GEOTECHNICAL DATA REPORT

US95 - NY Between MP 107.22 to MP 108.44

US6 - NY Between MP 0.74 to MP 2.00

in TONOPAH, NYE COUNTY

May 2018

NEVADA DOT
GEOTECHNICAL ENGINEERING

STATE OF NEVADA

DEPARTMENT OF TRANSPORTATION

MATERIALS DIVISION

GEOTECHNICAL SECTION

GEOTECHNICAL DATA REPORT

US95 - NY Between MP 107.22 to MP 108.44

US6 - NY Between MP 0.74 to MP 2.00

in TONOPAH, NYE COUNTY

May 2018

EA 73928

Prepared by: _____

Jesse Ruzicka, P.E.
Principal Geotechnical Engineer

Reviewed by: _____

Mike Griswold, P.E.
Chief Geotechnical Engineer

Approved by: _____

Darin Tedford, P.E.
Chief Materials Engineer

Table of Contents

APPENDICES:

INTRODUCTION

General

Presented herein is a summary of the Nevada Department of Transportation's (NDOT's) geotechnical subsurface exploration on the US95 – NY between MP 107.22 to MP 108.44 and US6 – NY between MP 0.74 to MP 2.00 in Tonopah, Nye County, Nevada. A Project Vicinity Map is presented in Appendix A.

Purpose and Scope

A geotechnical exploration was conducted to determine subsurface soil conditions at the project site. The scope of work includes a geotechnical field exploration and a laboratory testing program. This report provides no specific geotechnical design recommendations for any structures, features, or locations found on this project.

SUBSURFACE FIELD INVESTIGATION

The Geotechnical Section conducted a subsurface exploration by drilling:

- 10 borings on US95-NY to depths of 7 to 8½ feet below the existing ground surface, and;
- 16 borings on US6-NY to depths of 5½ to 13 feet below the existing ground surface.

The boring locations were located in the field by Geotechnical Section field crews. Borings US-95-NY-B-3 and US-6-NY-B-10 were not performed due to the underground utilities issues. Approximate locations of the boreholes are plotted on the Boring Location Plans located in Appendix A.

A Diedrich D-120 drill rig equipped with hollow stem augers was used to advance the boreholes. Soil formations were sampled using a standard 2-inch O.D. split-barrel sampling spoon driven into the ground with a 140-pound hammer falling a distance of 30 inches. The number of blows required to advance the sampling spoon the last 12 inches of a normal 18-inch penetration is recorded as the standard penetration resistance value or blow count. The energy transfer from the automatic hammer into the drill rig string was calibrated at 86%. The uncorrected blow counts for the SPT method are reported on the boring logs located in Appendix B.

Groundwater level measurements were taken during and after completion of drilling at each boring location during the field operations and were noted on the boring logs. Groundwater was not encountered in the borings to the maximum depth explored of 13 feet. The borings were backfilled with soil cuttings and patched with asphalt-cold-patch after the drilling operations were completed.

Boring logs and sample test results represent only the areas that were explored and may not fully characterize all soil types which may be encountered during construction. The maximum particle size recovered using the SPT samplers is 1-3/8 inches; therefore, boring logs may not adequately represent the actual quantity or presence of gravels, cobbles, or boulders. Photographs of the project

location are provided in Appendix A. Additionally, the boring log key and boring logs are provided in Appendix B.

LABORATORY ANALYSIS

Soil samples were returned to and tested at the NDOT Materials and Testing Laboratory in Carson City, Nevada. The testing program consisted of sieve analyses and Atterberg limits tests. Test results are attached in Appendix C.

APPENDIX A

Project Vicinity Map

Boring Location Plans

Project Location Photographs

NEVADA DOT

1263 South Stewart Street

Carson City, Nevada 89712

Phone: (775) 888-7440

Fax: (775) 888-7201

Figure A-1: Project Vicinity Map

US95 - NY Between MP 107.22 to MP 108.44 and US6 - NY Between MP 0.74 to MP 2.00

Tonopah, Nye County, Nevada

EA Number: 73928

1263 South Stewart Street
Carson City, Nevada 89712
Phone: (775) 888-7440
Fax: (775) 888-7201

Figure A-2: Boring Location Plan

US95 - NY Between MP 107.22 to MP 108.44 and US6 - NY Between MP 0.74 to MP 2.00

Tonopah, Nye County, Nevada

EA Number: 73928

1263 South Stewart Street
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Figure A-3: Boring Location Plan

US95 - NY Between MP 107.22 to MP 108.44 and US6 - NY Between MP 0.74 to MP 2.00

Tonopah, Nye County, Nevada

EA Number: 73928

1263 South Stewart Street
Carson City, Nevada 89712
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Figure A-4: Boring Location Plan

US95 - NY Between MP 107.22 to MP 108.44 and US6 - NY Between MP 0.74 to MP 2.00

Tonopah, Nye County, Nevada

EA Number: 73928

1263 South Stewart Street

Carson City, Nevada 89712

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Fax: (775) 888-7201

Figure A-5: Boring Location Plan

US95 - NY Between MP 107.22 to MP 108.44 and US6 - NY Between MP 0.74 to MP 2.00

Tonopah, Nye County, Nevada

EA Number: 73928

Boring US-95-NY-B-1 Location. Photo Looking North.

Boring US-95-NY-B-1 Location. Photo Looking South.

Boring US-95-NY-B-2 Location. Photo Looking North.


Boring US-95-NY-B-2 Location. Photo Looking South.

Boring US-95-NY-B-3 Location. Photo Looking North.

Boring US-95-NY-B-3 Location. Photo Looking South.

Boring US-95-NY-B-4 Location. Photo Looking East.

Boring US-95-NY-B-4 Location. Photo Looking South.

Boring US-95-NY-B-5 Location. Photo Looking West.

Boring US-95-NY-B-5 Location. Photo Looking South.

Boring US-95-NY-B-6 Location. Photo Looking North.

Boring US-95-NY-B-6 Location. Photo Looking South.

Boring US-95-NY-B-7 Location. Photo Looking North.

Boring US-95-NY-B-7 Location. Photo Looking South.

Boring US-95-NY-B-8 Location. Photo Looking Northwest.

Boring US-95-NY-B-8 Location. Photo Looking South.

Boring US-95-NY-B-9 Location. Photo Looking North.

Boring US-95-NY-B-9 Location. Photo Looking South.

Boring US-95-NY-B-10 Location. Photo Looking North.

Boring US-95-NY-B-10 Location. Photo Looking South.

Boring US-6-NY-B-1 Location. Photo Looking East.


Boring US-6-NY-B-1 Location. Photo Looking West.

Boring US-6-NY-B-2 Location. Photo Looking East.


Boring US-6-NY-B-2 Location. Photo Looking West.

Boring US-6-NY-B-3 Location. Photo Looking East.

Boring US-6-NY-B-3 Location. Photo Looking West.

Boring US-6-NY-B-4 Location. Photo Looking North.

Boring US-6-NY-B-4 Location. Photo Looking South.

Boring US-6-NY-B-5 Location. Photo Looking South.


Boring US-6-NY-B-5 Location. Photo Looking East.

Boring US-6-NY-B-6 Location. Photo Looking North.

Boring US-6-NY-B-6 Location. Photo Looking South.

Boring US-6-NY-B-7 Location. Photo Looking North.

Boring US-6-NY-B-7 Location. Photo Looking South.

Boring US-6-NY-B-8 Location. Photo Looking North.

Boring US-6-NY-B-8 Location. Photo Looking South.

Boring US-6-NY-B-9 Location. Photo Looking North.

Boring US-6-NY-B-9 Location. Photo Looking South.

Boring US-6-NY-B-10 Location. Photo Looking East.

Boring US-6-NY-B-10 Location. Photo Looking South.

Boring US-6-NY-B-11 Location. Photo Looking North.

Boring US-6-NY-B-11 Location. Photo Looking South.

Boring US-6-NY-B-12 Location. Photo Looking East.

Boring US-6-NY-B-12 Location. Photo Looking South.

Boring US-6-NY-B-13 Location. Photo Looking North.

Boring US-6-NY-B-13 Location. Photo Looking South.

Boring US-6-NY-B-14 Location. Photo Looking North.


Boring US-6-NY-B-14 Location. Photo Looking South.

Boring US-6-NY-B-15 Location. Photo Looking North.

Boring US-6-NY-B-15 Location. Photo Looking South.

Boring US-6-NY-B-16 Location. Photo Looking North.

Boring US-6-NY-B-16 Location. Photo Looking South.

APPENDIX B

Boring Log Key

Boring Logs

KEY TO EXPLORATION LOGS

PARTICLE SIZE LIMITS								
CLAY	SILT	SAND			GRAVEL		COBBLES	BOULDERS
		FINE	MEDIUM	COARSE	FINE	COARSE		
.002 mm		#200	#40	#10	#4	¾ inch	3 inch	12 inch

USCS GROUP	TYPICAL SOIL DESCRIPTION
GW	Well graded gravels, gravel-sand mixtures, little or no fines
GP	Poorly graded gravels, gravel-sand mixtures, little or no fines
GC	Clayey gravels, poorly graded gravel-sand-clay mixtures
SW	Well graded sands, gravelly sands, little or no fines
SP	Poorly graded sands, gravelly sands, little or no fines
SM	Silty sands, poorly graded sand-silt mixtures
SC	Clayey sands, poorly graded sand-clay mixtures
ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands with slight plasticity
CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
OL	Organic silts and organic silt-clays of low plasticity
MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
CH	Inorganic clays of high plasticity, fat clays
OH	Organic clays of medium to high plasticity
PT	Peat and other highly organic soils

MOISTURE CONDITION CRITERIA

Description	Criteria
Dry	Absence of moisture, dusty, dry to touch.
Moist	Damp, no visible free water.
Wet	Visible free water, usually below groundwater table.
▽ ▼	Groundwater Elevation Symbols

SOIL CEMENTATION CRITERIA

Description	Criteria
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Won't break or crumble w/finger pressure

STANDARD PENETRATION CLASSIFICATION*

GRANULAR SOIL		CLAYEY SOIL	
BLOWS/FT	DENSITY	BLOWS/FT	CONSISTENCY
0 - 4	VERY LOOSE	0 - 1	VERY SOFT
5 – 10	LOOSE	2 - 4	SOFT
11 - 30	MEDIUM DENSE	5 - 8	MEDIUM STIFF
31 - 50	DENSE	9 - 15	STIFF
OVER 50	VERY DENSE	16 - 30	VERY STIFF
		31 - 60	HARD
		OVER 60	VERY HARD

*Standard Penetration Test (N) 140 lb hammer 30 inch free fall on 2 inch O.D. x 1.4 inch I.D. sampler.

Field Blow counts on California Modified Sampler (N_{CMS}) can be converted to $N_{SPT\ field}$ by:

$(N_{CMS\ field})(0.62) = N_{SPT\ field}$

Blow counts from Automatic Hammer can be converted to Standard SPT N_{60} by:

Rig #1627: $(N_{SPT\ field})(1.2) = N_{60}$

Rig #1082: $(N_{SPT\ field})(1.45) = N_{60}$

TEST ABBREVIATIONS

CD	CONSOLIDATED DRAINED	OC	ORGANIC CONTENT
CH	CHEMICAL (CORROSIVENESS)	C	CONSOLIDATION
CM	COMPACTION	PI	PLASTICITY INDEX
CU	CONSOLIDATED UNDRAINED	RQD	ROCK QUALITY DESIGNATION
D	DISPERSIVE SOILS	RV	R-VALUE
DS	DIRECT SHEAR	S	SIEVE ANALYSIS
E	EXPANSIVE SOIL	SL	SHRINKAGE LIMIT
G	SPECIFIC GRAVITY	U	UNCONFINED COMPRESSION
H	HYDROMETER	UU	UNCONSOLIDATED UNDRAINED
HC	HYDRO-COLLAPSE	UW	UNIT WEIGHT
K	PERMEABILITY	W	MOISTURE CONTENT

SOIL COLOR DESIGNATIONS ARE FROM THE MUNSELL SOIL/ROCK COLOR CHARTS.

EXAMPLE: (7.5 YR 5/3) BROWN

SAMPLER NOTATION

CMS	CALIF. MODIFIED SAMPLER[1]
CPT	CONE PENETRATION TEST
CS	CONTINUOUS SAMPLER[2]
PB	PITCHER BARREL
RC	ROCK CORE[3]
SH	SHELBY TUBE[4]
SPT	STANDARD PENETRATION TEST
TP	TEST PIT

1- I.D.= 2.421 inch

2- I.D.=3.228 inch with tube; 3.50 inch w/o tube

3- NXB I.D.= 1.875 inch

4- I.D.= 2.875 inch

Revised August 2010

EXPLORATION LOG

Materials Division
Geotechnical Section
1263 S. Stewart St
Carson City, NV 89712

START DATE 10/31/17
END DATE 10/31/17
JOB DESCRIPTION US95/US6 Roadway and Drainage Improvements
LOCATION Tonapah, NV
BORING US6-NY-B-1
E.A. # 73928
GROUND ELEV. (ft)
HAMMER DROP SYSTEM Automatic

GROUNDWATER LEVEL		
DATE	DEPTH ft	ELEV. ft

STATION
OFFSET
ENGINEER Art Laikram
EQUIPMENT Diedrich D-120
OPERATOR Orlando J Altamirano
DRILLING METHOD 6" H.S.A.
BACKFILLED Yes DATE 10/31/2017

ELEV. (ft)	DEPTH (ft)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT 6 inch Increments	BLOW COUNT Last 1 foot	Percent Recov'd	LAB TESTS	USCS Group	MATERIAL DESCRIPTION	REMARKS
	0.0								**ASPHALT** 5"	
									AGGREGATE BASE 6"	
	1.00									
		BK	BULK					**SC SM**	**SILTY, CLAYEY SAND WITH GRAVEL** dry to moist, brown to reddish brown	Bulk sample collected from 1 to 5 ft.
	4.0									
		1	SPT	10 25 40	65		W, S, PI			
	4.50									
	5								**SAND WITH GRAVEL** Very dense, dry to moist, light yellowish brown to light reddish brown, - %Gravel: 38, %Sand: 51, %Fine: 11	
	5.5									
	7.0									
		2	SPT	50/6"			W			
	7.5							**SP SC**		
	10									
	11.0									
		3	SPT	26 25 50/4"	75		W, S, PI	**SC**	**CLAYEY SAND WITH GRAVEL** Very dense, dry to moist, light yellowish brown to light reddish brown, - %Gravel: 19, %Sand: 48, %Fine: 33	
	12.3								12.30	
									B.O.H. No groundwater encountered. Backfilled with drill cuttings.	

EXPLORATION LOG

Materials Division
Geotechnical Section
1263 S. Stewart St
Carson City, NV 89712

START DATE 10/31/17
END DATE 10/31/17
JOB DESCRIPTION US95/US6 Roadway and Drainage Improvements
LOCATION Tonapah, NV
BORING US6-NY-B-2
E.A. # 73928
GROUND ELEV. (ft)
HAMMER DROP SYSTEM Automatic

GROUNDWATER LEVEL		
DATE	DEPTH ft	ELEV. ft

STATION
OFFSET
ENGINEER Art Laikram
EQUIPMENT Diedrich D-120
OPERATOR Orlando J Altamirano
DRILLING METHOD 6" H.S.A.
BACKFILLED Yes DATE 10/31/2017

ELEV. (ft)	DEPTH (ft)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT 6 inch Increments	BLOW COUNT Last 1 foot	Percent Recov'd	LAB TESTS	USCS Group	MATERIAL DESCRIPTION	REMARKS
									ASPHALT 5"	
									AGGREGATE BASE 6"	
	0.92									
								SC SM	**SILTY, CLAYEY SAND WITH GRAVEL** dry, light yellowish brown to yellowish brown	Bulk sample collected from 1 to 5 ft.
	3.00								**GRANITE**, light brownish yellow, completely weathered	
	4.0									
	4.0	1	SPT	50/1"					**GRANITE**, light brownish yellow, moderately weathered	Hard drilling (300 psi down pressure) from 4 to 5 ft.
5	5.0									
	5.0	2	SPT	50/0"					**GRANITE**, light brownish yellow, slightly weathered	Very hard drilling (500 psi down pressure with less than 0.5" per minute advancement) from 5 to 5.5 ft.
	5.50								**B.O.H.** No groundwater encountered. Backfilled with drill cuttings.	
10										

EXPLORATION LOG

Materials Division
Geotechnical Section
1263 S. Stewart St
Carson City, NV 89712

START DATE 11/1/17
END DATE 11/1/17
JOB DESCRIPTION US95/US6 Roadway and Drainage Improvements
LOCATION Tonapah, NV
BORING US6-NY-B-3
E.A. # 73928
GROUND ELEV. (ft)
HAMMER DROP SYSTEM Automatic

GROUNDWATER LEVEL		
DATE	DEPTH ft	ELEV. ft

STATION
OFFSET
ENGINEER Art Laikram
EQUIPMENT Diedrich D-120
OPERATOR Orlando J Altamirano
DRILLING METHOD 6" H.S.A.
BACKFILLED Yes DATE 11/1/2017

ELEV. (ft)	DEPTH (ft)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT 6 inch Increments	BLOW COUNT Last 1 foot	Percent Recov'd	LAB TESTS	USCS Group	MATERIAL DESCRIPTION	REMARKS
									ASPHALT 6"	
									AGGREGATE BASE 6"	
	1.00									
								SC SM	**SILTY, CLAYEY SAND WITH GRAVEL** dry, yellowish brown to light yellowish brown	Bulk sample collected from 1 to 5 ft.
	3.50									
									GRANITE, light brownish yellow, completely weathered	
	4.0									
	4.1	1	SPT	50/2"						
5										
	7.0									Hard drilling (300 psi down pressure) from 6.5 to 7 ft.
	7.2	2	SPT	50/2"						
10										
	11.0									
	11.00									
	11.0	3	SPT	50/1"					**B.O.H.** No groundwater encountered. Backfilled with drill cuttings.	

