0	0.0	10.43	4.53
7	31- 35	7.93	89.8	4.08	104639.4	12035.1	7175.2	16877.1	0.0	0.0	0.0	12.33	5.45
8	36- 40	8.34	94.4	4.31	118984.1	13756.5	8206.2	17401.5	0.0	0.0	0.0	14.25	6.41
9	41- 45	8.72	98.7	4.53	132898.1	15366.8	9065.4	17852.4	0.0	0.0	0.0	16.17	7.37
10	46- 50	9.08	102.7	4.74	146524.9	16903.2	9810.1	18254.1	0.0	0.0	0.0	18.09	8.33
11	51- 55	9.41	106.5	4.93	160262.6	18393.1	10524.8	18636.1	0.0	7.8	7.8	19.98	9.30
12	56- 60	9.63	109.0	5.06	174443.2	19697.3	11120.0	18938.8	0.0	46.6	46.6	21.71	10.29

AVERAGE OF CONTROL SECTION 20- 71 CMS. (8- 28 IN.)
SAND (MINUS VFS)= 20.3 PERCENT, SAND = 28.9 PERCENT, SILT (PLUS VFS) = 38.2 PERCENT, CLAY = 41.6 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 20.6 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 1.89 PERCENT. SAND/CLAY RATIO = 1.0.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 67 11 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES GAPPMEYER VERY COBBLY LOAM SOIL NO. S67 UTAH. 18-13 SAMPLE NO. 7 278-7 285 SALT LAKE CO. AREA

SOIL FAMILY: BORALFIC ARGIXEROLL,LOAMY-SKELETAL,MIXED,FRIGID RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	CUMULATIVE SAND FRACTION LESS .02	THAN .005	MM .002	LESS 1.0	.5	THAN .25	.10	MM .05	DIAMETERS AT PERCENT (MM) 60	50	10	CU	CC RATIO
7 278	0- 4	A11	100	96	94	90	87	66	45	45	42	36	21	14	9	44	42	42	38	32	7.74	5.550	0.002	3107.2	5.2
7 279	4- 10	A12	100	94	91	85	81	68	54	54	51	44	26	17	11	52	51	50	47	40	6.41	0.219	0.002	4167.0	2.9
7 280	10- 16	A13	100	88	79	67	58	49	39	39	37	32	18	12	8	38	37	37	34	28	20.28	10.552	0.003	6174.1	25.5
7 281	16- 20	A+B	100	85	75	60	49	42	34	34	32	27	16	11	7	33	32	32	29	24	25.55	19.518	0.004	6148.7	113.3
7 282	20- 26	B1	100	82	69	51	38	32	26	26	24	20	12	9	6	25	24	24	21	18	30.93	24.784	0.008	3790.2	*****
7 283	26- 35	B21T	100	84	73	57	45	37	28	28	26	22	14	11	8	27	26	26	23	20	27.63	21.526	0.004	6688.2	*****
7 284	35- 44	B22T	100	90	84	74	67	57	47	47	44	39	26	18	13	45	44	44	41	36	11.65	5.796	0.001	9364.5	7.5
7 285	44- 50	B3	100	83	71	54	42	31	20	20	19	16	11	7	5	19	19	19	17	15	29.09	22.962	0.015	1882.0	*****

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.776	3.025	-2.886	0.966	8
15BR PC	CLAY PC	OC PC	0.467	1.404	-1.946	0.982	8
OC PC	CLAY PC	DPTHIN	0.293	-0.196	-1.194	0.711	7

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM: 250-75	75-20	20-2	2-.05	.05-.002	.002 LT	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS, PERCENT OF SAND PLUS SILT: VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	1.73	0.87	0.04	0.0	0.0	-0.0	0.1	-3.1	1	7	24	7	14	5	0	0	4	3	2	10	16	31	34	24
A12	0.98	0.55	0.0	0.0	0.0	-1.4	-0.9	1.6	4	10	14	7	15	6	18	26	4	2	2	8	17	32	34	26
A13	0.73	0.41	0.0	0.0	0.0	0.5	0.3	1.1	2	26	12	7	12	5	0	0	4	2	1	9	19	30	34	25
A+B	0.65	0.39	0.05	0.0	0.0	2.1	0.8	0.7	4	32	9	6	11	5	0	0	3	3	2	10	18	33	31	28
B1	0.66	0.41	0.0	0.0	0.0	1.8	0.4	0.8	6	42	8	6	7	4	0	0	5	4	3	12	20	27	30	33
B21T	0.71	0.42	0.0	0.0	0.0	1.0	0.2	0.5	7	33	10	5	7	5	0	0	5	5	3	11	18	27	32	40
B22T	0.79	0.43	0.04	0.0	0.0	-1.7	-0.4	-1.7	9	18	11	6	13	7	20	16	5	3	2	8	14	28	40	37
B3	0.75	0.40	0.0	0.0	0.0	-2.3	-0.5	-3.8	12	30	14	3	7	3	0	0	3	4	2	9	16	27	39	30

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT FIELD CAPACITY TO 15 BAR
					POUNDS PER ACRE					TONS/ACRE		INCH/INCH	
A11	2.0	0.838	9.49	0.308	511.5	63.2	7.1	126.9	362.7	0.1	0.1	0.0	0.0
A12	7.0	0.247	2.79	0.124	368.6	0.0	27.2	19.8	290.8	0.1	0.1	0.181	0.095
A13	13.0	0.091	1.02	0.052	209.6	22.4	23.1	11.2	143.5	0.1	0.1	0.0	0.0
A+B	18.0	0.072	0.82	0.038	210.6	35.4	20.7	10.0	66.8	0.1	0.1	0.0	0.0
B1	23.0	0.048	0.54	0.029	180.6	30.2	12.1	24.6	86.1	0.1	0.1	0.0	0.0
B21T	30.5	0.046	0.52	0.028	209.0	35.3	21.0	7.9	117.7	0.1	0.1	0.0	0.0
B22T	39.5	0.055	0.63	0.033	358.1	69.2	31.4	11.8	133.5	2.3	2.3	0.196	0.118
B3	47.0	0.0	0.0	0.0	183.0	39.4	32.4	18.3	0.0	0.0	0.0	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT FIELD CAPACITY TO 15 BAR
					POUNDS PER ACRE					TONS/ACRE		INCH/INCH	
1	1- 5	3.60	40.8	1.36	2414.6	253.0	55.7	527.6	1741.6	0.4	0.4	0.90	0.47
2	6- 10	4.83	54.7	1.98	4257.7	253.0	191.9	626.5	3195.8	0.8	0.8	1.80	0.94
3	11- 15	5.29	59.8	2.24	5305.6	364.9	307.4	682.5	3913.5	1.2	1.2	2.70	1.41
4	16- 20	5.67	64.1	2.45	6357.3	529.0	413.2	733.7	4324.1	1.5	1.5	3.60	1.88
5	21- 25	5.90	66.8	2.59	7260.2	680.2	473.6	856.5	4754.6	1.8	1.8	4.50	2.35
6	26- 30	6.14	69.5	2.73	8277.0	851.7	569.7	912.8	5311.5	2.0	2.0	5.40	2.82
7	31- 35	6.37	72.1	2.87	9322.2	1028.3	674.7	952.3	5900.1	2.3	2.3	6.30	3.29
8	36- 40	6.65	75.2	3.04	11112.8	1374.3	831.8	1011.5	6567.7	13.7	13.7	7.28	3.88
9	41- 45	6.87	77.7	3.17	12728.3	1690.5	989.8	1077.2	7101.9	22.8	22.8	8.26	4.47
10	46- 50	6.87	77.7	3.17	13643.2	1887.5	1151.7	1168.7	7101.9	22.8	22.8	9.24	5.06

AVERAGE OF CONTROL SECTION 0- 0 CMS. (0- 0 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) =100.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 0.0 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 2.81 PERCENT. SAND/CLAY RATIO = 1.4.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 71 38 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES MOUNTAINVILLE VERY STONY LOAM, COOL (TAXADJUNCT) SOIL NO. S71 UTAH. 20- 2 SAMPLE NO. 1 242-1 249 SANPETE AREA

SOIL FAMILY: CALCIC ARGIXEROLL,LOAMY-SKELETAL,MIXED,FRIGID RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	SILT & CLAY LESS THAN .02	.005	.002	CUMULATIVE SAND FRACTION LESS THAN MM 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU	CC' RATIO
1 242	0- 2	A11	100	100	100	100	100	100	99	98	92	70	42	28	19	96	93	88	75	64	0.04	0.028	0.001	61.1	0.0
1 243	2- 5	A12	100	99	99	98	98	98	97	96	90	71	46	31	20	94	91	87	76	65	0.04	0.024	0.001	64.0	0.0
1 244	5- 8	A3	100	97	95	92	90	90	89	89	85	65	41	28	19	88	86	82	69	59	0.05	0.032	0.001	80.3	0.0
1 245	8- 17	B21T	100	97	94	91	88	88	88	88	86	66	40	28	20	88	87	83	71	58	0.05	0.033	0.001	87.4	0.0
1 246	17- 26	B22T	100	97	94	91	88	88	88	88	85	63	38	29	23	88	86	82	69	56	0.06	0.037	0.001	115.7	0.0
1 247	26- 36	B31	100	97	94	91	88	88	88	88	84	57	39	31	26	87	85	79	61	51	0.09	0.047	0.000	194.9	0.0
1 248	36- 42	B32CA	100	97	95	92	90	88	85	83	79	61	42	32	25	82	80	76	65	55	0.07	0.036	0.001	141.7	0.0
1 249	42- 53	C CA	100	97	94	91	88	86	84	82	75	56	37	26	18	81	76	72	61	50	0.10	0.049	0.001	137.8	0.0

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.599	1.618	-0.407	0.983	8
15BR PC	CLAY PC	OC PC	0.244	-0.015	3.915	0.979	8
OC PC	CLAY PC	DPTHIN	-0.041	-0.027	2.569	0.943	8

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME: SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	0.81	0.49	0.05	0.0	0.0	-0.5	-0.3	-0.4	5	0	1	17	23	9	19	26	2	4	6	17	13	28	30	24
A12	0.69	0.43	0.05	0.0	0.0	0.2	0.3	0.1	5	1	1	16	23	11	22	21	2	4	5	16	14	25	34	27
A3	0.67	0.43	0.04	0.0	0.0	0.4	0.2	0.2	5	5	1	15	21	10	21	22	1	3	6	18	15	26	31	27
B21T	0.65	0.42	0.04	0.0	0.0	0.2	-0.1	0.2	35	5	0	12	16	8	17	7	0	2	5	18	19	27	29	30
B22T	0.64	0.38	0.04	0.0	0.0	0.1	0.3	-0.0	35	5	0	14	14	10	18	4	0	2	7	20	20	27	23	35
B31	0.60	0.38	0.10	0.0	0.0	0.3	-0.1	-0.1	35	5	0	16	10	11	19	4	1	4	10	30	17	19	20	43
B32CA	0.64	0.39	0.05	0.0	0.0	-0.7	-0.2	-0.1	34	4	3	12	12	10	19	6	2	4	6	18	18	22	29	43
C CA	0.62	0.44	0.04	0.0	0.0	-0.1	-0.1	0.0	35	5	2	13	13	7	17	8	2	7	8	17	16	21	30	29

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
		WEIGHTS PER UNIT DEPTH (CM OR INCH)			POUNDS PER ACRE					TONS/ACRE			
A11	1.0	0.506	5.72	0.265	1443.6	85.2	6.8	126.9	0.0	32.5	32.5	0.170	0.084
A12	3.5	0.347	3.93	0.202	1454.7	89.1	6.8	69.5	0.0	38.6	38.6	0.193	0.109
A3	6.5	0.285	3.23	0.170	1319.5	82.8	6.3	64.6	0.0	33.1	33.1	0.191	0.111
B21T	12.5	0.191	2.16	0.123	1122.3	87.1	5.1	51.5	0.0	15.4	15.4	0.155	0.084
B22T	21.5	0.164	1.85	0.108	993.6	138.8	10.4	53.1	0.0	2.3	2.3	0.161	0.084
B31	31.0	0.094	1.07	0.062	961.0	183.3	5.1	51.8	0.0	3.3	3.3	0.166	0.081
B32CA	39.0	0.076	0.86	0.050	934.0	185.2	9.3	31.7	0.0	16.2	16.2	0.170	0.098
C CA	47.5	0.063	0.71	0.041	878.5	156.0	4.5	23.0	0.0	30.5	30.5	0.153	0.091

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
		CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)			POUNDS PER ACRE					TONS/ACRE			
1	1- 5	2.05	23.2	1.14	7251.2	437.6	34.1	462.2	0.0	180.9	180.9	0.92	0.54
2	6- 10	3.29	37.2	1.89	13454.4	860.3	63.3	759.0	0.0	311.0	311.0	1.80	1.04
3	11- 15	4.24	48.0	2.51	19065.9	1296.0	88.6	1016.5	0.0	388.1	388.1	2.57	1.46
4	16- 20	5.12	57.9	3.08	24291.4	1886.8	130.0	1278.7	0.0	425.7	425.7	3.36	1.88
5	21- 25	5.93	67.2	3.62	29259.5	2581.0	182.2	1544.1	0.0	437.0	437.0	4.16	2.30
6	26- 30	6.47	73.3	3.97	34096.9	3453.2	213.0	1804.4	0.0	452.6	452.6	4.98	2.71
7	31- 35	6.95	78.6	4.28	38901.7	4369.8	238.4	2063.5	0.0	469.2	469.2	5.81	3.11
8	36- 40	7.34	83.1	4.54	43598.5	5293.8	280.9	2242.0	0.0	537.5	537.5	6.66	3.58
9	41- 45	7.68	87.0	4.77	48101.8	6132.2	313.2	2374.5	0.0	661.5	661.5	7.46	4.05
10	46- 50	8.00	90.5	4.97	52494.2	6912.1	335.8	2489.7	0.0	814.2	814.2	8.22	4.50

AVERAGE OF CONTROL SECTION 21- 71 CMS. (8- 28 IN.)
SAND (MINUS VFS)= 21.5 PERCENT, SAND = 35.9 PERCENT, SILT (PLUS VFS) = 53.4 PERCENT, CLAY = 25.1 PERCENT,
CARBONATE CLAY = 0.5 PERCENT, 2-250MM= 51.5 PERCENT, 15 BAR = 9.8 PERCENT, CACO3 EQUIVALENT= 7.9 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 1.39 PERCENT. SAND/CLAY RATIO = 1.5.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 67 1 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES BINGHAM GRAVELLY LOAM (TAXADJUNCT) SOIL NO. S67 UTAH. 18- 5 SAMPLE NO. 7 193-7 201 SALT LAKE CO. AREA

SOIL FAMILY: CALCIC ARGIXEROLL,LOAMY-SKELETAL,MIXED,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	CUMULATIVE SAND FRACTION LESS 1.0	THAN .5	.25	.10	MM .05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC
7 193	0- 5	AP	100	96	94	90	87	75	62	62	55	43	23	15	10	60	56	53	47	38	1.13	0.157	0.002	577.4	0.5
7 194	5- 10	A12	100	97	95	91	89	77	64	64	58	47	25	17	13	62	59	56	51	41	0.66	0.095	0.001	527.0	0.4
7 195	10- 16	B1	100	98	97	95	94	83	71	71	63	52	29	20	15	67	64	61	56	45	0.20	0.070	0.001	203.4	0.1
7 196	16- 25	B2 T	100	94	91	85	81	68	54	54	48	38	21	15	11	51	49	46	41	33	6.41	0.727	0.002	3882.5	5.9
7 197	25- 34	B3 CA	100	87	78	65	56	42	28	28	24	18	10	8	6	26	24	23	20	16	21.53	14.085	0.016	1332.5	*****
7 198	34- 46	C 1CA	100	90	84	74	67	50	32	32	28	20	12	8	6	30	29	27	22	18	14.37	9.640	0.010	1480.0	*****
7 199	46- 602	C 2CA	100	100	100	100	100	99	98	98	94	83	52	35	23	97	95	93	88	77	0.03	0.017	0.001	49.8	0.0
7 200	60- 773	C 3	100	89	81	70	62	46	29	29	20	10	5	4	3	24	20	18	12	8	17.46	11.433	0.074	236.5	*****
7 201	77- 963	C 4	100	94	90	84	80	58	36	36	24	11	6	4	4	30	25	21	13	8	10.07	7.330	0.068	147.7	146.7

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	REGRESSION COEFFICIENTS A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.905	0.472	-1.753	0.899	9
15BR PC	CLAY PC	OC PC	0.411	0.299	0.641	0.931	9
OC PC	CLAY PC	DPTHIN	-0.191	-0.043	5.388	0.975	6

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	OC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
AP	0.75	0.52	0.04	0.0	0.0	1.9	-0.5	-0.1	8	6	12	11	14	5	20	24	5	7	5	13	16	30	24	19
A12	1.02	0.44	0.04	0.0	0.0	-3.4	0.4	0.2	8	6	14	13	16	7	21	15	4	6	5	11	18	33	24	24
B1	0.97	0.45	0.03	0.0	0.0	-2.6	-0.0	0.1	8	3	12	13	16	7	20	21	7	6	5	10	19	28	25	26
B2 T	0.85	0.44	0.04	0.0	0.0	-0.3	0.3	0.0	14	11	15	12	13	6	16	13	7	6	6	11	18	29	23	25
B3 CA	0.68	0.40	0.04	0.0	0.0	3.0	1.1	-0.2	11	28	18	8	6	4	12	13	10	8	7	14	18	23	21	25
C 1CA	0.72	0.44	0.04	0.0	0.0	1.5	0.2	0.1	0	24	26	11	8	4	11	16	8	5	8	17	18	22	22	23
2C 2CA	0.77	0.53	0.03	0.0	0.0	0.9	-1.7	-0.7	0	0	1	11	27	12	42	7	1	3	3	7	14	33	38	31
3C 3	0.85	0.52	0.11	0.0	0.0	-1.2	-0.2	0.8	9	21	18	12	3	2	19	16	18	15	10	23	16	11	8	10
3C 4	0.70	0.43	0.10	0.0	0.0	0.3	0.5	-0.3	11	14	30	19	3	2	15	6	18	16	11	26	15	7	6	11

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
		WEIGHTS PER UNIT DEPTH (CM OR INCH)			POUNDS PER ACRE					TONS/ACRE			
AP	2.5	0.312	3.53	0.165	198.9	43.4	4.2	225.7	50.6	0.1	0.1	0.204	0.135
A12	7.5	0.190	2.15	0.116	421.3	94.8	5.0	145.5	215.0	0.1	0.1	0.205	0.122
B1	13.0	0.133	1.51	0.090	450.6	99.8	10.1	93.8	192.5	0.1	0.1	0.199	0.109
B2 T	20.5	0.086	0.98	0.058	443.4	77.0	8.4	71.5	11.0	0.1	0.1	0.158	0.086
B3 CA	29.5	0.040	0.46	0.027	198.8	32.4	5.0	25.3	28.1	2.7	2.7	0.124	0.086
C 1CA	40.0	0.030	0.34	0.020	320.9	70.9	6.5	32.9	0.0	7.7	7.7	0.108	0.061
2C 2CA	53.0	0.0	0.0	0.0	542.5	307.6	20.6	69.7	0.0	26.8	26.8	0.424	0.287
3C 3	68.5	0.0	0.0	0.0	88.6	48.5	4.4	7.5	0.0	4.3	4.3	0.186	0.167
3C 4	86.5	0.0	0.0	0.0	112.1	70.8	6.8	11.5	0.0	0.7	0.7	0.145	0.118

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
		CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)			POUNDS PER ACRE					TONS/ACRE			
1	1- 5	1.56	17.6	0.82	994.5	217.0	20.8	1128.3	253.1	0.5	0.5	1.02	0.67
2	6- 10	2.51	28.4	1.40	3101.0	690.9	46.0	1855.7	1328.3	1.0	1.0	2.04	1.28
3	11- 15	3.17	35.9	1.85	5354.2	1189.7	96.3	2325.0	2290.9	1.5	1.5	3.03	1.82
4	16- 20	3.65	41.3	2.18	7578.7	1597.3	140.1	2704.7	2527.4	2.0	2.0	3.86	2.27
5	21- 25	4.08	46.2	2.47	9795.9	1982.1	182.3	3062.0	2582.3	2.5	2.5	4.65	2.70
6	26- 30	4.28	48.5	2.60	10789.7	2144.2	207.1	3188.4	2722.8	16.0	16.0	5.27	3.13
7	31- 35	4.48	50.7	2.73	11905.7	2344.7	233.5	3322.4	2835.1	34.5	34.5	5.87	3.53
8	36- 40	4.63	52.4	2.83	13510.4	2699.5	265.8	3487.1	2835.1	73.2	73.2	6.41	3.83
9	41- 45	4.78	54.1	2.93	15115.1	3054.2	298.2	3651.8	2835.1	111.9	111.9	6.95	4.13
10	46- 50	4.81	54.4	2.95	17605.9	4355.5	387.0	3963.7	2835.1	227.0	227.0	8.75	5.34
11	51- 55	4.81	54.4	2.95	20318.3	5893.5	489.8	4312.4	2835.1	361.1	361.1	10.87	6.77
12	56- 60	4.81	54.4	2.95	23030.6	7431.5	592.6	4661.2	2835.1	495.2	495.2	12.99	8.20
13	61- 65	4.81	54.4	2.95	23473.4	7674.1	614.8	4698.7	2835.1	516.9	516.9	13.92	9.03
14	66- 70	4.81	54.4	2.95	23916.3	7916.7	636.9	4736.2	2835.1	538.6	538.6	14.85	9.86
15	71- 75	4.81	54.4	2.95	24359.1	8159.3	659.0	4773.8	2835.1	560.2	560.2	15.78	10.69
16	76- 80	4.81	54.4	2.95	24872.7	8468.8	688.3	4823.3	2835.1	571.1	571.1	16.59	11.38
17	81- 85	4.81	54.4	2.95	25433.4	8822.9	722.2	4880.9	2835.1	574.8	574.8	17.31	11.97
18	86- 90	4.81	54.4	2.95	25994.1	9177.0	756.1	4938.4	2835.1	578.5	578.5	18.03	12.56
19	91- 95	4.81	54.4	2.95	26554.8	9531.1	790.1	4995.9	2835.1	582.2	582.2	18.75	13.15

