AGGREGATE INDUSTRIES

1687 Cole Boulevard
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April 9, 2020

Tim Cazier, P. E.
Environmental Protection Specialist III - Engineering
State of Colorado Department of Natural Resources
Division of Reclamation Mining and Safety
1313 Sherman Street, Room 215
Denver, CO 80203

RE: Aggregate Industries-WCR, Inc. Daniels Sand Pit 2, M1973007SG
Response to TR-09 Adequacy Review letter dated November 26, 2019.

Dear Mr. Cazier:

Attached please find our response to the Colorado Division of Reclamation Mining and Safety (DRMS) Technical Revision (TR) -09 Adequacy Review letter dated November 26, 2019. The TR-09 adequacy review was based on a letter dated October 14, 2019, from Brierley and Associates, LLC (Brierley) to Aggregate Industries –WCR (AI). Since the time of the October letter, key Brierley project staff has transferred to a different engineering firm, Lithos Engineering (Lithos). AI has determined that it is appropriate to allow the original design team to continue on the project, and therefore has contracted with Lithos to continue working on TR-09. The response was developed by Lithos, on our behalf. AI staff worked closely with Lithos during this time.

AI is currently obligated to initiate the stabilization of the Daniels Sand Pit 2 during the Spring of 2020. We have been working closely with Lithos to develop the response and had made progress on creating a project timeline and implementing the stabilization this spring (2020).

As you are aware, the COVID-19 pandemic has significantly and negatively impacted many businesses and entire industries, including AI operations nationally and worldwide. As a result of these personnel and operational impacts, AI is unable to develop a schedule for the mitigation proposed in TR-09. AI is hereby requesting a 1-year extension to our TR-09 obligations at the Daniels Sand Pit 2. This would place our TR-09 start schedule on a Spring 2021 timeline. This 1-year extension is based on the assumption that the COVID-19 pandemic will not last beyond early summer 2020. As pandemic timelines are unknown, this Spring 2021 extension request is tentative, and could be extended based on national and worldwide pandemic conditions. We are committed to meeting our regulatory obligations onsite, and appreciate your consideration of AI's extension request. During this time, we will perform frequent monitoring of the areas in question, and if signs of instability and/or movement are noted, we will implement emergency stabilization (per the designs provided in TR-09) and contact the DRMS.

Please don't hesitate to contact me (719.239.0974) should you have questions or concerns.

Best regards,

Jeremy Deuto, P.E., P.G.
Regional Land and Environment Manager
Aggregate Industries-WCR, Inc.

LITHOS ENGINEERING

2750 S. Wadsworth Blvd, Suite D-200
Lakewood, Colorado 80227
303.625.9502
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March 30, 2020
Project No.: 19125

Aggregate Industries – WCR, Inc
1687 Cole Boulevard, Suite 300
Golden, CO 80401

Attention: Andre Laroche
Environment and Land Manager

Jeremy Deuto, PE, PG
Regional Land and Environment Manager

Regarding: Daniels Sand Pit 2, Permit No. M-1973-007-SG
Response to TR-09 Preliminary Adequacy Review

Mr. Laroche,

In response to Timothy Cazier's November 26, 2019 Technical Revision (TR-09) Preliminary Adequacy Review, this letter provides responses to DRMS comments. Mr. Cazier's comments pertain to a letter dated October 14, 2019 from Brierley Associates to Aggregate Industries. Since the time of that letter, the key staff from Brierley (Steve Kuehr and Sarah Myers) who prepared the letter are now at Lithos Engineering. Steve and Sarah are hereinafter referred to as the Design Team.

Comment No. 1 - Figure 3, Cross Section #3

Comment: *The AutoCAD section indicates a 6.6H:1V slope from the old wash pond crest down to Bradley Road. This was not the case when the DRMS inspected the site on December 7, 2016 (see Photo 1 below). The slope at the time of the inspection appeared to be steeper than 2H:1V. Has this slope been flattened since December 2016?*

Response: The slope has been flattened due to the December 12, 2016 inspection report. According to the corrective action response letter, "on May 5, 2017 personnel at Daniels Sand Pit #2 completed reseeding of the newly filled and sloped southwest embankment of the current wash fines pond." A picture of the revegetation process from the May 9, 2017 corrective action response letter is shown below (Figure 1.1). The topography was surveyed in May 2018 and provided from Aggregate Industries to the Design Team to perform the required analysis. Cross section 3 is based on the May 2018 data.

Figure 1.1 Completed slope from across Bradley Road

Comment No. 2 - Factors of Safety Requiring Mitigation

Comment: *Both Cross Sections D-1 [Fountain Mutual Ditch above the Recharge Pond to the south] and D-4 [Fountain Mutual Ditch above the New Wash Pond to the south] have Factors of Safety(FoS) for stability well below that required by the Mined Land Reclamation Board Policy 30. A mitigation plan is required. Please submit a mitigation plan for both these areas demonstrating how the required FoS will be met, including a schedule for the work. Both the mitigation plan and the schedule will require approval by the DRMS.*

Response: A site visit with the Design Team and Aggregate Industries (Owner) occurred in the Fall of 2019. The purpose of the site visit was to make general site observations and to collect samples of stockpiled site material that was identified for use in the slope mitigation. The Design Team in agreement with the Owner, has designed mitigative measures to ensure long term stability for the slopes in question. The mitigation design is presented below. The schedule to complete the work is provided in a separate document from the Owner.

Fountain Mutual Ditch above the Recharge Pond

The mitigation plan consists of a buttress fill which will be installed to stabilize the steep mine slope which exists beneath the Fountain Mutual Ditch above the new wash fines pond. Buttress fills are a common technique to stabilize slopes. The buttress is intended to flatten the existing mine slope to 3H:1V. In March 2020, the Owner provided additional survey for the area beyond

(south of) the existing toe of slope. This area is currently under water so a bathymetric survey was performed. On-site recycled concrete and stockpiled sand will be used as the fill material. The buttress footprint will extend into the new wash pond which is partially filled with water and wash pond fines. The wash fines consist of submerged, very loose, saturated silt. The buttress material is significantly denser and will displace a portion of the wash fines.

Laboratory testing was performed on selected stockpile samples in order to obtain engineering parameters needed in the analysis. The laboratory results are attached to this letter for reference. A Slope/W analysis was performed for the proposed mitigation plan which resulted in a Factor of Safety (FOS) of 1.8. The design requires that the wash fines be stabilized with recycled crushed concrete. But, for the purpose of the slope stability analysis, the stability contribution of the broken concrete was neglected. The recycled concrete will be crushed to 12-inch minus. Slope geometry and geotechnical parameters used in the analysis are shown in Figure 2.1. Figure 2.2 presents the critical failure surfaces and calculated FOS for the proposed construction. The grading plan, construction sequence and typical cross section for the proposed construction are attached to the end of this letter as Plate 1 and Plate 2.