NDOT 73928_TONAPAH.GPJ NDOT 2017.11.09.GDT 5/29/18

EXPLORATION LOG

Materials Division
Geotechnical Section
1263 S. Stewart St
Carson City, NV 89712

START DATE 10/24/17
END DATE 10/24/17
JOB DESCRIPTION US95/US6 Roadway and Drainage Improvements
LOCATION Tonapah, NV
BORING US6-NY-B-4
E.A. # 73928
GROUND ELEV. (ft)
HAMMER DROP SYSTEM Automatic

GROUNDWATER LEVEL		
DATE	DEPTH ft	ELEV. ft

STATION
OFFSET
ENGINEER Art Laikram
EQUIPMENT Diedrich D-120
OPERATOR Orlando J Altamirano
DRILLING METHOD 6" H.S.A.
BACKFILLED Yes DATE 10/24/2017

ELEV. (ft)	DEPTH (ft)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT 6 inch Increments	BLOW COUNT Last 1 foot	Percent Recov'd	LAB TESTS	USCS Group	MATERIAL DESCRIPTION	REMARKS
									ASPHALT 7"	
									AGGREGATE BASE 7"	
	1.17									
								SC SM	**SILTY, CLAYEY SAND WITH GRAVEL** dry to moist, yellowish brown	Bulk sample collected from 1.5 to 5 ft.
	2.00									
								GC	**CLAYEY GRAVEL WITH SAND** dry to moist, yellowish brown	
	3.00									
									GRANITE, tan, completely weathered, - gravel layers from 3 to 3.5 ft.	Hard drilling (300 psi down pressure with 2" per minute advancement) from 4 to 7 ft.
	4.0									
	4.1	1	SPT	50/2"						
5										
	7.0									
	7.1	2	SPT	50/2"						Very hard drilling (500 psi down pressure with 1 to 1.5" per minute advancement) from 7 to 9 ft.
									GRANITE, tan, slightly weathered	
	9.0									
	9.0	3	SPT	50/0"					**B.O.H.** No groundwater encountered. Backfilled with drill cuttings.	
10										

EXPLORATION LOG

Materials Division
Geotechnical Section
1263 S. Stewart St
Carson City, NV 89712

START DATE 10/25/17
END DATE 10/25/17
JOB DESCRIPTION US95/US6 Roadway and Drainage Improvements
LOCATION Tonapah, NV
BORING US6-NY-B-5
E.A. # 73928
GROUND ELEV. (ft)
HAMMER DROP SYSTEM Automatic

GROUNDWATER LEVEL		
DATE	DEPTH ft	ELEV. ft

STATION
OFFSET
ENGINEER Art Laikram
EQUIPMENT Diedrich D-120
OPERATOR Orlando J Altamirano
DRILLING METHOD 6" H.S.A.
BACKFILLED Yes DATE 10/25/2017

ELEV. (ft)	DEPTH (ft)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT 6 inch Increments	BLOW COUNT Last 1 foot	Percent Recov'd	LAB TESTS	USCS Group	MATERIAL DESCRIPTION	REMARKS
									ASPHALT 6"	Bulk sample collected from 1 to 4 ft.
									AGGREGATE BASE 6"	
	1.00									
								SW SM	**SILTY SAND WITH GRAVEL** dry to moist, yellowish brown	
	4.0									
		1	SPT	6 8 9	17		W, S, PI		Medium dense, - %Gravel: 22, %Sand: 69, %Fine: 9	
	5									
	5.5									
									SILTY, CLAYEY SAND WITH GRAVEL Very dense, dry to moist, yellowish brown	
	7.0									
		2	SPT	12 40 14	54		W, S		- %Gravel: 24, %Sand: 64, %Fine: 12 - rock layers from 7.5 to 8 ft	
	8.5									
								SC SM		
	10									
	11.0									
		3	SPT	21 35 29	64		W, S, PI		- %Gravel: 37, %Sand: 50, %Fine: 13 - rock layers from 11.5 to 12.5 ft	
	12.5									
									B.O.H. No groundwater encountered. Backfilled with drill cuttings.	

EXPLORATION LOG

Materials Division
Geotechnical Section
1263 S. Stewart St
Carson City, NV 89712

START DATE 10/25/17
END DATE 10/25/17
JOB DESCRIPTION US95/US6 Roadway and Drainage Improvements
LOCATION Tonapah, NV
BORING US6-NY-B-6
E.A. # 73928
GROUND ELEV. (ft)
HAMMER DROP SYSTEM Automatic

GROUNDWATER LEVEL		
DATE	DEPTH ft	ELEV. ft

STATION
OFFSET
ENGINEER Art Laikram
EQUIPMENT Diedrich D-120
OPERATOR Orlando J Altamirano
DRILLING METHOD 6" H.S.A.
BACKFILLED Yes DATE 10/25/2017

ELEV. (ft)	DEPTH (ft)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT 6 inch Increments	BLOW COUNT Last 1 foot	Percent Recov'd	LAB TESTS	USCS Group	MATERIAL DESCRIPTION	REMARKS
									ASPHALT 6"	Bulk sample collected from 1.5 to 5 ft.
									AGGREGATE BASE 8"	
	1.17									
									SILTY, CLAYEY SAND WITH GRAVEL dry to moist, yellowish brown	
	4.0									
		1	SPT	5 8 6	14		W		Medium dense	
	5									
	5.5									
	7.0							SC SM		
		2	SPT	14 10 7	17		W, S, PI		- %Gravel: 20, %Sand: 61, %Fine: 19	
	8.5									
	10									
	11.0									
		3	SPT	19 24 29	53		W, S		Very dense, - %Gravel: 26, %Sand: 56, %Fine: 18	
	12.5									
	12.50								**B.O.H.** No groundwater encountered. Backfilled with drill cuttings.	

EXPLORATION LOG

Materials Division
Geotechnical Section
1263 S. Stewart St
Carson City, NV 89712

START DATE 10/25/17
END DATE 10/25/17
JOB DESCRIPTION US95/US6 Roadway and Drainage Improvements
LOCATION Tonapah, NV
BORING US6-NY-B-7
E.A. # 73928
GROUND ELEV. (ft)
HAMMER DROP SYSTEM Automatic

GROUNDWATER LEVEL		
DATE	DEPTH ft	ELEV. ft

STATION
OFFSET
ENGINEER Art Laikram
EQUIPMENT Diedrich D-120
OPERATOR Orlando J Altamirano
DRILLING METHOD 6" H.S.A.
BACKFILLED Yes DATE 10/25/2017

ELEV. (ft)	DEPTH (ft)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT 6 inch Increments	BLOW COUNT Last 1 foot	Percent Recov'd	LAB TESTS	USCS Group	MATERIAL DESCRIPTION	REMARKS
									ASPHALT 5"	
									AGGREGATE BASE 6"	
	0.92									
									SILTY, CLAYEY SAND WITH GRAVEL dry to moist, yellowish brown to light yellowish brown	Bulk sample collected from 1 to 5 ft.
	4.0									
		1	SPT	5 5 8	13		W, S, PI		Medium dense, - %Gravel: 28, %Sand: 60, %Fine: 12	
5	5.5									
								SC SM		
	7.0									
		2	SPT	8 11 13	24		W			
	8.5									
10										
	11.0									
		3	SPT	11 14 14	28		W, S		- %Gravel: 19, %Sand: 71, %Fine: 10	
	12.5									
	12.50								**B.O.H.** No groundwater encountered. Backfilled with drill cuttings.	

EXPLORATION LOG

Materials Division
Geotechnical Section
1263 S. Stewart St
Carson City, NV 89712

START DATE 10/31/17
END DATE 10/31/17
JOB DESCRIPTION US95/US6 Roadway and Drainage Improvements
LOCATION Tonapah, NV
BORING US6-NY-B-8
E.A. # 73928
GROUND ELEV. (ft)
HAMMER DROP SYSTEM Automatic

GROUNDWATER LEVEL		
DATE	DEPTH ft	ELEV. ft

STATION
OFFSET
ENGINEER Art Laikram
EQUIPMENT Diedrich D-120
OPERATOR Orlando J Altamirano
DRILLING METHOD 6" H.S.A.
BACKFILLED Yes DATE 10/31/2017

ELEV. (ft)	DEPTH (ft)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT 6 inch Increments	BLOW COUNT Last 1 foot	Percent Recov'd	LAB TESTS	USCS Group	MATERIAL DESCRIPTION	REMARKS
									ASPHALT 10"	
									AGGREGATE BASE 6"	
	1.33									
									SAND WITH GRAVEL dry to moist, yellowish brown	Bulk sample collected from 1.5 to 5 ft.
	4.0									
		1	SPT	7 7 8	15		W, S	**SP SM**	Medium dense, - %Gravel: 24, %Sand: 69, %Fine: 7	
	5									
	5.5									
									- gravel layer from 6 to 7 ft	
	7.0									
	7.00									
		2	SPT	11 6 6	12		W, S, PI		**SILTY, CLAYEY SAND WITH GRAVEL** Medium dense, dry to moist, yellowish brown, - %Gravel: 9, %Sand: 75, %Fine: 16	
	8.5									
								SC SM		
	10								- gravel layer from 10 to 10.5 ft	
	11.0									
		3	SPT	4 7 7	14		W, S		- %Gravel: 25, %Sand: 58, %Fine: 17	
	12.5									
	12.50								**B.O.H.** No groundwater encountered. Backfilled with drill cuttings.	

EXPLORATION LOG

Materials Division
Geotechnical Section
1263 S. Stewart St
Carson City, NV 89712

START DATE 10/25/17
END DATE 10/25/17
JOB DESCRIPTION US95/US6 Roadway and Drainage Improvements
LOCATION Tonapah, NV
BORING US6-NY-B-9
E.A. # 73928
GROUND ELEV. (ft)
HAMMER DROP SYSTEM Automatic

GROUNDWATER LEVEL		
DATE	DEPTH ft	ELEV. ft

STATION
OFFSET
ENGINEER Art Laikram
EQUIPMENT Diedrich D-120
OPERATOR Orlando J Altamirano
DRILLING METHOD 6" H.S.A.
BACKFILLED Yes DATE 10/25/2017

ELEV. (ft)	DEPTH (ft)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT 6 inch Increments	BLOW COUNT Last 1 foot	Percent Recov'd	LAB TESTS	USCS Group	MATERIAL DESCRIPTION	REMARKS
									ASPHALT 6"	Bulk sample collected from 1.5 to 5 ft.
									AGGREGATE BASE 8"	
	1.17									
								SP SM	**SAND WITH GRAVEL** dry to moist, yellowish brown to light yellowish brown	
	4.0									
		1	SPT	10 10 8	18		W, S		Medium dense, - %Gravel: 19, %Sand: 70, %Fine: 11	
	5									
	5.5									
	5.50									
									SILTY, CLAYEY SAND WITH GRAVEL Medium dense, dry to moist, yellowish brown to light yellowish brown	
	7.0									
		2	SPT	8 11 12	23		W, S, PI		- %Gravel: 13, %Sand: 75, %Fine: 12	
									- turn to ligth yellowish brown below 8 ft.	
	8.5									
								SC SM		
	10									
	11.0									
	11.5	3	SPT	50/6"			W		Very dense, - with gravel layers, %Gravel: 17, %Sand: 54, %Fine: 29	
	12.0									
		4	SPT	17 50/6"			W, S, PI			
	13.0									
	13.00									
									B.O.H. No groundwater encountered. Backfilled with drill cuttings.	

EXPLORATION LOG

Materials Division
Geotechnical Section
1263 S. Stewart St
Carson City, NV 89712

START DATE 10/25/17
END DATE 10/25/17
JOB DESCRIPTION US95/US6 Roadway and Drainage Improvements
LOCATION Tonapah, NV
BORING US6-NY-B-11
E.A. # 73928
GROUND ELEV. (ft)
HAMMER DROP SYSTEM Automatic

GROUNDWATER LEVEL		
DATE	DEPTH ft	ELEV. ft

STATION
OFFSET
ENGINEER Art Laikram
EQUIPMENT Diedrich D-120
OPERATOR Orlando J Altamirano
DRILLING METHOD 6" H.S.A.
BACKFILLED Yes DATE 10/25/2017

ELEV. (ft)	DEPTH (ft)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT 6 inch Increments	BLOW COUNT Last 1 foot	Percent Recov'd	LAB TESTS	USCS Group	MATERIAL DESCRIPTION	REMARKS
									ASPHALT 6"	
									AGGREGATE BASE 6"	
	1.00									
								SP SC	**SAND WITH GRAVEL** dry to moist, yellowish brown to light yellowish brown	Bulk sample collected from 1 to 5 ft.
	4.0									
		1	SPT	5 4 4	8		W, S		Loose, - %Gravel: 21, %Sand: 69, %Fine: 10	
	5									
	5.5									
	6.00									
									CLAYEY SAND WITH GRAVEL Medium dense, dry to moist, yellowish brown	
	7.0									
		2	SPT	10 11 10	21		W, S, PI		- %Gravel: 13, %Sand: 55, %Fine: 32	
	8.5									
								SC		
	10									
	11.0									
		3	SPT	15 7 8	15		W, S, PI		- %Gravel: 20, %Sand: 38, %Fine: 42	
	11.50									
								CL	**SANDY LEAN CLAY** Stiff, reddish brown	
	12.5									
									B.O.H. No groundwater encountered. Backfilled with drill cuttings.	

EXPLORATION LOG

Materials Division
Geotechnical Section
1263 S. Stewart St
Carson City, NV 89712

START DATE 10/25/17
END DATE 10/25/17
JOB DESCRIPTION US95/US6 Roadway and Drainage Improvements
LOCATION Tonapah, NV
BORING US6-NY-B-12
E.A. # 73928
GROUND ELEV. (ft)
HAMMER DROP SYSTEM Automatic

GROUNDWATER LEVEL		
DATE	DEPTH ft	ELEV. ft

STATION
OFFSET
ENGINEER Art Laikram
EQUIPMENT Diedrich D-120
OPERATOR Orlando J Altamirano
DRILLING METHOD 6" H.S.A.
BACKFILLED Yes DATE 10/25/2017

ELEV. (ft)	DEPTH (ft)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT 6 inch Increments	BLOW COUNT Last 1 foot	Percent Recov'd	LAB TESTS	USCS Group	MATERIAL DESCRIPTION	REMARKS
									ASPHALT 7"	
									AGGREGATE BASE 8"	
	1.25									
									SAND WITH GRAVEL dry to moist, brown to yellowish brown	Bulk sample collected from 1.5 to 5 ft.
	4.0									
		1	SPT	8 9 12	21		W, S, PI	SP SC	Medium dense, - %Gravel: 29, %Sand: 60, %Fine: 11	
	5									
	5.5									
	7.0									
		2	SPT	15 21 22	43		W			
	7.50									
									CLAYEY GRAVEL WITH SAND Dense, dry to moist, yellowish brown	
	8.5							GC		
									- with cobble from 9 to 9.5 ft.	Hard drilling (500 psi down pressure) from 9 to 9.5 ft.
	10.00									
	10								**SANDY LEAN CLAY** Hard, moist, reddish brown	
	11.0									
		3	SPT	8 16 34	50		W, S, PI	CL	- %Gravel: 1, %Sand: 46, %Fine: 53	
	12.5								- with gravel from 12 to 12.5 ft.	
	12.50									
									B.O.H. No groundwater encountered. Backfilled with drill cuttings.	

EXPLORATION LOG

Materials Division
Geotechnical Section
1263 S. Stewart St
Carson City, NV 89712

START DATE 10/25/17
END DATE 10/25/17
JOB DESCRIPTION US95/US6 Roadway and Drainage Improvements
LOCATION Tonapah, NV
BORING US6-NY-B-13
E.A. # 73928
GROUND ELEV. (ft)
HAMMER DROP SYSTEM Automatic

GROUNDWATER LEVEL		
DATE	DEPTH ft	ELEV. ft

STATION
OFFSET
ENGINEER Art Laikram
EQUIPMENT Diedrich D-120
OPERATOR Orlando J Altamirano
DRILLING METHOD 6" H.S.A.
BACKFILLED Yes DATE 10/25/2017

ELEV. (ft)	DEPTH (ft)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT 6 inch Increments	BLOW COUNT Last 1 foot	Percent Recov'd	LAB TESTS	USCS Group	MATERIAL DESCRIPTION	REMARKS
									ASPHALT 5"	Bulk sample collected from 1 to 4 ft.
									AGGREGATE BASE 6"	
	0.92									
									CLAYEY SAND WITH GRAVEL dry to moist, yellowish brown	
	4.0									
		1	SPT	7 8 9	17		W		Medium dense	
	5									
	5.5							SP SC		
	7.0									
		2	SPT	11 13 21	34		W, S, PI		Dense, - %Gravel: 36, %Sand: 53, %Fine: 11	
	8.5									
	10									
	11.0									
		3	SPT	6 10 13	23		W, S, PI	CL	**SANDY LEAN CLAY** Very stiff, moist, gray to olive, with hydrocarbon oder, %Gravel: 1, %Sand: 32, %Fine: 67	
	12.5									
									B.O.H. No groundwater encountered. Backfilled with drill cuttings.	