AVERAGE OF CONTROL SECTION 0- 0 CMS. (0- 0 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) =100.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 0.0 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 1.37 PERCENT. SAND/CLAY RATIO = 2.0.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 67 2 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES BINGHAM GRAVELLY LOAM (TAXADJUNCT) SOIL NO. S67 UTAH. 18- 6 SAMPLE NO. 7 202-7 210 SALT LAKE CO. AREA

SOIL FAMILY: CALCIC ARGIXEROLL,LOAMY-SKELETAL,MIXED,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING PERCENTAGE PASSING 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	MECHANICAL ANALYSIS SIEVE LESS THAN .02	.005	.002	CUMULATIVE SAND FRACTION LESS THAN MM 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU	CC RATIO
7 202	0- 6	AP	100	97	95	92	90	80	69	69	60	45	25	16	11	65	61	58	50	40	0.43	0.105	0.002	258.5	0.2
7 203	6- 11	A12	100	98	96	94	92	82	72	72	65	51	30	21	15	70	66	63	55	45	0.18	0.071	0.001	187.8	0.1
7 204	11- 17	B1	100	98	96	94	92	82	71	71	64	49	29	20	15	68	65	61	53	44	0.21	0.078	0.001	223.5	0.1
7 205	17- 24	B2 T	100	90	84	74	67	54	40	40	33	22	12	9	6	36	33	30	24	19	13.23	7.885	0.008	1625.0	89.2
7 206	24- 33	B3 T	100	89	81	70	62	45	28	28	24	16	6	5	4	26	24	22	18	14	17.50	11.605	0.032	544.4	*****
7 207	33- 45	C 1CA	100	87	78	65	56	40	24	24	17	8	5	4	4	21	18	16	10	6	21.53	14.622	0.104	206.2	*****
7 208	45- 61	C 2CA	100	92	87	79	73	62	50	50	40	29	18	14	12	47	41	38	31	25	8.63	4.700	0.001	6584.1	48.2
7 209	61- 75	C 3	100	88	79	67	58	44	30	30	19	12	9	7	6	25	20	17	13	11	20.28	12.747	0.033	618.0	*****
7 210	75- 87	C 4	100	90	83	73	66	51	35	35	24	14	9	8	7	29	25	22	16	12	14.50	9.239	0.027	545.0	693.9

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.897	6.136	-5.101	0.979	9
15BR PC	CLAY PC	OC PC	0.437	0.843	-0.829	0.966	9
OC PC	CLAY PC	DPTHIN	-0.040	-0.034	1.966	0.986	5

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05 .05	-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
AP	0.99	0.45	0.04	0.0	0.0	1.1	-0.0	-0.0	0	7	14	19	19	7	22	12	8	7	5	14	17	26	24	19
A12	0.91	0.41	0.03	0.0	0.0	-0.7	0.3	0.1	0	5	13	17	20	10	0	0	4	6	6	14	17	26	27	26
B1	0.89	0.43	0.03	0.0	0.0	-0.6	-0.1	-0.1	0	5	13	17	18	9	23	15	5	7	6	14	17	27	25	26
B2 T	0.86	0.45	0.05	0.0	0.0	-1.0	-0.5	0.0	41	15	12	10	6	3	8	5	11	9	8	19	16	19	17	19
B3 T	0.69	0.37	0.05	0.0	0.0	0.4	0.5	-0.0	28	22	20	8	6	2	0	0	8	8	8	18	18	34	7	18
C 1CA	0.55	0.38	0.04	0.0	0.0	0.1	-0.0	0.0	32	24	17	9	2	2	0	0	16	14	11	29	16	9	5	18
C 2CA	0.65	0.40	0.03	0.0	0.0	0.9	-0.0	-0.8	28	12	11	12	6	6	0	0	8	15	10	16	17	19	15	32
C 3	0.65	0.42	0.04	0.0	0.0	-0.2	-0.5	-1.2	57	14	9	6	2	2	0	0	21	22	12	14	9	10	11	25
C 4	0.65	0.37	0.04	0.0	0.0	-0.2	0.4	-1.6	47	13	12	9	2	3	0	0	22	16	9	20	14	11	7	25

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
AP	3.0	0.255	2.89	0.141	319.5	65.0	6.2	200.6	308.7	0.1	0.1	0.221	0.135
A12	8.5	0.163	1.84	0.107	556.7	120.2	12.8	260.5	144.7	0.1	0.1	0.0	0.0
B1	14.0	0.144	1.63	0.095	554.9	118.5	18.4	228.9	96.0	0.1	0.1	0.229	0.124
B2 T	20.5	0.046	0.52	0.030	203.6	39.0	5.0	33.8	8.7	0.1	0.1	0.077	0.042
B3 T	28.5	0.029	0.33	0.019	182.7	25.0	4.6	15.5	0.0	0.5	0.5	0.0	0.0
C 1CA	39.0	0.0	0.0	0.0	146.4	21.3	1.8	6.0	0.0	1.9	1.9	0.0	0.0
C 2CA	53.0	0.0	0.0	0.0	328.6	101.1	9.5	37.7	0.0	1.4	1.4	0.0	0.0
C 3	68.0	0.0	0.0	0.0	120.5	43.7	4.1	11.6	0.0	0.6	0.6	0.0	0.0
C 4	81.0	0.0	0.0	0.0	139.7	60.9	3.8	16.2	0.0	0.8	0.8	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	1.28	14.4	0.70	1597.4	324.9	31.1	1003.1	1543.3	0.7	0.7	1.10	0.67
2	6- 10	2.18	24.7	1.27	4143.5	870.8	88.6	2245.8	2430.8	1.4	1.4	2.20	1.34
3	11- 15	2.92	33.1	1.76	6920.0	1464.9	175.0	3422.0	2959.8	2.0	2.0	3.34	1.97
4	16- 20	3.35	37.9	2.04	8640.6	1818.8	226.8	3981.2	3177.8	2.5	2.5	4.03	2.34
5	21- 25	3.56	40.3	2.18	9637.6	1999.7	251.3	4131.8	3212.5	3.2	3.2	4.41	2.55
6	26- 30	3.71	42.0	2.28	10551.2	2124.9	274.1	4209.2	3212.5	5.7	5.7	4.79	2.76
7	31- 35	3.80	43.0	2.34	11392.1	2242.5	291.4	4267.7	3212.5	11.0	11.0	5.17	2.97
8	36- 40	3.80	43.0	2.34	12124.1	2348.8	300.2	4297.8	3212.5	20.6	20.6	5.55	3.18
9	41- 45	3.80	43.0	2.34	12856.0	2455.1	309.1	4327.8	3212.5	30.3	30.3	5.93	3.39
10	46- 50	3.80	43.0	2.34	14498.9	2960.4	356.7	4516.2	3212.5	37.2	37.2	6.31	3.60
11	51- 55	3.80	43.0	2.34	16141.7	3465.7	404.3	4704.7	3212.5	44.1	44.1	6.69	3.81
12	56- 60	3.80	43.0	2.34	17784.6	3971.0	452.0	4893.1	3212.5	51.0	51.0	7.07	4.02
13	61- 65	3.80	43.0	2.34	18595.3	4246.7	478.0	4977.3	3212.5	54.7	54.7	7.45	4.23
14	66- 70	3.80	43.0	2.34	19198.0	4465.1	498.5	5035.5	3212.5	57.7	57.7	7.83	4.44
15	71- 75	3.80	43.0	2.34	19800.7	4683.5	519.1	5093.7	3212.5	60.7	60.7	8.21	4.65
16	76- 80	3.80	43.0	2.34	20499.4	4987.9	538.3	5174.8	3212.5	64.9	64.9	8.59	4.86
17	81- 85	3.80	43.0	2.34	21198.1	5292.4	557.4	5255.8	3212.5	69.0	69.0	8.97	5.07

AVERAGE OF CONTROL SECTION 0- 0 CMS. (0- 0 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) =100.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 0.0 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.93 PERCENT. SAND/CLAY RATIO = 2.1.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 67 10 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES DRY CREEK LOAM (TAXADJUNCT) SOIL NO. S67 UTAH. 18- 8 SAMPLE NO. 7 268-7 277 SALT LAKE CO. AREA

SOIL FAMILY: CALCIC ARGIXEROLL FINE,MONTMORILLONITIC,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING PERCENTAGE PASSING 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	ANALYSIS SIEVE LESS .02	THAN .005	MM .002	CUMULATIVE SAND FRACTION LESS 1.0	.5	THAN .25	.10	MM .05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC
7 268	0- 5	AP	100	100	100	100	100	98	96	96	94	79	45	33	25	95	95	94	87	66	0.04	0.025	0.000	76.7	0.0
7 269	5- 10	A12	100	100	100	100	100	96	93	93	92	82	50	38	31	92	92	91	87	73	0.03	0.020	0.000	72.6	0.0
7 270	10- 16	B1	100	99	99	98	97	89	81	81	79	71	46	37	32	80	79	79	76	63	0.04	0.025	0.000	103.4	0.0
7 271	16- 23	B2 T	100	100	100	100	100	95	91	91	88	76	47	38	32	90	88	87	81	66	0.04	0.023	0.000	91.5	0.0
7 272	23- 34	B3 CA	100	96	93	88	85	69	52	52	49	41	29	25	22	51	50	48	44	36	6.59	0.634	0.00111	430.5	5.8
7 273	34- 41	C 1CA	100	94	89	83	78	67	56	56	47	32	21	16	13	52	48	44	36	28	6.06	0.688	0.001	5187.5	18.9
7 274	41- 54	C 2CA	PSD NOT DETERMINED																						
7 275	54- 69	C 3CA	PSD NOT DETERMINED																						
7 276	69- 822	C 4CA	PSD NOT DETERMINED																						
7 277	82- 943	C 5CA	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.379	-2.523	12.202	0.859	6
15BR PC	CLAY PC	OC PC	0.292	-3.703	6.507	0.972	6
OC PC	CLAY PC	DPTHIN	-0.027	-0.007	1.732	0.999	4

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05 .05	.05-.002	.002 LT	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS, PERCENT OF SAND PLUS SILT: VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
AP	0.80	0.39	0.03	0.0	0.0	-1.4	0.3	-0.0	0	0	2	16	22	14	23	23	1	1	1	10	29	30	28	36
A12	0.67	0.39	0.02	0.0	0.0	0.6	0.3	0.0	0	0	4	12	24	18	32	10	1	1	1	6	24	37	30	51
B1	0.66	0.41	0.02	0.0	0.0	-0.3	-0.4	-0.0	0	2	9	10	18	18	33	10	2	1	1	6	26	35	29	65
B2 T	0.83	0.45	0.02	0.0	0.0	-3.4	1.2	0.6	0	0	5	15	20	18	33	9	2	2	2	9	27	31	26	53
B3 CA	0.58	0.43	0.01	0.0	0.0	3.0	-0.8	0.0	7	8	18	9	8	12	28	10	4	4	4	13	26	24	24	72
C 1CA	1.13	0.78	0.01	0.0	0.0	1.5	-0.5	1.1	12	10	10	13	7	6	21	21	8	10	9	19	19	17	18	30
C 2CA					0.0																			
C 3CA					0.0																			
2C 4CA					0.0																			
3C 5CA					0.0																			

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
AP	2.5	0.237	2.69	0.141	568.4	142.4	14.4	231.4	374.8	0.2	0.2	0.229	0.088
A12	7.5	0.181	2.05	0.140	662.4	0.0	81.4	37.6	694.6	0.2	0.2	0.321	0.133
B1	13.0	0.121	1.36	0.093	918.8	207.1	83.2	32.6	94.7	2.8	2.8	0.332	0.131
B2 T	19.5	0.0	0.0	0.0	708.4	455.1	64.9	73.4	238.2	7.8	7.8	0.334	0.120
B3 CA	28.5	0.049	0.56	0.038	508.1	141.2	47.1	13.3	30.7	6.0	6.0	0.277	0.141
C 1CA	37.5	0.0	0.0	0.0	249.8	113.8	10.9	30.8	44.3	41.1	41.1	0.208	0.130
C 2CA	47.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.9	26.9	0.170	0.071
C 3CA	61.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.2	26.2	0.277	0.171
2C 4CA	75.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.0	13.0	0.120	0.086
3C 5CA	88.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.2	37.2	0.312	0.171

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	1.19	13.4	0.70	2841.9	712.0	71.8	1157.1	1873.8	0.8	0.8	1.14	0.66
2	6- 10	2.09	23.7	1.40	6153.9	712.0	478.6	1345.2	5346.6	1.6	1.6	2.74	1.32
3	11- 15	2.69	30.5	1.87	10747.9	1747.8	894.8	1508.1	5819.9	15.5	15.5	4.40	1.97
4	16- 20	2.81	31.8	1.96	14500.4	3775.5	1237.6	1834.0	6867.5	49.6	49.6	6.07	2.58
5	21- 25	2.91	33.0	2.04	17641.8	5423.3	1526.4	2080.7	7643.6	85.1	85.1	7.63	3.22
6	26- 30	3.16	35.7	2.23	20182.0	6129.1	1761.7	2147.2	7797.0	114.9	114.9	9.01	3.92
7	31- 35	3.35	38.0	2.38	22464.0	6807.6	1960.8	2231.2	7964.0	179.9	179.9	10.33	4.61
8	36- 40	3.35	38.0	2.38	23712.9	7376.7	2015.3	2385.3	8185.3	385.4	385.4	11.37	5.26
9	41- 45	3.35	38.0	2.38	23962.7	7490.5	2026.3	2416.2	8229.6	534.1	534.1	12.26	5.67
10	46- 50	3.35	38.0	2.38	23962.7	7490.5	2026.3	2416.2	8229.6	668.6	668.6	13.11	6.02
11	51- 55	3.35	38.0	2.38	23962.7	7490.5	2026.3	2416.2	8229.6	802.4	802.4	14.07	6.47
12	56- 60	3.35	38.0	2.38	23962.7	7490.5	2026.3	2416.2	8229.6	933.5	933.5	15.45	7.32
13	61- 65	3.35	38.0	2.38	23962.7	7490.5	2026.3	2416.2	8229.6	1064.6	1064.6	16.83	8.17
14	66- 70	3.35	38.0	2.38	23962.7	7490.5	2026.3	2416.2	8229.6	1182.5	1182.5	18.06	8.94
15	71- 75	3.35	38.0	2.38	23962.7	7490.5	2026.3	2416.2	8229.6	1247.8	1247.8	18.66	9.37
16	76- 80	3.35	38.0	2.38	23962.7	7490.5	2026.3	2416.2	8229.6	1313.0	1313.0	19.26	9.80
17	81- 85	3.35	38.0	2.38	23962.7	7490.5	2026.3	2416.2	8229.6	1450.7	1450.7	20.44	10.48
18	86- 90	3.35	38.0	2.38	23962.7	7490.5	2026.3	2416.2	8229.6	1636.7	1636.7	22.00	11.33

AVERAGE OF CONTROL SECTION 0- 0 CMS. (0- 0 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) =100.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 0.0 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.76 PERCENT. SAND/CLAY RATIO = 0.8.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 72 83 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES OSTLER LOAM (TAXADJUNCT) SOIL NO. S72 UTAH. 29- 2 SAMPLE NO. 2 507-2 513 MORGAN&E.WEBER AREA

SOIL FAMILY: PACHIC ARGIXEROLL,FINE,MONTMORILLONITIC,FRIGID RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS THAN .02 MM	.005	.002	CUMULATIVE SAND FRACTION LESS THAN MM 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC
2 507	0- 7	A11	100	100	100	100	100	99	99	98	91	67	47	34	25	96	92	86	71	62	0.04	0.024	0.001	88.9	0.0
2 508	7- 18	A12	100	100	100	100	100	100	99	98	92	68	46	33	25	97	93	88	72	61	0.05	0.025	0.001	92.3	0.0
2 509	18- 22	B21T	100	100	100	100	100	99	98	96	86	64	46	36	29	94	88	82	68	59	0.06	0.027	0.000	124.2	0.0
2 510	22- 28	B22T	100	100	100	100	100	99	97	94	82	62	50	43	38	90	83	77	66	58	0.06	0.020	0.000	164.1	0.0
2 511	28- 37	B23T	100	100	100	100	100	99	98	96	86	68	52	43	36	93	87	82	72	64	0.04	0.015	0.000	99.9	0.0
2 512	37- 49	B3	100	99	98	97	96	95	93	87	61	41	33	28	25	78	64	54	43	38	0.38	0.183	0.000	776.0	0.0
2 513	49- 60	C	100	100	100	100	100	100	100	100	95	77	60	48	40	99	96	92	82	70	0.02	0.006	0.000	53.6	0.0

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	1.272	3.130	-14.089	0.829	7
15BR PC	CLAY PC	OC PC	0.445	0.126	0.102	0.928	7
OC PC	CLAY PC	DPTHIN	-0.075	-0.052	5.160	0.867	7

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	OC. FE	PYR. FE+AL	PYR/D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOILDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05 .05	.05-.002	.002 LT	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	1.27	0.46	0.0	0.0	0.0	-1.0	0.3	-1.1	0	0	1	17	18	12	24	28	2	6	8	21	13	20	30	34
A12	1.02	0.50	0.0	0.0	0.0	-0.0	-1.0	0.2	0	0	1	18	18	12	0	0	2	5	8	21	15	21	29	34
B21T	0.79	0.42	0.0	0.0	0.0	3.2	1.0	0.9	0	0	2	20	16	16	37	9	3	9	10	20	14	19	25	43
B22T	0.89	0.43	0.0	0.0	0.0	2.8	0.7	0.4	0	0	3	20	11	21	0	0	8	11	12	20	14	14	21	68
B23T	0.83	0.42	0.0	0.0	0.0	4.5	1.0	0.1	0	0	2	18	15	20	38	7	6	9	9	17	14	19	26	61
B3	0.89	0.45	0.0	0.0	0.0	-2.2	-0.1	0.5	0	2	5	28	7	15	0	0	14	23	16	18	8	7	13	41
C	1.12	0.50	0.0	0.0	0.0	-7.3	-1.9	-0.9	0	0	0	15	15	20	43	7	2	5	7	18	18	17	34	66

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
		WEIGHTS PER UNIT DEPTH (CM OR INCH)			POUNDS PER ACRE					TONS/ACRE			
A11	3.5	0.878	9.94	0.354	1912.1	173.4	44.7	227.6	0.0	0.0	0.0	0.210	0.101
A12	12.5	0.538	6.09	0.236	1113.1	132.9	53.6	125.0	69.9	0.0	0.0	0.0	0.0
B21T	20.0	0.223	2.52	0.124	1222.4	196.6	43.5	98.3	0.0	0.0	0.0	0.337	0.198
B22T	25.0	0.107	1.22	0.049	2543.7	75.4	86.7	73.5	0.0	0.0	0.0	0.0	0.0
B23T	32.5	0.129	1.46	0.058	1256.2	275.1	93.9	61.2	138.2	0.0	0.0	0.330	0.158
B3	43.0	0.064	0.73	0.029	1059.8	187.9	110.8	58.7	72.3	0.0	0.0	0.0	0.0
C	54.5	0.055	0.62	0.025	2499.2	296.3	207.8	82.2	0.0	0.0	0.0	0.359	0.170