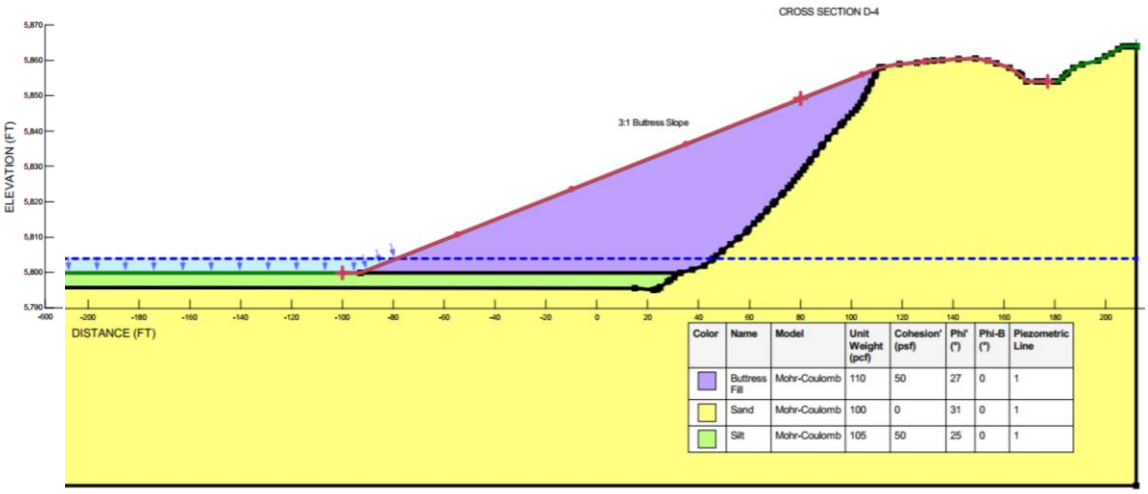


Figure 2.1 Geometry and Material Properties

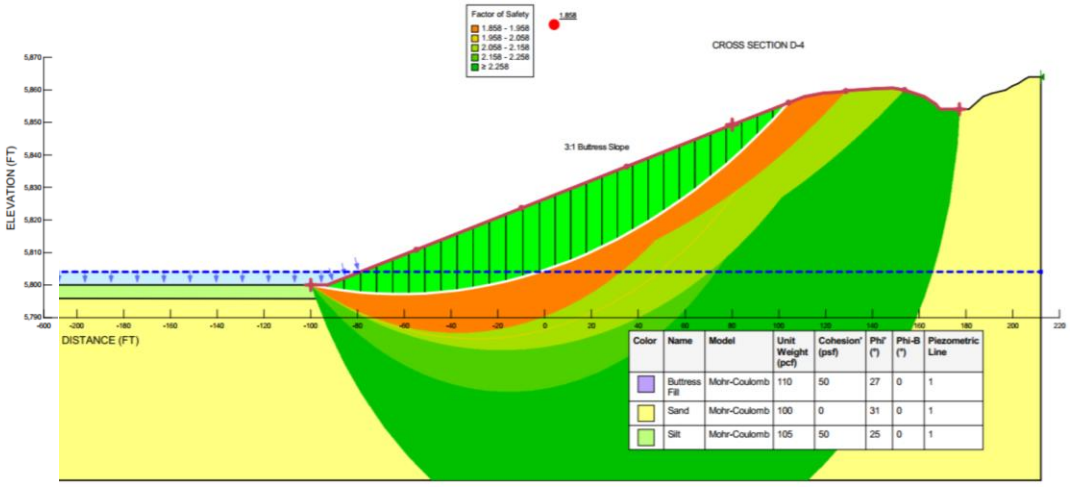


Figure 2.2 Analysis Results

Fountain Mutual Ditch Above the Recharge Pond

Regarding the Fountain Mutual Ditch above the recharge pond, the slope will be flatten to 3H:1V as part of the mines standard reclamation requirements. The conditions at the toe of the existing mine slope are favorable since open water and wash fines do not exist. Construction will follow standard reclamation procedures and a specific mitigation plan is not needed. The mine slope in this area is not as high or as steep as it is in the wash fines pond area, so addition slope stability analysis was not warranted.

Comment No. 3 - Cross Section D-3 Cohesion

Comment: *Slope stability analyses for Cross Sections D-1, D-2, and D-4 use a cohesion value of 50 pounds per square foot. The analyses for Cross Section D-3 uses zero. Please explain the difference.*

Response: There is no difference, a cohesion value of 50 pounds per square foot is consistent throughout the mining site. For cross section D-3, a cohesion value of 50 psf (compared to zero psf) would result in a higher factor of safety. A cohesion of 0 psf was used for the effective stress analysis and a cohesion of 50 psf was used for the total stress analysis.

Comment No. 4 - Strength Parameters

Comment: *The first paragraph of Appendix A states "…37 strength values determined multiple tests have been conducted." The third paragraph states "Geotechnical information collected during previous investigations are presented in Appendix B". There is no map in Appendix B showing sample locations, nor are there any test results presented. The results of the SlopeW analyses are either well below the FoS of 1.3 for multiple strength tests or well above the FoS of 1.5 for "table values". If the goal is to demonstrate multiple strength tests support the goal of using the lower FoS of 1.3, this data and test results must be provided. If the goal is to demonstrate the gradations and USCS soil classifications*

support the strength parameters used in the analyses of the four cross sections, some rationale linking these parameters and the strength parameters must be provided.

Response: Figure 1, Project Layout, presents the locations of the Lyman Henn and Brierley subsurface investigations. We recognize the confusion and apologize for the inconvenience. To clarify, the goal is not to demonstrate multiple strength tests to support the use of a lower factor of safety. Instead, a factor of safety of 1.5 was used as suggested by MLRB when generalized, assumed, or single test strength measurements are used in analysis. As stated in the previous letter, the slopes presented in cross sections D-1 and D-4 have an unacceptable factor of safety. Gradations and USCS soil classifications support the strength parameters used in the analysis based on past experiences and the following references: Foundation Analysis and Design by Joseph E. Bowles and NAVFAC DM7-02.

