

## **CONTACT INFORMATION**

### **PREPARER INFORMATION**

**AAG PROJECT NUMBER:** AAG21-092

**CONTACT:** CURTIS D. CUSHMAN

**ADDRESS:** 8947 BUTTONWOOD LANE NE  
OLYMPIA, WASHINGTON 98516

**TELEPHONE:** (360) 491-5155

**CELL:** (360) 481-6677

**EMAIL ADDRESS:** CURTIS.CUSHMAN@COMCAST.NET

### **CLIENT INFORMATION**

**CLIENT:** FULLER DESIGNS

**TELEPHONE:** (360) 880-4927

**BILLING ADDRESS:** 1101 KRESKY VENUE  
CHEHALIS, WASHINGTON 98531

**SITE ADDRESS:** 0 JACKSON ROAD  
CHEHALIS, WASHINGTON  
SECTION 03 TOWNSHIP 13N RANGE 02W PT LT 8 SE RD BLK 1  
RICHARDT'S RPLT BLK 4-6 PARCVIA ADD PRCL B BL-09-148  
335384

**PARCEL:** 010799001000

**GPS LOCATION:** 46.641138 -122.926586 (DD)

# ALL AMERICAN GEOTECHNICAL, INC.

## ADDENDUM

**FULLER DESIGNS  
645 SE PROSPECT STREET  
CHEHALIS, WA 98532**

**RE: JACKSON VILLAS LANDSLIDE HAZARD SITE VISIT  
0 JACKSON ROAD CHEHALIS, WASHINGTON  
SECTION 03 TOWNSHIP 13N RANGE 02W PT LT 8 SE RD BLK 1  
RICHARDT'S RPLT BLK 4-6 PARCVIA ADD PRCL B BL-09-148  
335384**

**PARCEL: 010799001000  
SEPTEMBER 8, 2021**

Dear Fuller Designs:

It has been indicated to All American Geotechnical, Inc (AAG) that certain questions have been brought up about the report of AAG dated August 14, 2021. This addendum is to extend and clarify those areas which may be considered needing amending by a competent professional.

The report of August 14, 2021 was to address the requirement that sub-surface information was to be done in order to get an idea of the extent of fill and the shallow soils and mass-wasting deposits underlying the area.

The overview approach to the geology is done in areas such as this to give the developer and engineer an idea of the deposits and derived soils prior to construction. The most recent report of AAG relied on 6 pits to give this overview. As it was clear from Pits 4, 5, and 6, the known presence of fill was verified in the northernmost part of the parcel, which fill extends down from Hosanna Lane. In Pits 4 and 6 fill was found, and in Pit 5 the fill was so massive it could not be penetrated with the excavator. Fine grained sediments were found at depth in Pits 4 and 6 and profiles of the subsurface are also included in the text for Pits 1 and 2 as well as Pit 4. These last three were considered the most important locations in this initial survey as the multiplex has been proposed to extend along the property line where these tests were taken. To that end, Pit 1 was sampled and tested by MTC. It was found to be ML on top of MH. These are silts.

To qualify out the rest of the northern area planned for residential development, Pit 6 was tested. Once through the fill, which may be as much as 6 feet in thickness, the deeper material was tested by MTC and this proved to be an Elastic silt (MH).

From page 4 of the report:

*In pitting, we found there to be silts on top of elastic silts. There is possibly some clay content in the latter...A major difference in the two, despite some similarities, is that clays are chemically altered minerals with characteristics different from silts. Clays are plastic, and silts are elastic. The difference is that silts do not change volume when under pressure whereas clays plastically deform and swell when hydrated.*

# ALL AMERICAN GEOTECHNICAL, INC.

The soil class is D.

MTC labs are fully accredited and any questions as to techniques used and the validity of the tests should be addressed to them.

Bearing strength is above 2200 lbs/ft<sup>2</sup> as detailed on page 21 of the report.

It is not the purview of the engineering geologist to make specific recommendations as to type of materials to be used for geofabric. The findings here were exploratory and not for engineering although the soil profiles are certainly good for engineering purposes. Construction on fill is site-specific as the material is so varied and the degree of compaction is unknown even where the material is seen.

Similarly, at this level of investigation, site specific recommendations for construction are not to be expected and design elements such as the design of keying is the responsibility of the site engineer, or the Engineer of Record. Such elements may be included in the construction plans, but as these have not been finalized, there is little possibility of having such information on them at this time.

The concept of a geotechnical observer on site for certain phases of construction is not unique to this project and may be done at the request of the responsible jurisdiction agencies and/or the site manager.

## **RECOMMENDATIONS FOR SITE PREPARATION**

All areas to be excavated should be cleared of deleterious matter including any debris, duff, and vegetation. Any soils material that is excavated may be stockpiled and later used for erosion control and/or landscaping. Surficial material unsuitable for these tasks should be removed from the project site. No foundation elements shall be constructed on “untested” fill material.

The material immediately on site may not be suitable for structural fill due to the silty nature of the material. Where placement of fill material is required, the exposed subgrade areas should be compacted to a firm and unyielding surface prior to placement of any fill. Over-excavation in any building area should be backfilled with structural fill, compacted to the density requirements described in the “Structural Fill” section of this report.

If structural fill is needed, we recommend that a member of our staff evaluate the exposed subgrade conditions

## **RECOMMENDATIONS FOR STRUCTURAL FILL**

All fill material should be placed as structural fill. In general, the structural fill should be placed in horizontal lifts of 8 inches to allow adequate and uniform compaction of each lift. Fill should be compacted to at least 95 percent of MDD (maximum dry density) as determined in accordance with ASTM D-1557 to grade.

The final appropriate lift thickness will depend on the fill characteristics and compaction equipment used. We recommend that a field representative evaluate the appropriate lift thickness during construction.

# ALL AMERICAN GEOTECHNICAL, INC.

Material placed for structural fill should be free of debris, organic matter, trash, and cobbles greater than 6 inches in diameter. The moisture content of the fill material should be adjusted for proper compaction.

## RECOMMENDATIONS FOR SUITABILITY OF ONSITE SOILS AS FILL

Onsite soils may be considered for use as structural fill only if industry standards are satisfied. Fill material requirements are found on page 9-26 to 9-30 of the WSDOT Standard Specifications 2010. In general, a native soil (sand, silt, and gravel) encountered on a site must have less than 10 percent fines (material passing the US No. 200 sieve) to be suitable for use as structural fill. To qualify, a soil must be tested in a geotechnical laboratory for gradation. On-site materials do not appear to be acceptable as structural fill. Testing of specific samples would be required.

For your convenience the pitting results are repeated here.

## PITTING

A total of six pits were dug and are described below. Please see site map after the text.

### Pit 1

0-12" Brown sand. At 12" some concretion clots seen

12" – 6' Possibly ML as grain size is very fine. Grey layers are present and concretions with hematite mottling are present. Sample #1. The test results from MTC Labs indicates this is a sandy silt, with silt/clay (-200 sieve) fraction at 61.5% passing. Field tests indicate this is dominantly silt.

6' – 8' Picking up clay in grey material. There is silt/clay deposition to 8' T.D. Sample #2 is from this interval. This was classified as **MH** – *Elastic silt with sand*. While silt and sand dominate, there is a potential that there is a clay fraction of 38.8%. Plasticity index was 23.2%. Liquid limit was 55.8%. This sample has likely a large fraction of clay.

### Pit 2

0 – 18" Dry dusty grey silty sand/sandy silt. First mottling seen at 18".

2' Material is clumping and excavating out in "plates." Composition appears silt-dominated.

2 ½' More mottling in greyer material – silt but minor clay present.

6' Heavily mottled – into richer clay layer w/manganese staining.

8' T.D. in material similar to same depth in Pit 1

### Pit 3

0 – 5' Dry sandy silt

# ALL AMERICAN GEOTECHNICAL, INC.

5' Takes on a clayey aspect as part of grey material with mottling

7' T.D. "Plates" of clay/mottled material sheen of water on surface of "plate."

## **Pit 4**

0 to 3' or 4' Silty sand with gravel. Dark brown. Likely fill.

5' Still the same but with small concretions. Looks like the native as seen in the top of Pits 1 to 3.

6' – 7' Manganese in deposits. No clay yet except in minor "blobs."

T.D. 8' Native silt/sand with clay. Abundant manganese stain.