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
		CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)			POUNDS PER ACRE					TONS/ACRE			
1	1- 5	4.39	49.7	1.77	9560.7	807.1	223.7	1138.1	0.0	0.0	0.0	1.05	0.50
2	6- 10	7.76	87.9	3.19	16724.2	1612.6	474.1	1968.4	209.8	0.0	0.0	2.10	1.00
3	11- 15	10.45	118.3	4.37	22289.5	2276.9	742.1	2593.4	559.5	0.0	0.0	3.15	1.50
4	16- 20	12.51	141.6	5.33	28073.5	3068.7	989.9	3165.0	769.3	0.0	0.0	4.45	2.20
5	21- 25	13.28	150.3	5.72	38149.4	3688.0	1336.9	3582.0	769.3	0.0	0.0	6.13	3.19
6	26- 30	13.86	156.9	5.98	48292.9	4464.3	1784.7	3924.9	1045.6	0.0	0.0	7.80	4.10
7	31- 35	14.50	164.2	6.28	54573.7	5839.8	2254.2	4231.1	1736.5	0.0	0.0	9.45	4.89
8	36- 40	14.95	169.3	6.48	60265.5	6953.6	2774.4	4529.7	2229.6	0.0	0.0	11.10	5.68
9	41- 45	15.27	172.9	6.62	65564.6	7893.0	3328.4	4823.3	2591.0	0.0	0.0	12.75	6.47
10	46- 50	15.58	176.4	6.77	72303.1	8940.9	3979.4	5140.3	2880.0	0.0	0.0	14.43	7.27
11	51- 55	15.86	179.5	6.89	84799.0	10422.3	5018.2	5551.3	2880.0	0.0	0.0	16.22	8.12
12	56- 60	16.13	182.6	7.01	97294.9	11903.8	6057.0	5962.4	2880.0	0.0	0.0	18.01	8.97

AVERAGE OF CONTROL SECTION 46- 96 CMS. (18- 38 IN.)
SAND (MINUS VFS)= 28.6 PERCENT, SAND = 37.3 PERCENT, SILT (PLUS VFS) = 34.7 PERCENT, CLAY = 36.7 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 5.3 PERCENT, 15 BAR = 15.6 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 3.19 PERCENT. SAND/CLAY RATIO = 1.5.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 71 36 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES LIZZANT VERY COBBLY LOAM SOIL NO. S71 UTAH. 20- 3 SAMPLE NO. 1 230-1 235 SANPETE AREA

SOIL FAMILY: TYPIC CALCIXEROLL,LOAMY-SKELETAL,CARBON.,FRIGID RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE													CUMULATIVE SAND FRACTION					DIAMETERS AT PERCENT (MM)			CU RATIO	CC RATIO
			3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	LESS 1.0	.5	THAN .25	MM .10	.05	60	50	10		
1 230	0- 5	A11	100	100	100	99	99	94	89	84	77	67	49	37	29	81	77	75	69	65	0.04	0.021	0.000	85.4	0.0
1 231	5- 12	A12	100	86	76	62	52	50	47	44	40	35	26	20	16	42	40	39	36	34	23.89	10.867	0.00129	141.1	29.6
1 232	12- 21	B2	100	97	95	92	90	79	68	58	51	45	35	25	18	54	51	50	47	43	2.37	0.286	0.001	3255.4	0.4
1 233	21- 31	B3	100	97	95	91	89	74	59	52	46	42	33	22	15	49	47	46	44	40	4.92	1.263	0.001	5234.6	1.0
1 234	31- 39	C1 CA	100	90	83	72	65	54	43	37	33	30	24	16	10	35	33	33	31	29	13.83	7.330	0.002	7373.0	38.9
1 235	39- 47	C2	100	85	75	60	50	40	29	23	19	17	13	8	5	20	19	19	18	16	25.00	19.000	0.008	3045.5	*****

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	REGRESSION COEFFICIENTS A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.428	3.852	2.377	0.993	6
15BR PC	CLAY PC	OC PC	0.292	1.510	2.446	0.999	6
OC PC	CLAY PC	DPTHIN	0.234	-0.028	0.013	0.932	6

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS 250-75	75-20	20-2	SIZE IN MM 2-.05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	1.61	0.80	0.03	0.0	0.0	0.5	0.1	-1.9	0	0	5	6	12	9	19	49	6	6	4	10	8	28	37	52
A12	1.28	0.66	0.03	0.0	0.0	-2.1	-0.4	1.3	0	24	4	5	9	8	15	35	7	6	4	11	9	26	36	59
B2	0.96	0.62	0.03	0.0	0.0	3.4	0.6	1.1	0	6	18	8	15	10	20	23	10	7	4	8	8	22	42	44
B3	1.15	0.71	0.03	0.0	0.0	1.1	0.2	0.2	0	7	24	8	16	10	17	18	8	6	3	6	9	20	49	40
C1 CA	1.34	0.77	0.0	0.0	0.0	-1.2	-0.1	-0.1	0	26	20	6	14	8	15	11	8	6	3	6	8	19	50	39
C2	1.56	0.90	0.0	0.0	0.0	-1.7	-0.4	-0.6	0	42	22	6	9	4	12	5	14	7	3	6	8	19	43	30

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
		WEIGHTS PER UNIT DEPTH (CM OR INCH)			POUNDS PER ACRE					TONS/ACRE			
A11	2.5	1.16	713.20	0.460	2022.1	70.8	7.5	159.8	0.0	18.0	18.0	0.151	0.006
A12	8.5	0.611	6.92	0.291	1416.2	37.6	6.0	86.5	0.0	16.3	16.3	0.127	0.029
B2	16.5	0.428	4.85	0.176	1183.3	28.5	9.1	38.6	0.0	60.4	60.4	0.182	0.101
B3	26.0	0.339	3.84	0.159	1115.0	26.6	9.3	23.5	0.0	75.5	75.5	0.149	0.081
C1 CA	35.0	0.172	1.94	0.072	904.1	17.6	7.5	12.7	0.0	69.9	69.9	0.104	0.097
C2	43.0	0.096	1.08	0.040	576.4	12.5	5.3	9.0	0.0	50.3	50.3	0.109	0.083

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
		CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)			POUNDS PER ACRE					TONS/ACRE			
1	1- 5	5.83	66.0	2.30	10110.7	354.0	37.7	798.9	0.0	90.1	90.1	0.75	0.14
2	6- 10	8.89	100.6	3.76	17191.7	541.7	67.7	1231.2	0.0	171.6	171.6	1.38	0.28
3	11- 15	11.40	129.0	4.87	23574.0	702.3	107.0	1519.8	0.0	385.3	385.3	2.18	0.64
4	16- 20	13.54	153.3	5.75	29490.4	844.8	152.5	1712.8	0.0	687.0	687.0	3.09	1.14
5	21- 25	15.33	173.5	6.56	35133.8	979.6	198.6	1845.5	0.0	1049.3	1049.3	3.87	1.56
6	26- 30	17.02	192.7	7.36	40709.0	1112.4	244.9	1963.3	0.0	1426.7	1426.7	4.61	1.96
7	31- 35	18.05	204.3	7.81	45440.2	1209.2	284.1	2037.6	0.0	1781.8	1781.8	5.17	2.43
8	36- 40	18.83	213.2	8.14	49632.8	1292.0	319.3	2097.3	0.0	2111.8	2111.8	5.69	2.90
9	41- 45	19.31	218.6	8.34	52514.6	1354.5	346.0	2142.4	0.0	2363.6	2363.6	6.23	3.31

AVERAGE OF CONTROL SECTION 25- 100 CMS. (10- 39 IN.)
SAND (MINUS VFS)= 17.4 PERCENT, SAND = 23.2 PERCENT, SILT (PLUS VFS) = 53.0 PERCENT, CLAY = 29.6 PERCENT,
CARBONATE CLAY = 14.6 PERCENT, 2-250MM= 50.8 PERCENT, 15 BAR = 10.5 PERCENT, CACO3 EQUIVALENT= 58.5 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 6.34 PERCENT. SAND/CLAY RATIO = 0.7.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 70 29 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES MOWER SANDY CLAY LOAM SOIL NO. S70 UTAH. 20- 2 SAMPLE NO. 0 185-0 190 SANPETE AREA

SOIL FAMILY: TYPIC CALCIXEROLL,FINE-LOAMY,CARBONATIC,FRIGID RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING PERCENTAGE PASSING 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	MECHANICAL ANALYSIS SIEVE NO. 4	NO. 10	NO. 40	NO. 200	LESS THAN .02 MM	.005	.002	CUMULATIVE SAND FRACTION LESS THAN MM 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC RATIO
0 185	0- 2	A11	100	100	100	100	100	99	97	95	92	87	75	54	40	94	92	91	88	84	0.01	0.004	0.000	21.2	0.0
0 186	2- 11	A12	100	99	98	96	95	94	93	92	89	86	78	57	43	91	90	89	87	84	0.01	0.003	0.000	18.1	0.0
0 187	11- 17	B2	100	100	100	100	100	100	99	99	98	96	92	67	50	99	98	98	97	95	0.00	0.002	0.000	10.7	0.0
0 188	17- 25	C 1CA	100	100	100	100	100	100	100	100	99	96	89	56	35	100	99	98	97	95	0.01	0.004	0.000	15.1	0.0
0 189	25- 39	C 2CA	100	100	100	100	100	100	100	100	99	95	89	53	28	100	99	98	96	94	0.01	0.005	0.000	14.7	0.0
0 190	39- 45	R	100	100	100	100	100	100	100	100	39	24	19	12	7	61	40	33	25	22	0.97	0.693	0.003	282.0	8.2

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	REGRESSION COEFFICIENTS A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.361	3.713	0.541	0.997	6
15BR PC	CLAY PC	OC PC	0.330	0.191	4.481	0.960	6
OC PC	CLAY PC	DPTHIN	-0.057	-0.135	5.583	0.971	6

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	OC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS, PERCENT OF SAND PLUS SILT: VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	0.78	0.48	0.0	0.0	0.0	-0.1	0.2	-0.2	0	0	2	5	19	17	29	28	2	2	2	5	7	17	63	72
A12	0.64	0.45	0.0	0.0	0.0	0.6	0.6	-0.2	0	2	1	4	19	20	29	25	2	3	2	4	5	13	71	88
B2	0.51	0.44	0.0	0.0	0.0	-0.2	0.4	0.2	0	0	1	2	23	26	36	12	0	1	1	2	3	7	86	104
C 1CA	0.72	0.74	0.0	0.0	0.0	-1.3	-2.4	0.5	0	0	0	2	31	18	39	10	1	1	1	2	2	10	83	54
C 2CA	0.46	0.82	0.0	0.0	0.0	1.2	-1.0	0.1	0	0	0	3	37	16	37	7	0	1	2	3	2	7	85	40
R	0.74	1.39	0.0	0.0	0.0	-0.1	2.0	-0.3	0	0	0	0	0	0	0	0	42	22	8	8	4	3	12	8

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A11	1.0	0.689	7.80	0.363	1346.8	140.2	5.7	222.9	0.0	44.7	44.7	0.254	0.113
A12	6.5	0.542	6.14	0.298	1176.0	134.8	6.0	173.3	0.0	54.9	54.9	0.250	0.098
B2	14.0	0.294	3.33	0.180	1452.4	156.1	7.0	141.6	0.0	75.6	75.6	0.319	0.132
C 1CA	21.0	0.271	3.07	0.132	1157.7	118.2	7.1	72.0	0.0	118.5	118.5	0.369	0.218
C 2CA	32.0	0.126	1.42	0.062	1066.0	133.6	7.8	39.5	0.0	145.1	145.1	0.355	0.229
R	42.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	3.00	34.0	1.62	6221.7	684.8	29.5	965.6	0.0	254.1	254.1	1.26	0.52
2	6- 10	5.71	64.7	3.11	12101.7	1359.1	59.5	1831.9	0.0	528.5	528.5	2.51	1.01
3	11- 15	7.43	84.1	4.13	19087.3	2118.5	93.4	2571.6	0.0	886.0	886.0	4.04	1.64
4	16- 20	8.84	100.0	4.88	25465.2	2785.4	128.5	3071.0	0.0	1392.9	1392.9	5.78	2.56
5	21- 25	10.19	115.4	5.55	31253.8	3376.6	163.9	3431.2	0.0	1985.6	1985.6	7.62	3.65
6	26- 30	10.82	122.5	5.86	36583.7	4044.5	202.7	3628.6	0.0	2710.9	2710.9	9.39	4.79
7	31- 35	11.45	129.6	6.17	41913.6	4712.4	241.5	3825.9	0.0	3436.1	3436.1	11.16	5.93
8	36- 40	11.95	135.3	6.42	46177.5	5246.8	272.6	3983.8	0.0	4016.4	4016.4	12.93	7.07
9	41- 45	11.95	135.3	6.42	46177.5	5246.8	272.6	3983.8	0.0	4016.4	4016.4	14.70	8.21

AVERAGE OF CONTROL SECTION 25- 99 CMS. (10- 39 IN.)
SAND (MINUS VFS)= 3.6 PERCENT, SAND = 5.2 PERCENT, SILT (PLUS VFS) = 60.8 PERCENT, CLAY = 35.6 PERCENT,
CARBONATE CLAY = 16.8 PERCENT, 2-250MM= 0.4 PERCENT, 15 BAR = 12.1 PERCENT, CACO3 EQUIVALENT= 77.1 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 2.39 PERCENT. SAND/CLAY RATIO = 0.2.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 70 30 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES MOWER SHALY CLAY LOAM SOIL NO. S70 UTAH. 20- 9 SAMPLE NO. 0 191-0 196 SANPETE AREA

SOIL FAMILY: TYPIC CALCIXEROLL,FINE-LOAMY,CARBONATIC,FRIGID RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS THAN .02 MM	.005	.002	CUMULATIVE SAND FRACTION LESS THAN 1.0 MM	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC RATIO
0 191	0- 3	A1	100	100	100	99	99	98	96	94	90	81	63	45	32	92	91	89	84	77	0.02	0.007	0.000	38.8	0.0
0 192	3- 7	A3	100	100	100	100	100	100	99	98	94	86	71	51	39	96	94	93	88	83	0.01	0.005	0.000	25.3	0.0
0 193	7- 17	B2	100	100	100	100	100	100	100	99	95	88	74	56	43	97	96	95	91	85	0.01	0.003	0.000	20.4	0.0
0 194	17- 24	B3 CA	100	100	100	100	100	99	98	97	94	89	76	56	43	95	94	94	91	86	0.01	0.003	0.000	19.0	0.0
0 195	24- 34	C 1CA	100	100	100	100	100	100	100	100	97	92	80	56	41	99	98	97	94	90	0.01	0.003	0.000	17.7	0.0
0 196	34- 43	C 2	100	100	100	100	100	100	100	100	96	87	82	60	46	99	97	94	88	85	0.00	0.003	0.000	15.0	0.0

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	REGRESSION COEFFICIENTS A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.032	2.086	18.659	0.855	6
15BR PC	CLAY PC	OC PC	0.468	-1.044	1.417	0.914	6
OC PC	CLAY PC	DPTHIN	-0.065	-0.056	4.354	0.968	6

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC 15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC 15BAR MEQ.	OC. PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME SOILS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A1	0.76	0.43	0.0	0.0	0.0	0.7	0.0	-0.1	0	0	2	7	20	14	28	29	3	3	3	8	11	23	50	53
A3	0.71	0.44	0.0	0.0	0.0	-1.3	0.4	-0.1	0	0	1	7	20	17	29	26	3	3	3	8	8	20	55	65
B2	0.63	0.49	0.0	0.0	0.0	1.2	-0.6	0.3	0	0	0	8	24	24	37	7	4	2	2	7	10	20	56	77
B3 CA	0.64	0.48	0.0	0.0	0.0	0.1	0.1	-0.1	0	0	2	6	24	24	37	7	3	2	1	5	9	18	62	80
C 1CA	0.79	0.51	0.0	0.0	0.0	-0.7	-0.7	0.1	0	0	0	5	26	22	34	13	2	2	2	5	7	17	66	69
C 2	0.74	0.47	0.0	0.0	0.0	0.1	0.8	-0.1	0	0	0	8	22	26	35	9	1	4	6	10	6	6	66	84

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
A1	1.5	0.434	4.91	0.257	1320.2	107.2	5.7	193.6	0.0	43.4	43.4	0.239	0.125
A3	5.0	0.377	4.27	0.251	1477.6	118.4	6.1	228.8	0.0	46.7	46.7	0.244	0.104
B2	12.0	0.296	3.35	0.196	1630.8	147.8	7.7	155.8	0.0	71.6	71.6	0.322	0.129
B3 CA	20.5	0.257	2.91	0.169	1582.8	150.6	7.4	125.5	0.0	67.6	67.6	0.315	0.135
C 1CA	29.0	0.194	2.20	0.131	1660.0	229.8	7.3	74.7	0.0	79.8	79.8	0.296	0.141
C 2	38.5	0.115	1.31	0.078	1410.1	425.0	7.8	52.6	0.0	97.8	97.8	0.304	0.153

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
1	1- 5	2.05	23.3	1.27	6915.8	558.5	29.4	1038.4	0.0	223.6	223.6	1.20	0.58
2	6- 10	3.70	41.8	2.36	14763.4	1238.6	64.6	1963.3	0.0	531.6	531.6	2.65	1.17
3	11- 15	5.18	58.6	3.34	22917.1	1977.4	102.9	2742.1	0.0	889.4	889.4	4.26	1.81
4	16- 20	6.54	74.0	4.24	30927.1	2724.7	140.4	3430.0	0.0	1235.2	1235.2	5.85	2.47
5	21- 25	7.76	87.8	5.05	38918.4	3556.7	177.3	4006.6	0.0	1585.2	1585.2	7.41	3.15
6	26- 30	8.73	98.8	5.70	47218.2	4705.9	214.1	4380.1	0.0	1984.3	1984.3	8.89	3.85
7	31- 35	9.62	108.9	6.31	55268.1	6050.4	251.2	4731.5	0.0	2401.3	2401.3	10.38	4.57
8	36- 40	10.20	115.4	6.69	62318.5	8175.6	290.0	4994.6	0.0	2890.5	2890.5	11.90	5.33

AVERAGE OF CONTROL SECTION 25- 100 CMS. (10- 39 IN.)
SAND (MINUS VFS)= 7.7 PERCENT, SAND = 12.1 PERCENT, SILT (PLUS VFS) = 49.1 PERCENT, CLAY = 43.2 PERCENT,
CARBONATE CLAY = 12.9 PERCENT, 2-250MM= 1.0 PERCENT, 15 BAR = 15.1 PERCENT, CACO3 EQUIVALENT= 49.3 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 1.55 PERCENT. SAND/CLAY RATIO = 0.4.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 67 24 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES FONTREEN VERY FINE GRAVELLY LOAM SOIL NO. S67 UTAH. 20- 1 SAMPLE NO. 7 409-7 416 SANPETE CO. AREA

SOIL FAMILY: ARIDIC CALCIXEROLL LMY-SKELTL,CARBONATIC,FRIGID RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS THAN .02 MM	.005	.002	CUMULATIVE SAND FRACTION LESS THAN MM 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU	CC RATIO
7 409	0- 4	A11	100	96	93	89	86	73	60	60	56	48	32	21	15	58	57	56	52	43	4.70	0.087	0.001	4875.3	1.3
7 410	4- 7	A12	100	90	82	72	64	55	45	45	41	36	23	16	11	43	41	41	38	34	14.16	6.788	0.001	9517.9	12.3
7 411	7- 15	A13	100	82	69	50	37	32	26	26	23	21	15	10	8	25	23	23	22	19	31.37	25.223	0.004	7101.6	*****
7 412	15- 21	C 1CA	100	86	77	63	53	42	31	31	28	24	17	12	9	29	28	27	25	22	23.31	15.705	0.003	8249.3	*****
7 413	21- 29	C 2CA	100	88	79	66	57	44	31	31	27	23	17	12	9	29	27	26	24	21	20.91	13.044	0.003	6982.4	*****
7 414	29- 44	C 3CA	100	90	82	72	64	47	29	29	23	19	12	8	6	26	23	22	20	17	16.20	10.867	0.009	1766.3	*****
7 415	44- 58	C 4CA	100	87	78	64	55	41	26	26	21	16	9	5	3	23	21	20	17	14	22.13	14.933	0.024	910.3	*****
7 416	58- 66	C 5	100	87	78	64	55	38	21	21	18	15	7	4	2	19	18	17	16	12	22.13	15.472	0.034	659.9	*****

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.014	4.494	7.902	0.949	8
15BR PC	CLAY PC	OC PC	2.648	-13.016	12.190	0.377	7
OC PC	CLAY PC	DPTHIN	0.222	0.002	-0.794	0.967	8