Comment No. 5 - Lyman Henn 2006 Data

Comment: *The narrative in Section 1.2.1 references a proposed slurry wall and bedrock elevations ranging from "4577 to ft to4584 ft" with the "The depth to the top of bedrock ranged from 31 to 44 ft bgs,". This puts the ground surface at no more than 4628.The lowest elevation of the ground surface at the Daniels Pit appears to be closer to 5700, a1,000 feet higher. The DRMS is not aware of a slurry wall proposed for the Daniels Pit. Whereis this data from? It does not appear to be related to the Daniels Pit.*

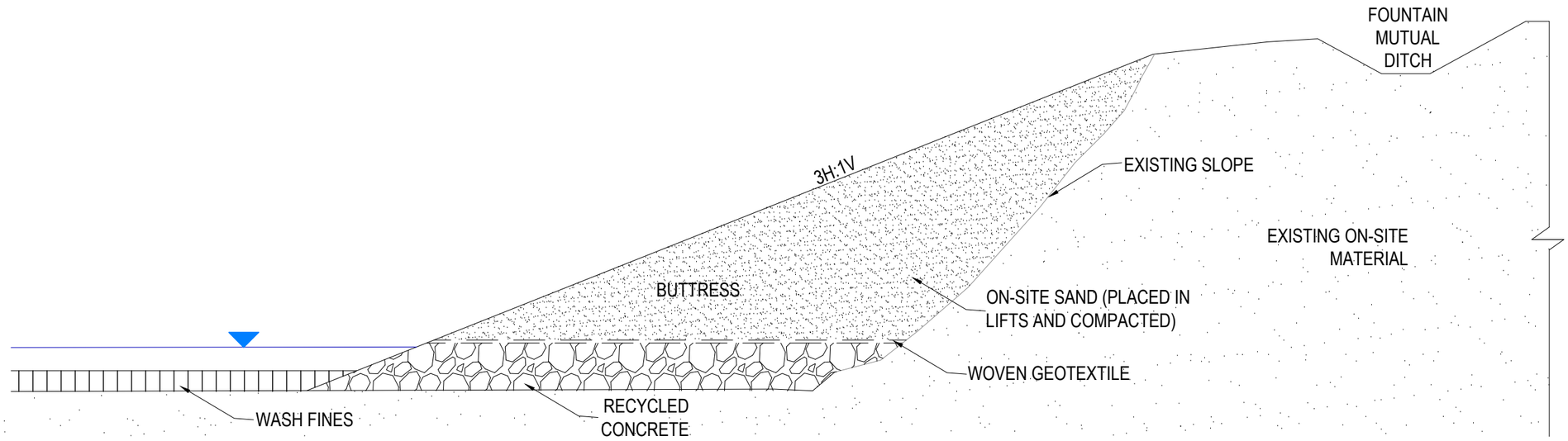
Response: We apologize for the inconvenience and confusion; this information is from a different Transit Mix site and should not have been included in the letter. Please ignore.

If you have any questions regarding the contents of this letter, please contact the undersigned.

Sincerely,
Lithos Engineering

Steve Kuehr, PE
Senior Consultant

Sarah Myers, EIT
Project Engineer



1 / -- TYPICAL CROSS SECTION
NTS

FOUNTAIN MUTUAL DITCH ABOVE THE WASH FINES POND, EXISTING CONDITIONS AND CONSTRUCTION SEQUENCE:

1. THE BUTTRESS IS INTENDED TO FLATTEN THE EXISTING STEEP MINE SLOPE TO 3H:1V. THE BUTTRESS FOOTPRINT EXTENDS INTO THE WASH FINES POND IN AN AREA WITH APPROXIMATELY 4 FT OF WATER OVER APPROXIMATELY 4 FT OF WASH FINES (VERY LOOSE SATURATED SILT).
2. UTILIZING EXISTING ACCESS RAMP AT NW CORNER OF WASH FINES POND, PUSH RECYCLED CONCRETE (12-INCH MINUS) INTO POND ALONG TOE OF MINE SLOPE UNTIL IT DAYLIGHTS ABOVE WATER LEVEL.
3. USE PREVIOUSLY PLACED RECYCLED CONCRETE AS ACCESS RAMP TO CONTINUE PLACEMENT ACROSS ENTIRE TOE OF MINE SLOPE.
4. STRIP VEGETATION FROM THE EXISTING STEEP MINE SLOPE.
5. INSTALL WOVEN GEOTEXTILE (MIRAFI 600X) OVER THE RECYCLED CONCRETE. OVERLAY ADJACENT PANELS OF GEOTEXTILE MINIMUM OF 2 FT.
6. PLACE FILL MATERIAL (ON-SITE SAND) IN MAXIMUM 12-INCH THICK HORIZONTAL LOOSE LIFTS.
7. USING RUBBER-TIRED EQUIPMENT SUCH AS SCRAPERS, WATER WAGONS OR LARGE LOADERS, COMPACT EACH LIFT WITH FULL COVERAGE.
8. PLACE CONSECUTIVE LIFTS UNTIL FULL HEIGHT IS REACHED AND VERIFY BUTTRESS IS NO STEEPER THAN 3H:1V.
9. VEGETATE COMPLETED SLOPE PER RECLAMATION PLAN.

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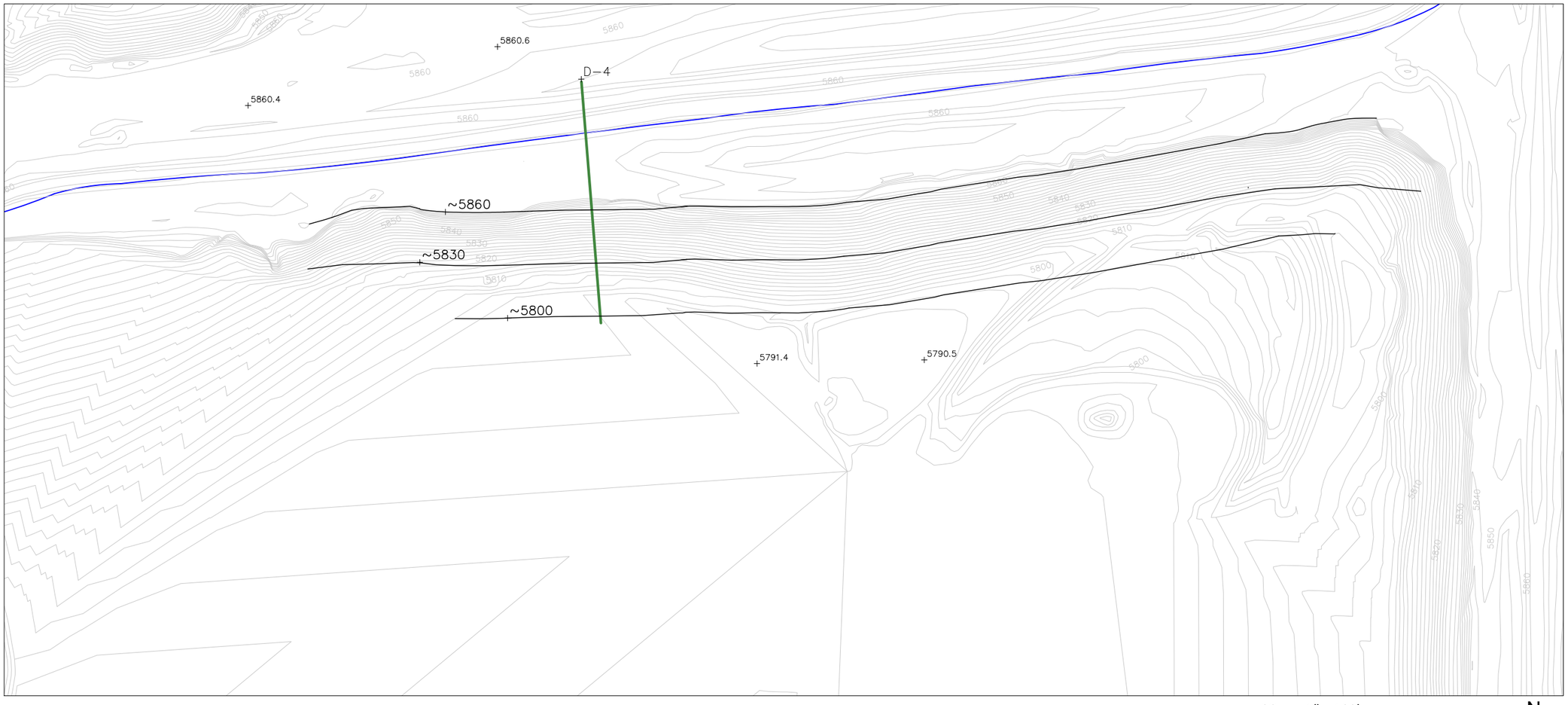
2629 REDWING ROAD, SUITE 150
FORT COLLINS, COLORADO 80526
970.373.3195