EXPLORATION LOG

Materials Division
Geotechnical Section
1263 S. Stewart St
Carson City, NV 89712

START DATE 11/1/17
END DATE 11/1/17
JOB DESCRIPTION US95/US6 Roadway and Drainage Improvements
LOCATION Tonapah, NV
BORING US6-NY-B-14
E.A. # 73928
GROUND ELEV. (ft)
HAMMER DROP SYSTEM Automatic

GROUNDWATER LEVEL		
DATE	DEPTH ft	ELEV. ft

STATION
OFFSET
ENGINEER Art Laikram
EQUIPMENT Diedrich D-120
OPERATOR Orlando J Altamirano
DRILLING METHOD 6" H.S.A.
BACKFILLED Yes DATE 11/1/2017

ELEV. (ft)	DEPTH (ft)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT 6 inch Increments	BLOW COUNT Last 1 foot	Percent Recov'd	LAB TESTS	USCS Group	MATERIAL DESCRIPTION	REMARKS
									ASPHALT 5"	
									AGGREGATE BASE 6"	
	0.92									
									SILTY, CLAYEY SAND WITH GRAVEL dry, brown to yellowish brown	Bulk sample collected from 1 to 5 ft.
	4.0									
		1	SPT	7 17 15	32		W, S		Dense, - %Gravel: 19, %Sand: 63, %Fine: 18	
	5									
	5.5									
								SC SM		
	7.0									
		2	SPT	10 12 10	22		W, S		Medium dense, - %Gravel: 31, %Sand: 55, %Fine: 14	
	8.5									
	10									
	11.0									
		3	SPT	8 7 6	13		W, S, PI		- %Gravel: 17, %Sand: 69, %Fine: 14	
	12.5									
	12.50								**B.O.H.** No groundwater encountered. Backfilled with drill cuttings.	

EXPLORATION LOG

Materials Division
Geotechnical Section
1263 S. Stewart St
Carson City, NV 89712

START DATE 11/1/17
END DATE 11/1/17
JOB DESCRIPTION US95/US6 Roadway and Drainage Improvements
LOCATION Tonapah, NV
BORING US6-NY-B-15
E.A. # 73928
GROUND ELEV. (ft)
HAMMER DROP SYSTEM Automatic

GROUNDWATER LEVEL		
DATE	DEPTH ft	ELEV. ft

STATION
OFFSET
ENGINEER Art Laikram
EQUIPMENT Diedrich D-120
OPERATOR Orlando J Altamirano
DRILLING METHOD 6" H.S.A.
BACKFILLED Yes DATE 11/1/2017

ELEV. (ft)	DEPTH (ft)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT 6 inch Increments	BLOW COUNT Last 1 foot	Percent Recov'd	LAB TESTS	USCS Group	MATERIAL DESCRIPTION	REMARKS
									ASPHALT 5"	
									AGGREGATE BASE 6"	
	0.92									
									SILTY, CLAYEY SAND WITH GRAVEL dry, brown to light yellowish brown	Bulk sample collected from 1 to 5 ft.
	4.0									
	5	1	SPT	8 4 3	7		W, S, PI		Loose, - %Gravel: 26, %Sand: 42, %Fine: 32 - turn yellowish brown to light yellowish brown from 4.5 to 12.5 ft.	
	5.5									
								SC SM		
	7.0								Medium dense, - with gravel from 7 to 8.5 ft.	
		2	SPT	3 6 8	14		W			
	8.5									
	10									
	11.0								- %Gravel: 33, %Sand: 50, %Fine: 17	
		3	SPT	13 8 13	21		W, S, PI			
	12.5									
	12.50								**B.O.H.** No groundwater encountered. Backfilled with drill cuttings.	

EXPLORATION LOG

Materials Division
Geotechnical Section
1263 S. Stewart St
Carson City, NV 89712

START DATE 11/1/17
END DATE 11/1/17
JOB DESCRIPTION US95/US6 Roadway and Drainage Improvements
LOCATION Tonapah, NV
BORING US6-NY-B-16
E.A. # 73928
GROUND ELEV. (ft)
HAMMER DROP SYSTEM Automatic

GROUNDWATER LEVEL		
DATE	DEPTH ft	ELEV. ft

STATION
OFFSET
ENGINEER Art Laikram
EQUIPMENT Diedrich D-120
OPERATOR Orlando J Altamirano
DRILLING METHOD 6" H.S.A.
BACKFILLED Yes DATE 11/1/2017

ELEV. (ft)	DEPTH (ft)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT 6 inch Increments	BLOW COUNT Last 1 foot	Percent Recov'd	LAB TESTS	USCS Group	MATERIAL DESCRIPTION	REMARKS
									ASPHALT 5"	
									AGGREGATE BASE 6"	
	0.92									
								SC SM	**SILTY, CLAYEY SAND WITH GRAVEL** dry, brown to light brown	Bulk sample collected from 1 to 5 ft.
	2.00									
								GP	**GRAVEL WITH SAND AND CLAY** dry, yellowish brown to brown	
	3.00									
									GRANITE, light yellowish brown to yellowish brown, completely weathered	Hard drilling (500 psi down pressure) from 3 to 4 ft.
	4.0									
	4.3	1	SPT	50/3"					**GRANITE**, light yellowish brown to yellowish brown, moderately weathered	Very hard drilling (600 psi down pressure with 1 to 2" per minute advancement) from 4 to 5.5 ft.
5										Very hard drilling (600 psi down pressure with 0.5 to 1" per minute advancement) from 6 to 7.5 ft.
	7.0									
	7.2	2	SPT	50/3"						
									7.20	
									B.O.H. No groundwater encountered. Backfilled with drill cuttings.	
10										

EXPLORATION LOG

Materials Division
Geotechnical Section
1263 S. Stewart St
Carson City, NV 89712

START DATE 10/24/17
END DATE 10/24/17
JOB DESCRIPTION US95/US6 Roadway and Drainage Improvements
LOCATION Tonapah, NV
BORING US95-NY-B-1
E.A. # 73928
GROUND ELEV. (ft)
HAMMER DROP SYSTEM Automatic

GROUNDWATER LEVEL		
DATE	DEPTH ft	ELEV. ft

STATION
OFFSET
ENGINEER Art Laikram
EQUIPMENT Diedrich D-120
OPERATOR Orlando J Altamirano
DRILLING METHOD 6" H.S.A.
BACKFILLED Yes DATE 10/24/2017

ELEV. (ft)	DEPTH (ft)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT 6 inch Increments	BLOW COUNT Last 1 foot	Percent Recov'd	LAB TESTS	USCS Group	MATERIAL DESCRIPTION	REMARKS
									ASPHALT 12"	
									AGGREGATE BASE 6"	
	1.50									
									SILTY, CLAYEY SAND WITH GRAVEL dry to moist, yellowish brown to light yellowish brown	Bulk sample collected from 1.5 to 4 ft.
	4.0									
		1	SPT	22 29 33	62			SC SM	Very dense, - %Gravel: 12, %Sand: 66, %Fine: 22	
	5									
	5.5									
	7.0									
		2	SPT	14 12 9	21		W, S, PI		Medium dense, - %Gravel: 12, %Sand: 66, %Fine: 22	
	8.5									
	8.50								**B.O.H.** No groundwater encountered. Backfilled with drill cuttings.	
	10									

EXPLORATION LOG

Materials Division
Geotechnical Section
1263 S. Stewart St
Carson City, NV 89712

START DATE 10/31/17
END DATE 10/31/17
JOB DESCRIPTION US95/US6 Roadway and Drainage Improvements
LOCATION Tonapah, NV
BORING US95-NY-B-2
E.A. # 73928
GROUND ELEV. (ft)
HAMMER DROP SYSTEM Automatic

GROUNDWATER LEVEL		
DATE	DEPTH ft	ELEV. ft

STATION
OFFSET
ENGINEER Art Laikram
EQUIPMENT Diedrich D-120
OPERATOR Orlando J Altamirano
DRILLING METHOD 6" H.S.A.
BACKFILLED Yes DATE 10/31/2017

ELEV. (ft)	DEPTH (ft)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT 6 inch Increments	BLOW COUNT Last 1 foot	Percent Recov'd	LAB TESTS	USCS Group	MATERIAL DESCRIPTION	REMARKS
									ASPHALT 7"	
									AGGREGATE BASE 6"	
									1.08	
								SC SM	**SILTY, CLAYEY SAND WITH GRAVEL** dry, yellowish brown to light yellowish brown	Bulk sample collected from 1 to 5 ft.
									2.50	
									GRANITE, light brownish yellow, completely weathered	Hard drilling (300 psi down pressure) from 2.5 to 3.5 ft.
	4.0									
	4.1	1	SPT	50/1"					**GRANITE**, light brownish yellow, slightly weathered	Very hard drilling (500 psi down pressure with 1" per minute advancement) from 4 to 7 ft.
	5									
	7.0									
	7.2	2	SPT	50/2"					7.20	
									B.O.H. No groundwater encountered. Backfilled with drill cuttings.	
	10									

EXPLORATION LOG

Materials Division
Geotechnical Section
1263 S. Stewart St
Carson City, NV 89712

START DATE 10/31/17
END DATE 10/31/17
JOB DESCRIPTION US95/US6 Roadway and Drainage Improvements
LOCATION Tonapah, NV
BORING US95-NY-B-4
E.A. # 73928
GROUND ELEV. (ft)
HAMMER DROP SYSTEM Automatic

GROUNDWATER LEVEL		
DATE	DEPTH ft	ELEV. ft

STATION
OFFSET
ENGINEER Art Laikram
EQUIPMENT Diedrich D-120
OPERATOR Orlando J Altamirano
DRILLING METHOD 6" H.S.A.
BACKFILLED Yes DATE 10/31/2017

ELEV. (ft)	DEPTH (ft)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT 6 inch Increments	BLOW COUNT Last 1 foot	Percent Recov'd	LAB TESTS	USCS Group	MATERIAL DESCRIPTION	REMARKS
									ASPHALT 6"	
									AGGREGATE BASE 6"	
	1.00									
									SILTY, CLAYEY SAND WITH GRAVEL dry, yellowish brown to light yellowish brown	Bulk sample collected from 1 to 5 ft.
									- gravel layers from 3 to 3.5 ft.	
	4.0									
		1	SPT	8 9 7	16		W, S, PI	SC SM	Medium dense, - %Gravel: 11, %Sand: 58, %Fine: 31	
	5									
	5.5									
	7.0									
		2	SPT	4 5 6	11		W, S		- %Gravel: 9, %Sand: 65, %Fine: 26	
	8.5									
	8.50								**B.O.H.** No groundwater encountered. Backfilled with drill cuttings.	
	10									

EXPLORATION LOG

Materials Division
Geotechnical Section
1263 S. Stewart St
Carson City, NV 89712

START DATE 10/24/17
END DATE 10/24/17
JOB DESCRIPTION US95/US6 Roadway and Drainage Improvements
LOCATION Tonapah, NV
BORING US95-NY-B-5
E.A. # 73928
GROUND ELEV. (ft)
HAMMER DROP SYSTEM Automatic

GROUNDWATER LEVEL		
DATE	DEPTH ft	ELEV. ft

STATION
OFFSET
ENGINEER Art Laikram
EQUIPMENT Diedrich D-120
OPERATOR Orlando J Altamirano
DRILLING METHOD 6" H.S.A.
BACKFILLED Yes DATE 10/24/2017

ELEV. (ft)	DEPTH (ft)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT 6 inch Increments	BLOW COUNT Last 1 foot	Percent Recov'd	LAB TESTS	USCS Group	MATERIAL DESCRIPTION	REMARKS
									ASPHALT 9"	Bulk sample collected from 1.5 to 5 ft. Hard drilling (300 psi down pressure) from 2 to 7 ft.
									AGGREGATE BASE 6"	
	1.25									
								SC SM	**SILTY, CLAYEY SAND WITH GRAVEL** dry, yellowish brown to light yellowish brown	
	2.00								**GRANITE**, light brownish yellow, completely weathered	
									- with cobble from 3 to 3.5 ft.	
	4.0									
	4.3	1	SPT	50/3"						
	5									
	7.0									
	7.1	2	SPT	50/2"						
	7.10								**B.O.H.** No groundwater encountered. Backfilled with drill cuttings.	
	10									

EXPLORATION LOG

Materials Division
Geotechnical Section
1263 S. Stewart St
Carson City, NV 89712

START DATE 10/31/17
END DATE 10/31/17
JOB DESCRIPTION US95/US6 Roadway and Drainage Improvements
LOCATION Tonapah, NV
BORING US95-NY-B-6
E.A. # 73928
GROUND ELEV. (ft)
HAMMER DROP SYSTEM Automatic

GROUNDWATER LEVEL		
DATE	DEPTH ft	ELEV. ft

STATION
OFFSET
ENGINEER Art Laikram
EQUIPMENT Diedrich D-120
OPERATOR Orlando J Altamirano
DRILLING METHOD 6" H.S.A.
BACKFILLED Yes DATE 10/31/2017

ELEV. (ft)	DEPTH (ft)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT 6 inch Increments	BLOW COUNT Last 1 foot	Percent Recov'd	LAB TESTS	USCS Group	MATERIAL DESCRIPTION	REMARKS
									ASPHALT 8"	
									AGGREGATE BASE 6"	
	1.17									
								SC SM	**SILTY, CLAYEY SAND WITH GRAVEL** dry, yellowish brown to light yellowish brown	Bulk sample collected from 1 to 5 ft.
	3.00									
									GRANITE, light brownish yellow, completely weathered	
	4.0									
	4.3	1	SPT	50/3"						Hard drilling (500 psi down pressure) from 4 to 6.5 ft.
5										
	7.0									
	7.3	2	SPT	50/3"						
	7.30									
									B.O.H. No groundwater encountered. Backfilled with drill cuttings.	
10										

EXPLORATION LOG

Materials Division
Geotechnical Section
1263 S. Stewart St
Carson City, NV 89712

START DATE 10/24/17
END DATE 10/24/17
JOB DESCRIPTION US95/US6 Roadway and Drainage Improvements
LOCATION Tonapah, NV
BORING US95-NY-B-7
E.A. # 73928
GROUND ELEV. (ft)
HAMMER DROP SYSTEM Automatic

GROUNDWATER LEVEL		
DATE	DEPTH ft	ELEV. ft

STATION
OFFSET
ENGINEER Art Laikram
EQUIPMENT Diedrich D-120
OPERATOR Orlando J Altamirano
DRILLING METHOD 6" H.S.A.
BACKFILLED Yes DATE 10/24/2017

ELEV. (ft)	DEPTH (ft)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT 6 inch Increments	BLOW COUNT Last 1 foot	Percent Recov'd	LAB TESTS	USCS Group	MATERIAL DESCRIPTION	REMARKS
									ASPHALT 7"	
									AGGREGATE BASE 6"	
	1.08									
									SILTY, CLAYEY SAND WITH GRAVEL dry to moist, yellowish brown to light yellowish brown	Bulk sample collected from 1 to 4 ft.
									- cobble layers from 2 to 2.5 ft.	
	4.0									
		1	SPT	16 11 8	19		W, S, PI	**SC** **SM**	Medium dense, - %Gravel: 12, %Sand: 62, %Fine: 26	
5	5.5									
	7.0									
		2	SPT	2 2 3	5		W, S		Loose, - %Gravel: 8, %Sand: 67, %Fine: 25	
	8.5									
	8.50								**B.O.H.** No groundwater encountered. Backfilled with drill cuttings.	
10										

EXPLORATION LOG

Materials Division
Geotechnical Section
1263 S. Stewart St
Carson City, NV 89712

START DATE 10/31/17
END DATE 10/31/17
JOB DESCRIPTION US95/US6 Roadway and Drainage Improvements
LOCATION Tonapah, NV
BORING US95-NY-B-8
E.A. # 73928
GROUND ELEV. (ft)
HAMMER DROP SYSTEM Automatic

GROUNDWATER LEVEL		
DATE	DEPTH ft	ELEV. ft

STATION
OFFSET
ENGINEER Art Laikram
EQUIPMENT Diedrich D-120
OPERATOR Orlando J Altamirano
DRILLING METHOD 6" H.S.A.
BACKFILLED Yes DATE 10/31/2017

ELEV. (ft)	DEPTH (ft)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT 6 inch Increments	BLOW COUNT Last 1 foot	Percent Recov'd	LAB TESTS	USCS Group	MATERIAL DESCRIPTION	REMARKS
									ASPHALT 6"	
									AGGREGATE BASE 7"	
	1.08									
									SILTY, CLAYEY SAND WITH GRAVEL dry, yellowish brown to light yellowish brown	Bulk sample collected from 1 to 5 ft.
	4.0									
		1	SPT	7 6 5	11		W, S	SC SM	Medium dense, - %Gravel: 14, %Sand: 70, %Fine: 16	
	5									
	5.5									
	7.0									
		2	SPT	6 10 15	25		W, S, PI		- %Gravel: 14, %Sand: 59, %Fine: 27	
	8.5									
	8.50								**B.O.H.** No groundwater encountered. Backfilled with drill cuttings.	
	10									

EXPLORATION LOG

Materials Division
Geotechnical Section
1263 S. Stewart St
Carson City, NV 89712

START DATE 10/24/17
END DATE 10/24/17
JOB DESCRIPTION US95/US6 Roadway and Drainage Improvements
LOCATION Tonapah, NV
BORING US95-NY-B-9
E.A. # 73928
GROUND ELEV. (ft)
HAMMER DROP SYSTEM Automatic

GROUNDWATER LEVEL		
DATE	DEPTH ft	ELEV. ft

STATION
OFFSET
ENGINEER Art Laikram
EQUIPMENT Diedrich D-120
OPERATOR Orlando J Altamirano
DRILLING METHOD 6" H.S.A.
BACKFILLED Yes DATE 10/24/2017

