U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

NRCS–ENG–553
2–80

CONCRETE TRIAL MIX DATA

Watershed _____ Subwatershed _____
Site No. _____ Structure _____ Class of concrete _____
By _____ Title _____ Date _____
W/C (strength) _____ gal/bag W/C (exposure) _____ gal/bag Use W/C _____ gal/bag
Slump range _____ in. Type of cement _____ Air content _____
Fineness modulus fine aggregate _____ Maximum size coarse aggregate _____

Materials	① Batch quantity (lb)	② Specific gravity[1]	③ Solid volume (ft^3)	④ Weight/bag of batch (lb)	⑤ Weight/ yd^3 (lb)	⑥ Remarks
Cement		3.15				
Water		1.00				
Fine aggregate (S.S.D.)^2						
Coarse aggregate (S.S.D.)^2						
Air _____ oz			_____ Total solid volume of material			

Measured slump _____ in. Measured air _____ % Workability _____

Unit weight of concrete = $\frac{\text{Weight of concrete in container}}{\text{Volume of container}}$ = _____ = _____ lb/ft^3

Volume of batch = $\frac{\text{Total weight of batch}}{\text{Unit weight of concrete}}$ = _____ = $\frac{\text{ft}^3}{27\ \text{ft}^3/\text{yd}^3}$ = _____ yd^3

Volume of air = Volume of batch (ft^3) − Solid volume of ingredients = _____ − _____ = _____ ft^3

Air content = $\frac{\text{Volume of air (ft}^3)}{\text{Volume of batch (ft}^3)}$ x100 = _____ x100 = _____ %

Concrete yield = $\frac{\text{Volume of batch (ft}^3)}{\text{Number of cement bags}}$ = _____ = _____ ft^3/cement bag

Cement factor = $\frac{27\ \text{ft}^3/\text{yd}^3}{\text{Yield (ft}^3/\text{bag)}}$ = _____ = _____ bags/yd^3

Water = $\frac{\text{Water (lb/yd}^3)}{8.34\ \text{lb/gal}}$ = _____ = _____ gal/yd^3

Fine aggregate content = $\frac{\text{Weight of fine aggregate}}{\text{Total weight of aggregate}}$ x100 = _____ x100 = _____ %

Col. 1–Weight of materials used in trial mixture
Col. 2–Specific gravity of materials
Col. 3–Absolute volume = $\frac{\text{weight}}{(\text{Sp. Gr.})(62.4)}$

Col. 4– $\frac{(\text{Col. 1})\ (94)}{\text{Weight of cement used}}$

Col. 5–(Col. 4)(cement factor), or $\frac{\text{Col. 1}}{\text{Volume batch (yd}^3)}$

[1]Specific gravity and absorption of coarse aggregate (from ASTM C–127). Specific gravity and absorption of fine aggregates (from ASTM C–128)
[2]Saturated surface dry.