## **Pit 5**

Soil is mixed with concrete and brick

T.D. 2 ½' Heavy concrete chunks in soil. No further progress.

## **Pit 6**

0 – 4' Apparent sand/silt dominant fill.

4' Brown fine-grained native material

6' – 8' Sample #3. (Mislabelled Pit 2 by MTC). This sample is again a MH – *Sandy elastic silt*. The silt/clay fraction was -67.7%. Clays were only found to be 9.7% with the Plastic Index of 12%. The liquid limit was. 34.9%. This is a silt.

Please see Conclusions and References in the original report.

## **REPORT LIMITATIONS AND GUIDELINES FOR USE**

We have prepared this report for the exclusive use of Fuller Designs and their authorized agents for the proposed building location in Lewis County, Washington. Within the limitations of scope, schedule and budget, our services have been executed in accordance with generally accepted practices in the field of geotechnical engineering in this area at the time this report was prepared. No warranty or other conditions, expressed or implied, should be understood.

## **READ THESE PROVISIONS CLOSELY**

Some clients, design professionals, and contractors may not recognize that the geoscience practices (geotechnical engineering or geology) are far less exact than other engineering and natural science disciplines. This lack of understanding can create unrealistic expectations that could lead to

# ALL AMERICAN GEOTECHNICAL, INC.

disappointments, claims and disputes. All American Geotechnical includes these explanatory "limitations" provisions in our reports to help reduce such risks.

The equipment, techniques and personnel used to perform an environmental study differ significantly from those used to perform a geotechnical or geologic study and vice versa. For that reason, geotechnical engineering or geologic reporting does not usually relate any environmental findings, conclusions or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. Similarly, environmental reports are not used to address geotechnical or geologic concerns regarding a specific project.

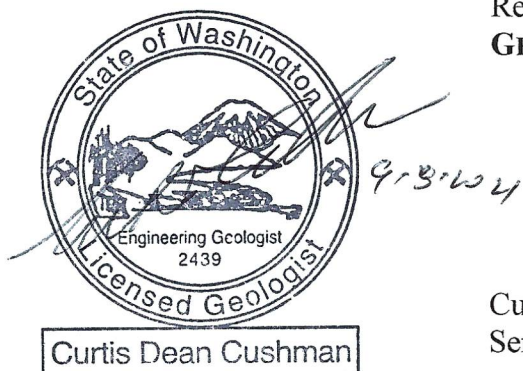
## REPORT LIMITATIONS AND GUIDELINES FOR USE

We have prepared this report for the exclusive use of Aaron Fuller and his authorized agents for the proposed building location in Lewis County, Washington. Within the limitations of scope, schedule and budget, our services have been executed in accordance with generally accepted practices in the field of geotechnical engineering in this area at the time this report was prepared. No warranty or other conditions, expressed or implied, should be understood.

## READ THESE PROVISIONS CLOSELY

Some clients, design professionals, and contractors may not recognize that the geoscience practices (geotechnical engineering or geology) are far less exact than other engineering and natural science disciplines. This lack of understanding can create unrealistic expectations that could lead to disappointments, claims and disputes. All American Geotechnical includes these explanatory "limitations" provisions in our reports to help reduce such risks.

The equipment, techniques and personnel used to perform an environmental study differ significantly from those used to perform a geotechnical or geologic study and vice versa. For that reason, geotechnical engineering or geologic reporting does not usually relate any environmental findings, conclusions or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. Similarly, environmental reports are not used to address geotechnical or geologic concerns regarding a specific project.



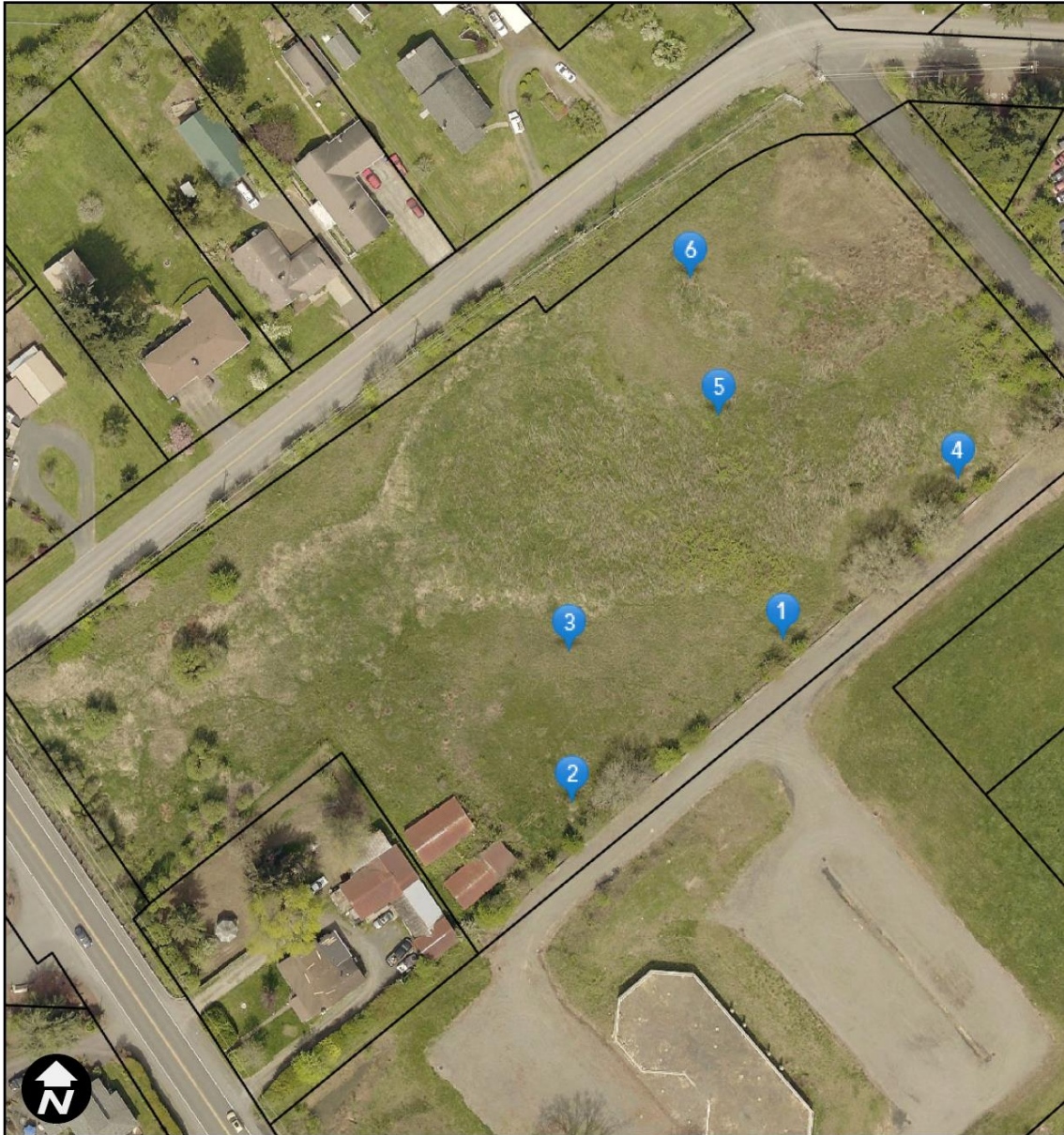
Respectfully Submitted,  
**GEOTECHNICAL TESTING LABORATORY**

Curtis D. Cushman, L.G., L.E.G.  
Senior Engineering Geologist

# ALL AMERICAN GEOTECHNICAL, INC.

## SAMPLING LOCATIONS

7-13-2021 program pit locations



7/15/2021, 8:44:05 PM

1:1,128

□ Parcels

0 50 100 200 ft  
NAD 1983 StatePlane Washington South FIPS 4602 Feet



Lewis County does not guarantee the accuracy of the information shown on this map and is not responsible for any use or misuse by others regarding this material. It is provided for general informational purposes only. This map does not meet legal, engineering, or survey standards. Please practice due diligence and consult with licensed experts before making decisions.