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	-.05.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	1.31	0.0	0.02	0.0	0.0	0.6	12.9	-0.4	1	6	11	7	12	6	0	0	4	4	2	8	19	25	37	32
A12	1.31	0.86	0.0	0.0	0.0	-0.5	0.3	-0.1	2	19	10	6	12	6	26	19	6	4	2	7	14	30	36	34
A13	1.31	0.96	0.02	0.0	0.0	-1.8	1.1	0.1	5	38	7	4	7	5	21	13	8	6	3	6	13	26	39	41
C 1CA	1.22	1.45	0.0	0.0	0.0	1.4	0.9	0.1	2	30	14	6	9	6	0	0	7	7	3	8	14	22	39	39
C 2CA	1.09	1.54	0.02	0.0	0.0	1.3	9.6	0.5	4	27	16	6	8	5	18	16	10	8	4	8	14	20	36	38
C 3CA	1.24	4.82	0.0	0.0	0.0	1.6	-21.0	0.2	4	17	17	6	5	3	16	32	15	10	5	9	14	20	27	25
C 4CA	2.32	2.74	0.0	0.0	0.0	1.3	1.5	-0.5	3	30	19	8	7	2	19	12	13	9	4	10	15	23	26	13
C 5	2.58	2.32	0.04	0.0	0.0	-4.0	7.6	0.1	4	32	24	6	8	1	12	13	10	7	3	8	17	29	26	9

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A11	2.0	0.441	4.99	0.229	686.1	39.7	3.6	55.2	0.0	23.6	23.6	0.0	0.0
A12	5.5	0.369	4.18	0.197	607.0	27.0	3.2	43.8	2.8	21.8	21.8	0.265	0.167
A13	11.0	0.236	2.67	0.129	405.1	24.8	2.2	21.9	5.6	16.4	16.4	0.212	0.137
C 1CA	18.0	0.189	2.14	0.107	435.8	33.2	2.8	14.1	0.0	31.9	31.9	0.0	0.0
C 2CA	25.0	0.098	1.11	0.055	247.8	26.4	2.7	9.0	0.0	37.6	37.6	0.176	0.092
C 3CA	36.5	0.067	0.75	0.037	146.8	58.0	1.9	6.5	0.0	26.7	26.7	0.157	0.0
C 4CA	51.0	0.063	0.71	0.035	143.7	97.5	4.8	8.1	0.0	31.8	31.8	0.189	0.133
C 5	62.0	0.033	0.38	0.019	93.1	90.2	4.1	14.0	0.0	17.5	17.5	0.124	0.073

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	2.13	24.2	1.11	3351.4	185.6	17.7	264.8	2.8	116.2	116.2	1.32	0.83
2	6- 10	3.58	40.5	1.89	5780.6	313.8	30.6	418.3	25.3	209.0	209.0	2.49	1.57
3	11- 15	4.76	53.9	2.54	7806.0	437.6	41.4	528.0	53.4	291.0	291.0	3.55	2.25
4	16- 20	5.71	64.6	3.07	9985.1	603.7	55.3	598.4	53.4	450.5	450.5	4.61	2.93
5	21- 25	6.29	71.2	3.40	11412.3	742.6	68.7	648.6	53.4	633.0	633.0	5.53	3.43
6	26- 30	6.74	76.3	3.66	12550.4	906.2	81.3	691.3	53.4	810.3	810.3	6.39	3.89
7	31- 35	7.08	80.1	3.84	13284.2	1196.4	90.9	723.8	53.4	943.7	943.7	7.17	4.35
8	36- 40	7.41	83.9	4.03	14018.0	1486.6	100.4	756.3	53.4	1077.1	1077.1	7.95	4.81
9	41- 45	7.74	87.6	4.22	14748.7	1816.2	112.9	790.4	53.4	1215.6	1215.6	8.77	5.31
10	46- 50	8.05	91.1	4.39	15467.3	2303.6	136.9	831.1	53.4	1374.4	1374.4	9.71	5.97
11	51- 55	8.36	94.7	4.57	16186.0	2791.1	160.8	871.7	53.4	1533.2	1533.2	10.65	6.63
12	56- 60	8.62	97.5	4.71	16803.3	3263.9	183.4	924.0	53.4	1663.4	1663.4	11.46	7.17
13	61- 65	8.78	99.4	4.81	17268.6	3715.0	204.0	993.8	53.4	1750.7	1750.7	12.08	7.53

AVERAGE OF CONTROL SECTION 0- 0 CMS. (0- 0 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) =100.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 0.0 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 3.36 PERCENT. SAND/CLAY RATIO = 1.0.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 67 25 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES FONTREEN VERY FINE GRAVELLY LOAM SOIL NO. S67 UTAH. 20- 2 SAMPLE NO. 7 417-7 424 SANPETE CO. AREA

SOIL FAMILY: ARIDIC CALCIXEROLL LMY-SKELTL,CARBONATIC,FRIGID RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS THAN .02	.005	.002	CUMULATIVE SAND FRACTION LESS THAN MM 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU	CC RATIO
7 417	0- 2	A11	100	97	95	92	90	68	45	45	41	37	24	15	9	43	41	41	39	35	7.49	5.489	0.002	3391.9	3.5
7 418	2- 12	A12	100	95	91	86	82	61	40	40	37	35	24	15	10	39	38	37	36	33	9.14	6.554	0.002	4480.2	6.1
7 419	12- 18	A13	100	97	94	91	88	56	24	24	22	20	14	10	6	23	22	21	20	19	10.31	8.290	0.006	1847.2	*****
7 420	18- 24	C 1CA	100	96	93	89	86	71	55	55	48	39	26	17	12	52	48	46	41	36	5.89	0.690	0.001	4085.8	3.5
7 421	24- 30	C 2CA	100	93	89	82	77	60	43	43	38	28	18	12	8	41	38	36	30	25	9.45	6.266	0.003	3128.9	29.8
7 422	30- 41	C 3CA	100	95	91	86	82	67	52	52	44	33	20	13	8	50	45	42	35	29	6.82	1.076	0.003	2376.4	6.9
7 423	41- 47	C 4CA	100	93	88	80	75	56	36	36	30	22	13	8	5	34	31	29	24	20	11.10	7.760	0.008	1413.8	203.6
7 424	47- 60	C 5	100	92	86	77	71	45	19	19	16	11	7	4	2	18	16	15	12	10	14.14	10.808	0.050	280.8	*****

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.582	2.198	5.176	0.996	8
15BR PC	CLAY PC	OC PC	0.190	0.481	11.259	0.740	8
OC PC	CLAY PC	DPTHIN	-0.018	-0.114	4.209	0.908	6

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	1.40	0.85	0.03	0.0	0.0	-0.2	1.1	-0.9	0	5	23	5	13	5	0	0	6	5	2	5	9	31	42	26
A12	1.17	0.86	0.0	0.0	0.0	-0.7	-0.2	0.7	0	10	23	4	13	6	20	24	5	3	1	4	9	31	46	33
A13	1.10	0.94	0.02	0.0	0.0	0.8	-0.5	0.1	0	8	44	3	9	4	0	0	6	6	3	6	7	27	45	37
C 1CA	1.45	1.70	0.0	0.0	0.0	0.2	-0.6	0.6	0	7	15	9	12	6	26	25	7	9	5	12	11	24	32	27
C 2CA	1.71	2.59	0.03	0.0	0.0	0.1	-3.4	0.0	0	13	19	10	9	5	0	0	4	9	8	16	15	21	27	24
C 3CA	1.58	2.21	0.0	0.0	0.0	0.7	0.0	-0.5	0	9	16	12	11	4	0	0	5	11	7	15	13	22	27	19
C 4CA	1.87	2.36	0.0	0.0	0.0	-0.9	1.1	-0.9	0	15	24	10	9	3	0	0	6	10	7	15	13	21	27	16
C 5	1.67	1.97	0.04	0.0	0.0	-0.2	2.5	-2.0	0	20	36	6	5	2	9	22	6	10	8	16	15	20	25	15

W E I G H T S P E R U N I T D E P T H (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A11	1.0	0.483	5.47	0.229	647.0	39.8	3.2	118.6	0.0	15.2	15.2	0.0	0.0
A12	7.0	0.240	2.72	0.137	552.1	41.8	3.1	31.4	0.0	17.4	17.4	0.202	0.107
A13	15.0	0.151	1.71	0.078	320.1	0.0	2.3	15.3	37.3	22.1	22.1	0.0	0.0
C 1CA	21.0	0.122	1.38	0.063	305.0	101.2	7.5	12.7	0.0	23.5	23.5	0.259	0.160
C 2CA	27.0	0.104	1.18	0.054	218.7	134.7	10.1	11.4	0.0	48.8	48.8	0.0	0.0
C 3CA	35.5	0.068	0.76	0.035	168.1	155.1	26.0	12.6	0.0	54.1	54.1	0.0	0.0
C 4CA	44.0	0.0	0.0	0.0	110.3	108.8	30.2	10.2	0.0	43.3	43.3	0.0	0.0
C 5	53.5	0.0	0.0	0.0	68.9	74.2	21.6	6.1	0.0	25.5	25.5	0.088	0.054

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	1.69	19.1	0.87	2950.1	205.0	15.6	331.3	0.0	82.7	82.7	1.01	0.53
2	6- 10	2.89	32.7	1.56	5710.4	414.1	31.0	488.1	0.0	169.8	169.8	2.02	1.06
3	11- 15	3.82	43.2	2.07	7774.6	497.7	44.0	596.7	111.9	270.9	270.9	3.03	1.59
4	16- 20	4.52	51.1	2.43	9344.7	700.1	65.6	668.0	223.8	384.2	384.2	4.15	2.23
5	21- 25	5.11	57.8	2.73	10783.2	1239.7	105.6	729.9	223.8	527.1	527.1	5.44	3.03
6	26- 30	5.63	63.7	3.00	11876.7	1913.3	155.9	786.8	223.8	771.3	771.3	6.73	3.83
7	31- 35	5.97	67.5	3.18	12717.0	2689.0	285.9	849.8	223.8	1042.0	1042.0	8.02	4.63
8	36- 40	6.30	71.4	3.35	13557.3	3464.7	416.0	912.9	223.8	1312.7	1312.7	9.31	5.43
9	41- 45	6.37	72.1	3.39	14166.8	4054.9	562.9	966.4	223.8	1540.2	1540.2	10.60	6.23
10	46- 50	6.37	72.1	3.39	14594.2	4495.2	688.2	1005.3	223.8	1703.3	1703.3	11.38	6.71
11	51- 55	6.37	72.1	3.39	14938.8	4866.4	796.3	1035.8	223.8	1830.5	1830.5	11.82	6.98
12	56- 60	6.37	72.1	3.39	15283.4	5237.6	904.3	1066.4	223.8	1957.8	1957.8	12.26	7.25

AVERAGE OF CONTROL SECTION 0- 0 CMS. (0- 0 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) =100.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 0.0 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 2.55 PERCENT. SAND/CLAY RATIO = 0.8.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 71 33 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES FONTREEN VERY COBBLY LOAM SOIL NO. S71 UTAH. 20- 8 SAMPLE NO. 1 213-1 217 SANPETE AREA

SOIL FAMILY: ARIDIC CALCIXEROLL,LOAMY-SKELETAL,CARBN.,FRIGID RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS THAN .02 MM	.005	.002	CUMULATIVE SAND FRACTION LESS THAN MM 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC
1 213	0- 4	A11	100	96	93	89	86	83	79	73	61	49	37	24	15	67	62	58	51	47	0.34	0.080	0.001	365.3	0.0
1 214	4- 13	A12	100	94	90	83	79	75	71	67	63	50	35	23	15	66	64	62	54	46	0.20	0.071	0.001	227.1	0.0
1 215	13- 20	B2 CA	100	94	89	83	78	75	72	68	65	52	33	21	13	67	65	64	56	47	0.16	0.065	0.001	141.9	0.0
1 216	20- 31	C1 CA	100	93	89	82	77	75	72	67	63	49	29	18	11	66	64	62	53	42	0.21	0.084	0.002	137.0	0.1
1 217	31- 47	C2 CA	100	94	90	83	79	71	63	51	43	31	17	10	6	47	43	41	34	27	3.80	1.664	0.005	811.1	3.4

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.618	2.124	3.631	0.995	5
15BR PC	CLAY PC	OC PC	0.282	1.450	5.951	0.998	5
OC PC	CLAY PC	DPTHIN	0.596	-0.030	-4.092	0.805	5

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME: SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	.05-.002	.002 LT	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	1.96	1.39	0.0	0.0	0.0	0.2	-0.0	-3.2	60	1	1	3	3	2	11	19	10	10	6	12	8	17	38	26
A12	1.32	0.91	0.0	0.0	0.0	-0.9	0.2	2.6	44	5	3	5	8	4	10	21	2	4	4	16	14	22	37	30
B2 CA	1.09	0.98	0.0	0.0	0.0	0.8	-0.6	1.4	45	6	3	6	10	4	19	7	2	3	3	14	17	25	36	24
C1 CA	1.06	0.94	0.0	0.0	0.0	1.2	0.3	0.5	0	13	5	13	17	6	19	27	2	4	3	16	18	25	31	20
C2 CA	1.47	1.16	0.0	0.0	0.0	-1.3	0.1	-1.3	0	12	16	14	13	3	19	23	8	9	5	15	15	23	25	13

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
A11	2.0	0.339	3.84	0.118	431.5	35.7	2.0	27.7	0.0	5.3	5.3	0.105	0.063
A12	8.5	0.305	3.45	0.077	815.5	67.6	7.2	48.8	0.0	18.2	18.2	0.090	0.026
B2 CA	16.5	0.130	1.47	0.069	622.1	54.1	10.9	41.7	0.0	26.7	26.7	0.181	0.126
C1 CA	25.5	0.183	2.07	0.097	1126.0	110.4	20.2	34.2	0.0	48.2	48.2	0.170	0.087
C2 CA	39.0	0.135	1.53	0.065	1018.5	191.5	33.0	21.0	0.0	35.0	35.0	0.172	0.112

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
1	1- 5	1.66	18.8	0.55	2541.6	210.4	15.4	159.6	0.0	39.6	39.6	0.51	0.13
2	6- 10	3.19	36.1	0.93	6619.0	548.2	51.3	403.6	0.0	130.8	130.8	0.96	0.26
3	11- 15	4.36	49.4	1.30	10309.6	859.2	94.8	633.4	0.0	239.0	239.0	1.59	0.59
4	16- 20	5.01	56.7	1.65	13420.1	1129.9	149.4	841.7	0.0	372.5	372.5	2.49	1.22
5	21- 25	5.93	67.1	2.13	19050.1	1681.9	250.2	1012.6	0.0	613.5	613.5	3.34	1.65
6	26- 30	6.84	77.5	2.62	24680.0	2234.0	350.9	1183.5	0.0	854.5	854.5	4.19	2.08
7	31- 35	7.50	85.6	2.98	29879.9	3110.4	503.0	1301.6	0.0	1042.5	1042.5	5.05	2.61
8	36- 40	8.24	93.3	3.31	34972.3	4067.9	668.0	1406.5	0.0	1217.4	1217.4	5.91	3.17
9	41- 45	8.91	100.9	3.64	40064.6	5025.4	833.0	1511.4	0.0	1392.2	1392.2	6.77	3.73

AVERAGE OF CONTROL SECTION 25- 100 CMS. (10- 39 IN.)
SAND (MINUS VFS)= 23.5 PERCENT, SAND = 37.4 PERCENT, SILT (PLUS VFS) = 59.9 PERCENT, CLAY = 16.6 PERCENT,
CARBONATE CLAY = 5.5 PERCENT, 2-250MM= 51.5 PERCENT, 15 BAR = 11.2 PERCENT, CACO3 EQUIVALENT= 40.2 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 4.95 PERCENT. SAND/CLAY RATIO = 1.5.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 67 6 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES BRADSHAW VERY COBBLY LOAM SOIL NO. S67 UTAH. 18-10 SAMPLE NO. 7 236-7 242 SALT LAKE CO. AREA

SOIL FAMILY: TYPIC HAPLOXEROLL,LOAMY-SKELETAL,MIXED,FRIGID RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENT PASSING 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	SIEVE LESS THAN .02 MM	.005	.002	CUMULATIVE SAND FRACTION LESS THAN MM 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU	CC RATIO
7 236	0- 4	A11	100	96	94	90	87	74	60	60	45	35	25	18	14	52	46	44	38	32	4.70	0.788	0.001	4398.0	6.8
7 237	4- 16	A12	100	89	81	70	62	52	42	42	34	26	18	13	10	39	35	33	28	23	16.52	8.218	0.002	7594.1	167.3
7 238	16- 25	B21	100	96	93	88	85	64	42	42	35	29	22	16	12	39	35	33	30	27	8.43	6.095	0.001	6160.1	64.8
7 239	25- 38	B22	100	98	97	94	93	77	60	60	53	47	42	30	22	57	53	51	48	45	4.70	0.162	0.001	8068.9	0.2
7 240	38- 45	C 1	100	95	92	87	83	66	49	49	43	39	34	24	18	47	44	42	40	38	7.39	4.897	0.001	10546.7	1.4
7 241	45- 51	C 2	PSD NOT DETERMINED																						
7 242	51- 57	R	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	-0.302	3.881	19.347	0.997	5
15BR PC	CLAY PC	OC PC	0.253	2.198	0.170	0.945	5
OC PC	CLAY PC	DPTHIN	-0.044	-0.051	3.939	0.960	5

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	.05-.002	.002 LT	PORES CAP.	PORES NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	1.05	0.54	0.07	0.0	0.0	0.2	0.3	-0.3	15	5	10	11	7	5	22	25	17	13	5	13	13	14	25	30
A12	0.96	0.51	0.0	0.0	0.0	-0.4	-0.5	-0.0	14	20	10	10	7	5	18	16	11	12	6	15	16	16	25	30
B21	0.52	0.34	0.0	0.0	0.0	0.4	0.2	0.4	15	8	23	8	8	7	18	13	11	12	5	12	10	17	32	40
B22	0.31	0.28	0.08	0.0	0.0	-0.6	0.3	0.2	14	4	19	8	14	12	19	10	8	10	4	8	8	8	54	56
C 1	0.26	0.30	0.09	0.0	0.0	0.4	-0.3	-0.3	19	10	20	6	11	11	0	0	7	10	4	7	7	14	50	60
C 2					0.0																			
R					0.0																			

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A11	2.0	0.319	3.61	0.160	370.6	72.5	6.3	42.8	142.7	0.0	0.0	0.224	0.148
A12	10.0	0.242	2.74	0.130	325.0	69.2	3.0	15.3	131.0	0.0	0.0	0.177	0.108
B21	20.5	0.124	1.40	0.067	257.8	60.9	3.2	5.3	43.9	0.0	0.0	0.177	0.118
B22	31.5	0.085	0.97	0.055	295.2	0.0	4.8	8.1	162.1	0.0	0.0	0.192	0.099
C 1	41.5	0.066	0.75	0.043	263.6	59.6	3.9	13.3	0.0	0.0	0.0	0.0	0.0
C 2	48.0	0.045	0.51	0.029	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
R	54.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	1.52	17.2	0.77	1807.2	359.0	28.3	186.6	702.0	0.0	0.0	1.07	0.70
2	6- 10	2.73	30.9	1.42	3432.1	705.0	43.3	263.3	1357.2	0.0	0.0	1.95	1.24
3	11- 15	3.94	44.6	2.07	5057.0	1050.9	58.4	339.9	2012.4	0.0	0.0	2.83	1.78
4	16- 20	4.68	52.9	2.47	6413.1	1363.7	74.0	376.7	2318.9	0.0	0.0	3.71	2.36
5	21- 25	5.29	59.9	2.81	7702.1	1668.1	89.8	403.4	2538.3	0.0	0.0	4.59	2.95
6	26- 30	5.72	64.8	3.08	9178.0	1668.1	113.7	443.9	3349.1	0.0	0.0	5.55	3.44
7	31- 35	6.15	69.6	3.36	10654.0	1668.1	137.6	484.5	4159.8	0.0	0.0	6.51	3.93
8	36- 40	6.54	74.0	3.61	12066.7	1787.2	159.8	535.5	4646.3	0.0	0.0	7.47	4.42
9	41- 45	6.87	77.7	3.82	13384.6	2085.0	179.5	602.2	4646.3	0.0	0.0	8.43	4.91
10	46- 50	7.10	80.3	3.97	13384.6	2085.0	179.5	602.2	4646.3	0.0	0.0	9.39	5.40
11	51- 55	7.14	80.8	4.00	13384.6	2085.0	179.5	602.2	4646.3	0.0	0.0	10.35	5.89

AVERAGE OF CONTROL SECTION 0- 0 CMS. (0- 0 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) =100.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 0.0 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 2.59 PERCENT. SAND/CLAY RATIO = 2.0.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 67 5 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES BRADSHAW VERY COBBLY SILT LOAM (TAXADJUNCT) SOIL NO. S67 UTAH. 18- 1 SAMPLE NO. 7 230-7 235 SALT LAKE CO. AREA