PROJECT TITLE	DANIELS SAND PIT 2
DRAWING TITLE	TYPICAL CROSS SECTION & CONSTRUCTION SEQUENCE

OWNER	AGGREGATE INDUSTRIES	CLIENT	TRANSIT MIX
PROJECT NO.:	19125	DRAWN BY:	SM
LOCATION:	COLORADO SPRINGS, CO	DESIGNED BY:	SM
DATE:	3/27/20	CHECKED BY:	SK

PLATE
1



SCALE: 1" = 100'

100' 0 50' 100' 200'

N

FOUNTAIN MUTUAL DITCH ABOVE THE WASH FINES POND GRADING PLAN

1. THE BUTTRESS IS INTENDED TO FLATTEN THE EXISTING STEEP MINE SLOPE TO 3H:1V. THE BUTTRESS FOOTPRINT EXTENDS INTO THE WASH FINES POND IN AN AREA WITH APPROXIMATELY 4 FT OF WATER OVER APPROXIMATELY 4 FT OF WASH FINES (VERY LOOSE SATURATED SILT).

KEY

- EXISTING TOPOGRAPHIC SURVEY
- PROPOSED BUTTRESS SLOPE ELEVATION CONTOURS
- CROSS SECTION LINE D-4
- APPROXIMATE DITCH CENTERLINE

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PROJECT TITLE: DANIELS SAND PIT 2

DRAWING TITLE: GRADING PLAN

OWNER	AGGREGATE INDUSTRIES	CLIENT	TRANSIT MIX
PROJECT NO.:	19125	DRAWN BY:	AR
LOCATION:	COLORADO SPRINGS, CO	DESIGNED BY:	AR
DATE:	3/27/20	CHECKED BY:	SK

PLATE 2

ADVANCED TERRA TESTING

Atterberg Limits
ASTM D 4318

CLIENT	Lithos Engineering	BORING NO.	Bags-stockpile
JOB NO.	2962-010	DEPTH	--
PROJECT	Daniel Sands	SAMPLE NO.	--
PROJECT NO.	19125	DATE SAMPLED	--
LOCATION	Colorado Springs	SAMPLED BY	--
DATE TESTED	01/08/20	DESCRIPTION	--
TECHNICIAN	ASE		

Plastic Limits

Mass of Wet Pan and Soil (g):	
Mass of Dry Pan and Soil (g):	
Mass of Pan (g):	
Moisture (%)	Non-Plastic

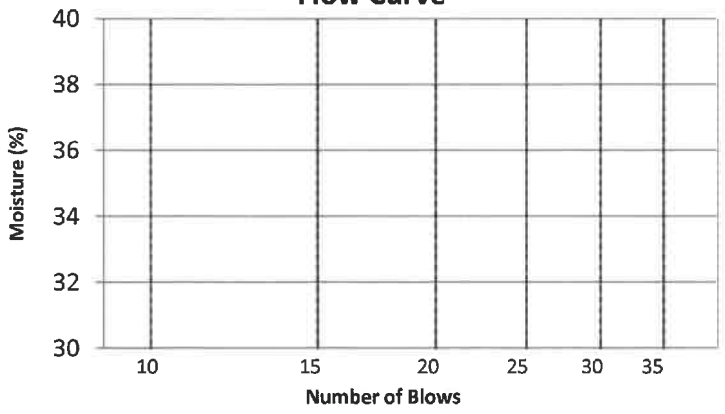
Liquid Limits

Number of Blows	
Mass of Wet Pan and Soil (g):	
Mass of Dry Pan and Soil (g):	
Mass of Pan (g):	
Moisture (%)	
Corrected Moisture (%)	Non-Plastic

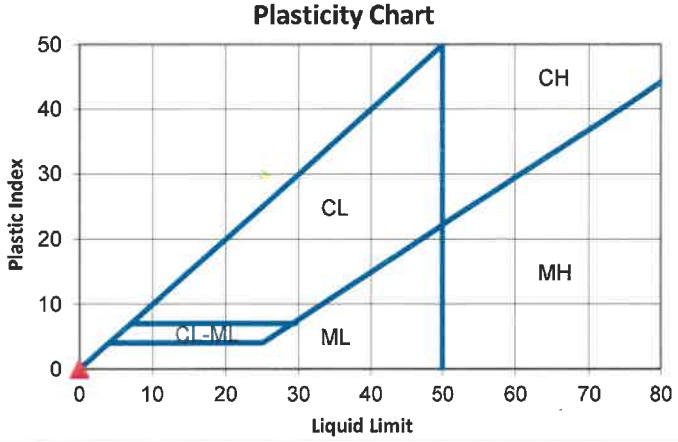
Plastic Index

Plastic Limit:	--	Atterberg Classification:	NP
Liquid Limit:	--	Method:	A
Plastic Index:	--		

Flow Curve



Plasticity Chart



NOTES

Data entry by:	TAF	Date:	1/8/2020
Checked by:	SPH	Date:	1-8-20
File name:	2962010__Atterberg ASTM D4318_0.xlsm		