© Lewis County GIS | 2019 Imagery © Pictometry & Lewis County


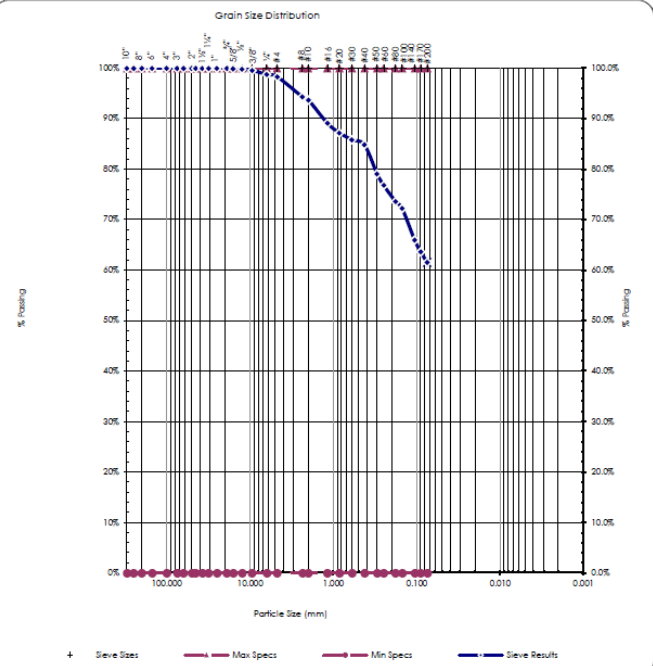
AAG21-092

8947 Buttonwood Lane NE, Olympia, WA 98516  
Phone #: (360) 491-5155 Cell #: (360) 481-6677

# ALL AMERICAN GEOTECHNICAL, INC.


## LABORATORY RESULTS

### SIEVE REPORT -- PIT 1 @ 6-FT BGS

Project: Q.C. All American Geotechnical - 2021 Project #: 21S031 Client: All American Geotechnical, Inc. Source: Jackson Pit-1 @ 6 ft, sample #1 Sample#: B21-1067		Date Received: 13-Jul-21 Sampled By: Client Date Tested: 16-Jul-21 Tested By: C. Kriss		<b>Visual Soils Classification</b> Silt with Sand Sample Color: brown																																																																																																																																																																								
<b>ASTM D2216, ASTM D2419, ASTM D4318, ASTM D5281</b>																																																																																																																																																																												
Specifications No Specs Sample Meets Specs ? N/A		D <sub>(5)</sub> = 0.006 mm D <sub>(10)</sub> = 0.012 mm D <sub>(15)</sub> = 0.018 mm D <sub>(30)</sub> = 0.037 mm D <sub>(50)</sub> = 0.061 mm D <sub>(60)</sub> = 0.073 mm D <sub>(90)</sub> = 1.343 mm Dust Ratio = 66/91		% Gravel = 1.7% % Sand = 36.8% % Silt & Clay = 61.5% Liquid Limit = n/a Plasticity Index = n/a Sand Equivalent = n/a Fracture %, 1 Face = n/a Fracture %, 2+ Faces = n/a		Coeff. of Curvature, C <sub>c</sub> = 1.50 Coeff. of Uniformity, C <sub>u</sub> = 6.00 Fineness Modulus = 0.82 Plastic Limit = n/a Moisture %, as sampled = n/a Req'd Sand Equivalent = Req'd Fracture %, 1 Face = Req'd Fracture %, 2+ Faces =																																																																																																																																																																						
<b>ASTM C136, ASTM D6913, ASTM C117</b>																																																																																																																																																																												
<table border="1"> <thead> <tr> <th>Sieve Size</th> <th>Actual Cumulative Percent Passing</th> <th>Interpolated Cumulative Percent Passing</th> <th>Specs Max</th> <th>Specs Min</th> </tr> <tr> <th>US</th> <th>Metric</th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr><td>12.00"</td><td>300.00</td><td>100%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>10.00"</td><td>250.00</td><td>100%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>8.00"</td><td>200.00</td><td>100%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>6.00"</td><td>150.00</td><td>100%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>4.00"</td><td>100.00</td><td>100%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>3.00"</td><td>75.00</td><td>100%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>2.50"</td><td>63.00</td><td>100%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>2.00"</td><td>50.00</td><td>100%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>1.75"</td><td>45.00</td><td>100%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>1.50"</td><td>37.50</td><td>100%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>1.25"</td><td>31.50</td><td>100%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>1.00"</td><td>25.00</td><td>100%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>3/4"</td><td>19.00</td><td>100%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>5/8"</td><td>16.00</td><td>100%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>1/2"</td><td>12.50</td><td>100%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>3/8"</td><td>9.50</td><td>100%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>1/4"</td><td>6.30</td><td>98%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>#4</td><td>4.75</td><td>98%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>#8</td><td>2.36</td><td>94%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>#10</td><td>2.00</td><td>94%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>#16</td><td>1.18</td><td>89%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>#20</td><td>0.850</td><td>87%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>#30</td><td>0.600</td><td>86%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>#40</td><td>0.425</td><td>85%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>#50</td><td>0.300</td><td>79%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>#60</td><td>0.250</td><td>77%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>#80</td><td>0.180</td><td>74%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>#100</td><td>0.150</td><td>72%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>#140</td><td>0.106</td><td>66%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>#170</td><td>0.090</td><td>64%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>#200</td><td>0.075</td><td>61.5%</td><td>100.0%</td><td>0.0%</td></tr> </tbody> </table>		Sieve Size	Actual Cumulative Percent Passing	Interpolated Cumulative Percent Passing	Specs Max	Specs Min	US	Metric				12.00"	300.00	100%	100.0%	0.0%	10.00"	250.00	100%	100.0%	0.0%	8.00"	200.00	100%	100.0%	0.0%	6.00"	150.00	100%	100.0%	0.0%	4.00"	100.00	100%	100.0%	0.0%	3.00"	75.00	100%	100.0%	0.0%	2.50"	63.00	100%	100.0%	0.0%	2.00"	50.00	100%	100.0%	0.0%	1.75"	45.00	100%	100.0%	0.0%	1.50"	37.50	100%	100.0%	0.0%	1.25"	31.50	100%	100.0%	0.0%	1.00"	25.00	100%	100.0%	0.0%	3/4"	19.00	100%	100.0%	0.0%	5/8"	16.00	100%	100.0%	0.0%	1/2"	12.50	100%	100.0%	0.0%	3/8"	9.50	100%	100.0%	0.0%	1/4"	6.30	98%	100.0%	0.0%	#4	4.75	98%	100.0%	0.0%	#8	2.36	94%	100.0%	0.0%	#10	2.00	94%	100.0%	0.0%	#16	1.18	89%	100.0%	0.0%	#20	0.850	87%	100.0%	0.0%	#30	0.600	86%	100.0%	0.0%	#40	0.425	85%	100.0%	0.0%	#50	0.300	79%	100.0%	0.0%	#60	0.250	77%	100.0%	0.0%	#80	0.180	74%	100.0%	0.0%	#100	0.150	72%	100.0%	0.0%	#140	0.106	66%	100.0%	0.0%	#170	0.090	64%	100.0%	0.0%	#200	0.075	61.5%	100.0%	0.0%						
Sieve Size	Actual Cumulative Percent Passing	Interpolated Cumulative Percent Passing	Specs Max	Specs Min																																																																																																																																																																								
US	Metric																																																																																																																																																																											
12.00"	300.00	100%	100.0%	0.0%																																																																																																																																																																								
10.00"	250.00	100%	100.0%	0.0%																																																																																																																																																																								
8.00"	200.00	100%	100.0%	0.0%																																																																																																																																																																								
6.00"	150.00	100%	100.0%	0.0%																																																																																																																																																																								
4.00"	100.00	100%	100.0%	0.0%																																																																																																																																																																								
3.00"	75.00	100%	100.0%	0.0%																																																																																																																																																																								
2.50"	63.00	100%	100.0%	0.0%																																																																																																																																																																								
2.00"	50.00	100%	100.0%	0.0%																																																																																																																																																																								
1.75"	45.00	100%	100.0%	0.0%																																																																																																																																																																								
1.50"	37.50	100%	100.0%	0.0%																																																																																																																																																																								
1.25"	31.50	100%	100.0%	0.0%																																																																																																																																																																								
1.00"	25.00	100%	100.0%	0.0%																																																																																																																																																																								
3/4"	19.00	100%	100.0%	0.0%																																																																																																																																																																								
5/8"	16.00	100%	100.0%	0.0%																																																																																																																																																																								
1/2"	12.50	100%	100.0%	0.0%																																																																																																																																																																								
3/8"	9.50	100%	100.0%	0.0%																																																																																																																																																																								
1/4"	6.30	98%	100.0%	0.0%																																																																																																																																																																								
#4	4.75	98%	100.0%	0.0%																																																																																																																																																																								
#8	2.36	94%	100.0%	0.0%																																																																																																																																																																								
#10	2.00	94%	100.0%	0.0%																																																																																																																																																																								
#16	1.18	89%	100.0%	0.0%																																																																																																																																																																								
#20	0.850	87%	100.0%	0.0%																																																																																																																																																																								
#30	0.600	86%	100.0%	0.0%																																																																																																																																																																								
#40	0.425	85%	100.0%	0.0%																																																																																																																																																																								
#50	0.300	79%	100.0%	0.0%																																																																																																																																																																								
#60	0.250	77%	100.0%	0.0%																																																																																																																																																																								
#80	0.180	74%	100.0%	0.0%																																																																																																																																																																								
#100	0.150	72%	100.0%	0.0%																																																																																																																																																																								
#140	0.106	66%	100.0%	0.0%																																																																																																																																																																								
#170	0.090	64%	100.0%	0.0%																																																																																																																																																																								
#200	0.075	61.5%	100.0%	0.0%																																																																																																																																																																								

