

GRAIN SIZE DISTRIBUTION TEST DATA

Client: County of Berthoud

Project: Berthoud County Landfill Expansionb

Project Number: P91003-24

Location: Test Pit TP-2

Sample Number: same as #16

Material Description: dual split, cumulative weight method

Liquid Limit: 20

Plastic Limit: 3

USCS Classification: SW-SC

AASHTO Classification: A-2-6(0)

Testing Remarks: Should indicate pass/fail on spec set, but should not show spec. set on report.

Tested by: TestedBy

Checked by: CheckedBy

Material specification: AASHTO M 147-65 Grade E

Sieve Test Data

Post #200 Wash Test Weights (grams): Dry Sample and Tare = 26577.10
 Tare Wt. = 5189.00
 Minus #200 from wash = 7.8%

Dry Sample and Tare (grams)	Tare (grams)	Cumulative Pan Tare Weight (grams)	Sieve Opening Size	Cumulative Weight Retained (grams)	Percent Finer	Percent Retained	Lower Spec. Limit, %	Upper Spec. Limit, %	Deviation From Spec., %
28394.60	5189.00	0.00	6	0.00	100.0	0.0			
			4	487.30	97.9	2.1			
			3	719.40	96.9	3.1			
			2	1206.70	94.8	5.2			
			1 1/2	1717.20	92.6	7.4			
			3/4	3480.80	85.0	15.0			
			3/8	5940.60	74.4	25.6			
			#4	8632.40	62.8	37.2	55.0	100.0	
3721.80	0.00	0.00	#8	927.60	49.1	50.9			
			#16	1713.00	37.5	62.5			
			#30	2566.10	24.9	75.1			
289.50	0.00	0.00	#50	142.48	16.5	83.5			
			#100	240.85	10.7	89.3			
			#200	284.95	8.1	91.9	6.0	20.0	

Hydrometer Test Data

Hydrometer test uses material passing #200

Percent passing #200 based upon complete sample = 8.1

Weight of hydrometer sample = 58.9

Hygroscopic moisture correction:

Moist weight and tare = 140.50

Dry weight and tare = 128.70

Tare weight = 41.10

Hygroscopic moisture = 13.5%

Table of composite correction values:

Temp., deg. C: 20.0 22.0

Comp. corr.: -2.5 -2.2

Meniscus correction only = 0.6

Specific gravity of solids = 2.65

Hydrometer type = 151H

Hydrometer effective depth equation: $L = 16.294964 - .2645 \times R_m$

Hydrometer Test Data (continued)

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer	Percent Retained
1.00	22.0	1.0279	1.0257	0.0133	28.5	8.8	0.0394	6.4	93.6
2.00	22.0	1.0259	1.0237	0.0133	26.5	9.3	0.0287	5.9	94.1
5.00	22.0	1.0238	1.0216	0.0133	24.4	9.8	0.0187	5.4	94.6
15.00	22.0	1.0215	1.0193	0.0133	22.1	10.4	0.0111	4.8	95.2
30.00	22.0	1.0198	1.0176	0.0133	20.4	10.9	0.0080	4.4	95.6
60.00	22.0	1.0181	1.0159	0.0133	18.7	11.3	0.0058	4.0	96.0
200.00	22.0	1.0157	1.0135	0.0133	16.3	12.0	0.0033	3.4	96.6
1440.00	22.0	1.0118	1.0096	0.0133	12.4	13.0	0.0013	2.4	97.6

Fractional Components

Cobbles	Gravel				Sand				Fines
	Coarse	Medium	Fine	Total	Coarse	Medium	Fine	Total	
3.1	8.3	14.2	28.2	50.7	21.3	10.2	6.6	38.1	8.1

D ₅	D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₄₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
0.0128	0.1315	0.2569	0.4186	0.7972	1.3633	2.4788	4.1078	13.5548	19.0498	28.9572	52.3790

Fineness Modulus	C _u	C _c
4.50	31.23	1.18