ADVANCED TERRA TESTING

Grain Size Analysis
ASTM D 6913

CLIENT	Lithos Engineering	BORING NO.	Bags-Stockpile
JOB NO.	2962-010	DEPTH	--
PROJECT	Daniel Sands	SAMPLE NO.	--
PROJECT NO.	19125	DATE SAMPLED	--
LOCATION	Colorado Springs	DESCRIPTION	--
DATE TESTED	01/03/20		
TECHNICIAN	ALH		

Hygroscopic Moisture of Fines

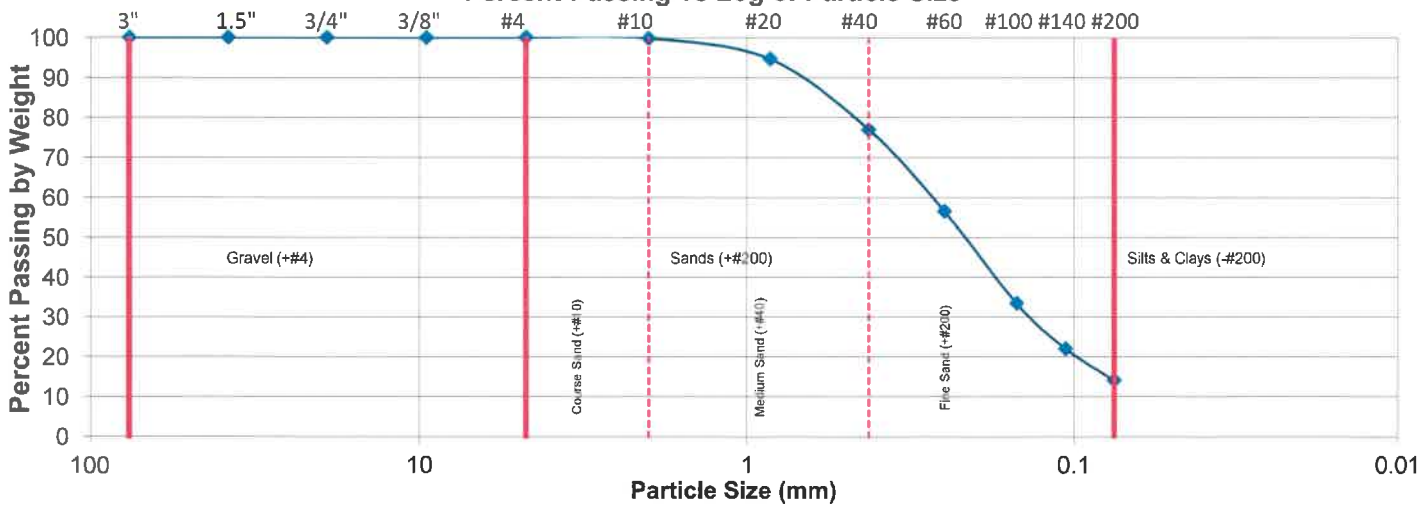
Mass Wet Pan and Soil (g): 402.70
Mass Dry Pan and Soil (g): 399.59
Mass of Pan (g): 118.68
Moisture (%): **1.1**

Sample Data

Total Wet Mass of Sample (g): 8821.7
Total Dry Mass of Sample (g): 8725.1
Split Fraction: #4
Mass of Sub-Sample Fraction (g): 284.02

Sieve Number	Sieve Size (mm)	Mass of Pan and Soil (g)	Mass of Pan (g)	Mass of Individual Retained Soil (g)	Correction Factor	Percent Passing by Weight (%)
3"	76.2	0.0	--	--	--	--
1.5"	38.1	0.0	--	--	--	--
3/4"	19.05	0.0	--	--	--	--
3/8"	9.53	0.0	--	--	--	--
#4	4.75	1.7	--	1.7	1.00	**100.0**
#10	2.00	0.7	--	0.7	1.00	**99.7**
#20	0.850	14.5	--	14.5	1.00	**94.6**
#40	0.425	49.5	--	49.5	1.00	**77.0**
#60	0.250	57.4	--	57.4	1.00	**56.5**
#100	0.150	65.0	--	65.0	1.00	**33.4**
#140	0.106	32.0	--	32.0	1.00	**22.0**
#200	0.075	22.3	--	22.3	1.00	**14.1**

Percent Passing vs Log of Particle Size



USCS Classification ASTM D 2487

Atterberg Classification: NP
Group Symbol: SM
USCS Classification: Silty Sand

Coefficient of Curvature - C_c: --
Coefficient of Uniformity - C_u: --

Data entry by: KMS Date: 1/9/2020
Checked by: KR Date: 1/9/20
File name: 2962010__Grain Size Analysis ASTM D6913_0.xlsm

ADVANCED TERRA TESTING

Laboratory Compaction Characteristics

ASTM D 698

CLIENT	Lithos Engineering	BORING NO.	Bags - Stockpile
JOB NO.	2962-010	DEPTH	--
PROJECT	Daniel Sands	SAMPLE NO.	--
PROJECT NO.	19125	DATE SAMPLED	--
LOCATION	Colorado Springs	DESCRIPTION	--
DATE TESTED	01/01/20		
TECHNICIAN	DPM		

Laboratory Compaction Characteristics

Hygroscopic Moisture

Mass of Wet Pan and Soil (g):	402.70
Mass of Dry Pan and Soil (g):	399.59
Mass of Pan (g):	118.68
Moisture (%):	1.1

Rock Correction ASTM D 4718

Method:	A
Course Fraction (%):	0.0
Rock Correction Applied:	NO
Mass of Dry Aggregate (g):	--
Mass of SSD Aggregate (g):	--
Mass of Aggregate in Water (g):	--
Rock Specific Gravity:	N/A
Zero Air Voids Specific Gravity:	2.55