Copyright Spens Engineering & Technical Services PS, 1996-98  
 All results apply only to actual locations and materials tested. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.

Comments:


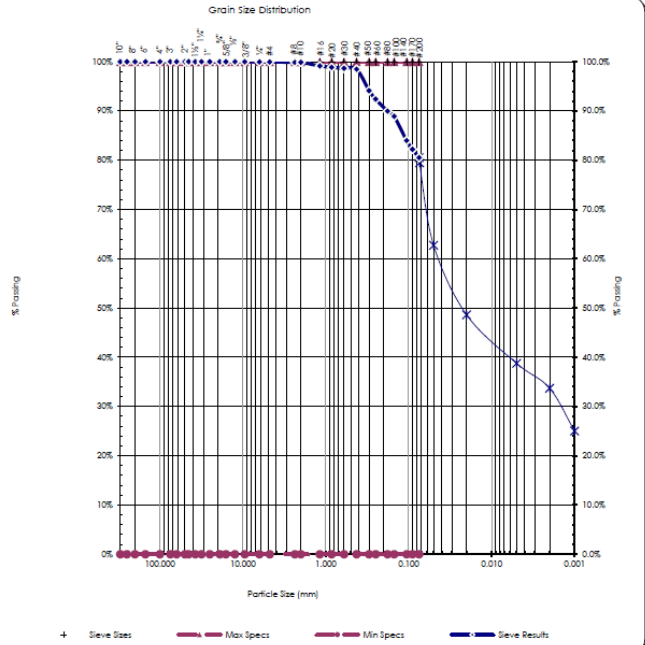
Reviewed by:   
 Meghan Blodgett-Carrillo





# ALL AMERICAN GEOTECHNICAL, INC.

## SIEVE REPORT -- PIT 1 @ 8-FT BGS

Project: Q.C. All American Geotechnical - 2021 Project #: 21S031 Client: All American Geotechnical, Inc. Source: Jackson Pit-1 @ 8 ft, sample #2 Sample#: B21-1068	Date Received: 13-Jul-21 Sampled By: Client Date Tested: 16-Jul-21 Tested By: C. Kriss	<b>Unified Soils Classification System</b> MH, Elastic Silt with Sand Sample Color: brown																																																																																																																																																																																																	
<b>ASTM D2216, ASTM D2419, ASTM D4318, ASTM D5281</b>																																																																																																																																																																																																			
<b>Specifications</b> No Specs Sample Meets Specs ? N/A	D <sub>(5)</sub> = 0.000 mm D <sub>(10)</sub> = 0.000 mm D <sub>(15)</sub> = 0.001 mm D <sub>(30)</sub> = 0.001 mm D <sub>(50)</sub> = 0.035 mm D <sub>(60)</sub> = 0.048 mm D <sub>(90)</sub> = 0.181 mm Dust Ratio = 9/11	% Gravel = 0.0% % Sand = 19.4% % Silt & Clay = 80.6% Liquid Limit = 55.8% Plasticity Index = 23.2% Sand Equivalent = n/a Fracture % , 1 Face = n/a Fracture % , 2+ Faces = n/a	Coeff. of Curvature, C <sub>c</sub> = 0.07 Coeff. of Uniformity, C <sub>u</sub> = 120.53 Fineness Modulus = 0.19 Plastic Limit = 32.6% Moisture % , as sampled = n/a Req'd Sand Equivalent = n/a Req'd Fracture % , 1 Face = n/a Req'd Fracture % , 2+ Faces = n/a																																																																																																																																																																																																
<b>ASTM C136, ASTM D6913, ASTM C117</b>																																																																																																																																																																																																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">Sieve Size</th> <th rowspan="2">Actual Cumulative Percent Passing</th> <th rowspan="2">Interpolated Cumulative Percent Passing</th> <th rowspan="2">Specs Max</th> <th rowspan="2">Specs Min</th> </tr> <tr> <th>US</th> <th>Metric</th> </tr> </thead> <tbody> <tr><td>12.00"</td><td>300.00</td><td></td><td>100%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>10.00"</td><td>250.00</td><td></td><td>100%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>8.00"</td><td>200.00</td><td></td><td>100%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>6.00"</td><td>150.00</td><td></td><td>100%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>4.00"</td><td>100.00</td><td></td><td>100%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>3.00"</td><td>75.00</td><td></td><td>100%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>2.50"</td><td>63.00</td><td></td><td>100%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>2.00"</td><td>50.00</td><td>100%</td><td>100%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>1.75"</td><td>45.00</td><td></td><td>100%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>1.50"</td><td>37.50</td><td></td><td>100%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>1.25"</td><td>31.50</td><td></td><td>100%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>1.00"</td><td>25.00</td><td>100%</td><td>100%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>3/4"</td><td>19.00</td><td>100%</td><td>100%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>5/8"</td><td>16.00</td><td></td><td>100%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>1/2"</td><td>12.50</td><td>100%</td><td>100%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>3/8"</td><td>9.50</td><td>100%</td><td>100%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>1/4"</td><td>6.30</td><td></td><td>100%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>#4</td><td>4.75</td><td>100%</td><td>100%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>#8</td><td>2.36</td><td></td><td>100%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>#10</td><td>2.00</td><td>100%</td><td>100%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>#16</td><td>1.18</td><td></td><td>99%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>#20</td><td>0.850</td><td></td><td>99%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>#30</td><td>0.600</td><td></td><td>99%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>#40</td><td>0.425</td><td>98%</td><td>98%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>#50</td><td>0.300</td><td></td><td>94%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>#60</td><td>0.250</td><td></td><td>92%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>#80</td><td>0.180</td><td></td><td>90%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>#100</td><td>0.150</td><td>89%</td><td>89%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>#140</td><td>0.106</td><td></td><td>84%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>#170</td><td>0.090</td><td></td><td>82%</td><td>100.0%</td><td>0.0%</td></tr> <tr><td>#200</td><td>0.075</td><td>80.6%</td><td>80.6%</td><td>100.0%</td><td>0.0%</td></tr> </tbody> </table>	Sieve Size		Actual Cumulative Percent Passing	Interpolated Cumulative Percent Passing	Specs Max	Specs Min	US	Metric	12.00"	300.00		100%	100.0%	0.0%	10.00"	250.00		100%	100.0%	0.0%	8.00"	200.00		100%	100.0%	0.0%	6.00"	150.00		100%	100.0%	0.0%	4.00"	100.00		100%	100.0%	0.0%	3.00"	75.00		100%	100.0%	0.0%	2.50"	63.00		100%	100.0%	0.0%	2.00"	50.00	100%	100%	100.0%	0.0%	1.75"	45.00		100%	100.0%	0.0%	1.50"	37.50		100%	100.0%	0.0%	1.25"	31.50		100%	100.0%	0.0%	1.00"	25.00	100%	100%	100.0%	0.0%	3/4"	19.00	100%	100%	100.0%	0.0%	5/8"	16.00		100%	100.0%	0.0%	1/2"	12.50	100%	100%	100.0%	0.0%	3/8"	9.50	100%	100%	100.0%	0.0%	1/4"	6.30		100%	100.0%	0.0%	#4	4.75	100%	100%	100.0%	0.0%	#8	2.36		100%	100.0%	0.0%	#10	2.00	100%	100%	100.0%	0.0%	#16	1.18		99%	100.0%	0.0%	#20	0.850		99%	100.0%	0.0%	#30	0.600		99%	100.0%	0.0%	#40	0.425	98%	98%	100.0%	0.0%	#50	0.300		94%	100.0%	0.0%	#60	0.250		92%	100.0%	0.0%	#80	0.180		90%	100.0%	0.0%	#100	0.150	89%	89%	100.0%	0.0%	#140	0.106		84%	100.0%	0.0%	#170	0.090		82%	100.0%	0.0%	#200	0.075	80.6%	80.6%	100.0%	0.0%	
Sieve Size		Actual Cumulative Percent Passing					Interpolated Cumulative Percent Passing	Specs Max	Specs Min																																																																																																																																																																																										
US	Metric																																																																																																																																																																																																		
12.00"	300.00		100%	100.0%	0.0%																																																																																																																																																																																														
10.00"	250.00		100%	100.0%	0.0%																																																																																																																																																																																														
8.00"	200.00		100%	100.0%	0.0%																																																																																																																																																																																														
6.00"	150.00		100%	100.0%	0.0%																																																																																																																																																																																														
4.00"	100.00		100%	100.0%	0.0%																																																																																																																																																																																														
3.00"	75.00		100%	100.0%	0.0%																																																																																																																																																																																														
2.50"	63.00		100%	100.0%	0.0%																																																																																																																																																																																														
2.00"	50.00	100%	100%	100.0%	0.0%																																																																																																																																																																																														
1.75"	45.00		100%	100.0%	0.0%																																																																																																																																																																																														
1.50"	37.50		100%	100.0%	0.0%																																																																																																																																																																																														
1.25"	31.50		100%	100.0%	0.0%																																																																																																																																																																																														
1.00"	25.00	100%	100%	100.0%	0.0%																																																																																																																																																																																														
3/4"	19.00	100%	100%	100.0%	0.0%																																																																																																																																																																																														
5/8"	16.00		100%	100.0%	0.0%																																																																																																																																																																																														
1/2"	12.50	100%	100%	100.0%	0.0%																																																																																																																																																																																														
3/8"	9.50	100%	100%	100.0%	0.0%																																																																																																																																																																																														
1/4"	6.30		100%	100.0%	0.0%																																																																																																																																																																																														
#4	4.75	100%	100%	100.0%	0.0%																																																																																																																																																																																														
#8	2.36		100%	100.0%	0.0%																																																																																																																																																																																														
#10	2.00	100%	100%	100.0%	0.0%																																																																																																																																																																																														
#16	1.18		99%	100.0%	0.0%																																																																																																																																																																																														
#20	0.850		99%	100.0%	0.0%																																																																																																																																																																																														
#30	0.600		99%	100.0%	0.0%																																																																																																																																																																																														
#40	0.425	98%	98%	100.0%	0.0%																																																																																																																																																																																														
#50	0.300		94%	100.0%	0.0%																																																																																																																																																																																														
#60	0.250		92%	100.0%	0.0%																																																																																																																																																																																														
#80	0.180		90%	100.0%	0.0%																																																																																																																																																																																														
#100	0.150	89%	89%	100.0%	0.0%																																																																																																																																																																																														
#140	0.106		84%	100.0%	0.0%																																																																																																																																																																																														
#170	0.090		82%	100.0%	0.0%																																																																																																																																																																																														
#200	0.075	80.6%	80.6%	100.0%	0.0%																																																																																																																																																																																														
Copyright © Spears Engineering & Technical Services PS, 1996-98 All results apply only to actual locations and materials tested. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.																																																																																																																																																																																																			