ELEV. (ft)	DEPTH (ft)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT 6 inch Increments	BLOW COUNT Last 1 foot	Percent Recov'd	LAB TESTS	USCS Group	MATERIAL DESCRIPTION	REMARKS
									ASPHALT 6"	
									AGGREGATE BASE 7"	
	1.08									
									SILTY, CLAYEY SAND WITH GRAVEL dry to moist, yellowish brown to light brownish yellow	Bulk sample collected from 1 to 5 ft.
	4.0									
		1	SPT	4 3 5	8		W, S, PI	SC SM	Loose, - %Gravel: 9, %Sand: 61, %Fine: 30	
	5									
	5.5									
	7.0									
		2	SPT	2 3 3	6				- %Gravel: 12, %Sand: 58, %Fine: 30	
	8.5									
	8.50								**B.O.H.** No groundwater encountered. Backfilled with drill cuttings.	
	10									

EXPLORATION LOG

Materials Division
Geotechnical Section
1263 S. Stewart St
Carson City, NV 89712

START DATE 10/23/17
END DATE 10/23/17
JOB DESCRIPTION US95/US6 Roadway and Drainage Improvements
LOCATION Tonapah, NV
BORING US95-NY-B-10
E.A. # 73928
GROUND ELEV. (ft)
HAMMER DROP SYSTEM Automatic

GROUNDWATER LEVEL		
DATE	DEPTH ft	ELEV. ft

STATION
OFFSET
ENGINEER Art Laikram
EQUIPMENT Diedrich D-120
OPERATOR Orlando J Altamirano
DRILLING METHOD 6" H.S.A.
BACKFILLED Yes DATE 10/23/2017

ELEV. (ft)	DEPTH (ft)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT 6 inch Increments	BLOW COUNT Last 1 foot	Percent Recov'd	LAB TESTS	USCS Group	MATERIAL DESCRIPTION	REMARKS
									ASPHALT	
									AGGREGATE BASE	
									1.08	
									SILTY, CLAYEY SAND WITH GRAVEL dry, yellowish brown	Bulk sample collected from 1 to 4 ft.
	4.0									
	5	1	SPT	5 8 17	25		W, S	SC SM	- with cobble from 3.5 to 4 ft. Medium dense, - %Gravel: 40, %Sand: 42, %Fine: 18	Hard drilling (500 psi down pressure) from 3.5 to 4 ft.
	5.5									
	7.0									
		2	SPT	8 8 5	13		W, S, PI		- %Gravel: 9, %Sand: 69, %Fine: 22	
	8.5								8.50	
									B.O.H. No groundwater encountered. Backfilled with drill cuttings.	
	10									

APPENDIX C

Test Result Summary Sheets

Soil Particle Size Distribution Report Sheets (Gradation Curves)

SUMMARY OF RESULTS
N.D.O.T. GEOTECHNICAL SECTION

EA/Cont # 73928 **Job Description** US 95

Boring No. US95-NY-B-1 **Elevation (ft)** **Station** **Date** 11/8/2017

SAMPLE NO.	SAMPLE DEPTH (ft)	SAMP-LER TYPE	N BLOWS per ft.	SOIL GROUP	W%	DRY UW pcf	% PASS #200	LL %	PL %	PI %	STRENGTH TEST					COMMENTS
											TEST TYPE	Φ deg. (Peak)	C psi (Peak)	Φ deg. (Residual)	C psi (Residual)	
1	4.0 - 5.5	SPT			10.0		22.6									
2	7.0 - 8.5	SPT		SC-SM	10.9		22.0	25	20	5						

CMS = California Modified Sampler 2.42" ID
SPT = Standard Penetration 1.38" ID
CS = Continuous Sample 3.23" ID
RC = Rock Core
PB = Pitcher Barrel
CSS = Calif. Split Spoon 2.42" ID
CPT = Cone Penetration Test
TP = Test Pit
P = Pushed, not driven
R = Refusal
Sh = Shelby Tube 2.87" ID

U = Unconfined Compressive
UU = Unconsolidated Undrained
CD = Consolidated Drained
CU = Consolidated Undrained
DS = Direct Shear
Φ = Friction
C = Cohesion
N = No. of blows per ft., sampler

N = Field SPT $N = (N_{css})(0.62)$

H = Hydrometer
S = Sieve
G = Specific Gravity
PI = Plasticity Index
LL = Liquid Limit
PL = Plastic Limit
NP = Non-Plastic
OC = Consolidation
Ch = Chemical
RV = R - Value
MD = Moisture Density

CM = Compaction
E = Swell/Pressure on Expansive Soils
SL = Shrinkage Limit
UW= Unit Weight
W = Moisture Content
K = Permeability
O = Organic Content
D = Dispersive
RQD = Rock Quality Designation
X = X-Ray Defraction
HCpot = Hydro-Collapse Potential

*** = Average of subsamples**

SUMMARY OF RESULTS
N.D.O.T. GEOTECHNICAL SECTION

EA/Cont # 73928 **Job Description** US 95

Boring No. US95-NY-B-4 **Elevation (ft)** **Station** **Date** 11/8/2017

SAMPLE NO.	SAMPLE DEPTH (ft)	SAMP-LER TYPE	N BLOWS per ft.	SOIL GROUP	W%	DRY UW pcf	% PASS #200	LL %	PL %	PI %	STRENGTH TEST					COMMENTS
											TEST TYPE	Φ deg. (Peak)	C psi (Peak)	Φ deg. (Residual)	C psi (Residual)	
1	4.0 - 5.5	SPT		SC	9.2		30.9	35	22	13						
2	7.0 - 8.5	SPT			12.6		25.8									

CMS = California Modified Sampler 2.42" ID
SPT = Standard Penetration 1.38" ID
CS = Continuous Sample 3.23" ID
RC = Rock Core
PB = Pitcher Barrel
CSS = Calif. Split Spoon 2.42" ID
CPT = Cone Penetration Test
TP = Test Pit
P = Pushed, not driven
R = Refusal
Sh = Shelby Tube 2.87" ID

U = Unconfined Compressive
UU = Unconsolidated Undrained
CD = Consolidated Drained
CU = Consolidated Undrained
DS = Direct Shear
Φ = Friction
C = Cohesion
N = No. of blows per ft., sampler

N = Field SPT N = $(N_{CSS})(0.62)$

H = Hydrometer
S = Sieve
G = Specific Gravity
PI = Plasticity Index
LL = Liquid Limit
PL = Plastic Limit
NP = Non-Plastic
OC = Consolidation
Ch = Chemical
RV = R - Value
MD = Moisture Density

CM = Compaction
E = Swell/Pressure on Expansive Soils
SL = Shrinkage Limit
UW= Unit Weight
W = Moisture Content
K = Permeability
O = Organic Content
D = Dispersive
RQD = Rock Quality Designation
X = X-Ray Defraction
HCpot = Hydro-Collapse Potential

*** = Average of subsamples**

SUMMARY OF RESULTS
N.D.O.T. GEOTECHNICAL SECTION

EA/Cont # 73928 **Job Description** US 95

Boring No. US95-NY-B-7 **Elevation (ft)** **Station** **Date** 11/8/2017

SAMPLE NO.	SAMPLE DEPTH (ft)	SAMP-LER TYPE	N BLOWS per ft.	SOIL GROUP	W%	DRY UW pcf	% PASS #200	LL %	PL %	PI %	STRENGTH TEST					COMMENTS
											TEST TYPE	Φ deg. (Peak)	C psi (Peak)	Φ deg. (Residual)	C psi (Residual)	
1	4.0 - 5.5	SPT		SM	9.2		25.9	22	19	3						
2	7.0 - 8.5	SPT			8.6		25.2									

CMS = California Modified Sampler 2.42" ID
SPT = Standard Penetration 1.38" ID
CS = Continuous Sample 3.23" ID
RC = Rock Core
PB = Pitcher Barrel
CSS = Calif. Split Spoon 2.42" ID
CPT = Cone Penetration Test
TP = Test Pit
P = Pushed, not driven
R = Refusal
Sh = Shelby Tube 2.87" ID

U = Unconfined Compressive
UU = Unconsolidated Undrained
CD = Consolidated Drained
CU = Consolidated Undrained
DS = Direct Shear
Φ = Friction
C = Cohesion
N = No. of blows per ft., sampler

N = Field SPT N = $(N_{css})(0.62)$

H = Hydrometer
S = Sieve
G = Specific Gravity
PI = Plasticity Index
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PL = Plastic Limit
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Ch = Chemical
RV = R - Value
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CM = Compaction
E = Swell/Pressure on Expansive Soils
SL = Shrinkage Limit
UW= Unit Weight
W = Moisture Content
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O = Organic Content
D = Dispersive
RQD = Rock Quality Designation
X = X-Ray Defraction
HCpot = Hydro-Collapse Potential

*** = Average of subsamples**

SUMMARY OF RESULTS
N.D.O.T. GEOTECHNICAL SECTION

EA/Cont # 73928 **Job Description** US 95

Boring No. US95-NY-B-8 **Elevation (ft)** **Station** **Date** 11/8/2017

SAMPLE NO.	SAMPLE DEPTH (ft)	SAMP-LER TYPE	N BLOWS per ft.	SOIL GROUP	W%	DRY UW pcf	% PASS #200	LL %	PL %	PI %	STRENGTH TEST					COMMENTS
											TEST TYPE	Φ deg. (Peak)	C psi (Peak)	Φ deg. (Residual)	C psi (Residual)	
1	4.0 - 5.5	SPT			9.2		15.7									
2	7.0 - 8.5	SPT		SC	11.9		27.4	29	18	11						

CMS = California Modified Sampler 2.42" ID
SPT = Standard Penetration 1.38" ID
CS = Continuous Sample 3.23" ID
RC = Rock Core
PB = Pitcher Barrel
CSS = Calif. Split Spoon 2.42" ID
CPT = Cone Penetration Test
TP = Test Pit
P = Pushed, not driven
R = Refusal
Sh = Shelby Tube 2.87" ID

U = Unconfined Compressive
UU = Unconsolidated Undrained
CD = Consolidated Drained
CU = Consolidated Undrained
DS = Direct Shear
Φ = Friction
C = Cohesion
N = No. of blows per ft., sampler

N = Field SPT N = $(N_{css})(0.62)$

H = Hydrometer
S = Sieve
G = Specific Gravity
PI = Plasticity Index
LL = Liquid Limit
PL = Plastic Limit
NP = Non-Plastic
OC = Consolidation
Ch = Chemical
RV = R - Value
MD = Moisture Density

CM = Compaction
E = Swell/Pressure on Expansive Soils
SL = Shrinkage Limit
UW= Unit Weight
W = Moisture Content
K = Permeability
O = Organic Content
D = Dispersive
RQD = Rock Quality Designation
X = X-Ray Defraction
HCpot = Hydro-Collapse Potential

*** = Average of subsamples**

SUMMARY OF RESULTS
N.D.O.T. GEOTECHNICAL SECTION

EA/Cont # 73928 **Job Description** US 95

Boring No. US95-NY-B-9 **Elevation (ft)** **Station** **Date** 11/8/2017

SAMPLE NO.	SAMPLE DEPTH (ft)	SAMP-LER TYPE	N BLOWS per ft.	SOIL GROUP	W%	DRY UW pcf	% PASS #200	LL %	PL %	PI %	STRENGTH TEST					COMMENTS
											TEST TYPE	Φ deg. (Peak)	C psi (Peak)	Φ deg. (Residual)	C psi (Residual)	
1	4.0 - 5.5	SPT		SC-SM	12.6		30.3	28	22	6						
2	7.0 - 8.5	SPT			9.1		30.0									

CMS = California Modified Sampler 2.42" ID
SPT = Standard Penetration 1.38" ID
CS = Continuous Sample 3.23" ID
RC = Rock Core
PB = Pitcher Barrel
CSS = Calif. Split Spoon 2.42" ID
CPT = Cone Penetration Test
TP = Test Pit
P = Pushed, not driven
R = Refusal
Sh = Shelby Tube 2.87" ID

U = Unconfined Compressive
UU = Unconsolidated Undrained
CD = Consolidated Drained
CU = Consolidated Undrained
DS = Direct Shear
Φ = Friction
C = Cohesion
N = No. of blows per ft., sampler

N = Field SPT $N = (N_{css})(0.62)$

H = Hydrometer
S = Sieve
G = Specific Gravity
PI = Plasticity Index
LL = Liquid Limit
PL = Plastic Limit
NP = Non-Plastic
OC = Consolidation
Ch = Chemical
RV = R - Value
MD = Moisture Density

CM = Compaction
E = Swell/Pressure on Expansive Soils
SL = Shrinkage Limit
UW= Unit Weight
W = Moisture Content
K = Permeability
O = Organic Content
D = Dispersive
RQD = Rock Quality Designation
X = X-Ray Defraction
HCpot = Hydro-Collapse Potential

*** = Average of subsamples**

SUMMARY OF RESULTS
N.D.O.T. GEOTECHNICAL SECTION

EA/Cont # 73928 **Job Description** US 95

Boring No. US95-NY-B-10 **Elevation (ft)** **Station** **Date** 11/8/2017

SAMPLE NO.	SAMPLE DEPTH (ft)	SAMP-LER TYPE	N BLOWS per ft.	SOIL GROUP	W%	DRY UW pcf	% PASS #200	LL %	PL %	PI %	STRENGTH TEST					COMMENTS
											TEST TYPE	Φ deg. (Peak)	C psi (Peak)	Φ deg. (Residual)	C psi (Residual)	
1	4.0 - 5.5	SPT			6.8		17.8									
2	7.0 - 8.5	SPT		SM	10.5		21.9	23	20	3						

CMS = California Modified Sampler 2.42" ID
SPT = Standard Penetration 1.38" ID
CS = Continuous Sample 3.23" ID
RC = Rock Core
PB = Pitcher Barrel
CSS = Calif. Split Spoon 2.42" ID
CPT = Cone Penetration Test
TP = Test Pit
P = Pushed, not driven
R = Refusal
Sh = Shelby Tube 2.87" ID

U = Unconfined Compressive
UU = Unconsolidated Undrained
CD = Consolidated Drained
CU = Consolidated Undrained
DS = Direct Shear
Φ = Friction
C = Cohesion
N = No. of blows per ft., sampler

N = Field SPT N = $(N_{css})(0.62)$

H = Hydrometer
S = Sieve
G = Specific Gravity
PI = Plasticity Index
LL = Liquid Limit
PL = Plastic Limit
NP = Non-Plastic
OC = Consolidation
Ch = Chemical
RV = R - Value
MD = Moisture Density

CM = Compaction
E = Swell/Pressure on Expansive Soils
SL = Shrinkage Limit
UW= Unit Weight
W = Moisture Content
K = Permeability
O = Organic Content
D = Dispersive
RQD = Rock Quality Designation
X = X-Ray Defraction
HCpot = Hydro-Collapse Potential

*** = Average of subsamples**

SUMMARY OF RESULTS
N.D.O.T. GEOTECHNICAL SECTION

EA/Cont # 73928 **Job Description** US 6

Boring No. US6-NY-B-1 **Elevation (ft)** **Station** **Date** 11/8/2017

SAMPLE NO.	SAMPLE DEPTH (ft)	SAMP-LER TYPE	N BLOWS per ft.	SOIL GROUP	W%	DRY UW pcf	% PASS #200	LL %	PL %	PI %	STRENGTH TEST					COMMENTS
											TEST TYPE	Φ deg. (Peak)	C psi (Peak)	Φ deg. (Residual)	C psi (Residual)	
1	4.0 - 5.5	SPT		SP-SC	8.4		11.5	37	25	12						
2	7.0 - 8.5	SPT			11.0											
3	11.0 - 12.5	SPT		SC	11.4		32.8	44	21	23						

CMS = California Modified Sampler 2.42" ID
SPT = Standard Penetration 1.38" ID
CS = Continuous Sample 3.23" ID
RC = Rock Core
PB = Pitcher Barrel
CSS = Calif. Split Spoon 2.42" ID
CPT = Cone Penetration Test
TP = Test Pit
P = Pushed, not driven
R = Refusal
Sh = Shelby Tube 2.87" ID

U = Unconfined Compressive
UU = Unconsolidated Undrained
CD = Consolidated Drained
CU = Consolidated Undrained
DS = Direct Shear
Φ = Friction
C = Cohesion
N = No. of blows per ft., sampler

N = Field SPT N = $(N_{css})(0.62)$

H = Hydrometer
S = Sieve
G = Specific Gravity
PI = Plasticity Index
LL = Liquid Limit
PL = Plastic Limit
NP = Non-Plastic
OC = Consolidation
Ch = Chemical
RV = R - Value
MD = Moisture Density

CM = Compaction
E = Swell/Pressure on Expansive Soils
SL = Shrinkage Limit
UW= Unit Weight
W = Moisture Content
K = Permeability
O = Organic Content
D = Dispersive
RQD = Rock Quality Designation
X = X-Ray Defraction
HCpot = Hydro-Collapse Potential

*** = Average of subsamples**

SUMMARY OF RESULTS
N.D.O.T. GEOTECHNICAL SECTION

EA/Cont # 73928 **Job Description** US 6

Boring No. US6-NY-B-5 **Elevation (ft)** **Station** **Date** 11/8/2017

SAMPLE NO.	SAMPLE DEPTH (ft)	SAMP-LER TYPE	N BLOWS per ft.	SOIL GROUP	W%	DRY UW pcf	% PASS #200	LL %	PL %	PI %	STRENGTH TEST					COMMENTS
											TEST TYPE	Φ deg. (Peak)	C psi (Peak)	Φ deg. (Residual)	C psi (Residual)	
1	4.0 - 5.5	SPT		SW-SM	6.0		9.1	22	NP	NP						
2	7.0 - 8.5	SPT			6.2		11.7									
3	11.0 - 12.5	SPT		SC-SM	6.5		13.1	26	19	7						