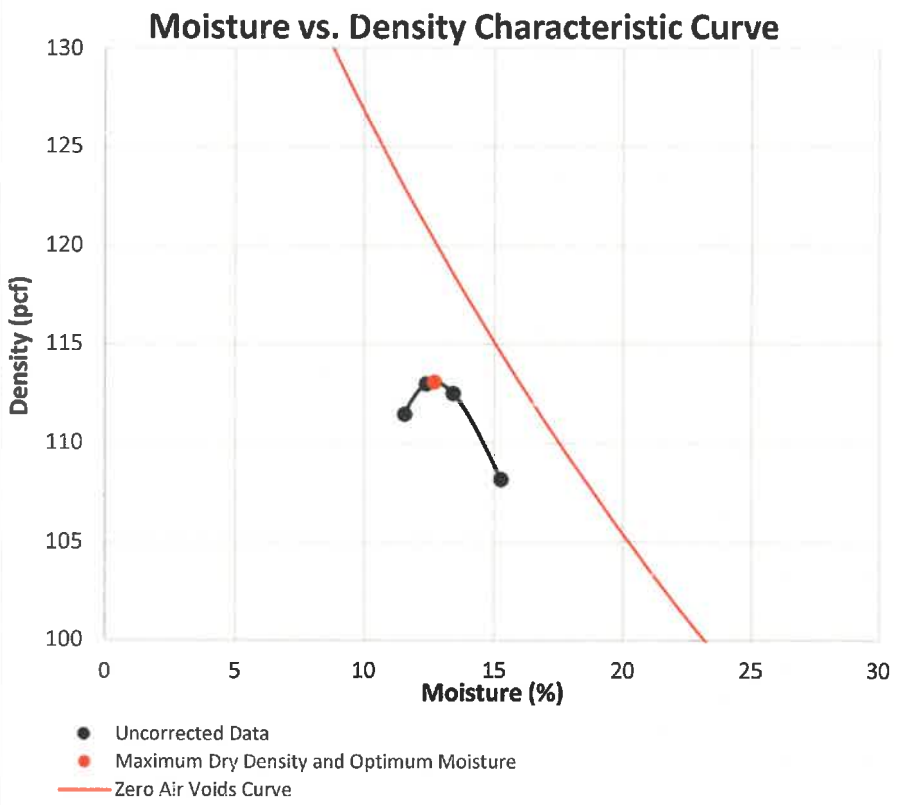
Optimum Dry Density and Moisture

Uncorrected

Dry Density (pcf):	**113.1**
Dry Density (kg/m³):	**1811**
Moisture (%):	**12.7**

Corrected

Dry Density (pcf):	**N/A**
Dry Density (kg/m³):	**N/A**
Moisture (%):	**N/A**



Sample Number:	1	2	3	4
Mass of Wet Pan and Soil (g):	237.78	349.16	267.31	226.88
Mass of Dry Soil and Pan (g):	208.12	308.59	240.26	202.58
Mass of Pan (g);	14.13	6.69	6.71	6.69
Moisture (%):	15.3	13.4	11.6	12.4
Mass of Wet Soil and Mold (g):	6209.6	6253.9	6204.6	6244.7
Mass of Mold (g):	4324.5	4324.5	4324.5	4324.5
Wet Density (pcf):	124.7	127.6	124.3	127.0
Dry Density (pcf):	108.1	112.5	111.4	113.0
Wet Density (kg/m³):	1997	2044	1992	2034
Dry Density (kg/m³):	1732	1802	1785	1810

Data entry by: DPM Date: 1/2/2020

Checked by: Date: 1/3/20

File name: 2962010__compaction ASTM D698 D1557_0.xls

ADVANCED TERRA TESTING

Direct Shear

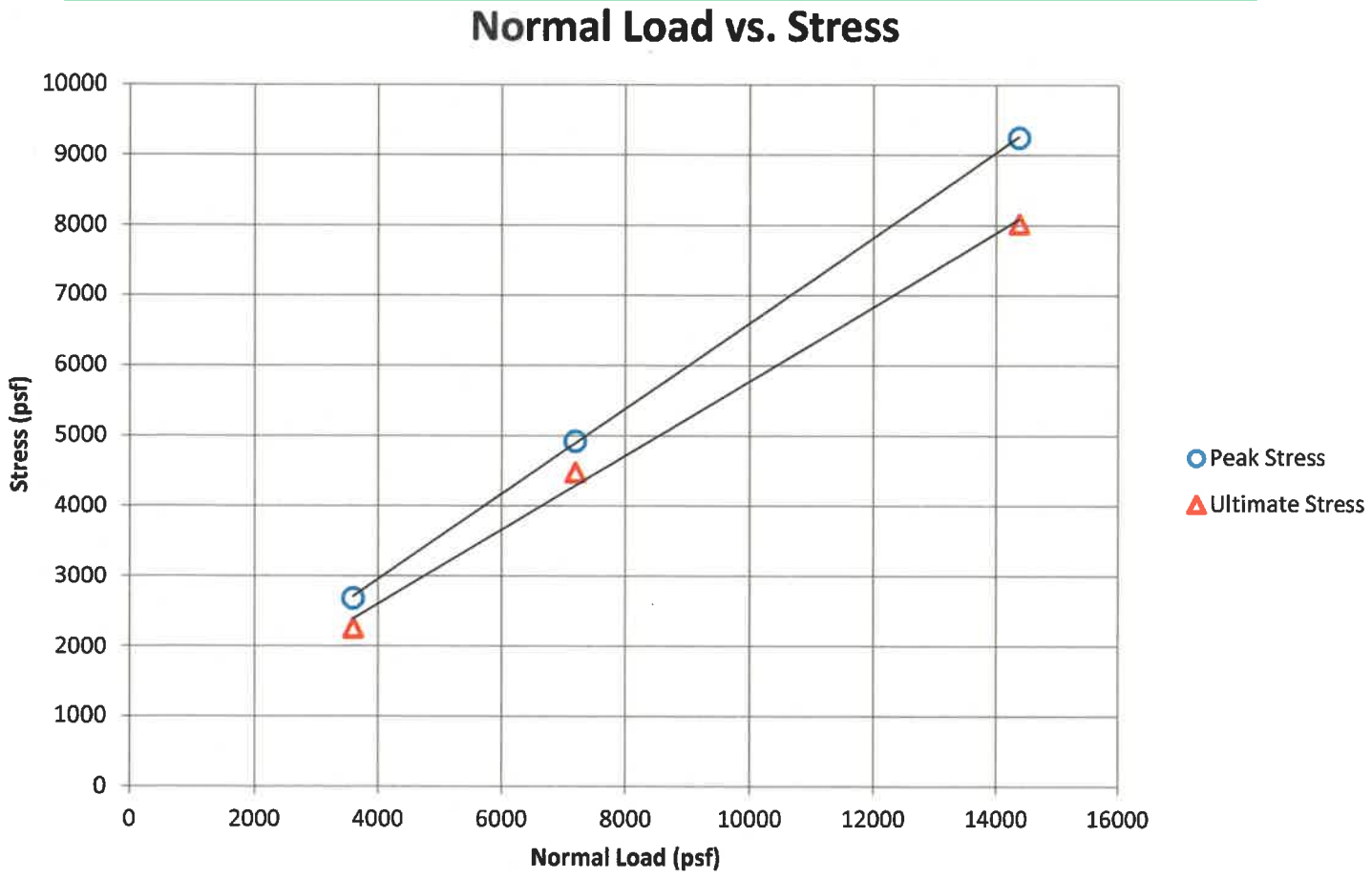
ASTM D 3080

CLIENT	Lithos Engineering	BORING NO.	Bag - Stockpile
JOB NO.	2962-010	DEPTH	--
PROJECT	Daniel Sands	SAMPLE NO.	--
PROJECT NO.	19125	DATE SAMPLED	--
LOCATION	Colorado Springs	DESCRIPTION	Remolded
DATE TESTED	01/06/20		
TECHNICIAN	DPM		