Comments:

Reviewed by: Meghan Blodgett-Carrillo  
 Meghan Blodgett-Carrillo



# ALL AMERICAN GEOTECHNICAL, INC.

## HYDROMETER REPORT -- PIT 1 @ 8-FT BGS

Project: Q.C. All American Geotechnical - 2021 Project #: 21S031 Client : All American Geotechnical, Inc. Source: Jackson Pit-1 @ 8 ft, sample #2 Sample#: B21-1068	Date Received: 13-Jul-21 Sampled By: Client Date Tested: 16-Jul-21 Tested By: C. Kriss	<b>Unified Soils Classification System</b> MH, Elastic Silt with Sand Sample Color brown																																																																																	
<b>ASTM D422, HYDROMETER ANALYSIS</b>		<b>ASTM C136</b>																																																																																	
Assumed Sp Gr : 2.70 Sample Weight: 50.10 grams Hydrosopic Moist.: 7.75% Adj. Sample Wgt : 46.50 grams		<b>Sieve Analysis</b> <b>Grain Size Distribution</b>																																																																																	
 ACCREDITED Certificate #: 1366.01		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Sieve Size</th> <th>Percent Passing</th> <th>Soils Particle Diameter</th> </tr> </thead> <tbody> <tr><td>3.0"</td><td>100%</td><td>75.000 mm</td></tr> <tr><td>2.0"</td><td>100%</td><td>50.000 mm</td></tr> <tr><td>1.5"</td><td>100%</td><td>37.500 mm</td></tr> <tr><td>1.25"</td><td>100%</td><td>31.500 mm</td></tr> <tr><td>1.0"</td><td>100%</td><td>25.000 mm</td></tr> <tr><td>3/4"</td><td>100%</td><td>19.000 mm</td></tr> <tr><td>5/8"</td><td>100%</td><td>16.000 mm</td></tr> <tr><td>1/2"</td><td>100%</td><td>12.500 mm</td></tr> <tr><td>3/8"</td><td>100%</td><td>9.500 mm</td></tr> <tr><td>1/4"</td><td>100%</td><td>6.300 mm</td></tr> <tr><td>#4</td><td>100%</td><td>4.750 mm</td></tr> <tr><td>#10</td><td>100%</td><td>2.000 mm</td></tr> <tr><td>#20</td><td>99%</td><td>0.850 mm</td></tr> <tr><td>#40</td><td>98%</td><td>0.425 mm</td></tr> <tr><td>#100</td><td>89%</td><td>0.150 mm</td></tr> <tr><td>#200</td><td>80.6%</td><td>0.075 mm</td></tr> <tr><td colspan="2"><b>Silts</b></td><td>79.8%</td></tr> <tr><td colspan="2"></td><td>61.4%</td></tr> <tr><td colspan="2"></td><td>0.050 mm</td></tr> <tr><td colspan="2"></td><td>48.6%</td></tr> <tr><td colspan="2"></td><td>0.020 mm</td></tr> <tr><td colspan="2"><b>Clays</b></td><td>38.8%</td></tr> <tr><td colspan="2"></td><td>33.8%</td></tr> <tr><td colspan="2"></td><td>0.002 mm</td></tr> <tr><td colspan="2"><b>Colloids</b></td><td>25.1%</td></tr> <tr><td colspan="2"></td><td>0.001 mm</td></tr> </tbody> </table>	Sieve Size	Percent Passing	Soils Particle Diameter	3.0"	100%	75.000 mm	2.0"	100%	50.000 mm	1.5"	100%	37.500 mm	1.25"	100%	31.500 mm	1.0"	100%	25.000 mm	3/4"	100%	19.000 mm	5/8"	100%	16.000 mm	1/2"	100%	12.500 mm	3/8"	100%	9.500 mm	1/4"	100%	6.300 mm	#4	100%	4.750 mm	#10	100%	2.000 mm	#20	99%	0.850 mm	#40	98%	0.425 mm	#100	89%	0.150 mm	#200	80.6%	0.075 mm	<b>Silts</b>		79.8%			61.4%			0.050 mm			48.6%			0.020 mm	<b>Clays</b>		38.8%			33.8%			0.002 mm	<b>Colloids</b>		25.1%			0.001 mm
Sieve Size	Percent Passing	Soils Particle Diameter																																																																																	
3.0"	100%	75.000 mm																																																																																	
2.0"	100%	50.000 mm																																																																																	
1.5"	100%	37.500 mm																																																																																	
1.25"	100%	31.500 mm																																																																																	
1.0"	100%	25.000 mm																																																																																	
3/4"	100%	19.000 mm																																																																																	
5/8"	100%	16.000 mm																																																																																	
1/2"	100%	12.500 mm																																																																																	
3/8"	100%	9.500 mm																																																																																	
1/4"	100%	6.300 mm																																																																																	
#4	100%	4.750 mm																																																																																	
#10	100%	2.000 mm																																																																																	
#20	99%	0.850 mm																																																																																	
#40	98%	0.425 mm																																																																																	
#100	89%	0.150 mm																																																																																	
#200	80.6%	0.075 mm																																																																																	
<b>Silts</b>		79.8%																																																																																	
		61.4%																																																																																	
		0.050 mm																																																																																	
		48.6%																																																																																	
		0.020 mm																																																																																	
<b>Clays</b>		38.8%																																																																																	
		33.8%																																																																																	
		0.002 mm																																																																																	
<b>Colloids</b>		25.1%																																																																																	
		0.001 mm																																																																																	
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Hydrometer Reading Minutes</th> <th>Corrected Reading</th> <th>Percent Passing</th> <th>Soils Particle Diameter</th> </tr> </thead> <tbody> <tr><td>2</td><td>23</td><td>48.9%</td><td>0.0336 mm</td></tr> <tr><td>5</td><td>23</td><td>48.9%</td><td>0.0213 mm</td></tr> <tr><td>15</td><td>22</td><td>46.8%</td><td>0.0124 mm</td></tr> <tr><td>30</td><td>20</td><td>42.5%</td><td>0.0088 mm</td></tr> <tr><td>60</td><td>19.5</td><td>41.5%</td><td>0.0063 mm</td></tr> <tr><td>250</td><td>16.5</td><td>35.1%</td><td>0.0031 mm</td></tr> <tr><td>1440</td><td>15.5</td><td>33.0%</td><td>0.0013 mm</td></tr> </tbody> </table>		Hydrometer Reading Minutes	Corrected Reading	Percent Passing	Soils Particle Diameter	2	23	48.9%	0.0336 mm	5	23	48.9%	0.0213 mm	15	22	46.8%	0.0124 mm	30	20	42.5%	0.0088 mm	60	19.5	41.5%	0.0063 mm	250	16.5	35.1%	0.0031 mm	1440	15.5	33.0%	0.0013 mm																																																		
Hydrometer Reading Minutes	Corrected Reading	Percent Passing	Soils Particle Diameter																																																																																
2	23	48.9%	0.0336 mm																																																																																
5	23	48.9%	0.0213 mm																																																																																
15	22	46.8%	0.0124 mm																																																																																
30	20	42.5%	0.0088 mm																																																																																
60	19.5	41.5%	0.0063 mm																																																																																
250	16.5	35.1%	0.0031 mm																																																																																
1440	15.5	33.0%	0.0013 mm																																																																																
% Gravel: 0.0% <b>Liquid Limit:</b> 55.8 % % Sand: 19.4% <b>Plastic Limit:</b> 32.6 % % Silt: 41.7% <b>Plasticity Index:</b> 23.2 % % Clay: 38.8%																																																																																			
<b>USDA Soil Textural Classification</b>																																																																																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Particle Size</th> </tr> </thead> <tbody> <tr><td>% Sand:</td><td>2.0 - 0.05 mm</td></tr> <tr><td>% Silt:</td><td>0.05 - 0.002 mm</td></tr> <tr><td>% Clay:</td><td>&lt; 0.002 mm</td></tr> </tbody> </table>			Particle Size	% Sand:	2.0 - 0.05 mm	% Silt:	0.05 - 0.002 mm	% Clay:	< 0.002 mm																																																																										
	Particle Size																																																																																		
% Sand:	2.0 - 0.05 mm																																																																																		
% Silt:	0.05 - 0.002 mm																																																																																		
% Clay:	< 0.002 mm																																																																																		
<b>USDA Soil Textural Classification</b>																																																																																			
Clay Loam																																																																																			