SOIL FAMILY: TYPIC HAPLOXEROLL FINE-LOAMY,MIXED,FRIGID RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING PERCENTAGE PASSING 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	MECHANICAL ANALYSIS SIEVE LESS .02	THAN .005	MM .002	CUMULATIVE SAND FRACTION LESS 1.0	THAN .5	MM .25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU	CC RATIO
7 230	0- 3	A11	100	97	96	93	91	81	71	71	66	55	34	23	16	69	67	65	59	49	0.12	0.052	0.001	141.4	0.0
7 231	3- 9	A12	100	93	88	80	75	68	61	61	58	49	29	20	14	60	59	58	52	43	1.03	0.084	0.001	1014.2	0.5
7 232	9- 16	A13	100	88	79	67	58	51	44	44	42	35	21	14	10	43	42	42	38	30	20.28	8.552	0.0021	0628.9	25.2
7 233	16- 33	B1	100	95	92	87	84	73	62	62	58	49	28	20	14	60	59	57	53	42	0.86	0.084	0.001	838.4	0.4
7 234	33- 42	B2	100	97	95	91	89	78	67	67	63	51	30	22	18	65	64	62	56	42	0.18	0.074	0.001	242.3	0.1
7 235	42- 48	R	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	-0.428	3.570	26.295	0.987	5
15BR PC	CLAY PC	OC PC	0.265	1.570	1.921	0.766	5
OC PC	CLAY PC	DPTHIN	0.076	-0.048	1.092	0.961	5

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC 15BAR	DC. FE	PYR. FE+AL	PYR/D.C. FE+AL	RESIDUALS CEC 15BAR MEQ.	DC. PCT.	DC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM: 250-75	75-20	20-2	2-.05	.05-.002	LT .002	PORES: CAP.	NON CAP	PSD ON CLAY FREE BASIS, PERCENT OF SAND PLUS SILT: VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	1.16	0.53	0.04	0.0	0.0	0.4	0.6	-0.2	7	3	8	8	13	6	26	29	4	4	3	11	18	28	32	30
A12	1.08	0.53	0.0	0.0	0.0	-0.4	-0.6	0.2	7	11	6	8	12	6	25	25	2	3	2	11	21	30	31	30
A13	1.04	0.53	0.05	0.0	0.0	-0.5	-0.9	0.2	7	19	6	6	9	5	20	28	2	3	2	11	23	28	31	30
B1	0.98	0.44	0.0	0.0	0.0	0.4	0.7	-0.1	9	7	10	9	13	7	23	22	3	4	2	10	21	29	30	29
B2	0.75	0.41	0.04	0.0	0.0	0.1	0.2	-0.0	15	6	11	13	13	9	21	12	3	4	3	13	28	25	24	36
R					0.0																			

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A11	1.5	0.371	4.19	0.189	502.4	99.8	7.5	57.3	166.4	0.1	0.1	0.257	0.170
A12	6.0	0.278	3.15	0.150	484.0	96.8	7.1	48.4	105.5	0.8	0.8	0.252	0.167
A13	12.5	0.191	2.17	0.100	286.3	76.4	5.6	28.6	159.1	1.2	1.2	0.204	0.138
B1	24.5	0.223	2.53	0.124	449.1	110.7	8.0	20.4	121.8	7.0	7.0	0.228	0.152
B2	37.5	0.201	2.27	0.112	544.6	130.2	9.4	24.0	20.5	9.2	9.2	0.214	0.117
R	45.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	1.67	18.9	0.87	2475.2	493.1	36.8	268.6	710.1	1.8	1.8	1.27	0.84
2	6- 10	2.97	33.6	1.57	4697.5	956.6	71.0	490.8	1291.1	6.1	6.1	2.48	1.65
3	11- 15	3.93	44.5	2.07	6129.2	1338.4	99.1	634.0	2086.5	12.2	12.2	3.50	2.34
4	16- 20	5.01	56.8	2.66	8211.8	1857.6	136.8	744.0	2732.9	41.3	41.3	4.62	3.09
5	21- 25	6.13	69.4	3.28	10457.1	2411.1	176.8	845.9	3342.1	76.1	76.1	5.76	3.85
6	26- 30	7.25	82.1	3.90	12702.5	2964.6	216.8	947.7	3951.3	110.9	110.9	6.90	4.61
7	31- 35	8.32	94.2	4.49	15138.8	3557.1	259.7	1056.7	4357.8	150.2	150.2	8.01	5.30
8	36- 40	9.32	105.6	5.05	17861.5	4208.1	306.8	1176.5	4460.1	196.3	196.3	9.08	5.88
9	41- 45	9.73	110.1	5.27	18950.6	4468.5	325.6	1224.4	4501.1	214.7	214.7	10.15	6.46

AVERAGE OF CONTROL SECTION 0- 0 CMS. (0- 0 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) =100.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 0.0 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 2.35 PERCENT. SAND/CLAY RATIO = 1.3.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 71 34 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES KEIGLEY SILT LOAM SOIL NO. S71 UTAH. 20- 1 SAMPLE NO. 1 218-1 222 SANPETE AREA

SOIL FAMILY: CUMULIC HAPLOXEROLL,FINE-SILTY,MIXED,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENT PASSING 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	SIEVE LESS .02	THAN .005	MM .002	CUMULATIVE SAND FRACTION LESS 1.0	THAN .5	MM .25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC
1 218	0- 6	A11	100	100	100	100	100	100	100	100	98	84	51	33	21	99	99	97	89	76	0.03	0.018	0.001	44.9	0.0
1 219	6- 16	A12	100	100	100	100	100	100	100	100	99	90	63	40	25	100	99	99	94	85	0.02	0.009	0.001	33.2	0.0
1 220	16- 25	C1	100	100	100	100	100	100	100	100	100	95	73	47	29	100	100	99	97	92	0.01	0.006	0.000	22.7	0.0
1 221	25- 40	C2	100	100	100	100	100	100	100	100	100	95	76	50	33	100	100	99	97	92	0.01	0.005	0.000	21.4	0.0
1 222	40- 60	C3	100	100	100	100	100	100	100	100	100	96	77	50	32	100	100	100	93	94	0.01	0.005	0.000	20.6	0.0

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	-0.196	-0.566	28.668	0.769	5
15BR PC	CLAY PC	OC PC	-0.005	-3.215	18.242	0.934	5
OC PC	CLAY PC	DPTHIN	-0.097	-0.010	4.067	0.941	5

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOILS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	-.05 .002	-.002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS, PERCENT OF SAND PLUS SILT: VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	1.14	0.54	0.0	0.0	0.0	0.1	-0.0	-0.2	0	0	0	12	27	10	31	20	1	1	2	10	16	31	39	26
A12	0.99	0.53	0.0	0.0	0.0	-0.5	0.7	0.1	0	0	0	7	27	11	31	24	0	1	1	7	12	29	51	33
C1	0.96	0.61	0.0	0.0	0.0	0.3	-0.8	0.2	0	0	0	4	31	14	37	14	0	0	0	4	7	26	62	41
C2	0.80	0.52	0.0	0.0	0.0	0.1	-0.3	-0.1	0	0	0	4	29	16	39	12	0	0	1	4	7	24	64	49
C3	0.85	0.54	0.0	0.0	0.0	-0.1	0.4	-0.0	0	0	0	3	28	15	37	17	0	0	0	2	6	25	66	47

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. 15 BAR INCH/INCH	
					POUNDS PER ACRE					TONS/ACRE			
A11	3.0	0.495	5.60	0.279	1769.9	140.2	13.4	455.6	0.0	11.7	11.7	0.273	0.170
A12	11.0	0.311	3.52	0.202	1837.4	132.6	18.6	315.2	0.0	13.5	13.5	0.270	0.159
C1	20.5	0.300	3.39	0.199	1971.9	215.4	20.3	206.6	0.0	28.0	28.0	0.324	0.175
C2	32.5	0.257	2.91	0.168	1689.4	402.6	40.6	160.7	0.0	32.4	32.4	0.352	0.203
C3	50.0	0.200	2.26	0.140	1397.1	522.7	100.8	117.5	0.0	31.5	31.5	0.325	0.189

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. 15 BAR INCH/INCH	
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	2.47	28.0	1.39	8849.3	700.9	67.2	2278.0	0.0	58.4	58.4	1.36	0.85
2	6- 10	4.21	47.7	2.48	17968.8	1371.3	155.0	3994.5	0.0	124.0	124.0	2.71	1.66
3	11- 15	5.77	65.3	3.49	27155.9	2034.1	247.9	5570.6	0.0	191.3	191.3	4.06	2.45
4	16- 20	7.28	82.4	4.49	36881.0	3028.4	347.7	6712.2	0.0	316.6	316.6	5.63	3.31
5	21- 25	8.78	99.3	5.48	46740.8	4105.6	449.3	7745.3	0.0	456.4	456.4	7.25	4.18
6	26- 30	10.06	113.9	6.32	55187.7	6118.8	652.4	8548.8	0.0	618.3	618.3	9.01	5.19
7	31- 35	11.35	128.5	7.16	63634.7	8131.9	855.4	9352.2	0.0	780.2	780.2	10.77	6.20
8	36- 40	12.63	143.0	8.00	72081.6	10145.1	1058.5	10155.7	0.0	942.1	942.1	12.53	7.21
9	41- 45	13.63	154.3	8.70	79066.9	12758.5	1562.6	10743.3	0.0	1099.6	1099.6	14.15	8.15
10	46- 50	14.63	165.6	9.40	86052.2	15371.9	2066.6	11330.9	0.0	1257.1	1257.1	15.77	9.09
11	51- 55	15.63	176.9	10.09	93037.5	17985.3	2570.7	11918.5	0.0	1414.6	1414.6	17.39	10.03
12	56- 60	16.63	188.2	10.79	100022.8	20598.7	3074.7	12506.1	0.0	1572.1	1572.1	19.01	10.97

AVERAGE OF CONTROL SECTION 25- 100 CMS. (10- 39 IN.)
SAND (MINUS VFS)= 3.9 PERCENT, SAND = 9.6 PERCENT, SILT (PLUS VFS) = 66.0 PERCENT, CLAY = 30.1 PERCENT,
CARBONATE CLAY = 4.3 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 14.2 PERCENT, CACO3 EQUIVALENT= 19.3 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 1.79 PERCENT. SAND/CLAY RATIO = 0.8.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 71 28 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES LAMONDI GRAVELLY LOAM SOIL NO. S71 UTAH. 29- 2 SAMPLE NO. 1 173-1 180 MORGAN-SUMMIT AREA

SOIL FAMILY: PACHIC ULTIC HAPLOXEROLL,COARSE-LOAMY,MXD,FRGD RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS --- PERCENTAGE PASSING SIEVE --- 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	CUMULATIVE SAND FRACTION LESS THAN MM .02	.005	.002	LESS THAN MM 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU	CC RATIO
1 173	0- 7	AP	100	98	96	94	92	81	70	55	41	31	22	14	9	48	42	38	33	29	2.66	1.241	0.002	1189.6	3.9
1 174	7- 19	A12	100	97	95	91	89	78	67	53	41	33	22	15	10	46	41	39	34	31	3.07	1.479	0.002	1412.4	3.1
1 175	19- 28	A13	100	96	93	89	86	76	65	52	39	32	22	15	10	45	39	37	33	30	3.38	1.660	0.002	1623.6	4.7
1 176	28- 40	A+B	100	95	92	87	83	75	66	52	40	31	20	13	8	46	40	37	32	28	3.26	1.596	0.003	1199.8	5.4
1 177	40- 48	B21	100	94	89	83	78	71	63	50	35	25	17	11	6	42	35	32	27	23	3.86	2.000	0.004	901.8	27.7
1 178	48- 56	B22	100	96	94	90	87	82	76	63	46	31	19	11	7	55	47	43	33	27	1.56	0.643	0.004	411.5	2.0
1 179	56- 62	B3	100	93	89	82	77	67	57	45	25	16	11	7	4	34	26	23	18	14	5.80	2.855	0.015	383.0	187.2
1 180	62- 73	C	100	95	92	87	84	74	63	46	30	17	12	7	4	37	31	26	19	15	4.04	2.445	0.012	324.8	62.6

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.579	2.828	2.219	0.988	8
15BR PC	CLAY PC	OC PC	0.327	0.738	1.600	0.996	8
OC PC	CLAY PC	DPTHIN	-0.086	-0.076	5.179	0.989	7

HORIZON	RATIOS AND RESIDUALS --RATIOS TO CLAY-- CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION --PERCENT (VOL) OF SOIL VOLUME-- SOILDS,SIZE IN MM 250 -75	75 -20	20 -2	2-.05 .05-.002	LT .002	-PORES- CAP.	NON CAP	PSD ON CLAY FREE BASIS --PERCENT OF SAND PLUS SILT-- VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
AP	1.25	0.58	0.0	0.0	0.0	0.1	-0.2	0.1	0	5	23	16	12	6	22	16	16	13	8	12	8	17	27	21
A12	1.12	0.51	0.0	0.0	0.0	0.3	0.4	-0.2	0	7	23	14	13	6	0	0	16	11	6	10	8	19	30	22
A13	1.04	0.49	0.0	0.0	0.0	-1.5	-0.2	-0.0	0	9	22	14	13	6	0	0	18	13	6	9	8	17	30	23
A+B	0.86	0.47	0.0	0.0	0.0	0.8	0.1	-0.0	0	11	19	15	13	5	15	22	14	13	7	11	9	19	27	19
B21	0.75	0.49	0.0	0.0	0.0	1.1	-0.2	0.3	0	15	19	18	11	4	0	0	19	14	8	12	8	13	25	15
B22	0.82	0.50	0.0	0.0	0.0	0.4	-0.0	0.1	0	9	16	24	14	4	16	17	15	13	8	17	11	14	22	12
B3	0.90	0.52	0.0	0.0	0.0	-0.0	0.0	-0.2	0	17	24	22	8	3	14	12	27	19	9	12	8	9	17	9
C	0.99	0.51	0.0	0.0	0.0	-1.2	0.1	-0.7	0	12	28	23	9	3	0	0	22	14	10	18	9	9	18	9

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
		WEIGHTS PER UNIT DEPTH (CM OR INCH)			POUNDS PER ACRE					TONS/ACRE			
AP	3.5	0.522	5.91	0.279	679.0	59.6	9.5	48.4	74.5	0.0	0.0	0.199	0.128
A12	13.0	0.427	4.83	0.231	599.8	58.0	9.3	31.4	92.6	0.0	0.0	0.0	0.0
A13	23.5	0.264	2.99	0.166	579.3	59.5	9.1	38.7	71.4	0.0	0.0	0.0	0.0
A+B	34.0	0.174	1.97	0.106	373.7	45.8	9.2	23.5	92.4	0.0	0.0	0.139	0.085
B21	44.0	0.056	0.63	0.034	258.0	34.4	9.4	16.0	57.3	0.0	0.0	0.0	0.0
B22	52.0	0.045	0.51	0.027	297.4	40.0	11.8	20.0	51.3	0.0	0.0	0.148	0.100
B3	59.0	0.025	0.29	0.016	212.1	28.3	9.0	7.7	31.4	0.0	0.0	0.128	0.097
C	67.5	0.0	0.0	0.0	248.6	32.3	9.5	8.1	29.0	0.0	0.0	0.0	0.0

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
		CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)			POUNDS PER ACRE					TONS/ACRE			
1	1- 5	2.61	29.6	1.40	3395.1	298.1	47.6	242.2	372.6	0.0	0.0	0.99	0.64
2	6- 10	4.93	55.9	2.65	6552.5	591.2	94.4	433.3	799.4	0.0	0.0	1.98	1.28
3	11- 15	7.07	80.0	3.81	9551.4	881.1	140.7	590.3	1262.4	0.0	0.0	2.97	1.92
4	16- 20	9.04	102.3	4.90	12529.9	1172.5	186.9	754.6	1704.1	0.0	0.0	3.96	2.56
5	21- 25	10.36	117.2	5.73	15426.4	1470.0	232.5	948.0	2061.2	0.0	0.0	4.95	3.20
6	26- 30	11.50	130.1	6.44	17911.8	1740.2	278.4	1111.1	2460.4	0.0	0.0	5.82	3.75
7	31- 35	12.37	140.0	6.97	19780.4	1969.3	324.6	1228.6	2922.5	0.0	0.0	6.51	4.17
8	36- 40	13.24	149.8	7.50	21649.0	2198.3	370.8	1346.2	3384.6	0.0	0.0	7.20	4.59
9	41- 45	13.52	153.0	7.67	22939.1	2370.4	417.9	1426.0	3671.3	0.0	0.0	7.89	5.01
10	46- 50	13.77	155.9	7.83	24308.0	2553.6	469.8	1513.9	3945.9	0.0	0.0	8.60	5.46
11	51- 55	14.00	158.5	7.97	25795.1	2753.5	528.7	1613.9	4202.3	0.0	0.0	9.34	5.96
12	56- 60	14.14	160.1	8.06	26940.8	2906.6	576.6	1664.6	4379.2	0.0	0.0	10.00	6.45
13	61- 65	14.20	160.7	8.09	28110.7	3060.1	623.3	1704.1	4529.1	0.0	0.0	10.64	6.93
14	66- 70	14.20	160.7	8.09	29353.6	3221.7	670.9	1744.5	4674.1	0.0	0.0	11.28	7.41

AVERAGE OF CONTROL SECTION 72- 122 CMS. (28- 48 IN.)
SAND (MINUS VFS)= 41.4 PERCENT, SAND = 48.7 PERCENT, SILT (PLUS VFS) = 43.8 PERCENT, CLAY = 14.8 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 48.2 PERCENT, 15 BAR = 7.0 PERCENT; CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 3.02 PERCENT. SAND/CLAY RATIO = 2.5.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 71 23 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES MOWEBA GRAVELLY LOAM SOIL NO. S71 UTAH. 15- 1 SAMPLE NO. 1 142-1 147 MORGAN-SUMMIT AREA

SOIL FAMILY: PACHIC ULTIC HAPLOXEROLL,LOAMY-SKELETAL,MXD,FRG RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE													CUMULATIVE SAND FRACTION					DIAMETERS AT PERCENT (MM)			CU RATIO	CC
			3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	LESS 1.0	.5	THAN .25	.10	MM .05	60	50	10		
1 142	0- 6	A11	100	94	90	83	79	70	61	57	53	48	31	19	11	55	54	53	50	45	3.80	0.115	0.002	2416.6	0.7
1 143	6- 16	A12	100	96	93	89	86	77	68	64	60	54	35	23	14	62	60	59	56	51	0.45	0.047	0.001	453.3	0.1
1 144	16- 24	A13	100	95	92	87	83	75	66	62	59	53	34	22	14	61	59	58	55	50	0.79	0.051	0.001	784.3	0.1
1 145	24- 42	B21	100	78	63	41	26	25	24	23	21	17	10	6	4	22	21	20	18	16	35.71	29.659	0.018	1941.7	*****
1 146	42- 50	B22	100	78	63	41	26	25	23	22	19	16	9	6	4	21	19	18	17	15	35.71	29.659	0.022	1615.2	*****
1 147	50- 60	B23	100	86	76	61	51	46	40	38	34	28	17	11	6	37	35	33	30	26	24.45	16.734	0.004	5529.8	58.4

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.625	3.923	0.052	0.999	6
15BR PC	CLAY PC	OC PC	0.306	1.194	1.606	0.998	6
OC PC	CLAY PC	DPTHIN	0.026	-0.133	6.433	0.942	6

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	2.12	0.84	0.05	0.0	0.0	-0.4	-0.0	-0.9	0	9	9	5	15	5	0	0	3	3	3	7	9	30	44	24
A12	1.58	0.68	0.04	0.0	0.0	0.9	-0.0	-0.3	0	6	9	5	15	6	23	36	4	3	3	6	10	32	42	29
A13	1.27	0.56	0.05	0.0	0.0	-0.7	0.0	0.7	20	7	8	5	14	6	0	0	3	4	3	6	11	34	41	30
B21	0.81	0.44	0.07	0.0	0.0	0.3	0.3	1.6	32	40	2	4	6	2	5	9	4	6	6	10	12	29	34	20
B22	0.77	0.45	0.06	0.0	0.0	0.4	0.1	-0.1	31	41	2	4	6	2	0	0	7	7	6	10	10	29	31	20
B23	0.78	0.46	0.06	0.0	0.0	-0.6	-0.4	-1.0	15	31	8	7	12	4	12	11	5	6	5	10	12	29	34	20

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A11	3.0	0.830	9.40	0.427	1345.6	80.2	10.2	110.1	0.0	0.0	0.0	0.0	0.0
A12	11.0	0.673	7.61	0.369	843.7	64.7	7.1	90.1	98.5	0.0	0.0	0.205	0.126
A13	20.0	0.402	4.56	0.255	638.7	42.4	6.8	40.2	123.6	0.0	0.0	0.0	0.0
B21	33.0	0.045	0.51	0.026	128.7	15.4	1.6	11.2	28.6	0.0	0.0	0.042	0.025
B22	46.0	0.039	0.44	0.023	121.5	16.1	3.2	11.0	25.4	0.0	0.0	0.0	0.0
B23	55.0	0.055	0.63	0.032	245.4	39.4	6.6	16.7	45.7	0.0	0.0	0.107	0.071