Direct Shear Results

Point:	A	B	C
Normal Load (psf):	14382	7191	3595
Normal Load (kPa):	688.6	344.3	172.1
Peak Strength (psf):	9249	4923	2685
Ultimate Strength (psf):	8019	4475	2256
Peak Strength (kPa):	442.8	235.7	128.6
Ultimate Strength (kPa):	383.9	214.3	108.0

Peak Strength		Ultimate Strength	
Friction Angle:	31.3	Friction Angle:	27.8
Cohesion (psf):	522	Cohesion (psf):	484
Cohesion (kPa):	25.1	Cohesion (kPa):	23.2



Data entry by:	DPM	Date:	1/7/2020
Checked by:	SPH	Date:	1-7-20
File name:	2962010__Direct Shear ASTM D3080_0.xlsm		

ADVANCED TERRA TESTING

Direct Shear

ASTM D 3080

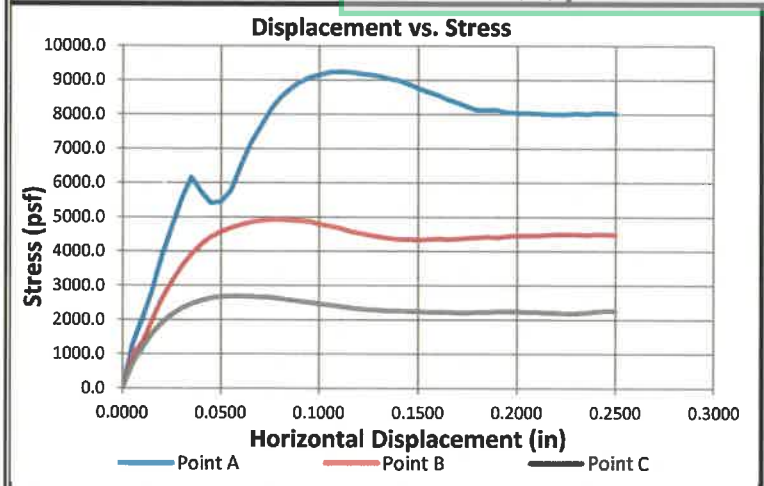
CLIENT	Lithos Engineering	BORING NO.	Bag - Stockpile
JOB NO.	2962-010	DEPTH	--
PROJECT	Daniel Sands	SAMPLE NO.	--
PROJECT NO.	19125	DATE SAMPLED	--
LOCATION	Colorado Springs	DESCRIPTION	Remolded
DATE TESTED	01/06/20		
TECHNICIAN	DPM		

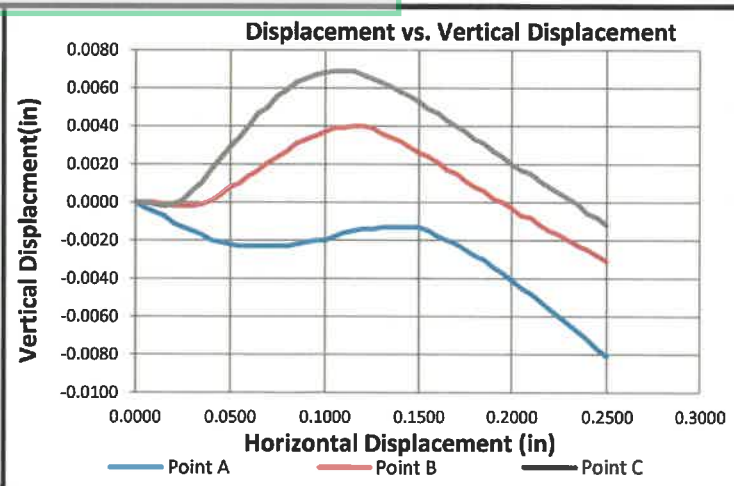
Test Parameters

Displacement Rate (in/min): 0.005 Displacement Rate (cm/min): 0.0127

Raw Data Files: LEDSBAGA.DAT, LEDSBAGB.DAT, LEDSBAGC.DAT,

Before Test Mass of Wet Soil and Ring (g):	122.77	122.76	122.75
After Test Mass of Wet Soil and Pan (g):	103.39	103.53	104.16
Mass of Dry Soil and Pan (g):	90.46	90.13	90.36
Mass of Ring (g):	27.34	27.34	27.34
Mass of Pan (g):	6.68	6.68	6.70
Diameter (in):	1.94	1.94	1.94
Initial Height (in):	1.00	1.00	1.00
Height Change (in):	0.0278	0.0208	0.0164
Area (in²):	2.95	2.95	2.95
Initial Wet Density (pcf):	123.2	123.2	123.2
Initial Dry Density (pcf):	108.2	107.8	108.1
Initial Wet Density (kg/m³):	1974	1974	1974
Initial Dry Density (kg/m³):	1733	1726	1731
Initial Moisture (%):	13.9	14.3	14.0
Final Wet Density (pcf):	128.5	127.7	128.0
Final Dry Density (pcf):	111.3	110.1	109.9
Final Wet Density (kg/m³):	2058	2046	2050
Final Dry Density (kg/m³):	1783	1763	1760
Final Moisture (%):	15.4	16.1	16.5





NOTES:

File name: 2962010__Direct Shear ASTM D3080_0.xlsm

Direct Shear Data
ASTM D3080

CLIENT	Lithos Engineering	BORING NO.	Bag - Stockpile
JOB NO.	2962-010	DEPTH	--
PROJECT	Daniel Sands	SAMPLE NO.	--
PROJECT NO.	19125	DATE SAMPLED	--
LOCATION	Colorado Springs	DESCRIPTION	Remolded
DATE TESTED	01/06/20		
TECHNICIAN	DPM		