CMS = California Modified Sampler 2.42" ID
SPT = Standard Penetration 1.38" ID
CS = Continuous Sample 3.23" ID
RC = Rock Core
PB = Pitcher Barrel
CSS = Calif. Split Spoon 2.42" ID
CPT = Cone Penetration Test
TP = Test Pit
P = Pushed, not driven
R = Refusal
Sh = Shelby Tube 2.87" ID

U = Unconfined Compressive
UU = Unconsolidated Undrained
CD = Consolidated Drained
CU = Consolidated Undrained
DS = Direct Shear
Φ = Friction
C = Cohesion
N = No. of blows per ft., sampler

N = Field SPT N = $(N_{css})(0.62)$

H = Hydrometer
S = Sieve
G = Specific Gravity
PI = Plasticity Index
LL = Liquid Limit
PL = Plastic Limit
NP = Non-Plastic
OC = Consolidation
Ch = Chemical
RV = R - Value
MD = Moisture Density

CM = Compaction
E = Swell/Pressure on Expansive Soils
SL = Shrinkage Limit
UW= Unit Weight
W = Moisture Content
K = Permeability
O = Organic Content
D = Dispersive
RQD = Rock Quality Designation
X = X-Ray Defraction
HCpot = Hydro-Collapse Potential

*** = Average of subsamples**

SUMMARY OF RESULTS
N.D.O.T. GEOTECHNICAL SECTION

EA/Cont # 73928 **Job Description** US 6

Boring No. US6-NY-B-6 **Elevation (ft)** **Station** **Date** 11/8/2017

SAMPLE NO.	SAMPLE DEPTH (ft)	SAMP-LER TYPE	N BLOWS per ft.	SOIL GROUP	W%	DRY UW pcf	% PASS #200	LL %	PL %	PI %	STRENGTH TEST					COMMENTS
											TEST TYPE	Φ deg. (Peak)	C psi (Peak)	Φ deg. (Residual)	C psi (Residual)	
1	4.0 - 5.5	SPT			7.3											
2	7.0 - 8.5	SPT		SC-SM	7.7		19.2	23	18	5						
3	11.0 - 12.5	SPT			6.9		18.1									

CMS = California Modified Sampler 2.42" ID
SPT = Standard Penetration 1.38" ID
CS = Continuous Sample 3.23" ID
RC = Rock Core
PB = Pitcher Barrel
CSS = Calif. Split Spoon 2.42" ID
CPT = Cone Penetration Test
TP = Test Pit
P = Pushed, not driven
R = Refusal
Sh = Shelby Tube 2.87" ID

U = Unconfined Compressive
UU = Unconsolidated Undrained
CD = Consolidated Drained
CU = Consolidated Undrained
DS = Direct Shear
Φ = Friction
C = Cohesion
N = No. of blows per ft., sampler

N = Field SPT N = $(N_{css})(0.62)$

H = Hydrometer
S = Sieve
G = Specific Gravity
PI = Plasticity Index
LL = Liquid Limit
PL = Plastic Limit
NP = Non-Plastic
OC = Consolidation
Ch = Chemical
RV = R - Value
MD = Moisture Density

CM = Compaction
E = Swell/Pressure on Expansive Soils
SL = Shrinkage Limit
UW= Unit Weight
W = Moisture Content
K = Permeability
O = Organic Content
D = Dispersive
RQD = Rock Quality Designation
X = X-Ray Defraction
HCpot = Hydro-Collapse Potential

*** = Average of subsamples**

SUMMARY OF RESULTS
N.D.O.T. GEOTECHNICAL SECTION

EA/Cont # 73928 **Job Description** US 6

Boring No. US6-NY-B-7 **Elevation (ft)** **Station** **Date** 11/8/2017

SAMPLE NO.	SAMPLE DEPTH (ft)	SAMP-LER TYPE	N BLOWS per ft.	SOIL GROUP	W%	DRY UW pcf	% PASS #200	LL %	PL %	PI %	STRENGTH TEST					COMMENTS
											TEST TYPE	Φ deg. (Peak)	C psi (Peak)	Φ deg. (Residual)	C psi (Residual)	
1	4.0 - 5.5	SPT		SM	7.7		12.1	23	20	3						
2	7.0 - 8.5	SPT			7.9											
3	11.0 - 12.5	SPT			7.6		9.8									

CMS = California Modified Sampler 2.42" ID
SPT = Standard Penetration 1.38" ID
CS = Continuous Sample 3.23" ID
RC = Rock Core
PB = Pitcher Barrel
CSS = Calif. Split Spoon 2.42" ID
CPT = Cone Penetration Test
TP = Test Pit
P = Pushed, not driven
R = Refusal
Sh = Shelby Tube 2.87" ID

U = Unconfined Compressive
UU = Unconsolidated Undrained
CD = Consolidated Drained
CU = Consolidated Undrained
DS = Direct Shear
Φ = Friction
C = Cohesion
N = No. of blows per ft., sampler

N = Field SPT N = $(N_{css})(0.62)$

H = Hydrometer
S = Sieve
G = Specific Gravity
PI = Plasticity Index
LL = Liquid Limit
PL = Plastic Limit
NP = Non-Plastic
OC = Consolidation
Ch = Chemical
RV = R - Value
MD = Moisture Density

CM = Compaction
E = Swell/Pressure on Expansive Soils
SL = Shrinkage Limit
UW= Unit Weight
W = Moisture Content
K = Permeability
O = Organic Content
D = Dispersive
RQD = Rock Quality Designation
X = X-Ray Defraction
HCpot = Hydro-Collapse Potential

*** = Average of subsamples**

SUMMARY OF RESULTS
N.D.O.T. GEOTECHNICAL SECTION

EA/Cont # 73928 **Job Description** US 6

Boring No. US6-NY-B-8 **Elevation (ft)** **Station** **Date** 11/8/2017

SAMPLE NO.	SAMPLE DEPTH (ft)	SAMP-LER TYPE	N BLOWS per ft.	SOIL GROUP	W%	DRY UW pcf	% PASS #200	LL %	PL %	PI %	STRENGTH TEST					COMMENTS
											TEST TYPE	Φ deg.	C psi	Φ deg.	C psi	
												Peak		Residual		
1	4.0 - 5.5	SPT			7.1		7.4									
2	7.0 - 8.5	SPT		SC-SM	8.8		16.2	23	19	4						
3	11.0 - 12.5	SPT			9.1		17.3									

CMS = California Modified Sampler 2.42" ID
SPT = Standard Penetration 1.38" ID
CS = Continuous Sample 3.23" ID
RC = Rock Core
PB = Pitcher Barrel
CSS = Calif. Split Spoon 2.42" ID
CPT = Cone Penetration Test
TP = Test Pit
P = Pushed, not driven
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U = Unconfined Compressive
UU = Unconsolidated Undrained
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CU = Consolidated Undrained
DS = Direct Shear
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N = No. of blows per ft., sampler

N = Field SPT N = $(N_{css})(0.62)$

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CM = Compaction
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SL = Shrinkage Limit
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W = Moisture Content
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O = Organic Content
D = Dispersive
RQD = Rock Quality Designation
X = X-Ray Defraction
HCpot = Hydro-Collapse Potential

*** = Average of subsamples**

SUMMARY OF RESULTS
N.D.O.T. GEOTECHNICAL SECTION

EA/Cont # 73928 **Job Description** US 6

Boring No. US6-NY-B-9 **Elevation (ft)** **Station** **Date** 11/8/2017

SAMPLE NO.	SAMPLE DEPTH (ft)	SAMP-LER TYPE	N BLOWS per ft.	SOIL GROUP	W%	DRY UW pcf	% PASS #200	LL %	PL %	PI %	STRENGTH TEST					COMMENTS
											TEST TYPE	Φ deg. (Peak)	C psi (Peak)	Φ deg. (Residual)	C psi (Residual)	
1	4.0 - 5.5	SPT			7.7		11.0									
2	7.0 - 8.5	SPT		SP-SM	7.5		11.7	22	19	3						
3	11.0 - 11.5	SPT			8.0											
4	12.0 - 13.0	SPT		SC	12.2		29.1	32	21	11						

CMS = California Modified Sampler 2.42" ID
SPT = Standard Penetration 1.38" ID
CS = Continuous Sample 3.23" ID
RC = Rock Core
PB = Pitcher Barrel
CSS = Calif. Split Spoon 2.42" ID
CPT = Cone Penetration Test
TP = Test Pit
P = Pushed, not driven
R = Refusal
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U = Unconfined Compressive
UU = Unconsolidated Undrained
CD = Consolidated Drained
CU = Consolidated Undrained
DS = Direct Shear
Φ = Friction
C = Cohesion
N = No. of blows per ft., sampler

N = Field SPT $N = (N_{css})(0.62)$

H = Hydrometer
S = Sieve
G = Specific Gravity
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LL = Liquid Limit
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NP = Non-Plastic
OC = Consolidation
Ch = Chemical
RV = R - Value
MD = Moisture Density

CM = Compaction
E = Swell/Pressure on Expansive Soils
SL = Shrinkage Limit
UW= Unit Weight
W = Moisture Content
K = Permeability
O = Organic Content
D = Dispersive
RQD = Rock Quality Designation
X = X-Ray Defraction
HCpot = Hydro-Collapse Potential

*** = Average of subsamples**

SUMMARY OF RESULTS
N.D.O.T. GEOTECHNICAL SECTION

EA/Cont # 73928 **Job Description** US 6

Boring No. US6-NY-11 **Elevation (ft)** **Station** **Date** 11/8/2017

SAMPLE NO.	SAMPLE DEPTH (ft)	SAMP-LER TYPE	N BLOWS per ft.	SOIL GROUP	W%	DRY UW pcf	% PASS #200	LL %	PL %	PI %	STRENGTH TEST					COMMENTS
											TEST TYPE	Φ deg.	C psi	Φ deg.	C psi	
												Peak		Residual		
1	4.0 - 5.5	SPT			6.1		10.1									
2	7.0 - 8.5	SPT		SC	12.4		31.7	31	20	11						
3	11.0 - 12.5	SPT		SC	12.9		42.5	33	15	18						

CMS = California Modified Sampler 2.42" ID
SPT = Standard Penetration 1.38" ID
CS = Continuous Sample 3.23" ID
RC = Rock Core
PB = Pitcher Barrel
CSS = Calif. Split Spoon 2.42" ID
CPT = Cone Penetration Test
TP = Test Pit
P = Pushed, not driven
R = Refusal
Sh = Shelby Tube 2.87" ID

U = Unconfined Compressive
UU = Unconsolidated Undrained
CD = Consolidated Drained
CU = Consolidated Undrained
DS = Direct Shear
Φ = Friction
C = Cohesion
N = No. of blows per ft., sampler

N = Field SPT N = $(N_{css})(0.62)$

H = Hydrometer
S = Sieve
G = Specific Gravity
PI = Plasticity Index
LL = Liquid Limit
PL = Plastic Limit
NP = Non-Plastic
OC = Consolidation
Ch = Chemical
RV = R - Value
MD = Moisture Density

CM = Compaction
E = Swell/Pressure on Expansive Soils
SL = Shrinkage Limit
UW= Unit Weight
W = Moisture Content
K = Permeability
O = Organic Content
D = Dispersive
RQD = Rock Quality Designation
X = X-Ray Defraction
HCpot = Hydro-Collapse Potential

*** = Average of subsamples**

SUMMARY OF RESULTS
N.D.O.T. GEOTECHNICAL SECTION

EA/Cont # 73928 **Job Description** US 6

Boring No. US6-NY-12 **Elevation (ft)** **Station** **Date** 11/8/2017

SAMPLE NO.	SAMPLE DEPTH (ft)	SAMP-LER TYPE	N BLOWS per ft.	SOIL GROUP	W%	DRY UW pcf	% PASS #200	LL %	PL %	PI %	STRENGTH TEST					COMMENTS
											TEST TYPE	Φ deg.	C psi	Φ deg.	C psi	
												Peak		Residual		
1	4.0 - 5.5	SPT		SP-SC	7.8		11.1	28	19	9						
2	7.0 - 8.5	SPT			12.4											
3	11.0 - 12.5	SPT		CL	13.2		53.0	47	18	29						

CMS = California Modified Sampler 2.42" ID
SPT = Standard Penetration 1.38" ID
CS = Continuous Sample 3.23" ID
RC = Rock Core
PB = Pitcher Barrel
CSS = Calif. Split Spoon 2.42" ID
CPT = Cone Penetration Test
TP = Test Pit
P = Pushed, not driven
R = Refusal
Sh = Shelby Tube 2.87" ID

U = Unconfined Compressive
UU = Unconsolidated Undrained
CD = Consolidated Drained
CU = Consolidated Undrained
DS = Direct Shear
Φ = Fri Φ = Friction
C = Cohesion
N = No. of blows per ft., sampler

N = Field SPT N = $(N_{css})(0.62)$

H = Hydrometer
S = Sieve
G = Specific Gravity
PI = Plasticity Index
LL = Liquid Limit
PL = Plastic Limit
NP = Non-Plastic
OC = Consolidation
Ch = Chemical
RV = R - Value
MD = Moisture Density

CM = Compaction
E = Swell/Pressure on Expansive Soils
SL = Shrinkage Limit
UW= Unit Weight
W = Moisture Content
K = Permeability
O = Organic Content
D = Dispersive
RQD = Rock Quality Designation
X = X-Ray Defraction
HCpot = Hydro-Collapse Potential

*** = Average of subsamples**

SUMMARY OF RESULTS
N.D.O.T. GEOTECHNICAL SECTION

EA/Cont # 73928 **Job Description** US 6

Boring No. US6-NY-13 **Elevation (ft)** **Station** **Date** 11/8/2017

SAMPLE NO.	SAMPLE DEPTH (ft)	SAMP-LER TYPE	N BLOWS per ft.	SOIL GROUP	W%	DRY UW pcf	% PASS #200	LL %	PL %	PI %	STRENGTH TEST					COMMENTS
											TEST TYPE	Φ deg.	C psi	Φ deg.	C psi	
												Peak		Residual		
1	4.0 - 5.5	SPT			7.2											
2	7.0 - 8.5	SPT		SP-SC	6.7		10.7	29	17	12						
3	11.0 - 12.5	SPT		CL	18.6		67.3	47	19	28						

CMS = California Modified Sampler 2.42" ID
SPT = Standard Penetration 1.38" ID
CS = Continuous Sample 3.23" ID
RC = Rock Core
PB = Pitcher Barrel
CSS = Calif. Split Spoon 2.42" ID
CPT = Cone Penetration Test
TP = Test Pit
P = Pushed, not driven
R = Refusal
Sh = Shelby Tube 2.87" ID

U = Unconfined Compressive
UU = Unconsolidated Undrained
CD = Consolidated Drained
CU = Consolidated Undrained
DS = Direct Shear
Φ = Friction
C = Cohesion
N = No. of blows per ft., sampler

N = Field SPT $N = (N_{css})(0.62)$

H = Hydrometer
S = Sieve
G = Specific Gravity
PI = Plasticity Index
LL = Liquid Limit
PL = Plastic Limit
NP = Non-Plastic
OC = Consolidation
Ch = Chemical
RV = R - Value
MD = Moisture Density

CM = Compaction
E = Swell/Pressure on Expansive Soils
SL = Shrinkage Limit
UW= Unit Weight
W = Moisture Content
K = Permeability
O = Organic Content
D = Dispersive
RQD = Rock Quality Designation
X = X-Ray Defraction
HCpot = Hydro-Collapse Potential

*** = Average of subsamples**

SUMMARY OF RESULTS
N.D.O.T. GEOTECHNICAL SECTION

EA/Cont # 73928 **Job Description** US 6

Boring No. US6-NY-14 **Elevation (ft)** **Station** **Date** 11/8/2017

SAMPLE NO.	SAMPLE DEPTH (ft)	SAMP-LER TYPE	N BLOWS per ft.	SOIL GROUP	W%	DRY UW pcf	% PASS #200	LL %	PL %	PI %	STRENGTH TEST					COMMENTS
											TEST TYPE	Φ deg.	C psi	Φ deg.	C psi	
												Peak		Residual		
1	4.0 - 5.5	SPT			6.7		18.2									
2	7.0 - 8.5	SPT			5.9		13.7									
3	11.0 - 12.5	SPT		SC-SM	8.3		14.0	24	17	7						

CMS = California Modified Sampler 2.42" ID
SPT = Standard Penetration 1.38" ID
CS = Continuous Sample 3.23" ID
RC = Rock Core
PB = Pitcher Barrel
CSS = Calif. Split Spoon 2.42" ID
CPT = Cone Penetration Test
TP = Test Pit
P = Pushed, not driven
R = Refusal
Sh = Shelby Tube 2.87" ID

U = Unconfined Compressive
UU = Unconsolidated Undrained
CD = Consolidated Drained
CU = Consolidated Undrained
DS = Direct Shear
Φ = Friction
C = Cohesion
N = No. of blows per ft., sampler

N = Field SPT $N = (N_{css})(0.62)$

H = Hydrometer
S = Sieve
G = Specific Gravity
PI = Plasticity Index
LL = Liquid Limit
PL = Plastic Limit
NP = Non-Plastic
OC = Consolidation
Ch = Chemical
RV = R - Value
MD = Moisture Density

CM = Compaction
E = Swell/Pressure on Expansive Soils
SL = Shrinkage Limit
UW= Unit Weight
W = Moisture Content
K = Permeability
O = Organic Content
D = Dispersive
RQD = Rock Quality Designation
X = X-Ray Defraction
HCpot = Hydro-Collapse Potential