All results apply only to actual locations and materials tested. As a minimal protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.

Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Reviewed by: \_\_\_\_\_

  
 Meghan Blodgett-Carrillo



# ALL AMERICAN GEOTECHNICAL, INC.

## ASTM D4318- LIQUID LIMIT, PLASTIC LIMIT, & PLASTICITY INDEX OF SOILS -- PIT 1 @ 8-FT BGS

Project: Q.C. All American Geotechnical - 2021 Project #: 21S031 Client: All American Geotechnical, Inc. Source: Jackson Pit-1 @ 8 ft, sample #2 Sample #: B21-1068	Date Received: 13-Jul-21 Sampled By: Client Date Tested: 16-Jul-21 Tested By: C. Kriss	Unified Soils Classification System MH, Elastic Silt with Sand Sample Color brown
---	---	--

### Liquid Limit Determination

	#1	#2	#3	#4	#5	#6
Weight of Wet Soils + Pan:	44.61					
Weight of Dry Soils + Pan:	38.89					
Weight of Pan:	28.63					
Weight of Dry Soils:	10.26					
Weight of Moisture:	5.72					
% Moisture:	55.8 %					
Number of Blows:	30					

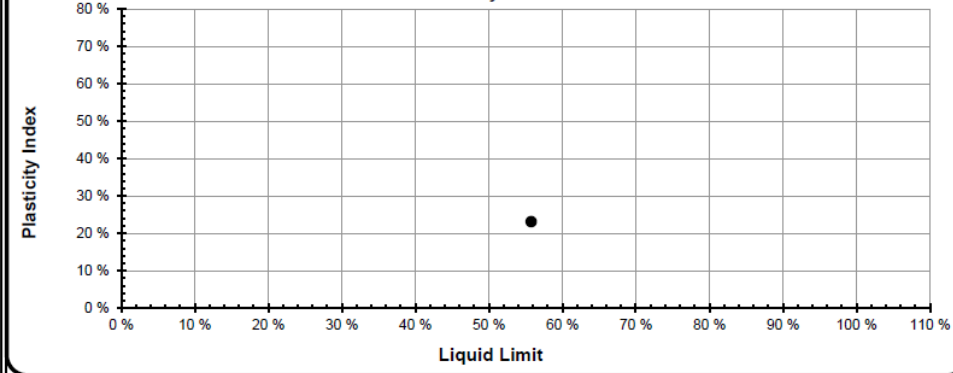


Liquid Limit @ 25 Blows: 56 %  
 Plastic Limit: 33 %  
 Plasticity Index, I<sub>p</sub>: 23 %

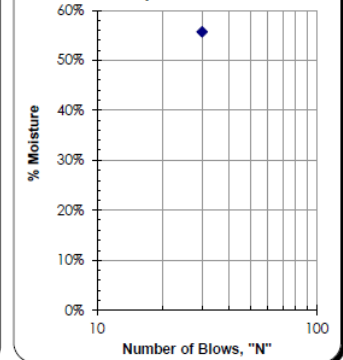
### Plastic Limit Determination

	#1	#2	#3	#4	#5	#6
Weight of Wet Soils + Pan:	37.72	37.19				
Weight of Dry Soils + Pan:	35.86	35.42				
Weight of Pan:	30.12	30.02				
Weight of Dry Soils:	5.74	5.40				
Weight of Moisture:	1.86	1.77				
% Moisture:	32.4 %	32.8 %				

### Plasticity Chart



### Liquid Limit



Copyright Spears Engineering & Technical Services PS, 1996-98

All results apply only to actual locations and materials tested. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.