Point A			Point B			Point C		
Displacement (in)	Stress (psf)	Vertical Displacment (in)	Displacement (in)	Stress (psf)	Vertical Displacment (in)	Displacement (in)	Stress (psf)	Vertical Displacment (in)
0.0000	0.0	0.0000	0.0000	19.0	0.0000	0.0000	0.0	0.0000
0.0050	1268.0	-0.0003	0.0050	951.0	0.0000	0.0050	690.0	0.0000
0.0100	2014.0	-0.0005	0.0100	1305.0	0.0000	0.0100	1156.0	-0.0001
0.0150	2834.0	-0.0007	0.0150	1977.0	-0.0001	0.0150	1566.0	-0.0002
0.0200	3860.0	-0.0011	0.0200	2611.0	-0.0002	0.0200	1883.0	-0.0001
0.0250	4737.0	-0.0013	0.0250	3133.0	-0.0002	0.0250	2144.0	0.0001
0.0300	5538.0	-0.0015	0.0300	3562.0	-0.0002	0.0300	2331.0	0.0006
0.0350	6172.0	-0.0017	0.0350	3897.0	-0.0001	0.0350	2462.0	0.0010
0.0400	5744.0	-0.0020	0.0400	4196.0	0.0001	0.0400	2555.0	0.0017
0.0450	5408.0	-0.0021	0.0450	4420.0	0.0004	0.0450	2629.0	0.0023
0.0500	5445.0	-0.0022	0.0500	4569.0	0.0008	0.0500	2667.0	0.0029
0.0550	5762.0	-0.0023	0.0550	4681.0	0.0010	0.0550	2685.0	0.0034
0.0600	6508.0	-0.0023	0.0600	4774.0	0.0014	0.0600	2685.0	0.0040
0.0650	7142.0	-0.0023	0.0650	4848.0	0.0017	0.0650	2685.0	0.0047
0.0700	7627.0	-0.0023	0.0700	4886.0	0.0021	0.0700	2648.0	0.0050
0.0750	8112.0	-0.0023	0.0750	4923.0	0.0024	0.0750	2648.0	0.0056
0.0800	8466.0	-0.0023	0.0800	4923.0	0.0027	0.0800	2611.0	0.0059
0.0850	8727.0	-0.0022	0.0850	4904.0	0.0031	0.0850	2573.0	0.0063
0.0900	8932.0	-0.0021	0.0900	4886.0	0.0033	0.0900	2536.0	0.0065
0.0950	9081.0	-0.0020	0.0950	4867.0	0.0035	0.0950	2499.0	0.0067
0.1000	9156.0	-0.0020	0.1000	4792.0	0.0037	0.1000	2462.0	0.0068
0.1050	9231.0	-0.0018	0.1050	4737.0	0.0039	0.1050	2424.0	0.0069
0.1100	9249.0	-0.0016	0.1100	4681.0	0.0039	0.1100	2387.0	0.0069
0.1150	9231.0	-0.0015	0.1150	4587.0	0.0040	0.1150	2350.0	0.0069
0.1200	9193.0	-0.0014	0.1200	4531.0	0.0040	0.1200	2312.0	0.0067
0.1250	9156.0	-0.0014	0.1250	4475.0	0.0039	0.1250	2294.0	0.0065
0.1300	9119.0	-0.0013	0.1300	4420.0	0.0036	0.1300	2275.0	0.0063
0.1350	9044.0	-0.0013	0.1350	4382.0	0.0034	0.1350	2256.0	0.0061
0.1400	8988.0	-0.0013	0.1400	4345.0	0.0032	0.1400	2256.0	0.0058
0.1450	8876.0	-0.0013	0.1450	4345.0	0.0029	0.1450	2238.0	0.0056
0.1500	8764.0	-0.0013	0.1500	4326.0	0.0026	0.1500	2238.0	0.0053
0.1550	8653.0	-0.0015	0.1550	4345.0	0.0024	0.1550	2219.0	0.0049
0.1600	8559.0	-0.0018	0.1600	4364.0	0.0021	0.1600	2219.0	0.0047
0.1650	8429.0	-0.0020	0.1650	4345.0	0.0017	0.1650	2219.0	0.0043
0.1700	8336.0	-0.0022	0.1700	4364.0	0.0015	0.1700	2200.0	0.0040
0.1750	8224.0	-0.0025	0.1750	4382.0	0.0011	0.1750	2200.0	0.0037
0.1800	8130.0	-0.0028	0.1800	4401.0	0.0008	0.1800	2219.0	0.0033
0.1850	8130.0	-0.0030	0.1850	4420.0	0.0006	0.1850	2219.0	0.0031
0.1900	8130.0	-0.0034	0.1900	4401.0	0.0002	0.1900	2238.0	0.0027
0.1950	8056.0	-0.0037	0.1950	4438.0	0.0000	0.1950	2238.0	0.0024
0.2000	8037.0	-0.0041	0.2000	4457.0	-0.0003	0.2000	2238.0	0.0020
0.2050	8037.0	-0.0045	0.2050	4457.0	-0.0007	0.2050	2219.0	0.0017
0.2100	8019.0	-0.0048	0.2100	4457.0	-0.0008	0.2100	2219.0	0.0015

Direct Shear Data
ASTM D3080

CLIENT	Lithos Engineering	BORING NO.	Bag - Stockpile
JOB NO.	2962-010	DEPTH	--
PROJECT	Daniel Sands	SAMPLE NO.	--
PROJECT NO.	19125	DATE SAMPLED	--
LOCATION	Colorado Springs	DESCRIPTION	Remolded
DATE TESTED	01/06/20		
TECHNICIAN	DPM		

Point A			Point B			Point C		
Displacement (in)	Stress (psf)	Vertical Displacment (in)	Displacement (in)	Stress (psf)	Vertical Displacment (in)	Displacement (in)	Stress (psf)	Vertical Displacment (in)
0.2150	8000.0	-0.0052	0.2150	4475.0	-0.0012	0.2150	2200.0	0.0011
0.2200	8000.0	-0.0056	0.2200	4494.0	-0.0015	0.2200	2200.0	0.0008
0.2250	8000.0	-0.0060	0.2250	4494.0	-0.0017	0.2250	2182.0	0.0005
0.2300	8019.0	-0.0064	0.2300	4494.0	-0.0020	0.2300	2182.0	0.0002
0.2350	8000.0	-0.0068	0.2350	4475.0	-0.0023	0.2350	2200.0	-0.0001
0.2400	8037.0	-0.0072	0.2400	4494.0	-0.0025	0.2400	2238.0	-0.0006
0.2450	8037.0	-0.0077	0.2450	4494.0	-0.0028	0.2450	2256.0	-0.0008
0.2500	8019.0	-0.0081	0.2500	4475.0	-0.0031	0.2500	2256.0	-0.0012

STATE OF COLORADO

Cazier - DNR, Tim <tim.cazier@state.co.us>

M1973007SG TR-09 Preliminary Adequacy Review Response

1 message

Andre LA ROCHE <Andre.Laroche@transitmix.com> Thu, Apr 9, 2020 at 4:35 PM
To: "Tim Cazier, P.E." <Tim.Cazier@state.co.us>
Cc: Jeremy Deuto <jeremy.deuto@lafargeholcim.com>

Hello Tim:

Attached please find our TR-09 Preliminary Adequacy Review Response for Daniels Sand Pit 2, M1973007SG.

Best regards,

Andre Laroche | Environment and Land Manager
Aggregate Industries | Transit Mix Concrete Co.
Address: 1687 Cole Blvd., Suite 300 | Golden, CO 80401
Office & Mobile: (719) 491-0288
Email: andre.laroche@aggregate-us.com

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