*** = Average of subsamples**

SUMMARY OF RESULTS
N.D.O.T. GEOTECHNICAL SECTION

EA/Cont # 73928 **Job Description** US 6

Boring No. US6-NY-15 **Elevation (ft)** **Station** **Date** 11/8/2017

SAMPLE NO.	SAMPLE DEPTH (ft)	SAMP-LER TYPE	N BLOWS per ft.	SOIL GROUP	W%	DRY UW pcf	% PASS #200	LL %	PL %	PI %	STRENGTH TEST					COMMENTS
											TEST TYPE	Φ deg.	C psi	Φ deg.	C psi	
												Peak		Residual		
1	4.0 - 5.5	SPT		SC-SM	8.8		31.6	25	18	7						
2	7.0 - 8.5	SPT			9.5											
3	11.0 - 12.5	SPT		SC-SM	8.4		16.6	25	20	5						

CMS = California Modified Sampler 2.42" ID
SPT = Standard Penetration 1.38" ID
CS = Continuous Sample 3.23" ID
RC = Rock Core
PB = Pitcher Barrel
CSS = Calif. Split Spoon 2.42" ID
CPT = Cone Penetration Test
TP = Test Pit
P = Pushed, not driven
R = Refusal
Sh = Shelby Tube 2.87" ID

U = Unconfined Compressive
UU = Unconsolidated Undrained
CD = Consolidated Drained
CU = Consolidated Undrained
DS = Direct Shear
Φ = Friction
C = Cohesion
N = No. of blows per ft., sampler

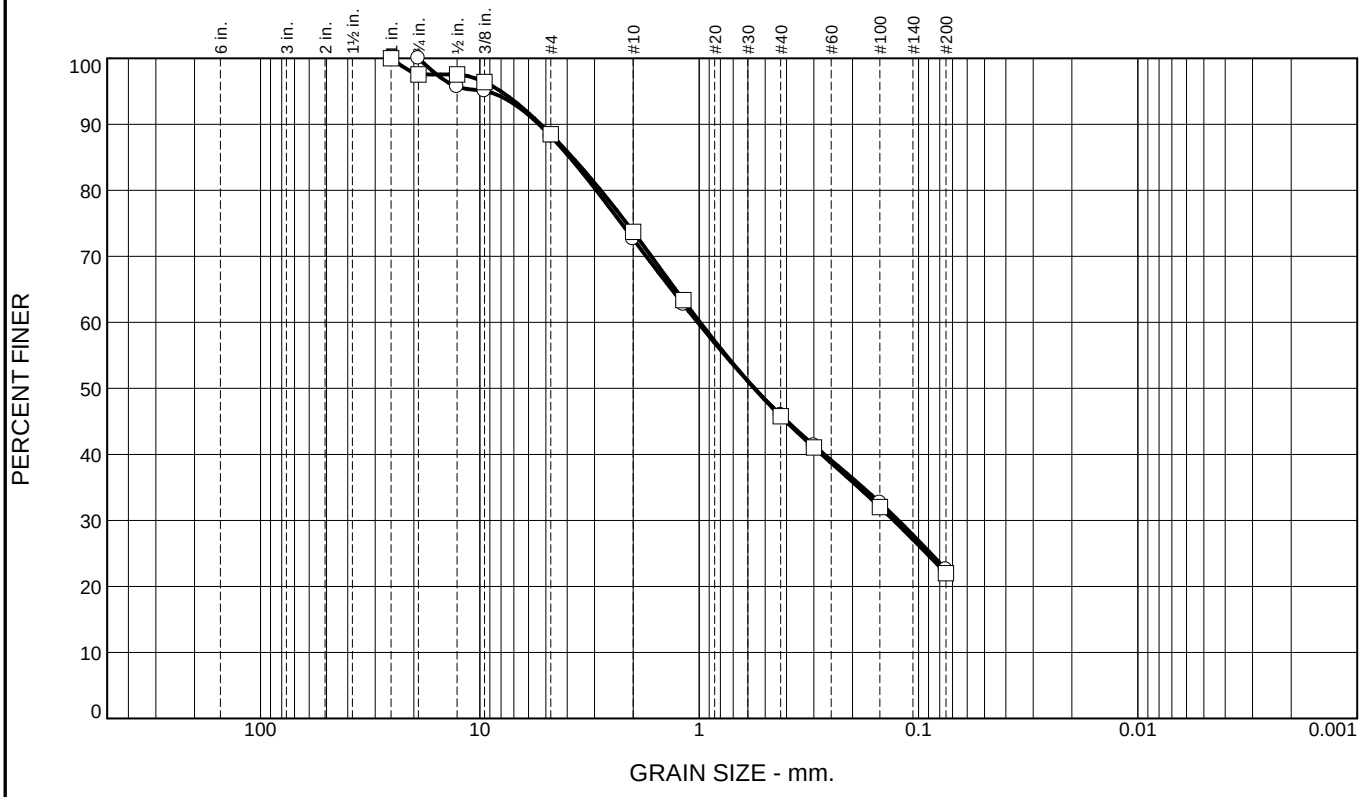
N = Field SPT $N = (N_{css})(0.62)$

H = Hydrometer
S = Sieve
G = Specific Gravity
PI = Plasticity Index
LL = Liquid Limit
PL = Plastic Limit
NP = Non-Plastic
OC = Consolidation
Ch = Chemical
RV = R - Value
MD = Moisture Density

CM = Compaction
E = Swell/Pressure on Expansive Soils
SL = Shrinkage Limit
UW= Unit Weight
W = Moisture Content
K = Permeability
O = Organic Content
D = Dispersive
RQD = Rock Quality Designation
X = X-Ray Defraction
HCpot = Hydro-Collapse Potential

*** = Average of subsamples**

Particle Size Distribution Report



	+3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
○	0.0	11.8	65.6	22.6					
□	0.0	11.5	66.5	22.0		SC-SM	A-1-b	20	25

SIEVE inches size	○	□
1"		100.0
3/4"	100.0	97.6
1/2"	95.7	97.6
3/8"	95.1	96.4
GRAIN SIZE		
D_{60}	1.0153	0.9900
D_{30}	0.1235	0.1297
D_{10}		
COEFFICIENTS		
C_c		
C_u		

SIEVE number size	○	□
#4	88.2	88.5
#10	72.6	73.7
#16	62.7	63.4
#40	46.0	45.8
#50	41.4	41.1
#100	32.7	32.0
#200	22.6	22.0

Material Description

○

□silty, clayey sand

REMARKS:

○

□

○Source of Sample: 95NY-B1 Depth: 4.0' - 5.5' Sample Number: 1

□Source of Sample: 95NY-B1 Depth: 7.0' - 8.5' Sample Number: 2

NEVADA DEPARTMENT OF TRANSPORTATION

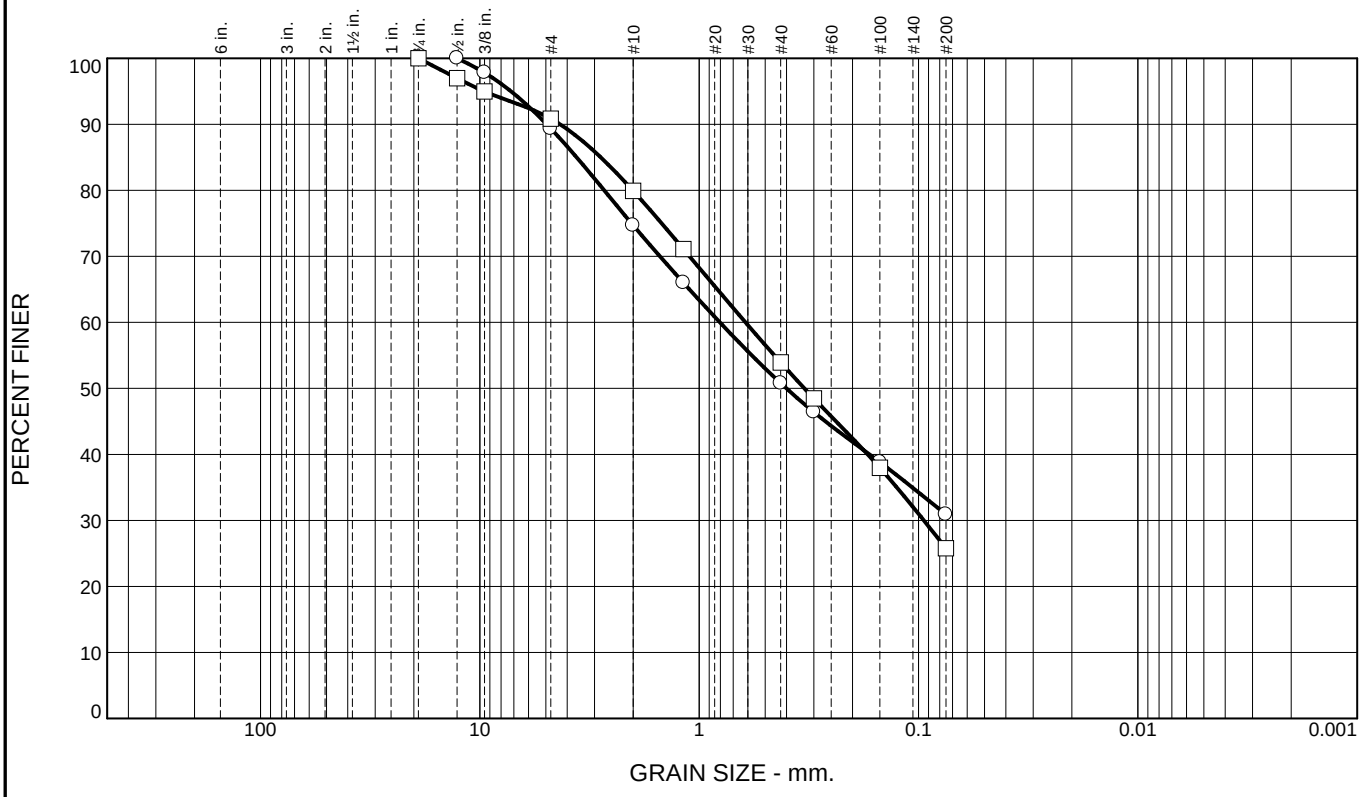
Client: A. Laikram

Project: US 6 / US 95

Project No.: EA 73928

Figure

Particle Size Distribution Report



	+3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
○	0.0	10.6	58.5	30.9		SC	A-2-6(0)	22	35
□	0.0	9.1	65.1	25.8					

SIEVE inches size	○	□
3/4"		100.0
1/2"	100.0	97.0
3/8"	97.8	95.0
GRAIN SIZE		
D_{60}	0.8047	0.6149
D_{30}		0.0946
D_{10}		
COEFFICIENTS		
C_c		
C_u		

SIEVE number size	○	□
#4	89.4	90.9
#10	74.7	79.9
#16	66.0	71.1
#40	50.8	53.9
#50	46.4	48.5
#100	38.8	38.0
#200	30.9	25.8

Material Description

○ clayey sand

□

REMARKS:

○

□

○ Source of Sample: 95NY-B4 Depth: 4.0' - 5.5' Sample Number: 1

□ Source of Sample: 95NY-B4 Depth: 7.0' - 8.5' Sample Number: 2

NEVADA DEPARTMENT OF TRANSPORTATION

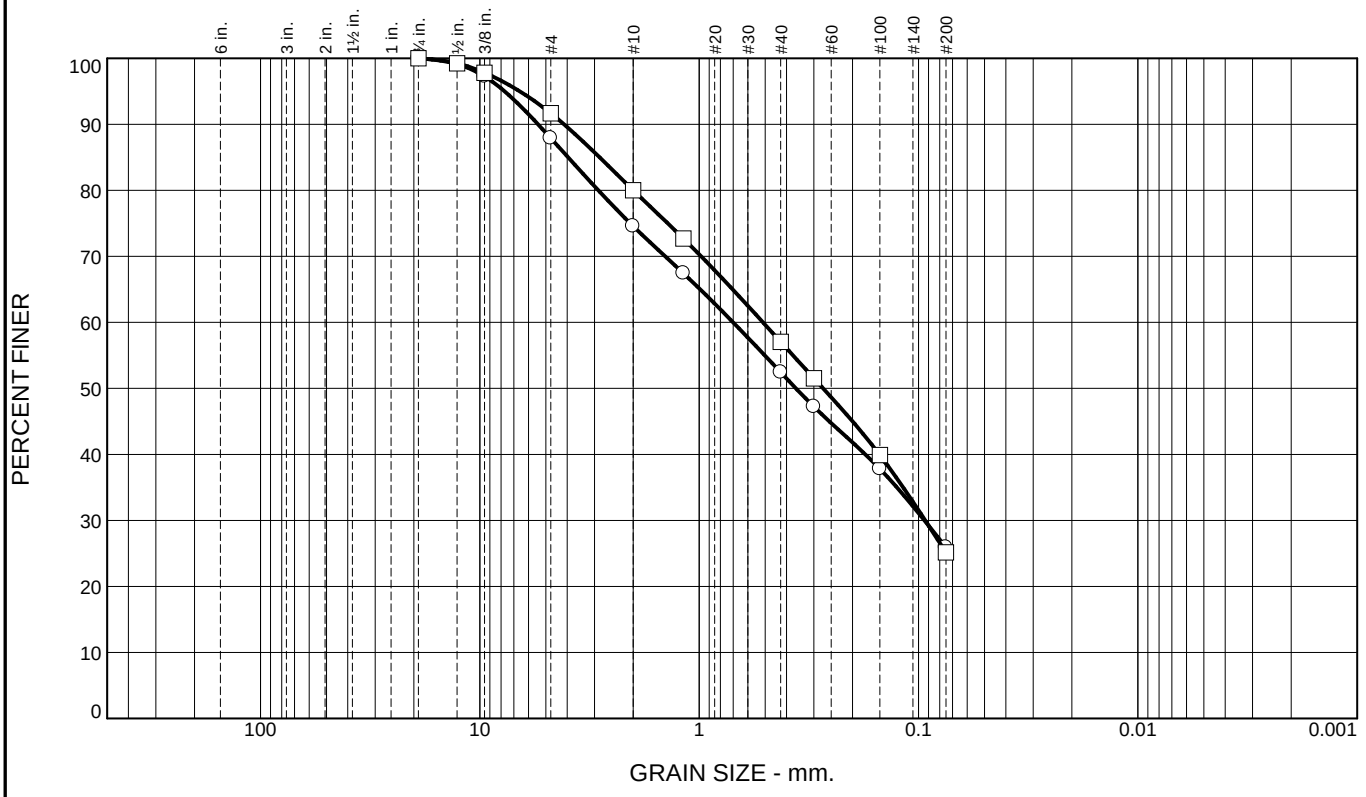
Client: A. Laikram

Project: US 6 / US 95

Project No.: EA 73928

Figure

Particle Size Distribution Report



	+3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
○	0.0	12.1	62.0	25.9		SM	A-2-4(0)	19	22
□	0.0	8.3	66.5	25.2					

SIEVE inches size	○	□
3/4"	100.0	100.0
1/2"	99.1	99.2
3/8"	97.3	97.8
GRAIN SIZE		
D_{60}	0.7005	0.5118
D_{30}	0.0939	0.0932
D_{10}		
COEFFICIENTS		
C_c		
C_u		

SIEVE number size	○	□
#4	87.9	91.7
#10	74.6	80.0
#16	67.4	72.7
#40	52.4	57.1
#50	47.2	51.5
#100	37.8	39.9
#200	25.9	25.2

Material Description
○ silty sand

□

REMARKS:
○

□

○ Source of Sample: 95NY-B7 Depth: 4.0' - 5.5' Sample Number: 1

□ Source of Sample: 95NY-B7 Depth: 7.0' - 8.5' Sample Number: 2

NEVADA DEPARTMENT OF TRANSPORTATION

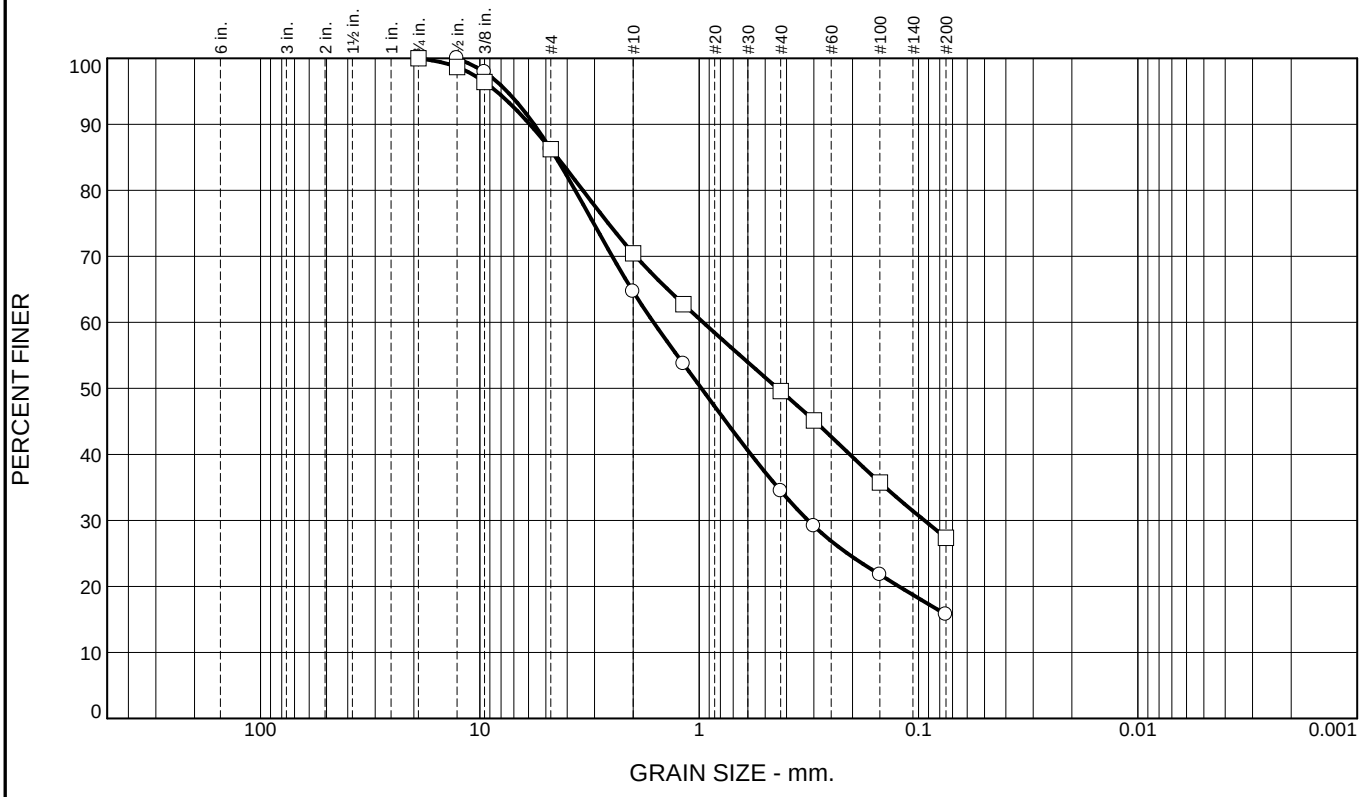
Client: A. Laikram

Project: US 6 / US 95

Project No.: EA 73928

Figure

Particle Size Distribution Report



	+3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
○	0.0	13.8	70.5	15.7					
□	0.0	13.8	58.8	27.4		SC	A-2-6(0)	18	29