Comments: \_\_\_\_\_


Reviewed by: \_\_\_\_\_

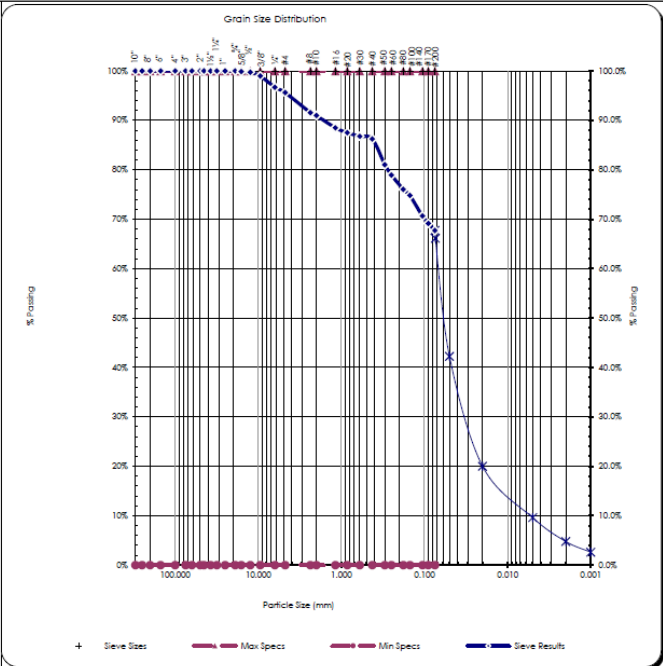
Meghan Blodgett-Carrillo



# ALL AMERICAN GEOTECHNICAL, INC.

## SIEVE REPORT -- PIT 2 @ 6-FT BGS

Project: Q.C. All American Geotechnical - 2021 Project #: 21S031 Client: All American Geotechnical, Inc. Source: Jackson Pit-2 @ 6 ft, sample #3 Sample#: B21-1069	Date Received: 13-Jul-21 Sampled By: Client Date Tested: 16-Jul-21 Tested By: C. Kriss	<b>Unified Soils Classification System</b> MH, Sandy Elastic Silt Sample Color: gray-brown	 ACCREDITED Certificate #: 1366.01						
<b>ASTM D2216, ASTM D2419, ASTM D4318, ASTM D5281</b>									
<b>Specifications</b> No Specs Sample Meets Specs ? N/A	D <sub>(5)</sub> = 0.002 mm D <sub>(10)</sub> = 0.005 mm D <sub>(15)</sub> = 0.010 mm D <sub>(30)</sub> = 0.043 mm D <sub>(50)</sub> = 0.060 mm D <sub>(60)</sub> = 0.068 mm D <sub>(80)</sub> = 1.677 mm Dust Ratio = 11/14	% Gravel = 4.4% % Sand = 27.9% % Silt & Clay = 67.7% Liquid Limit = 34.9% Plasticity Index = 11.7% Sand Equivalent = n/a Fracture %, 1 Face = n/a Fracture %, 2+ Faces = n/a	Coeff. of Curvature, C <sub>c</sub> = 5.05 Coeff. of Uniformity, C <sub>u</sub> = 13.06 Fineness Modulus = 0.83 Plastic Limit = 23.2% Moisture %, as sampled = n/a Req'd Sand Equivalent = Req'd Fracture %, 1 Face = Req'd Fracture %, 2+ Faces =						
<b>ASTM C136, ASTM D6913, ASTM C117</b>									
Sieve Size	Actual Cumulative Percent Passing	Interpolated Cumulative Percent Passing	Specs Max	Specs Min					
US Metric									
12.00" 300.00		100%	100.0%	0.0%					
10.00" 250.00		100%	100.0%	0.0%					
8.00" 200.00		100%	100.0%	0.0%					
6.00" 150.00		100%	100.0%	0.0%					
4.00" 100.00		100%	100.0%	0.0%					
3.00" 75.00		100%	100.0%	0.0%					
2.50" 63.00		100%	100.0%	0.0%					
2.00" 50.00	100%	100%	100.0%	0.0%					
1.75" 45.00		100%	100.0%	0.0%					
1.50" 37.50		100%	100.0%	0.0%					
1.25" 31.50		100%	100.0%	0.0%					
1.00" 25.00	100%	100%	100.0%	0.0%					
3/4" 19.00	100%	100%	100.0%	0.0%					
5/8" 16.00		100%	100.0%	0.0%					
1/2" 12.50	100%	100%	100.0%	0.0%					
3/8" 9.50	99%	99%	100.0%	0.0%					
1/4" 6.30	96%	97%	100.0%	0.0%					
#4 4.75	96%	96%	100.0%	0.0%					
#8 2.36		92%	100.0%	0.0%					
#10 2.00	91%	91%	100.0%	0.0%					
#16 1.18		89%	100.0%	0.0%					
#20 0.850		88%	100.0%	0.0%					
#30 0.600		87%	100.0%	0.0%					
#40 0.425	86%	86%	100.0%	0.0%					
#50 0.300		81%	100.0%	0.0%					
#60 0.250		79%	100.0%	0.0%					
#80 0.180		76%	100.0%	0.0%					
#100 0.150	75%	75%	100.0%	0.0%					
#140 0.106		71%	100.0%	0.0%					
#170 0.090		69%	100.0%	0.0%					
#200 0.075	67.7%	67.7%	100.0%	0.0%					



Copyright Spears Engineering & Technical Services PS, 1996-98  
 All results apply only to actual locations and materials tested. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.