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	4.15	47.0	2.13	6727.9	401.0	51.2	550.3	0.0	0.0	0.0	1.02	0.63
2	6- 10	7.67	86.9	4.04	11448.1	739.8	89.8	1020.6	394.1	0.0	0.0	2.04	1.26
3	11- 15	11.04	124.9	5.88	15666.4	1063.1	125.2	1470.9	886.8	0.0	0.0	3.06	1.89
4	16- 20	13.32	150.8	7.27	19064.7	1297.3	159.4	1721.6	1479.7	0.0	0.0	4.08	2.52
5	21- 25	14.97	169.5	8.31	21748.1	1482.3	188.1	1893.5	2002.8	0.0	0.0	4.94	3.05
6	26- 30	15.20	172.0	8.44	22391.8	1559.5	196.3	1949.3	2145.9	0.0	0.0	5.15	3.17
7	31- 35	15.42	174.6	8.58	23035.5	1636.8	204.6	2005.1	2288.9	0.0	0.0	5.36	3.29
8	36- 40	15.65	177.1	8.71	23679.1	1714.0	212.8	2060.8	2431.9	0.0	0.0	5.57	3.41
9	41- 45	15.86	179.5	8.83	24301.1	1793.2	225.8	2116.2	2565.4	0.0	0.0	5.78	3.53
10	46- 50	16.05	181.7	8.95	24908.5	1873.8	242.1	2171.3	2692.6	0.0	0.0	5.99	3.65
11	51- 55	16.33	184.8	9.11	26135.6	2070.6	274.9	2254.8	2920.9	0.0	0.0	6.52	4.00
12	56- 60	16.61	188.0	9.27	27362.6	2267.5	307.7	2338.2	3149.1	0.0	0.0	7.05	4.35

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 6.35 PERCENT. SAND/CLAY RATIO = 1.0.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 71 24 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES MOWEBA GRAVELLY LOAM SOIL NO. S71 UTAH. 15- 6 SAMPLE NO. 1 148-1 152 MORGAN-SUMMIT AREA

SOIL FAMILY: PACHIC ULTIC HAPLOXEROLL,LOAMY-SKELETAL,MXD,FRG RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	CUMULATIVE SAND FRACTION LESS THAN .02 MM	.005	.002	LESS THAN 1.0 MM	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU	CC RATIO
1 148	0- 5	A11	100	95	92	87	83	72	60	55	47	36	22	15	10	52	48	45	39	33	4.70	0.701	0.002	2355.4	3.5
1 149	5- 16	A12	100	96	93	88	85	74	62	56	47	37	22	14	10	53	48	45	40	34	3.54	0.665	0.002	1613.9	2.3
1 150	16- 30	A13	100	95	91	86	82	73	63	58	50	39	23	15	10	55	51	48	42	35	2.81	0.389	0.002	1437.3	1.6
1 151	30- 45	B21	100	87	77	64	54	48	41	37	30	21	12	8	5	35	31	28	23	19	22.73	12.362	0.010	2292.1	380.7
1 152	45- 65	B22	100	89	81	69	61	53	45	41	32	22	14	9	6	38	33	29	23	19	17.41	7.272	0.006	2811.4	238.1

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	REGRESSION COEFFICIENTS A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.841	3.889	-4.008	0.993	5
15BR PC	CLAY PC	OC PC	0.295	1.455	1.592	0.990	5
OC PC	CLAY PC	DPTHIN	0.395	-0.069	-2.156	0.997	5

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250-75	75-20	20-2	2-.05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	1.62	0.81	0.0	0.0	0.0	1.4	-0.5	-0.2	0	8	13	10	11	5	14	39	6	10	7	13	12	24	28	22
A12	1.49	0.69	0.0	0.0	0.0	-1.0	0.2	0.1	0	8	15	12	13	5	0	0	7	10	7	11	13	26	26	20
A13	1.33	0.59	0.0	0.0	0.0	-1.2	0.7	0.2	0	10	13	12	14	6	0	0	5	9	7	12	14	27	26	21
B21	0.69	0.47	0.0	0.0	0.0	0.1	0.0	-0.0	41	20	7	8	6	2	5	11	6	13	9	15	14	20	23	15
B22	0.61	0.45	0.0	0.0	0.0	0.8	-0.4	-0.1	27	21	11	11	7	3	0	0	7	15	12	16	12	16	21	19

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A11	2.5	0.595	6.73	0.329	728.2	56.0	10.7	103.2	34.2	0.0	0.0	0.118	0.037
A12	10.5	0.482	5.46	0.273	788.0	60.7	8.0	122.4	0.0	0.0	0.0	0.0	0.0
A13	23.0	0.425	4.82	0.220	790.1	66.7	4.4	112.2	0.0	0.0	0.0	0.0	0.0
B21	37.5	0.040	0.45	0.027	143.7	17.5	2.2	22.7	0.0	0.0	0.0	0.047	0.025
B22	55.0	0.030	0.34	0.020	190.0	27.7	5.9	25.0	0.0	0.0	0.0	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	2.97	33.7	1.65	3641.1	280.1	53.7	515.8	171.2	0.0	0.0	0.59	0.12
2	6- 10	5.38	60.9	3.01	7581.0	583.4	93.8	1127.7	171.2	0.0	0.0	1.18	0.24
3	11- 15	7.79	88.2	4.37	11520.8	886.7	133.9	1739.6	171.2	0.0	0.0	1.77	0.36
4	16- 20	9.98	112.9	5.52	15468.9	1214.3	159.5	2310.7	171.2	0.0	0.0	2.36	0.48
5	21- 25	12.10	137.0	6.62	19419.2	1548.0	181.6	2871.6	171.2	0.0	0.0	2.95	0.60
6	26- 30	14.23	161.1	7.72	23369.4	1881.7	203.6	3432.5	171.2	0.0	0.0	3.54	0.72
7	31- 35	14.43	163.4	7.85	24087.8	1969.0	214.8	3546.1	171.2	0.0	0.0	3.77	0.84
8	36- 40	14.63	165.6	7.99	24806.2	2056.4	226.0	3659.7	171.2	0.0	0.0	4.00	0.96
9	41- 45	14.83	167.9	8.12	25524.6	2143.8	237.1	3773.3	171.2	0.0	0.0	4.23	1.08
10	46- 50	14.98	169.6	8.22	26474.5	2282.4	266.7	3898.4	171.2	0.0	0.0	4.46	1.20
11	51- 55	15.13	171.3	8.32	27424.4	2421.1	296.2	4023.6	171.2	0.0	0.0	4.69	1.32
12	56- 60	15.28	173.0	8.42	28374.3	2559.7	325.7	4148.7	171.2	0.0	0.0	4.92	1.44
13	61- 65	15.43	174.7	8.53	29324.3	2698.3	355.2	4273.9	171.2	0.0	0.0	5.15	1.56

AVERAGE OF CONTROL SECTION 76- 126 CMS. (30- 50 IN.)
SAND (MINUS VFS)= 38.7 PERCENT, SAND = 50.4 PERCENT, SILT (PLUS VFS) = 47.3 PERCENT, CLAY = 14.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 79.0 PERCENT, 15 BAR = 6.5 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 4.07 PERCENT. SAND/CLAY RATIO = 2.3.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 71 25 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES MOWEBA GRAVELLY LOAM (TAXADJUNCT) SOIL NO. S71 UTAH. 15- 4 SAMPLE NO. 1 153-1 159 MORGAN-SUMMIT AREA

SOIL FAMILY: PACHIC ULTIC HAPLOXEROLL,COARSE-LOAMY,MXD,FRGD RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	CUMULATIVE SAND FRACTION LESS THAN .02 MM	.005	.002	LESS THAN MM 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC
1 153	0- 4	A11	100	96	93	88	85	76	67	60	50	41	26	17	12	55	51	48	43	38	2.00	0.416	0.001	1383.2	1.1
1 154	4- 10	A12	100	99	98	96	95	87	78	70	58	48	30	20	14	64	59	56	51	45	0.58	0.088	0.001	544.6	0.2
1 155	10- 20	A13	100	97	95	91	89	80	71	63	54	44	27	18	13	59	55	51	46	40	1.13	0.195	0.001	935.2	0.6
1 156	20- 29	A+B	100	95	92	87	83	75	67	60	50	39	23	15	10	56	51	48	42	35	2.00	0.385	0.002	1101.9	1.3
1 157	29- 41	B21	100	86	76	61	51	46	44	40	34	24	12	8	5	38	35	32	27	20	24.45	15.563	0.010	2487.4	81.3
1 158	41- 54	B22	100	87	78	65	56	52	47	43	35	22	11	7	4	40	36	32	25	18	21.53	7.487	0.014	1553.1	53.5
1 159	54- 70	B3	100	89	81	70	62	57	52	46	36	22	10	6	3	43	37	33	25	17	14.37	3.535	0.018	815.1	27.0

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	REGRESSION COEFFICIENTS A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.709	3.893	-2.454	0.998	7
15BR PC	CLAY PC	OC PC	0.180	2.244	2.058	0.999	7
OC PC	CLAY PC	DPTHIN	-0.523	-0.236	16.933	0.910	7

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	-.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	1.99	1.11	0.05	0.0	0.0	1.0	0.3	-1.1	0	6	11	9	11	5	0	0	10	9	6	10	10	26	29	24
A12	1.70	0.91	0.05	0.0	0.0	-1.5	-0.5	-0.4	0	2	10	10	12	5	18	43	11	9	5	8	11	27	28	25
A13	1.08	0.55	0.05	0.0	0.0	0.1	0.4	0.1	0	5	13	11	13	6	0	0	7	9	7	10	12	27	28	25
A+B	0.89	0.49	0.06	0.0	0.0	0.1	0.0	0.5	0	10	14	15	15	6	17	23	7	10	7	11	14	25	24	21
B21	0.60	0.46	0.07	0.0	0.0	0.6	-0.3	1.9	11	31	7	13	10	3	10	15	5	10	8	15	20	21	21	14
B22	0.54	0.48	0.09	0.0	0.0	0.3	-0.1	0.5	9	28	8	16	9	3	0	0	7	12	9	17	20	17	18	10
B3	0.57	0.51	0.12	0.0	0.0	-0.7	0.2	-1.6	10	25	10	19	9	2	10	15	7	14	10	18	19	15	17	7

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR
					POUNDS PER ACRE					TONS/ACRE		INCH/INCH	
A11	2.0	0.830	9.40	0.410	1088.4	84.8	6.9	140.7	0.0	0.0	0.0	0.0	0.0
A12	7.0	0.667	7.56	0.348	893.7	74.3	7.7	117.5	36.8	0.0	0.0	0.153	0.047
A13	15.0	0.368	4.17	0.206	675.8	60.1	4.3	94.1	0.0	0.0	0.0	0.0	0.0
A+B	24.5	0.244	2.76	0.136	507.3	57.2	10.0	42.3	39.0	0.0	0.0	0.150	0.087
B21	35.0	0.053	0.60	0.030	152.4	21.9	3.5	11.9	21.3	0.0	0.0	0.096	0.065
B22	47.5	0.039	0.44	0.022	125.4	17.8	3.8	6.4	3.3	0.0	0.0	0.0	0.0
B3	62.0	0.026	0.29	0.014	99.7	15.0	4.1	6.9	7.1	0.0	0.0	0.099	0.076

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	WATER CONTENT 15 BAR
					POUNDS PER ACRE					TONS/ACRE		INCH/INCH	
1	1- 5	3.99	45.2	1.99	5247.2	413.4	35.4	680.3	36.8	0.0	0.0	0.76	0.23
2	6- 10	7.33	82.9	3.73	9715.6	785.0	73.9	1267.7	220.9	0.0	0.0	1.52	0.46
3	11- 15	9.17	103.8	4.76	13094.4	1085.7	95.2	1738.3	220.9	0.0	0.0	2.28	0.69
4	16- 20	11.01	124.6	5.79	16473.2	1386.5	116.5	2209.0	220.9	0.0	0.0	3.04	0.92
5	21- 25	12.23	138.4	6.47	19009.7	1672.6	166.4	2420.3	416.0	0.0	0.0	3.79	1.35
6	26- 30	13.25	150.0	7.04	21191.4	1923.5	209.8	2601.3	593.5	0.0	0.0	4.49	1.76
7	31- 35	13.52	153.1	7.19	21953.4	2033.3	227.3	2660.8	700.2	0.0	0.0	4.97	2.08
8	36- 40	13.79	156.1	7.33	22715.5	2143.0	244.9	2720.2	806.8	0.0	0.0	5.45	2.40
9	41- 45	14.00	158.4	7.45	23369.6	2236.3	263.6	2757.8	841.4	0.0	0.0	5.93	2.72
10	46- 50	14.19	160.6	7.56	23996.8	2325.4	282.5	2790.0	857.9	0.0	0.0	6.41	3.04
11	51- 55	14.37	162.7	7.66	24598.2	2411.6	301.8	2822.7	878.2	0.0	0.0	6.89	3.38
12	56- 60	14.50	164.1	7.73	25096.8	2486.4	322.3	2857.4	913.8	0.0	0.0	7.38	3.76
13	61- 65	14.63	165.6	7.80	25595.4	2561.2	342.8	2892.2	949.4	0.0	0.0	7.87	4.14
14	66- 70	14.76	167.0	7.87	26094.0	2636.0	363.2	2926.9	985.1	0.0	0.0	8.36	4.52

AVERAGE OF CONTROL SECTION 73- 123 CMS. (29- 48 IN.)
SAND (MINUS VFS)= 36.1 PERCENT, SAND = 53.5 PERCENT, SILT (PLUS VFS) = 52.9 PERCENT, CLAY = 11.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 64.9 PERCENT, 15 BAR = 5.1 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 4.76 PERCENT. SAND/CLAY RATIO = 1.8.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 71 26 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES KAHLER GRAVELLY LOAM SOIL NO. S71 UTAH. 29- 1 SAMPLE NO. 1 160-1 165 MORGAN-SUMMIT AREA

SOIL FAMILY: PACHIC ULTIC HAPLOXEROLL,FINE-LOAMY,MIXED,FRGD RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	CUMULATIVE SAND FRACTION LESS 1.0	THAN .5	.25	MM .10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC
1 160	0- 6	AP	100	99	99	98	97	89	81	76	70	58	38	24	14	74	71	68	61	54	0.09	0.039	0.001	90.3	0.0
1 161	6- 20	A12	100	98	96	94	92	85	78	72	65	54	37	23	14	70	66	63	57	51	0.16	0.047	0.001	151.5	0.0
1 162	20- 25	A13	100	97	95	91	89	83	76	71	65	55	37	23	14	69	66	63	57	52	0.15	0.043	0.001	151.6	0.0
1 163	25- 35	A14	100	99	98	96	95	90	85	79	72	60	42	26	16	76	72	70	63	57	0.07	0.032	0.001	81.0	0.0
1 164	35- 53	B21	100	89	82	71	63	58	53	48	40	31	21	12	6	44	41	39	33	29	12.50	2.815	0.004	3473.4	13.0
1 165	53- 63	B22	100	97	94	91	88	86	83	80	73	63	45	28	16	77	74	71	66	60	0.05	0.027	0.001	61.9	0.0

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	REGRESSION COEFFICIENTS A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.450	4.005	2.975	0.997	6
15BR PC	CLAY PC	OC PC	0.366	0.560	1.292	0.993	6
OC PC	CLAY PC	DPTHIN	0.101	-0.050	1.293	0.997	6

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	OC.	PYR. FE	PYR. FE+AL	D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS, SIZE IN MM: 250-75	75-20	20-2	2-.05	.05-.002	.002 LT	PORES: CAP.	NON CAP	PSD ON CLAY FREE BASIS: VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
																		PERCENT OF SAND PLUS SILT							
AP	1.22	0.53	0.0	0.0	0.0		0.4	-0.2	0.0	0	2	11	12	22	8	28	17	4	5	4	12	11	26	38	23
A12	1.11	0.49	0.0	0.0	0.0		0.1	0.2	0.1	0	5	11	12	21	8	0	0	4	6	5	11	10	24	39	24
A13	1.06	0.48	0.0	0.0	0.0		-0.7	0.1	0.0	0	6	11	11	22	8	0	0	4	5	4	10	9	26	41	25
A14	0.99	0.49	0.0	0.0	0.0		-0.1	-0.2	-0.2	0	3	9	13	24	9	0	0	5	5	4	10	10	24	42	25
B21	0.80	0.48	0.0	0.0	0.0		-0.1	0.0	-0.0	31	19	8	10	12	3	13	4	9	8	5	13	11	17	37	15
B22	0.64	0.44	0.0	0.0	0.0		0.3	-0.0	0.1	0	7	5	13	27	10	0	0	5	5	4	9	9	23	45	25

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
AP	3.0	0.566	6.41	0.328	750.4	72.0	11.5	107.3	210.1	0.0	0.0	0.257	0.173
A12	13.0	0.471	5.34	0.272	717.0	74.2	11.4	67.5	187.9	0.0	0.0	0.0	0.0
A13	22.5	0.408	4.62	0.236	704.8	84.0	11.5	58.5	179.9	0.0	0.0	0.0	0.0
A14	30.0	0.393	4.45	0.229	661.1	81.3	18.7	63.4	222.2	0.0	0.0	0.0	0.0
B21	44.0	0.037	0.42	0.035	191.1	26.5	6.8	17.2	47.0	0.0	0.0	0.119	0.090
B22	58.0	0.071	0.80	0.068	499.4	83.0	13.8	58.7	102.3	0.0	0.0	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	2-20MM	WATER CONTENT FIELD CAPACITY TO A. D.	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	2.83	32.1	1.64	3752.2	360.2	57.5	536.6	1050.6	0.0	0.0	1.28	0.86
2	6- 10	5.28	59.8	3.05	7370.5	728.9	114.5	913.9	2012.3	0.0	0.0	2.56	1.72
3	11- 15	7.64	86.5	4.41	10955.3	1099.8	171.4	1251.3	2951.8	0.0	0.0	3.84	2.58
4	16- 20	10.00	113.2	5.77	14540.1	1470.6	228.3	1588.8	3891.3	0.0	0.0	5.12	3.44
5	21- 25	12.04	136.3	6.95	18064.0	1890.5	285.7	1881.2	4791.0	0.0	0.0	6.40	4.30
6	26- 30	14.01	158.5	8.10	21369.7	2296.9	379.2	2198.2	5901.9	0.0	0.0	7.68	5.16
7	31- 35	15.97	180.8	9.24	24675.3	2703.3	472.7	2515.2	7012.8	0.0	0.0	8.96	6.02
8	36- 40	16.16	182.9	9.42	25630.8	2835.6	506.5	2601.2	7248.0	0.0	0.0	9.55	6.47
9	41- 45	16.34	185.0	9.60	26586.3	2968.0	540.3	2687.2	7483.2	0.0	0.0	10.14	6.92
10	46- 50	16.52	187.0	9.77	27541.9	3100.3	574.1	2773.2	7718.4	0.0	0.0	10.73	7.37
11	51- 55	16.78	189.9	10.01	29113.9	3345.7	622.1	2942.1	8064.0	0.0	0.0	11.32	7.82
12	56- 60	17.13	193.9	10.35	31610.9	3760.9	691.3	3235.5	8575.5	0.0	0.0	11.91	8.27

AVERAGE OF CONTROL SECTION 89- 139 CMS. (35- 55 IN.)
SAND (MINUS VFS)= 29.6 PERCENT, SAND = 38.7 PERCENT, SILT (PLUS VFS) = 56.9 PERCENT, CLAY = 13.4 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 64.9 PERCENT, 15 BAR = 6.4 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 2.69 PERCENT. SAND/CLAY RATIO = 1.5.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 67 9 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES TRENTON LOAM SOIL NO. S67 UTAH. 18- 7 SAMPLE NO. 7 259-7 267 SALT LAKE CO. AREA

SOIL FAMILY: TYPIC NATRIXEROLL,FINE,MIXED,MESIC RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	CUMULATIVE SAND FRACTION LESS THAN MM 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC
7 259	0- 6	AP	100	100	100	100	100	92	84	84	81	68	36	26	20	82	81	80	73	57	0.06	0.037	0.001	87.5	0.0
7 260	6- 10	A12	100	100	100	100	100	92	85	85	82	74	45	34	27	83	82	81	76	72	0.03	0.024	0.000	71.7	0.0
7 261	10- 13	B1	100	100	100	100	100	98	97	97	95	88	55	39	29	96	95	95	92	82	0.02	0.013	0.000	54.7	0.0
7 262	13- 22	B21T	100	100	100	100	100	100	100	100	99	94	68	58	51	100	99	99	97	90	0.01	0.002	0.000	21.4	0.0
7 263	22- 28	B22T	100	100	100	100	100	100	100	100	98	90	69	56	47	99	98	97	94	85	0.01	0.003	0.000	23.9	0.0
7 264	28- 37	B23T	100	100	100	100	100	100	100	100	98	92	71	55	44	99	98	98	96	88	0.01	0.003	0.000	23.2	0.0
7 265	37- 46	B31CA	100	100	100	100	100	100	100	100	99	93	66	48	37	100	99	99	97	87	0.01	0.006	0.000	34.3	0.0
7 266	46- 59	B32	100	99	99	98	97	92	86	86	84	75	49	39	32	85	84	83	80	68	0.03	0.021	0.000	82.7	0.0
7 267	59- 72	B33	100	98	96	94	92	85	77	77	72	60	39	32	28	75	73	71	65	53	0.08	0.041	0.000	163.2	0.0