Comments: \_\_\_\_\_

Reviewed by: Meghan Blodgett Carrillo




# ALL AMERICAN GEOTECHNICAL, INC.

## HYDROMETER REPORT -- PIT 2 @ 6-FT BGS

Project: Q.C. All American Geotechnical - 2021 Project #: 21S031 Client : All American Geotechnical, Inc. Source: Jackson Pit-2 @ 6 ft, sample #3 Sample#: B21-1069	Date Received: 13-Jul-21 Sampled By: Client Date Tested: 16-Jul-21 Tested By: C. Kriss	<b>Unified Soils Classification System</b> MH, Sandy Elastic Silt Sample Color gray-brown																																																																																																											
<b>ASTM D422, HYDROMETER ANALYSIS</b>		<b>ASTM C136</b>																																																																																																											
Assumed Sp Gr : 2.70 Sample Weight: 50.09 grams Hydroscopic Moist.: 3.60% Adj. Sample Wgt : 48.35 grams		<b>Sieve Analysis</b> <b>Grain Size Distribution</b>																																																																																																											
 ACCREDITED Certificate #: 1366.01																																																																																																													
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Hydrometer Reading</th> <th>Corrected Reading</th> <th>Percent Passing</th> <th>Soils Particle Diameter</th> </tr> </thead> <tbody> <tr><td>2</td><td>12</td><td>22.4%</td><td>0.0359 mm</td></tr> <tr><td>5</td><td>11.5</td><td>21.4%</td><td>0.0229 mm</td></tr> <tr><td>15</td><td>9</td><td>16.8%</td><td>0.0134 mm</td></tr> <tr><td>30</td><td>8</td><td>14.9%</td><td>0.0095 mm</td></tr> <tr><td>60</td><td>6.5</td><td>12.1%</td><td>0.0068 mm</td></tr> <tr><td>250</td><td>4</td><td>7.5%</td><td>0.0034 mm</td></tr> <tr><td>1440</td><td>2</td><td>3.7%</td><td>0.0014 mm</td></tr> </tbody> </table>	Hydrometer Reading	Corrected Reading	Percent Passing	Soils Particle Diameter	2	12	22.4%	0.0359 mm	5	11.5	21.4%	0.0229 mm	15	9	16.8%	0.0134 mm	30	8	14.9%	0.0095 mm	60	6.5	12.1%	0.0068 mm	250	4	7.5%	0.0034 mm	1440	2	3.7%	0.0014 mm	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Sieve Size</th> <th>Percent Passing</th> <th>Soils Particle Diameter</th> </tr> </thead> <tbody> <tr><td>3.0"</td><td>100%</td><td>75.000 mm</td></tr> <tr><td>2.0"</td><td>100%</td><td>50.000 mm</td></tr> <tr><td>1.5"</td><td>100%</td><td>37.500 mm</td></tr> <tr><td>1.25"</td><td>100%</td><td>31.500 mm</td></tr> <tr><td>1.0"</td><td>100%</td><td>25.000 mm</td></tr> <tr><td>3/4"</td><td>100%</td><td>19.000 mm</td></tr> <tr><td>5/8"</td><td>100%</td><td>16.000 mm</td></tr> <tr><td>1/2"</td><td>100%</td><td>12.500 mm</td></tr> <tr><td>3/8"</td><td>99%</td><td>9.500 mm</td></tr> <tr><td>1/4"</td><td>97%</td><td>6.300 mm</td></tr> <tr><td>#4</td><td>96%</td><td>4.750 mm</td></tr> <tr><td>#10</td><td>91%</td><td>2.000 mm</td></tr> <tr><td>#20</td><td>88%</td><td>0.850 mm</td></tr> <tr><td>#40</td><td>86%</td><td>0.425 mm</td></tr> <tr><td>#100</td><td>75%</td><td>0.150 mm</td></tr> <tr><td>#200</td><td>67.7%</td><td>0.075 mm</td></tr> <tr><td colspan="2"><b>Silts</b></td><td></td></tr> <tr><td></td><td>66.6%</td><td>0.074 mm</td></tr> <tr><td></td><td>38.7%</td><td>0.050 mm</td></tr> <tr><td></td><td>20.0%</td><td>0.020 mm</td></tr> <tr><td colspan="2"><b>Clays</b></td><td></td></tr> <tr><td></td><td>9.7%</td><td>0.005 mm</td></tr> <tr><td></td><td>4.8%</td><td>0.002 mm</td></tr> <tr><td><b>Colloids</b></td><td>2.6%</td><td>0.001 mm</td></tr> </tbody> </table>	Sieve Size	Percent Passing	Soils Particle Diameter	3.0"	100%	75.000 mm	2.0"	100%	50.000 mm	1.5"	100%	37.500 mm	1.25"	100%	31.500 mm	1.0"	100%	25.000 mm	3/4"	100%	19.000 mm	5/8"	100%	16.000 mm	1/2"	100%	12.500 mm	3/8"	99%	9.500 mm	1/4"	97%	6.300 mm	#4	96%	4.750 mm	#10	91%	2.000 mm	#20	88%	0.850 mm	#40	86%	0.425 mm	#100	75%	0.150 mm	#200	67.7%	0.075 mm	<b>Silts</b>				66.6%	0.074 mm		38.7%	0.050 mm		20.0%	0.020 mm	<b>Clays</b>				9.7%	0.005 mm		4.8%	0.002 mm	<b>Colloids</b>	2.6%	0.001 mm
Hydrometer Reading	Corrected Reading	Percent Passing	Soils Particle Diameter																																																																																																										
2	12	22.4%	0.0359 mm																																																																																																										
5	11.5	21.4%	0.0229 mm																																																																																																										
15	9	16.8%	0.0134 mm																																																																																																										
30	8	14.9%	0.0095 mm																																																																																																										
60	6.5	12.1%	0.0068 mm																																																																																																										
250	4	7.5%	0.0034 mm																																																																																																										
1440	2	3.7%	0.0014 mm																																																																																																										
Sieve Size	Percent Passing	Soils Particle Diameter																																																																																																											
3.0"	100%	75.000 mm																																																																																																											
2.0"	100%	50.000 mm																																																																																																											
1.5"	100%	37.500 mm																																																																																																											
1.25"	100%	31.500 mm																																																																																																											
1.0"	100%	25.000 mm																																																																																																											
3/4"	100%	19.000 mm																																																																																																											
5/8"	100%	16.000 mm																																																																																																											
1/2"	100%	12.500 mm																																																																																																											
3/8"	99%	9.500 mm																																																																																																											
1/4"	97%	6.300 mm																																																																																																											
#4	96%	4.750 mm																																																																																																											
#10	91%	2.000 mm																																																																																																											
#20	88%	0.850 mm																																																																																																											
#40	86%	0.425 mm																																																																																																											
#100	75%	0.150 mm																																																																																																											
#200	67.7%	0.075 mm																																																																																																											
<b>Silts</b>																																																																																																													
	66.6%	0.074 mm																																																																																																											
	38.7%	0.050 mm																																																																																																											
	20.0%	0.020 mm																																																																																																											
<b>Clays</b>																																																																																																													
	9.7%	0.005 mm																																																																																																											
	4.8%	0.002 mm																																																																																																											
<b>Colloids</b>	2.6%	0.001 mm																																																																																																											
<b>USDA Soil Textural Classification</b>																																																																																																													
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>% Sand:</th> <th>Particle Size</th> </tr> </thead> <tbody> <tr><td>27.9%</td><td>2.0 - 0.05 mm</td></tr> <tr><td>58.0%</td><td>0.05 - 0.002 mm</td></tr> <tr><td>9.7%</td><td>&lt; 0.002 mm</td></tr> </tbody> </table>	% Sand:	Particle Size	27.9%	2.0 - 0.05 mm	58.0%	0.05 - 0.002 mm	9.7%	< 0.002 mm																																																																																																				
% Sand:	Particle Size																																																																																																												
27.9%	2.0 - 0.05 mm																																																																																																												
58.0%	0.05 - 0.002 mm																																																																																																												
9.7%	< 0.002 mm																																																																																																												
<b>USDA Soil Textural Classification</b> Sandy Loam																																																																																																													

All results apply only to actual locations and materials tested. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Reviewed by:   
 Meghan Blodgett-Carrillo



# ALL AMERICAN GEOTECHNICAL, INC.

## ASTM D4318- LIQUID LIMIT, PLASTIC LIMIT, & PLASTICITY INDEX OF SOILS -- PIT 2 @ 6-FT BGS

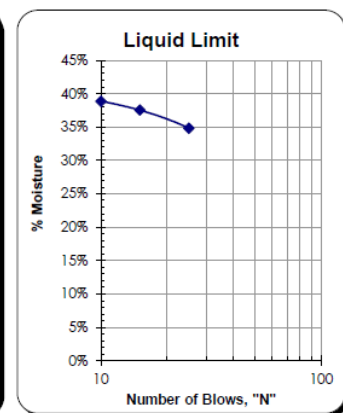
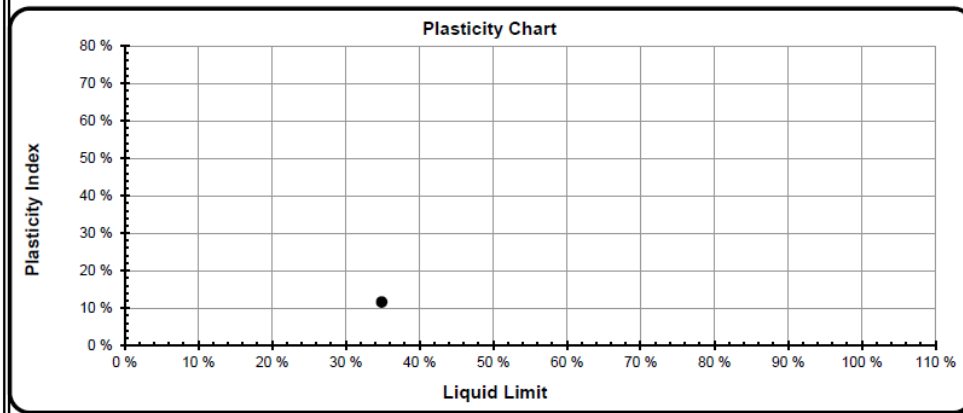
<b>Project:</b> Q.C. All American Geotechnical - 2021 <b>Project #:</b> 21S031 <b>Client:</b> All American Geotechnical, Inc. <b>Source:</b> Jackson Pit-2 @ 6 ft, sample #3 <b>Sample #:</b> B21-1069	<b>Date Received:</b> 13-Jul-21 <b>Sampled By:</b> Client <b>Date Tested:</b> 16-Jul-21 <b>Tested By:</b> C. Kriss	<b>Unified Soils Classification System</b> MH, Sandy Elastic Silt <b>Sample Color</b> gray-brown
--	---	---

Liquid Limit Determination						
	#1	#2	#3	#4	#5	#6
Weight of Wet Soils + Pan:	30.11	31.15	38.23			
Weight of Dry Soils + Pan:	27.36	28.09	32.98			
Weight of Pan:	19.47	19.94	19.47			
Weight of Dry Soils:	7.89	8.15	13.51			
Weight of Moisture:	2.75	3.06	5.25			
% Moisture:	34.9 %	37.6 %	38.9 %			
Number of Blows:	25	15	10			




**Liquid Limit @ 25 Blows:** 35 %  
**Plastic Limit:** 23 %  
**Plasticity Index, I<sub>p</sub>:** 12 %

Plastic Limit Determination						
	#1	#2	#3	#4	#5	#6
Weight of Wet Soils + Pan:	34.76	36.94				
Weight of Dry Soils + Pan:	33.64	35.62				
Weight of Pan:	28.33	30.40				
Weight of Dry Soils:	5.31	5.22				
Weight of Moisture:	1.12	1.32				
% Moisture:	21.1 %	25.3 %				



All results apply only to actual locations and materials tested. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.

**Comments:** \_\_\_\_\_

Reviewed by:   
 Meghan Blodgett-Carrillo