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.477	-6.181	12.511	0.897	9
15BR PC	CLAY PC	OC PC	0.504	-5.013	1.789	0.950	9
OC PC	CLAY PC	DPTHIN	-0.000	-0.032	1.153	0.875	5

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	OC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
AP	0.79	0.40	0.03	0.0	0.0	-2.2	-1.8	-0.2	0	0	8	14	20	10	29	19	2	2	2	10	26	33	25	30
A12	0.70	0.39	0.02	0.0	0.0	-0.2	1.2	0.0	0	0	9	8	27	17	0	0	3	2	2	8	8	46	31	47
B1	0.58	0.37	0.02	0.0	0.0	6.3	3.2	0.3	0	0	2	9	31	17	34	7	1	1	1	4	14	41	37	44
B21T	0.63	0.47	0.02	0.0	0.0	1.2	0.6	-0.0	0	0	0	5	19	25	46	5	1	1	1	3	16	44	35	104
B22T CA	0.79	0.55	0.00	0.0	0.0	-2.6	-2.0	-0.1	0	0	0	7	19	24	0	0	1	3	2	5	17	31	41	89
B23T CA	0.76	0.54	0.02	0.0	0.0	0.3	0.2	0.1	0	0	0	6	23	23	43	5	1	2	1	3	14	30	49	78
B31CA	0.89	0.61	0.02	0.0	0.0	-2.8	-2.1	-0.2	0	0	0	7	26	19	0	0	1	1	1	2	16	35	45	58
B32	0.83	0.53	0.04	0.0	0.0	-0.3	0.7	-0.6	0	2	6	10	20	18	36	8	2	2	2	6	23	34	32	58
B33	0.81	0.55	0.04	0.0	0.0	0.6	0.2	-1.0	0	5	9	14	15	16	0	0	5	4	4	12	24	29	23	56

W E I G H T S P E R U N I T D E P T H (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
AP	3.0	0.242	2.74	0.126	331.4	0.0	12.3	198.0	545.2	0.1	0.1	0.290	0.179
A12	8.0	0.204	2.31	0.125	518.7	137.1	28.4	228.8	506.4	0.2	0.2	0.0	0.0
B1	11.5	0.133	1.50	0.081	561.7	172.6	55.1	146.9	232.9	0.2	0.2	0.340	0.169
B21T	17.5	0.128	1.45	0.079	1037.5	394.9	170.5	138.7	0.0	1.5	1.5	0.462	0.147
B22T	25.0	0.094	1.07	0.058	933.9	393.0	334.8	141.9	0.0	10.6	10.6	0.0	0.0
B23T	32.5	0.0	0.0	0.0	830.8	446.4	613.2	133.0	0.0	9.3	9.3	0.431	0.108
B31CA	41.5	0.0	0.0	0.0	705.7	404.7	754.1	134.0	0.0	3.1	3.1	0.0	0.0
B32	52.5	0.0	0.0	0.0	502.0	280.2	584.0	91.1	245.2	1.5	1.5	0.364	0.111
B33	65.5	0.0	0.0	0.0	525.6	390.9	654.8	74.7	0.0	0.1	0.1	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	1.21	13.7	0.63	1657.1	0.0	61.5	990.2	2726.2	0.7	0.7	1.45	0.89
2	6- 10	2.27	25.7	1.25	4063.4	548.4	187.4	2103.5	5296.9	1.4	1.4	2.90	1.78
3	11- 15	2.92	33.1	1.66	7823.5	1855.9	693.7	2821.7	5995.6	4.9	4.9	4.84	2.58
4	16- 20	3.56	40.3	2.05	13011.2	3830.2	1546.0	3515.4	5995.6	12.3	12.3	7.15	3.31
5	21- 25	4.10	46.4	2.38	17888.0	5798.8	2891.1	4218.6	5995.6	47.1	47.1	9.46	4.04
6	26- 30	4.39	49.7	2.55	22351.4	7870.6	5121.8	4910.3	5995.6	97.5	97.5	11.71	4.70
7	31- 35	4.39	49.7	2.55	26505.5	10102.6	8187.8	5575.2	5995.6	144.1	144.1	13.86	5.24
8	36- 40	4.39	49.7	2.55	30284.3	12209.5	11676.5	6243.1	5995.6	172.0	172.0	16.01	5.78
9	41- 45	4.39	49.7	2.55	33812.9	14233.0	15447.2	6912.9	5995.6	187.6	187.6	18.16	6.32
10	46- 50	4.39	49.7	2.55	36526.6	15758.4	18537.3	7411.1	6976.2	196.6	196.6	20.05	6.87
11	51- 55	4.39	49.7	2.55	39036.6	17159.4	21457.4	7866.4	8202.0	203.9	203.9	21.87	7.42
12	56- 60	4.39	49.7	2.55	41570.2	18671.0	24448.2	8305.4	9182.6	209.9	209.9	23.69	7.97
13	61- 65	4.39	49.7	2.55	44198.3	20625.7	27722.4	8679.0	9182.6	210.5	210.5	25.51	8.52
14	66- 70	4.39	49.7	2.55	46826.4	22580.3	30996.6	9052.7	9182.6	211.2	211.2	27.33	9.07

AVERAGE OF CONTROL SECTION 0- 0 CMS. (0- 0 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) =100.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 0.0 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 0.87 PERCENT. SAND/CLAY RATIO = 0.8.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 72 86 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES DURFEE STONY LOAM SOIL NO. S72 UTAH. 29- 1 SAMPLE NO. 2 526-2 532 MORGAN&E.WEBER AREA

SOIL FAMILY: TYPIC PALEXEROLL,CLAYEY-SKELETAL,MONT,FRIGID RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS THAN .02 MM	.005	.002	CUMULATIVE SAND FRACTION LESS THAN MM 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC
2 526	0- 6	A11	100	92	87	79	74	68	61	56	43	35	23	15	9	50	43	40	37	34	3.96	1.031	0.002	1740.0	2.3
2 527	6- 12	A12	100	82	69	51	38	36	34	32	27	23	15	10	7	30	28	26	24	22	30.93	24.784	0.005	6457.5	*****
2 528	12- 16	B1	100	82	69	51	38	36	34	30	25	22	14	10	7	28	26	24	23	21	30.93	24.784	0.005	6381.3	*****
2 529	16- 25	B21T	100	84	73	57	46	43	40	38	31	28	21	17	15	34	31	30	29	27	27.12	21.034	0.001	2799	0.3 *****
2 530	25- 37	B22T	100	87	78	64	55	49	43	40	34	32	27	24	22	36	34	34	33	31	22.13	10.616	0.001	3922	1.4 64.7
2 531	37- 50	B23T	100	96	93	89	86	77	67	54	42	38	35	34	33	46	42	40	38	37	2.97	1.417	0.000	7313.9	0.0
2 532	50- 60	B3 T	100	90	82	72	64	50	36	26	19	17	16	15	15	22	19	19	18	17	15.56	9.450	0.001	1604	9.6 *****

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	0.756	4.991	-9.026	0.987	7
15BR PC	CLAY PC	OC PC	0.414	1.791	-3.360	0.995	7
OC PC	CLAY PC	DPTHIN	-0.035	-0.007	2.716	0.803	7

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	OC.	PYR. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME SOLIDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	.05-.002	.002 LT	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	1.13	0.56	0.0	0.0	0.0		0.5	-0.1	-1.0	0	16	11	14	15	6	20	18	13	14	7	7	6	24	29	20
A12	0.80	0.39	0.0	0.0	0.0		-1.4	0.3	0.2	0	46	4	8	11	5	0	0	6	11	7	8	8	26	34	27
B1	0.61	0.37	0.0	0.0	0.0		-0.5	-0.6	0.7	0	44	6	7	10	5	0	0	7	11	7	7	8	28	31	32
B21T	0.55	0.35	0.0	0.0	0.0		2.3	0.5	0.5	0	35	5	7	8	9	22	14	18	10	5	5	10	24	28	62
B22T	0.61	0.35	0.0	0.0	0.0		2.0	1.0	-0.0	0	31	10	6	6	15	23	9	20	11	5	6	9	22	27	125
B23T	0.66	0.38	0.0	0.0	0.0		-0.4	-0.3	-0.3	0	8	19	10	3	20	0	0	38	18	8	11	6	8	12	152
B3 T	0.68	0.39	0.0	0.0	0.0		-2.5	-0.9	-0.1	0	26	28	7	2	11	19	7	39	18	8	9	5	8	13	128

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A11	3.0	0.494	5.59	0.227	606.6	62.3	38.2	153.9	0.0	0.0	0.0	0.184	0.114
A12	9.0	0.184	2.09	0.101	404.3	37.1	22.6	93.1	0.0	0.0	0.0	0.0	0.0
B1	14.0	0.098	1.11	0.064	342.9	33.5	17.5	69.3	0.0	0.0	0.0	0.0	0.0
B21T	20.5	0.080	0.90	0.057	485.5	64.5	20.1	85.0	0.0	0.0	0.0	0.202	0.133
B22T	31.0	0.076	0.85	0.047	1003.7	131.2	26.7	90.4	0.0	0.0	0.0	0.200	0.087
B23T	43.5	0.083	0.94	0.052	1396.7	201.9	40.5	76.3	0.0	0.0	0.0	0.0	0.0
B3 T	55.0	0.044	0.50	0.028	772.2	113.4	21.5	36.4	0.0	0.0	0.0	0.161	0.076

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	2.47	28.0	1.14	3033.1	311.6	191.1	769.7	0.0	0.0	0.0	0.92	0.57
2	6- 10	3.70	41.9	1.77	5256.7	522.2	319.7	1295.9	0.0	0.0	0.0	1.84	1.14
3	11- 15	4.37	49.4	2.16	7094.0	696.9	417.5	1690.1	0.0	0.0	0.0	2.76	1.71
4	16- 20	4.78	54.1	2.46	9378.8	988.5	515.3	2099.5	0.0	0.0	0.0	3.75	2.36
5	21- 25	5.18	58.6	2.74	11806.1	1311.2	615.6	2524.7	0.0	0.0	0.0	4.76	3.02
6	26- 30	5.56	62.9	2.98	16824.8	1967.1	748.9	2976.8	0.0	0.0	0.0	5.76	3.45
7	31- 35	5.94	67.2	3.22	21843.5	2623.0	882.2	3429.0	0.0	0.0	0.0	6.76	3.88
8	36- 40	6.34	71.7	3.47	28040.9	3491.0	1057.1	3838.8	0.0	0.0	0.0	7.76	4.31
9	41- 45	6.75	76.4	3.73	35024.2	4500.3	1259.5	4220.2	0.0	0.0	0.0	8.76	4.74
10	46- 50	7.17	81.1	3.99	42007.4	5509.7	1462.0	4601.6	0.0	0.0	0.0	9.76	5.17
11	51- 55	7.39	83.6	4.13	45868.2	6076.6	1569.3	4783.6	0.0	0.0	0.0	10.56	5.55
12	56- 60	7.61	86.2	4.26	49729.1	6643.4	1676.6	4965.5	0.0	0.0	0.0	11.36	5.93

AVERAGE OF CONTROL SECTION 40- 90 CMS. (16- 35 IN.)
SAND (MINUS VFS)= 21.1 PERCENT, SAND = 26.1 PERCENT, SILT (PLUS VFS) = 31.5 PERCENT, CLAY = 47.4 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 60.9 PERCENT, 15 BAR = 16.7 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 2.08 PERCENT. SAND/CLAY RATIO = 1.8.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 67 13 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES HARKERS LOAM SOIL NO. S67 UTAH. 18-11 SAMPLE NO. 7 295-7 304 SALT LAKE CO. AREA

SCIL FAMILY: TYPIC PALEXEROLL,FINE,MONTMORILLONITIC,FRIGID RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	CUMULATIVE SAND FRACTION LESS THAN MM .02	.005	.002	LESS THAN MM 1.0	.5	.25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU RATIO	CC RATIO
7 295	0- 2	A11	100	98	97	95	94	87	80	80	76	63	35	26	20	78	77	75	68	53	0.07	0.043	0.001	106.8	0.0
7 296	2- 7	A12	100	98	97	95	94	86	78	78	74	62	37	27	21	76	75	73	68	53	0.07	0.042	0.001	115.9	0.0
7 297	7- 14	A13	100	99	99	98	98	87	76	76	73	64	39	30	23	75	73	72	69	58	0.06	0.034	0.001	105.9	0.0
7 298	14- 23	B1	100	100	100	99	99	93	87	87	84	74	43	32	24	85	84	83	79	64	0.04	0.027	0.001	80.6	0.0
7 299	23- 31	B21T	100	99	99	98	98	89	79	79	76	69	55	48	43	77	77	76	73	64	0.03	0.008	0.000	99.6	0.0
7 300	31- 40	B22T	100	99	99	98	98	87	76	76	71	60	50	43	38	73	71	69	64	55	0.07	0.021	0.000	202.9	0.0
7 301	40- 50	B31CA	100	99	98	97	96	72	48	48	44	35	25	21	18	45	44	43	38	30	6.66	4.982	0.001	9272.0	21.4
7 302	50- 60	B32CA	100	91	84	75	68	42	15	15	14	11	7	6	5	14	14	14	12	9	15.39	11.823	0.063	246.1	*****
7 303	60- 78	C 1CA	100	93	88	80	75	57	38	38	35	25	17	14	11	37	35	33	28	21	10.78	7.394	0.002	6817.5	163.7
7 304	78- 84	C 2	100	95	92	87	84	70	56	56	51	39	24	18	14	54	52	50	43	33	5.74	0.244	0.001	5246.0	6.8

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	REGRESSION COEFFICIENTS A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.646	0.405	3.443	0.962	10
15BR PC	CLAY PC	OC PC	0.563	-0.862	-2.517	0.960	10
OC PC	CLAY PC	DPTHIN	0.018	-0.065	1.504	0.916	6

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC 15BAR	OC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC 15BAR MEQ.	OC. PCT.	PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOILS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS, PERCENT OF SAND PLUS SILT: VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	0.90	0.45	0.03	0.0	0.0	-2.0	-1.8	-0.4	1	3	8	15	18	11	25	19	3	3	3	11	25	30	26	33
A12	0.79	0.39	0.03	0.0	0.0	0.2	0.6	0.0	1	3	9	14	18	12	0	0	3	3	2	10	25	29	28	37
A13	0.74	0.40	0.03	0.0	0.0	1.1	1.6	0.2	1	1	13	11	21	14	0	0	3	2	2	7	20	36	30	44
B1	0.62	0.37	0.03	0.0	0.0	4.5	2.4	0.2	1	1	7	14	25	15	28	9	3	2	2	7	23	33	30	38
B21T	0.71	0.46	0.02	0.0	0.0	0.4	2.5	0.2	1	1	9	7	9	19	0	0	4	2	2	9	24	25	33	118
B22T	0.72	0.57	0.02	0.0	0.0	0.1	-3.1	-0.4	2	1	9	9	7	16	50	6	8	5	4	15	22	15	30	101
B31CA	0.78	0.51	0.02	0.0	0.0	-1.5	-0.6	-0.8	2	2	26	10	7	10	0	0	9	5	4	16	26	18	22	60
B32CA	0.80	0.49	0.03	0.0	0.0	-1.3	-0.2	-1.5	0	25	42	5	4	4	15	5	5	4	4	17	27	18	25	45
C 1CA	0.83	0.51	0.03	0.0	0.0	-1.9	-0.9	-2.4	2	18	26	12	7	8	18	9	5	5	10	19	24	14	22	41
C 2	0.78	0.48	0.04	0.0	0.0	0.3	-0.5	-3.3	2	10	18	15	12	9	0	0	5	5	4	17	23	20	26	32

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
		WEIGHTS PER UNIT DEPTH (CM OR INCH)			POUNDS PER ACRE					TONS/ACRE			
A11	1.0	0.434	4.91	0.197	506.8	96.2	11.9	191.6	372.4	0.1	0.1	0.251	0.124
A12	4.5	0.335	3.79	0.162	440.4	89.1	36.6	31.0	488.1	0.1	0.1	0.0	0.0
A13	10.5	0.229	2.60	0.133	614.5	119.7	62.0	31.5	334.2	0.1	0.1	0.0	0.0
B1	18.5	0.135	1.52	0.103	618.8	131.5	22.2	75.4	206.3	0.2	0.2	0.279	0.133
B21T	27.0	0.076	0.86	0.058	1060.6	0.0	29.5	83.4	504.6	0.1	0.1	0.0	0.0
B22T	35.5	0.068	0.77	0.052	983.7	215.5	31.4	76.1	0.0	2.9	2.9	0.497	0.251
B31CA	45.0	0.0	0.0	0.0	575.5	148.5	28.5	54.3	27.8	3.1	3.1	0.0	0.0
B32CA	55.0	0.0	0.0	0.0	260.9	63.6	13.2	16.8	0.0	1.4	1.4	0.152	0.104
C 1CA	69.0	0.0	0.0	0.0	435.1	148.1	48.5	44.3	42.2	3.2	3.2	0.182	0.076
C 2	81.0	0.0	0.0	0.0	464.7	153.5	88.2	49.9	0.0	2.1	2.1	0.0	0.0

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
		CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)			POUNDS PER ACRE					TONS/ACRE			
1	1- 5	1.87	21.2	0.88	2334.7	459.8	133.6	476.3	2209.1	0.7	0.7	1.25	0.62
2	6- 10	3.23	36.6	1.60	5058.8	997.0	392.8	633.0	4187.8	1.3	1.3	2.50	1.24
3	11- 15	4.28	48.5	2.24	8135.5	1607.2	663.0	834.6	5730.8	2.0	2.0	3.78	1.87
4	16- 20	4.95	56.1	2.75	11229.5	2264.6	774.2	1211.6	6762.1	2.8	2.8	5.17	2.53
5	21- 25	5.51	62.4	3.18	15207.1	2659.1	899.9	1604.7	8390.2	3.5	3.5	6.56	3.19
6	26- 30	5.89	66.7	3.47	20509.9	2659.1	1047.4	2021.6	10913.3	4.1	4.1	7.95	3.85
7	31- 35	6.24	70.7	3.74	25505.2	3521.0	1202.6	2409.5	11417.9	15.9	15.9	10.22	4.99
8	36- 40	6.58	74.5	4.00	30423.6	4598.4	1359.7	2790.1	11417.9	30.5	30.5	12.70	6.24
9	41- 45	6.58	74.5	4.00	33301.2	5341.0	1502.1	3061.6	11557.2	46.0	46.0	15.18	7.49
10	46- 50	6.58	74.5	4.00	36178.8	6083.6	1644.4	3333.1	11696.4	61.5	61.5	17.66	8.74
11	51- 55	6.58	74.5	4.00	37483.2	6401.8	1710.3	3417.0	11696.4	68.6	68.6	18.42	9.26
12	56- 60	6.58	74.5	4.00	38787.7	6720.0	1776.3	3500.8	11696.4	75.8	75.8	19.18	9.78
13	61- 65	6.58	74.5	4.00	40963.3	7460.4	2019.0	3722.5	11907.5	92.0	92.0	20.09	10.16
14	66- 70	6.58	74.5	4.00	43139.0	8200.8	2261.7	3944.1	12118.5	108.3	108.3	21.00	10.54
15	71- 75	6.58	74.5	4.00	45314.6	8941.1	2504.5	4165.7	12329.6	124.5	124.5	21.91	10.92
16	76- 80	6.58	74.5	4.00	47549.3	9692.3	2826.6	4398.4	12456.3	138.5	138.5	22.82	11.30

AVERAGE OF CONTROL SECTION 0- 0 CMS. (0- 0 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) =100.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 0.0 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 1.35 PERCENT. SAND/CLAY RATIO = 1.0.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 67 12 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES HARKERS LOAM (TAXADJUNCT) SOIL NO. S67 UTAH. 18- 9 SAMPLE NO. 7 286-7 294 SALT LAKE CO. AREA

SOIL FAMILY: TYPIC PALEXEROLL,VERY-FINE,MONTMORILLON.,FRIGID RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	LESS .02	THAN .005	MM .002	CUMULATIVE SAND FRACTION LESS 1.0	.5	THAN .25	.10	MM .05	DIAMETERS AT PERCENT (MM) 60	50	10	CU	CC RATIO
7 286	0- 4	A11	100	99	98	96	95	84	73	73	69	59	34	23	16	71	70	69	64	53	0.08	0.043	0.001	93.3	0.0
7 287	4- 11	A12	100	99	98	96	95	85	75	75	73	64	36	26	19	74	73	72	69	56	0.06	0.037	0.001	91.8	0.0
7 288	11- 17	A13	100	100	100	100	100	91	83	83	79	70	40	30	23	81	79	79	75	62	0.05	0.030	0.001	83.5	0.0
7 289	17- 23	B1	100	98	96	94	92	80	67	67	64	56	34	27	21	65	64	63	60	50	0.10	0.049	0.001	175.5	0.0
7 290	23- 36	B21T	100	98	97	94	93	82	70	70	67	60	51	47	45	68	67	66	63	57	0.07	0.016	0.000	219.5	0.0
7 291	36- 46	B22T	100	100	100	99	99	88	77	77	75	68	57	52	48	76	75	74	71	65	0.03	0.003	0.000	90.0	0.0
7 292	46- 572	B31	100	96	93	89	86	73	60	60	54	46	26	23	21	56	54	53	49	42	4.70	0.127	0.001	7825.5	4.8
7 293	57- 712	B32	100	96	93	88	85	56	27	27	22	17	12	10	9	24	22	21	18	15	10.41	8.178	0.003	2987.3	*****
7 294	71- 842	C 1	100	88	80	68	60	45	30	30	26	20	15	13	12	28	26	25	22	18	19.00	11.927	0.001	13274.4	*****

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
CEC MEQ	CLAY PC	OC PC	0.837	2.705	-3.526	0.937	9
15BR PC	CLAY PC	OC PC	0.556	0.943	-2.919	0.940	9
OC PC	CLAY PC	DPTHIN	-0.010	-0.062	3.387	0.719	7

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	D.C. / PYR. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOLIDS 250-75	75-20	20-2	SIZE IN MM 2-.05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS, PERCENT OF SAND PLUS SILT: VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	1.38	0.70	0.04	0.0	0.0	-1.4	-1.2	-2.2	2	2	10	9	16	7	35	19	4	2	2	9	19	34	31	28
A12	0.87	0.45	0.03	0.0	0.0	1.0	1.6	0.6	2	3	10	10	20	10	27	18	2	2	1	6	22	37	30	34
A13	0.67	0.40	0.03	0.0	0.0	3.9	2.3	1.2	2	0	10	12	22	13	27	14	4	2	1	6	22	35	30	37
B1	0.60	0.38	0.03	0.0	0.0	5.6	3.2	1.2	2	4	12	8	14	10	37	13	5	3	2	7	21	35	28	47
B21T	0.79	0.50	0.02	0.0	0.0	1.8	1.7	0.1	2	3	10	6	5	20	44	10	8	5	3	13	25	25	21	182
B22T	0.81	0.53	0.03	0.0	0.0	-0.3	-0.8	-0.4	2	0	6	4	5	14	55	14	4	4	2	11	22	26	30	167
2B31	1.04	0.68	0.03	0.0	0.0	-9.8	-6.8	-0.5	2	7	14	9	11	11	34	12	9	6	3	10	17	42	14	54
2B32	0.71	0.47	0.03	0.0	0.0	0.7	0.1	-0.9	3	12	47	10	4	8	10	6	16	12	6	15	20	16	15	53
2C 1	0.78	0.48	0.02	0.0	0.0	-1.5	-0.1	-1.8	2	22	17	7	4	7	28	13	11	9	5	17	24	15	19	64

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A11	2.0	0.755	8.55	0.306	291.1	64.4	39.6	52.3	704.8	0.1	0.1	0.348	0.217
A12	7.5	0.364	4.12	0.172	509.5	65.1	38.0	46.0	377.4	0.1	0.1	0.266	0.145
A13	14.0	0.221	2.50	0.113	467.8	71.9	59.1	33.4	376.6	0.1	0.1	0.271	0.134
B1	20.0	0.086	0.98	0.054	401.2	0.0	35.5	15.0	300.9	0.1	0.1	0.366	0.262
B21T	29.5	0.118	1.34	0.074	1126.1	252.2	17.3	36.6	334.1	0.1	0.1	0.439	0.172
B22T	41.0	0.062	0.70	0.039	904.2	183.0	12.3	26.1	125.7	0.7	0.7	0.546	0.349
2B31	51.5	0.049	0.55	0.030	1045.9	165.4	39.1	44.2	0.0	0.9	0.9	0.344	0.147
2B32	64.0	0.0	0.0	0.0	459.8	70.9	6.0	41.0	47.3	0.7	0.7	0.102	0.007
2C 1	77.5	0.0	0.0	0.0	368.0	75.2	7.0	39.4	99.1	0.5	0.5	0.280	0.196

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	3.38	38.3	1.40	1674.0	322.5	196.6	255.1	3196.6	0.5	0.5	1.66	1.01
2	6- 10	5.20	58.9	2.26	4221.6	648.0	386.4	485.1	5083.7	1.1	1.1	2.99	1.73
3	11- 15	6.45	73.0	2.88	6602.5	1000.7	660.6	664.6	6967.3	1.8	1.8	4.34	2.41
4	16- 20	7.15	81.0	3.27	8741.7	1144.5	885.2	776.5	8623.1	2.4	2.4	5.98	3.46
5	21- 25	7.65	86.6	3.58	12197.5	1649.0	1026.2	894.9	10193.9	2.8	2.8	7.96	4.59
6	26- 30	8.24	93.3	3.95	17828.0	2910.2	1112.5	1077.8	11864.3	3.3	3.3	10.15	5.45
7	31- 35	8.83	100.0	4.32	23458.6	4171.5	1198.9	1260.8	13534.7	3.8	3.8	12.34	6.31
8	36- 40	9.20	104.1	4.55	28201.6	5155.6	1265.4	1401.8	14371.7	6.5	6.5	14.96	7.88
9	41- 45	9.51	107.6	4.74	32722.6	6070.5	1326.9	1532.2	15000.3	9.9	9.9	17.69	9.62
10	46- 50	9.77	110.5	4.90	37810.5	6915.0	1495.5	1735.0	15126.1	14.3	14.3	19.61	10.56
11	51- 55	10.01	113.3	5.05	43040.1	7742.0	1690.9	1955.9	15126.1	19.0	19.0	21.33	11.29
12	56- 60	10.11	114.4	5.11	46511.3	8285.5	1787.2	2167.2	15268.0	22.9	22.9	22.32	12.02
13	61- 65	10.11	114.4	5.11	48810.3	8640.2	1817.4	2372.1	15504.4	26.2	26.2	22.83	12.75
14	66- 70	10.11	114.4	5.11	51109.3	8994.9	1847.6	2577.1	15740.9	29.5	29.5	23.34	13.48
15	71- 75	10.11	114.4	5.11	53040.9	9366.7	1881.6	2775.7	16184.4	32.2	32.2	24.56	14.41
16	76- 80	10.11	114.4	5.11	54880.6	9742.7	1916.4	2972.9	16679.7	34.7	34.7	25.96	15.39

AVERAGE OF CONTROL SECTION 0- 0 CMS. (0- 0 IN.)
SAND (MINUS VFS)= 0.0 PERCENT, SAND = 0.0 PERCENT, SILT (PLUS VFS) =100.0 PERCENT, CLAY = 0.0 PERCENT,
CARBONATE CLAY = 0.0 PERCENT, 2-250MM= 0.0 PERCENT, 15 BAR = 0.0 PERCENT, CACO3 EQUIVALENT= 0.0 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 2.50 PERCENT. SAND/CLAY RATIO = 1.0.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 70 25 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES BORVANT COBBLY LOAM SOIL NO. S70 UTAH. 20- 1 SAMPLE NO. 0 157-0 161 SANPETE AREA

SOIL FAMILY: ARIDIC PETROCALCIC PALEXEROLL,LMY-SKTL,CBN,MS,S RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	CUMULATIVE SAND FRACTION LESS .02	THAN .005	MM .002	LESS 1.0	THAN .5	MM .25	.10	.05	DIAMETERS AT PERCENT (MM) 60	50	10	CU	CC RATIO
0 157	0- 2	A11	100	92	86	78	72	64	55	45	39	32	19	12	8	42	39	38	34	30	7.09	3.066	0.003	2405.2	5.8
0 158	2- 7	A12	100	91	85	76	70	66	62	55	49	42	27	18	12	51	49	48	44	40	3.68	0.654	0.001	2887.6	1.8
0 159	7- 13	C 1CAM	100	89	82	71	63	63	63	58	46	38	26	19	14	51	46	44	40	35	2.81	0.902	0.001	2728.8	2.3
0 160	13- 23	C 2CAM	100	100	100	100	100	100	100	100	61	47	35	25	1[illegible]	74	62	57	49	43	0.37	0.106	0.001	544.3	0.1
0 161	23- 36	C 3CA	100	92	86	77	71	71	71	71	31	22	17	12	9	44	33	28	23	20	1.50	1.158	0.003	542.1	58.9

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	1.171	3.051	-0.837	0.989	5
15BR PC	CLAY PC	OC PC	-0.146	1.960	14.843	0.586	5
OC PC	CLAY PC	DPTHIN	0.126	-0.071	1.595	0.938	5

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC	15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOILDS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	1.60	1.17	0.0	0.0	0.0	1.4	4.5	0.6	15	13	12	7	10	4	0	0	9	7	4	10	11	31	29	22
A12	1.88	1.62	0.0	0.0	0.0	-0.4	-2.7	-0.3	31	10	5	5	9	4	18	18	8	6	4	8	11	30	34	29
C 1CA	2.14	2.63	0.0	0.0	0.0	-1.0	-0.8	-0.5	31	18	2	11	10	7	0	0	17	11	5	8	11	21	28	32
C 2CAM	1.28	3.23	0.0	0.0	0.0	1.0	0.5	0.1	30	0	0	24	11	8	22	5	32	15	6	9	7	11	20	23
C 3CAM	1.30	2.15	0.0	0.0	0.0	-0.9	-1.6	0.1	29	15	0	26	6	5	16	3	43	19	7	8	4	5	14	14

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
A11	1.0	0.215	2.44	0.117	623.5	20.5	2.8	71.5	0.0	24.5	24.5	0.0	0.0
A12	4.5	0.285	3.23	0.142	702.7	25.9	2.6	57.6	0.0	22.7	22.7	0.165	0.070
C 1CA	10.0	0.281	3.18	0.134	848.7	37.9	3.8	32.4	0.0	57.4	57.4	0.0	0.0
C 2CA	18.0	0.151	1.71	0.073	944.1	88.8	5.9	10.0	0.0	108.4	108.4	0.198	0.046
C 3CA	29.5	0.045	0.51	0.022	684.7	151.8	20.1	25.5	0.0	78.5	78.5	0.128	0.002

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					----------POUNDS PER ACRE----------					---TONS/ACRE---			
1	1- 5	1.29	14.6	0.66	3355.0	118.8	13.5	316.0	0.0	117.1	117.1	0.82	0.35
2	6- 10	2.70	30.5	1.35	7306.2	284.5	30.2	528.6	0.0	334.8	334.8	1.64	0.70
3	11- 15	3.84	43.5	1.89	11740.3	575.9	53.4	645.9	0.0	723.9	723.9	2.53	1.00
4	16- 20	4.60	52.1	2.26	16460.7	1019.9	82.7	695.6	0.0	1266.1	1266.1	3.52	1.23
5	21- 25	5.14	58.2	2.52	20662.3	1589.8	140.5	776.5	0.0	1748.5	1748.5	4.37	1.46
6	26- 30	5.37	60.7	2.63	24086.0	2348.7	240.8	904.1	0.0	2141.0	2141.0	5.01	1.69
7	31- 35	5.59	63.3	2.73	27509.7	3107.6	341.1	1031.6	0.0	2533.5	2533.5	5.65	1.92

AVERAGE OF CONTROL SECTION 0- 34 CMS. (0- 13 IN.)
SAND (MINUS VFS)= 25.4 PERCENT, SAND = 33.8 PERCENT, SILT (PLUS VFS) = 51.9 PERCENT, CLAY = 22.7 PERCENT,
CARBONATE CLAY = 13.4 PERCENT, 2-250MM= 67.5 PERCENT, 15 BAR = 19.2 PERCENT, CACO3 EQUIVALENT= 55.6 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 2.30 PERCENT. SAND/CLAY RATIO = 1.8.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

CONSECUTIVE PEDON NUMBER C 70 26 S U P P L E M E N T A R Y C H A R A C T E R I Z A T I O N D A T A

SOIL SERIES BORVANT COBBLY LOAM SOIL NO. S70 UTAH, 20- 6 SAMPLE NO. 0 162-0 170 SANPETE AREA

SOIL FAMILY: ARIDIC PETROCALCIC PALEXEROLL,LMY-SKTL,CBN,MS,S RIVERSIDE SOIL SURVEY LABORATORY

SAMPLE	DEPTH (IN.)	HORZN	ENGINEERING MECHANICAL ANALYSIS PERCENTAGE PASSING SIEVE 3 IN.	2 IN.	3/2 IN.	1 IN.	3/4 IN.	3/8 IN.	NO. 4	NO. 10	NO. 40	NO. 200	CUMULATIVE SAND FRACTION LESS .02	THAN .005	MM .002	LESS 1.0	.5	THAN .25	.10	MM .05	DIAMETERS AT PERCENT (MM) 60	50	10	CU	CC RATIO
0 162	0- 3	A11	100	93	88	81	76	69	61	54	43	31	20	15	12	49	44	40	33	28	4.16	1.123	0.001	3099.8	13.2
0 163	3- 8	A12	100	85	75	60	50	47	44	40	33	26	17	13	10	37	34	32	27	23	25.00	19.000	0.0021	3659.6	412.9
0 164	8- 14	A13	100	85	75	60	50	49	47	46	38	30	22	17	14	42	39	36	31	28	25.00	19.000	0.0012	4482.9	143.9
0 165	14- 18	C 1CAM	100	100	100	100	100	100	100	100	70	53	40	32	26	83	72	66	56	49	0.14	0.056	0.000	299.4	0.0
0 166	18- 30	C 2CAM	100	100	100	100	100	100	100	100	65	43	28	20	14	80	67	60	47	37	0.26	0.122	0.001	265.0	0.2
0 167	30- 37	C 3CAM	100	95	92	87	84	84	84	84	48	29	18	13	10	63	50	43	32	24	0.87	0.507	0.002	458.3	3.0
0 168	37- 47	C 4CA	100	86	77	63	53	44	35	27	18	10	5	3	2	23	18	16	11	8	23.31	15.054	0.076	306.8	*****
0 169	47- 59	C 5	100	87	78	64	55	47	38	31	20	12	7	4	3	25	20	18	13	10	22.13	12.599	0.054	408.9	*****
0 170	59- 0	R	PSD NOT DETERMINED																						

REGRESSION EQUATION Y = A*X1 + B*X2 + C

Y	X1	X2	A	B	C	MULTIPLE CORRELATION COEFFICIENT R	NUMBER OF SAMPLES N
			REGRESSION COEFFICIENTS				
CEC MEQ	CLAY PC	OC PC	1.980	-11.796	8.201	0.891	8
15BR PC	CLAY PC	OC PC	-0.604	7.571	9.234	0.680	8
OC PC	CLAY PC	DPTHIN	0.048	-0.027	1.172	0.988	8

HORIZON	RATIOS AND RESIDUALS: RATIOS TO CLAY CEC 15BAR	DC. FE	PYR. FE+AL	PYR/ D.C. FE+AL	RESIDUALS CEC MEQ.	15BAR PCT.	OC. PCT.	VOLUME COMPOSITION: PERCENT (VOL) OF SOIL VOLUME, SOILS, SIZE IN MM 250 -75	75 -20	20 -2	2-.05	-.05-.002	LT .002	PORES CAP.	NON CAP	PSD ON CLAY FREE BASIS: PERCENT OF SAND PLUS SILT VCS	CS	MS	FS	VFS	COSI	FSI	CLAY
A11	1.13	0.84	0.0	0.0	0.0	-0.4	2.6	0.1	3	13	12	14	9	7	0	0	11	13	10	16	12	18	20	29
A12	1.17	0.85	0.0	0.0	0.0	0.1	0.4	0.0	20	26	5	9	7	5	11	17	11	10	8	15	14	21	22	35
A13	1.18	1.12	0.0	0.0	0.0	0.7	-2.5	-0.1	19	26	2	10	7	8	0	0	12	11	9	14	12	19	24	44
C 1CAM	1.82	4.61	0.0	0.0	0.0	-3.7	-0.0	-0.2	3	0	0	27	12	14	31	13	23	15	8	13	10	12	18	36
C 2CAM	1.60	3.00	0.0	0.0	0.0	3.4	0.6	0.1	3	0	0	35	13	8	31	10	23	16	9	14	12	11	15	17
C 3CAM	1.60	3.43	0.0	0.0	0.0	4.5	-4.3	-0.0	3	9	0	34	8	6	30	10	29	18	9	14	11	9	10	14
C 4CA	4.11	0.22	0.0	0.0	0.0	-3.0	6.4	0.1	5	35	19	14	5	1	12	9	18	17	10	18	11	11	15	7
C 5	3.28	1.45	0.0	0.0	0.0	-1.6	-3.2	-0.1	50	17	9	8	3	1	8	4	20	18	9	16	12	10	14	9
R					0.0																			

WEIGHTS PER UNIT DEPTH (CM OR INCH)

HORIZON	MEAN DEPTH INCH	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
A11	1.5	0.230	2.61	0.139	857.1	28.0	4.1	62.9	0.0	31.4	31.4	0.0	0.0
A12	5.5	0.162	1.84	0.106	698.3	89.5	2.9	24.2	0.0	23.0	23.0	0.097	0.040
A13	11.0	0.176	1.99	0.119	750.5	98.9	3.4	17.2	0.0	36.8	36.8	0.0	0.0
C 1CA	16.0	0.256	2.90	0.143	1224.8	30.8	7.4	12.5	0.0	137.9	137.9	0.290	0.092
C 2CA	24.0	0.134	1.51	0.075	1258.1	64.9	7.8	13.2	0.0	140.4	140.4	0.296	0.157
C 3CA	33.5	0.098	1.11	0.055	935.3	123.9	13.2	11.2	0.0	97.5	97.5	0.267	0.115
C 4CA	42.0	0.011	0.12	0.006	538.8	74.7	5.5	4.7	0.0	19.8	19.8	0.105	0.115
C 5	53.0	0.007	0.07	0.004	352.4	49.7	4.9	5.6	0.0	9.3	9.3	0.067	0.048
R	29.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

CUMULATIVE WEIGHTS IN 5 INCH INCREMENTS (PER SQM OR ACRE)

INCREMENT	DEPTH (IN.)	ORGANIC MATTER KG/ SQM.	ORGANIC MATTER TONS/ ACRE	TOTAL N TONS/ ACRE	PLANT NUTRIENTS (ELEMENTAL) CA	MG	NA	K	LIME REQUIREMENT CA EQUIV.	CARBONATE AS CACO3 <2MM	CARBONATE AS CACO3 2-20MM	WATER CONTENT FIELD CAPACITY TO A. D. INCH/INCH	15 BAR INCH/INCH
					POUNDS PER ACRE					TONS/ACRE			
1	1- 5	1.02	11.5	0.63	3967.8	262.8	18.1	237.3	0.0	140.1	140.1	0.48	0.20
2	6- 10	1.85	21.0	1.18	7563.7	729.0	33.4	344.4	0.0	282.6	282.6	0.96	0.40
3	11- 15	2.81	31.8	1.80	11790.5	1155.3	54.3	425.8	0.0	567.7	567.7	1.64	0.65
4	16- 20	3.85	43.5	2.38	17981.1	1377.5	92.0	489.7	0.0	1262.0	1262.0	3.10	1.24
5	21- 25	4.51	51.1	2.75	24271.5	1702.2	130.9	555.6	0.0	1963.7	1963.7	4.58	2.02
6	26- 30	5.18	58.7	3.13	30562.0	2026.9	169.8	621.5	0.0	2665.5	2665.5	6.06	2.80
7	31- 35	5.67	64.2	3.40	35238.3	2646.6	235.8	677.5	0.0	3153.2	3153.2	7.39	3.37
8	36- 40	5.90	66.8	3.53	38725.4	3118.6	278.7	713.9	0.0	3407.6	3407.6	8.24	3.94
9	41- 45	5.96	67.4	3.56	41419.6	3492.2	306.3	737.2	0.0	3506.4	3506.4	8.76	4.51
10	46- 50	6.00	67.9	3.58	43554.5	3790.6	332.0	763.3	0.0	3573.7	3573.7	9.17	4.88
11	51- 55	6.03	68.3	3.60	45316.5	4038.9	356.6	791.1	0.0	3620.1	3620.1	9.50	5.12

AVERAGE OF CONTROL SECTION 0- 36 CMS. (0- 14 IN.)
SAND (MINUS VFS)= 33.1 PERCENT, SAND = 42.4 PERCENT, SILT (PLUS VFS) = 39.6 PERCENT, CLAY = 27.2 PERCENT,
CARBONATE CLAY = 14.2 PERCENT, 2-250MM= 64.1 PERCENT, 15 BAR = 13.5 PERCENT, CACO3 EQUIVALENT= 42.9 PERCENT.

AVERAGE OF 0-40 CM. SECTION...
ORGANIC CARBON= 1.57 PERCENT. SAND/CLAY RATIO = 1.6.

** THE METHODS SECTION GIVES MORE DETAIL ON DERIVATION AND USE OF THE DATA

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