SIEVE inches size	○	□
3/4"		100.0
1/2"	100.0	98.7
3/8"	97.9	96.4
GRAIN SIZE		
D_{60}	1.6147	0.9593
D_{30}	0.3191	0.0940
D_{10}		
COEFFICIENTS		
C_c		
C_u		

SIEVE number size	○	□
#4	86.2	86.2
#10	64.7	70.5
#16	53.7	62.8
#40	34.5	49.6
#50	29.1	45.1
#100	21.8	35.7
#200	15.7	27.4

Material Description

○

□clayey sand

REMARKS:

○

□

○Source of Sample: 95NY-B8 Depth: 4.0' - 5.5' Sample Number: 1

□Source of Sample: 95NY-B8 Depth: 7.0' - 8.5' Sample Number: 2

NEVADA DEPARTMENT OF TRANSPORTATION

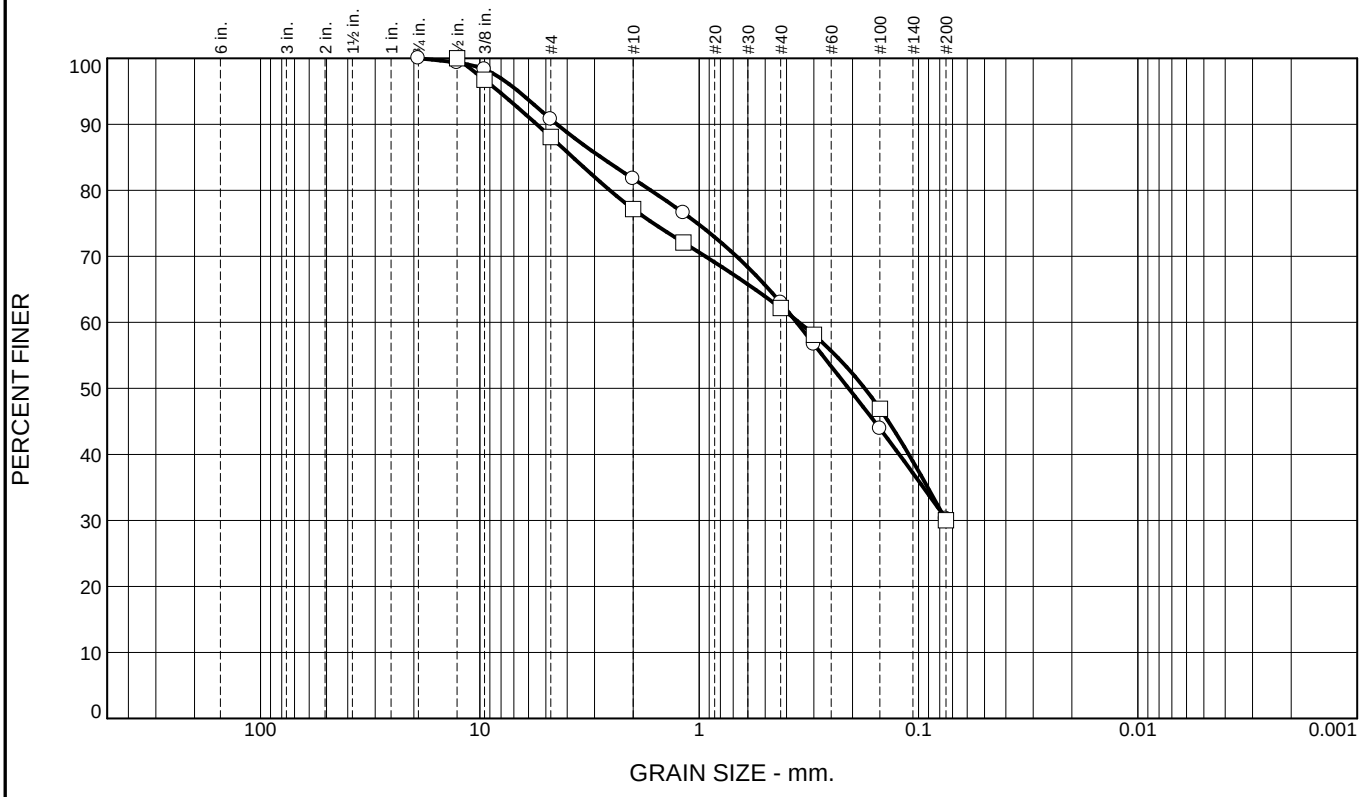
Client: A. Laikram

Project: US 6 / US 95

Project No.: EA 73928

Figure

Particle Size Distribution Report



	+3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
○	0.0	9.2	60.5	30.3		SC-SM	A-2-4(0)	22	28
□	0.0	11.9	58.1	30.0					

SIEVE inches size	PERCENT FINER ○	PERCENT FINER □
3/4"	100.0	
1/2"	99.3	100.0
3/8"	98.3	96.8
GRAIN SIZE		
D_{60}	0.3595	0.3502
D_{30}		
D_{10}		
COEFFICIENTS		
C_c		
C_u		

SIEVE number size	PERCENT FINER ○	PERCENT FINER □
#4	90.8	88.1
#10	81.8	77.2
#16	76.6	72.1
#40	63.0	62.2
#50	56.7	58.1
#100	43.9	46.9
#200	30.3	30.0

Material Description
○ silty, clayey sand

□

REMARKS:
○

□

○ Source of Sample: 95NY-B9 Depth: 4.0' - 5.5' Sample Number: 1

□ Source of Sample: 95NY-B9 Depth: 7.0' - 8.5' Sample Number: 2

NEVADA DEPARTMENT OF TRANSPORTATION

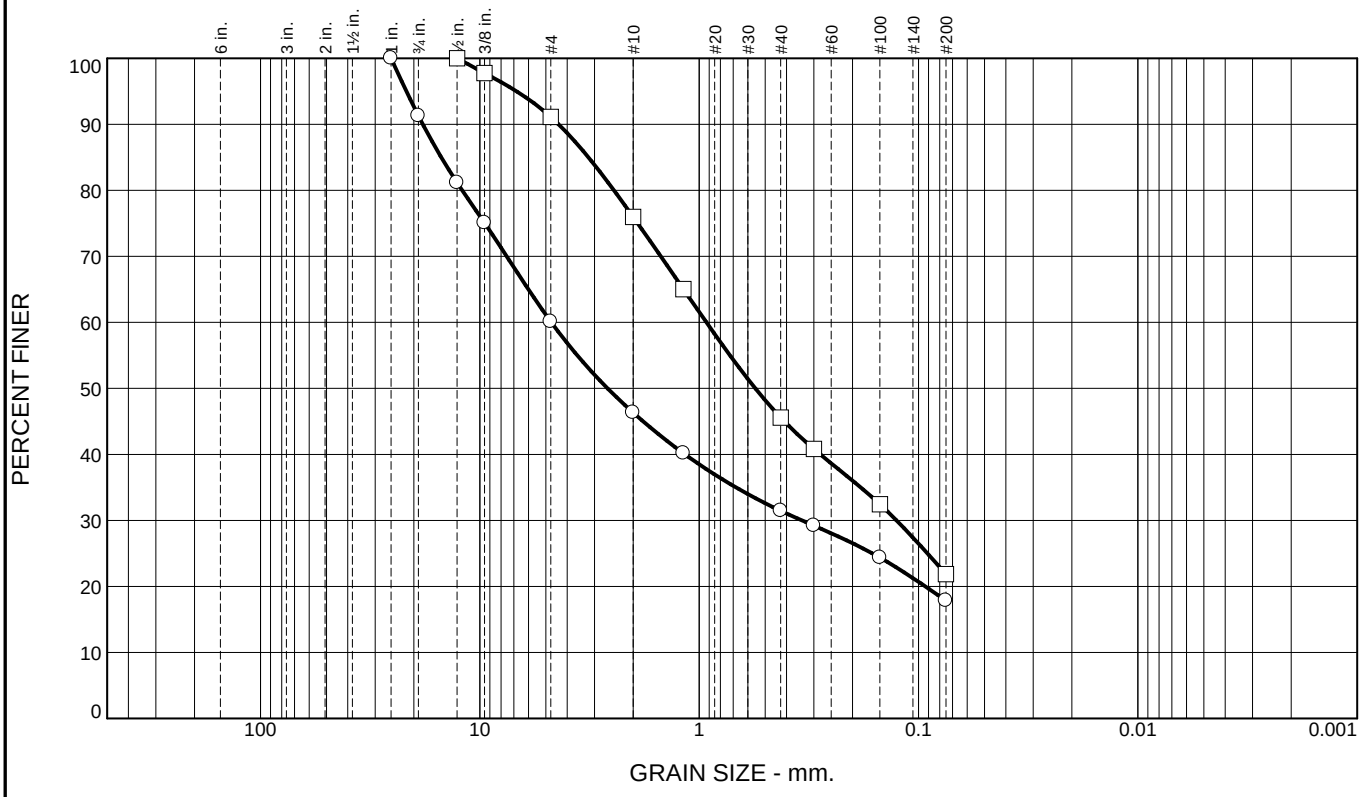
Client: A. Laikram

Project: US 6 / US 95

Project No.: EA 73928

Figure

Particle Size Distribution Report



	+3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
○	0.0	39.9	42.3	17.8					
□	0.0	8.9	69.2	21.9		SM	A-1-b	20	23

SIEVE inches size	○	□
1"	100.0	
3/4"	91.3	
1/2"	81.2	100.0
3/8"	75.1	97.8
GRAIN SIZE		
D_{60}	4.7220	0.9268
D_{30}	0.3399	0.1260
D_{10}		
COEFFICIENTS		
C_c		
C_u		

SIEVE number size	○	□
#4	60.1	91.1
#10	46.3	76.0
#16	40.2	65.0
#40	31.5	45.6
#50	29.2	40.8
#100	24.4	32.4
#200	17.8	21.9

Material Description

○

□silty sand

REMARKS:

○

□

○Source of Sample: 95NY-B10 Depth: 4.0' - 5.5' Sample Number: 1

□Source of Sample: 95NY-B10 Depth: 7.0' - 8.5' Sample Number: 2

NEVADA DEPARTMENT OF TRANSPORTATION

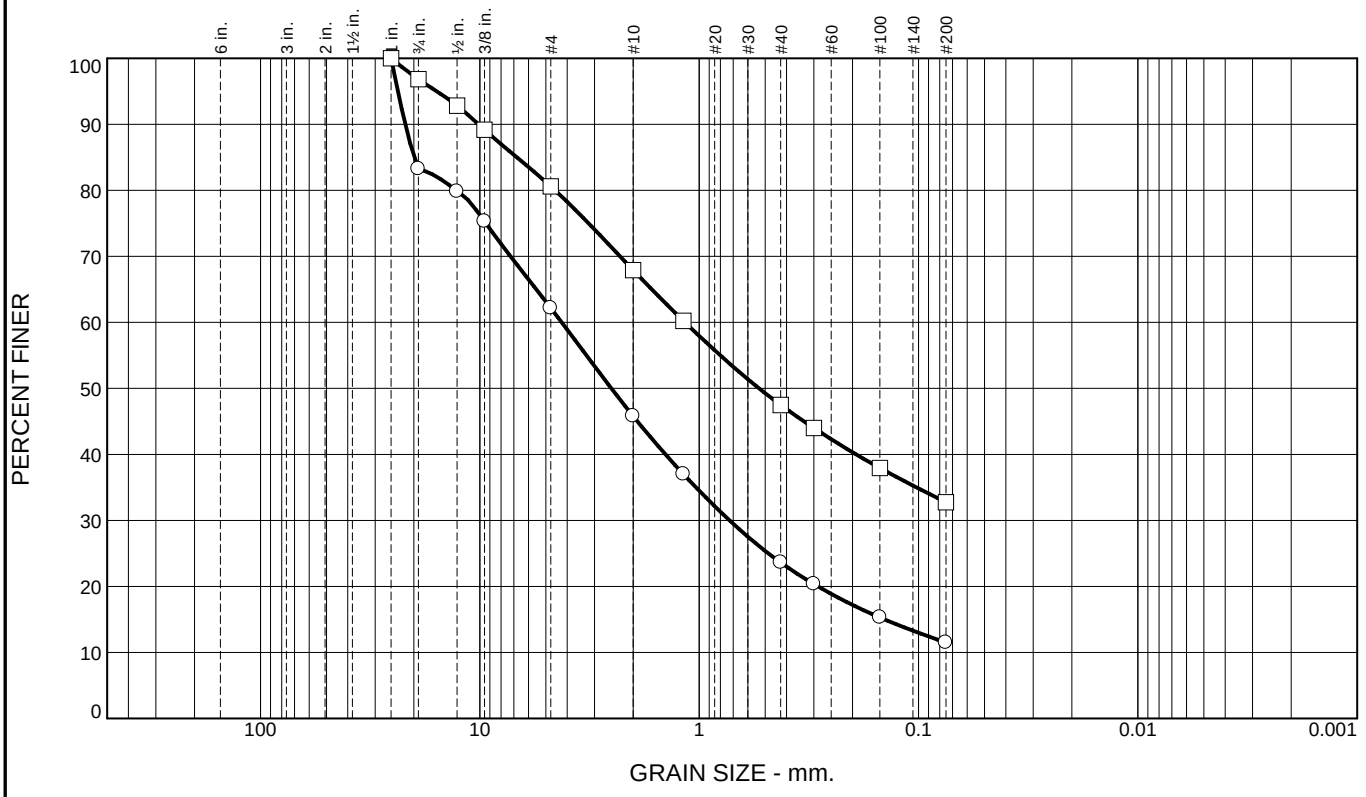
Client: A. Laikram

Project: US 6 / US 95

Project No.: EA 73928

Figure

Particle Size Distribution Report



	+3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
○	0.0	37.8	50.7	11.5		SP-SC	A-2-6(0)	25	37
□	0.0	19.4	47.8	32.8		SC	A-2-7(2)	21	44

SIEVE inches size	○ PERCENT FINER	□ PERCENT FINER
1"	100.0	100.0
3/4"	83.3	96.8
1/2"	79.8	92.8
3/8"	75.3	89.2
GRAIN SIZE		
D_{60}	4.2355	1.1607
D_{30}	0.7269	
D_{10}		
COEFFICIENTS		
C_c		
C_u		

SIEVE number size	○ PERCENT FINER	□ PERCENT FINER
#4	62.2	80.6
#10	45.8	67.9
#16	37.0	60.2
#40	23.6	47.5
#50	20.4	44.0
#100	15.3	37.9
#200	11.5	32.8

Material Description

○ poorly graded sand with clay and gravel

□ clayey sand with gravel

REMARKS:

○

□

○ Source of Sample: 6NY-B1 Depth: 4.0' - 5.5' Sample Number: 1

□ Source of Sample: 6NY-B1 Depth: 11.0' - 12.5 Sample Number: 3

NEVADA DEPARTMENT OF TRANSPORTATION

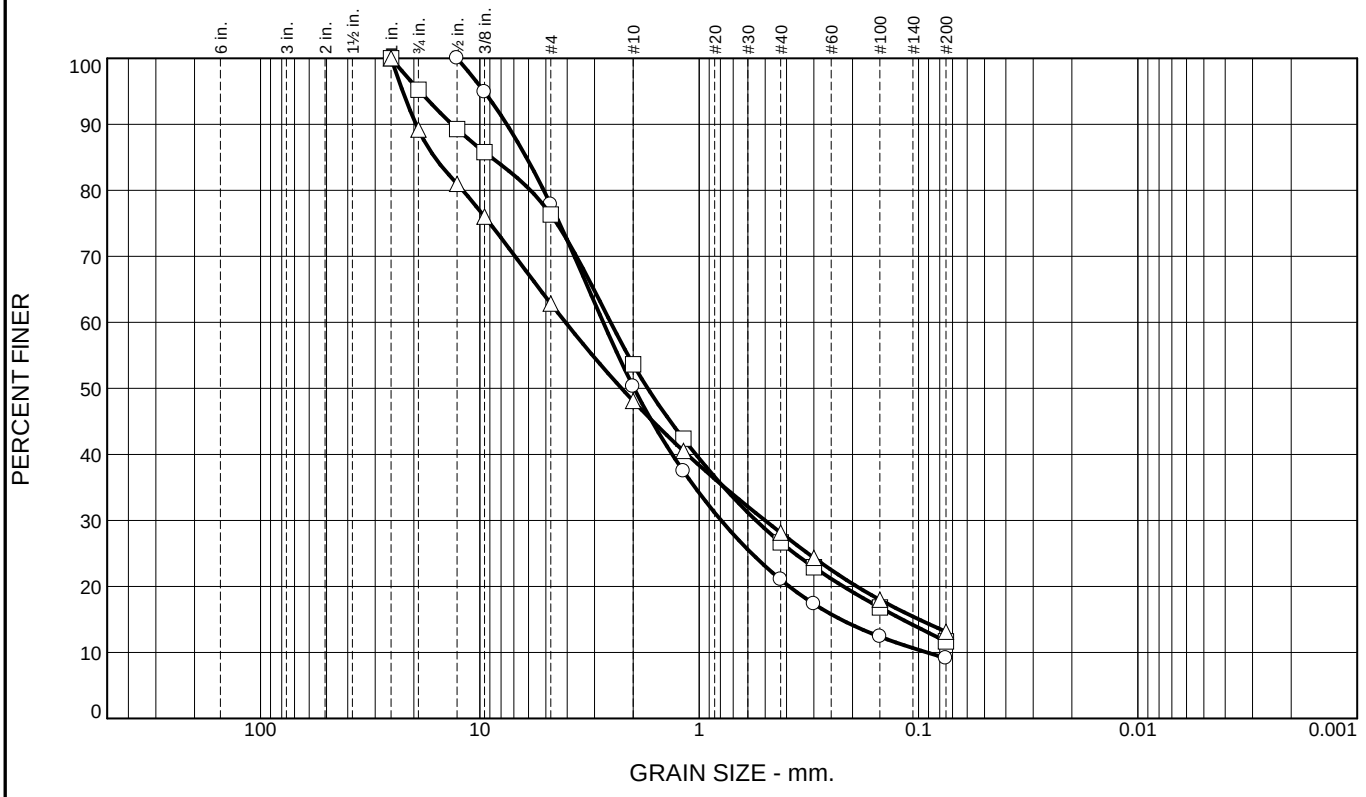
Client: A. Laikram

Project: US 6 / US 95

Project No.: EA 73928

Figure

Particle Size Distribution Report



	+3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
○	0.0	22.2	68.7	9.1		SW-SM	A-1-a	NP	22
□	0.0	23.7	64.6	11.7					
△	0.0	37.2	49.7	13.1		SC-SM	A-2-4(0)	19	26

SIEVE inches size	PERCENT FINER ○	□	△
1"		100.0	100.0
3/4"		95.2	89.2
1/2"	100.0	89.3	81.0
3/8"	94.9	85.8	76.0
	GRAIN SIZE		
D_{60}	2.7376	2.5327	4.0688
D_{30}	0.7944	0.5510	0.5008
D_{10}	0.0915		
	COEFFICIENTS		
C_c	2.52		
C_u	29.91		

SIEVE number size	PERCENT FINER ○	□	△
#4	77.8	76.3	62.8
#10	50.3	53.6	48.1
#16	37.5	42.4	40.5
#40	21.0	26.7	28.1
#50	17.4	22.9	24.3
#100	12.4	16.8	18.0
#200	9.1	11.7	13.1

Material Description

○ well-graded sand with silt and gravel

□

△ silty, clayey sand with gravel

REMARKS:

○

□

△

○ Source of Sample: 6NY-B5 Depth: 4.0' - 5.5' Sample Number: 1

□ Source of Sample: 6NY-B5 Depth: 7.0' - 8.5' Sample Number: 2

△ Source of Sample: 6NY-B5 Depth: 11.0' - 12.5' Sample Number: 3

NEVADA DEPARTMENT OF TRANSPORTATION

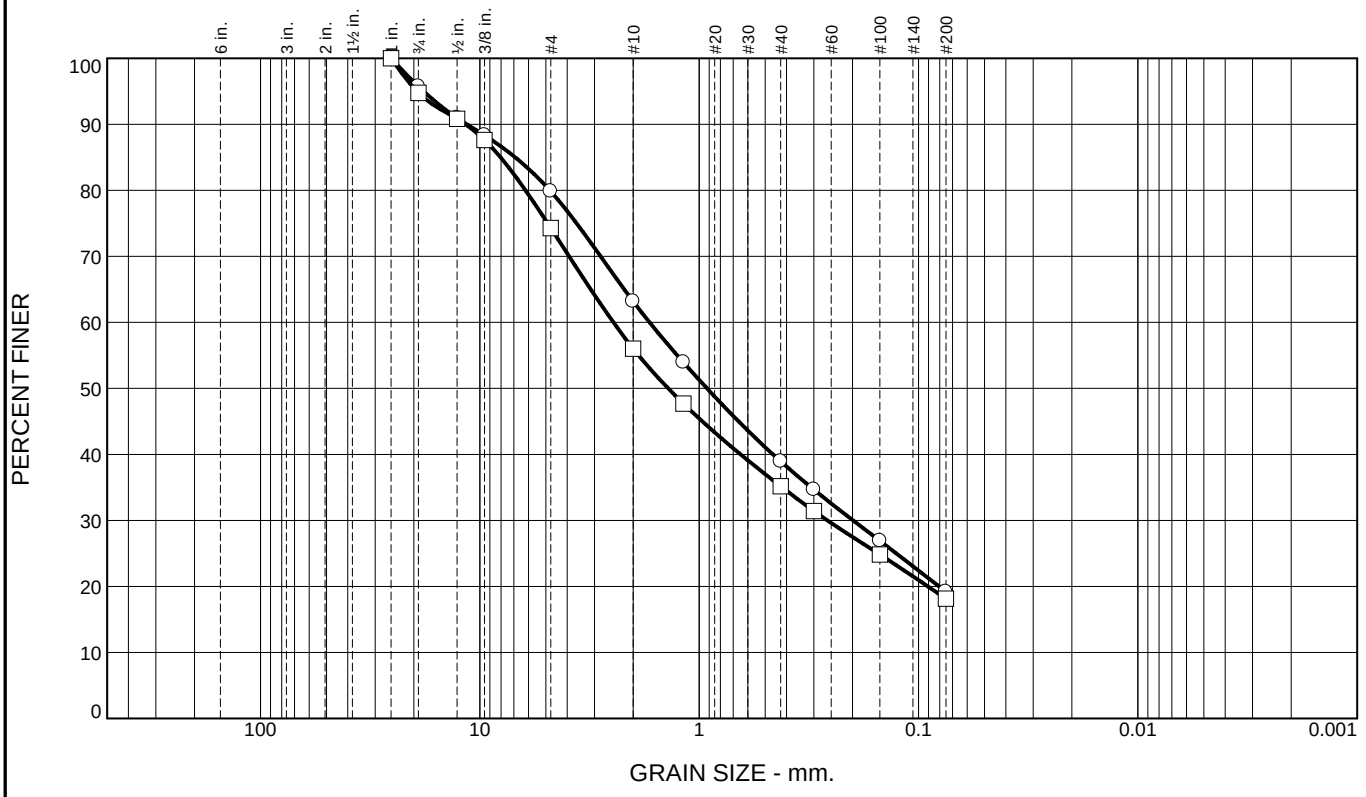
Client: A. Laikram

Project: US 6 / US 95

Project No.: EA 73928

Figure

Particle Size Distribution Report



	+3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
○	0.0	20.2	60.6	19.2		SC-SM	A-1-b	18	23
□	0.0	25.7	56.2	18.1					

SIEVE inches size	○	□
1"	100.0	100.0
3/4"	95.7	94.8
1/2"	91.0	90.8
3/8"	88.3	87.6
GRAIN SIZE		
D_{60}	1.6841	2.4604
D_{30}	0.1987	0.2603
D_{10}		
COEFFICIENTS		
C_c		
C_u		

SIEVE number size	○	□
#4	79.8	74.3
#10	63.2	56.0
#16	53.9	47.7
#40	38.9	35.2
#50	34.7	31.4
#100	26.9	24.8
#200	19.2	18.1

Material Description

○ silty, clayey sand with gravel

□

REMARKS:

○

□

○ Source of Sample: 6NY-B6 Depth: 7.0' - 8.5' Sample Number: 2

□ Source of Sample: 6NY-B6 Depth: 11.0' - 12.5' Sample Number: 3

NEVADA DEPARTMENT OF TRANSPORTATION

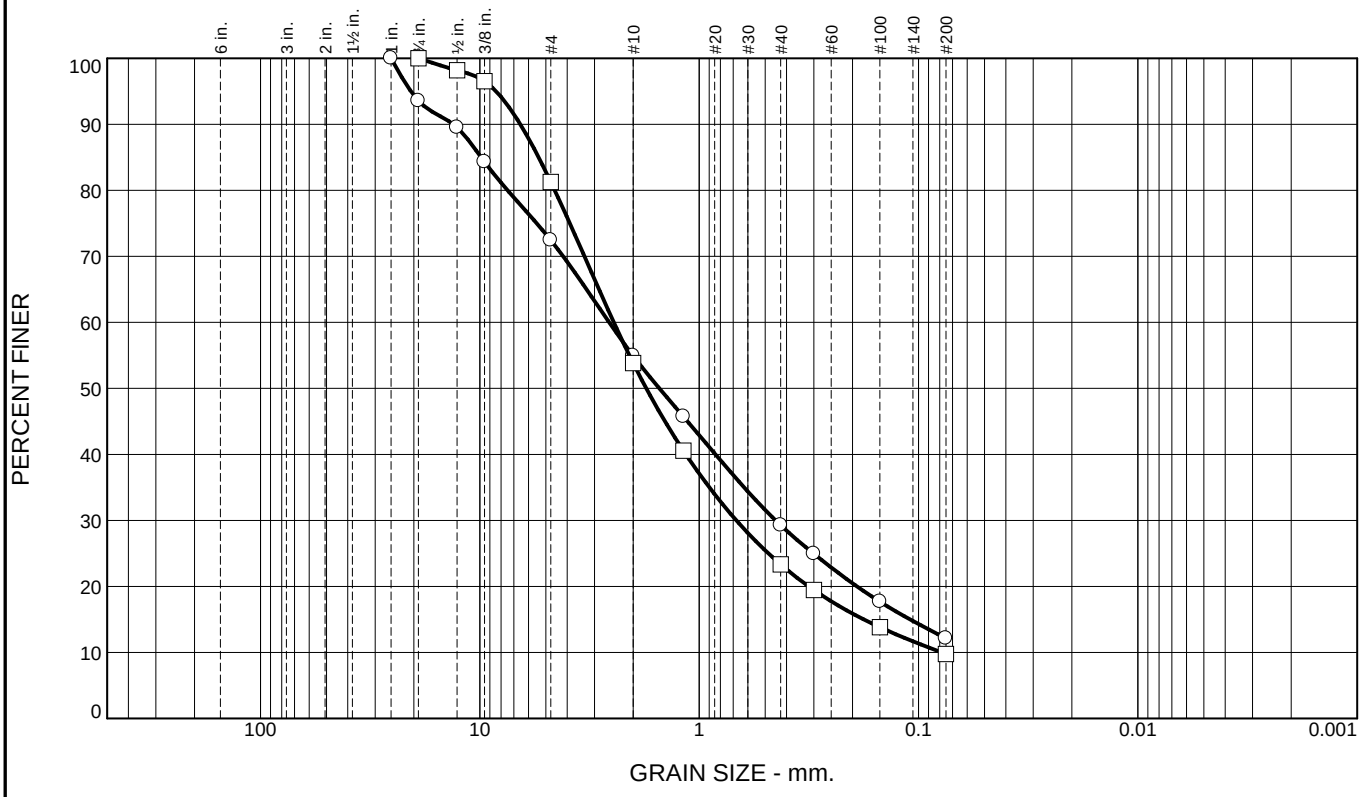
Client: A. Laikram

Project: US 6 / US 95

Project No.: EA 73928

Figure

Particle Size Distribution Report



	+3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
○	0.0	27.5	60.4	12.1		SM	A-1-b	20	23
□	0.0	18.7	71.5	9.8					

SIEVE inches size	○	□
1"	100.0	
3/4"	93.6	100.0
1/2"	89.5	98.2
3/8"	84.3	96.5
GRAIN SIZE		
D_{60}	2.5730	2.4508
D_{30}	0.4482	0.6768
D_{10}		0.0784
COEFFICIENTS		
C_c		2.39
C_u		31.27

SIEVE number size	○	□
#4	72.5	81.3
#10	54.9	53.8
#16	45.7	40.6
#40	29.3	23.3
#50	24.9	19.5
#100	17.7	13.8
#200	12.1	9.8

Material Description

○ silty sand with gravel

□

REMARKS:

○

□

○ Source of Sample: 6NY-B7 Depth: 4.0' - 5.5' Sample Number: 1

□ Source of Sample: 6NY-B7 Depth: 11.0' - 12.5' Sample Number: 3

NEVADA DEPARTMENT OF TRANSPORTATION

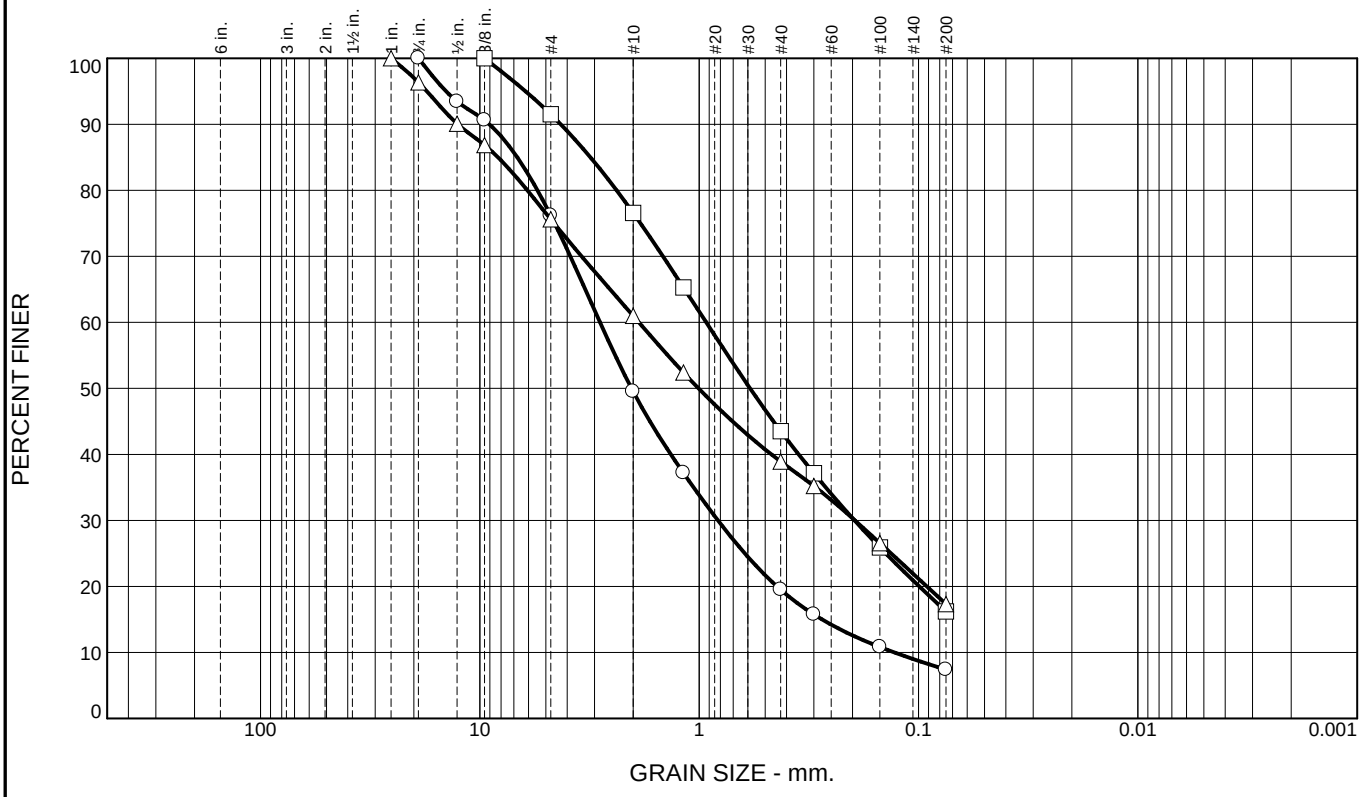
Client: A. Laikram

Project: US 6 / US 95

Project No.: EA 73928

Figure

Particle Size Distribution Report



	+3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
○	0.0	23.8	68.8	7.4					
□	0.0	8.5	75.3	16.2		SC-SM	A-1-b	19	23
△	0.0	24.4	58.3	17.3					

SIEVE inches size	PERCENT FINER ○	□	△
1"			100.0
3/4"	100.0		96.4
1/2"	93.4		90.1
3/8"	90.6	100.0	86.9
	GRAIN SIZE		
D_{60}	2.8318	0.9293	1.8843
D_{30}	0.8212	0.1957	0.1950
D_{10}	0.1288		
	COEFFICIENTS		
C_c	1.85		
C_u	21.99		

SIEVE number size	PERCENT FINER ○	□	△
#4	76.2	91.5	75.6
#10	49.5	76.6	61.0
#16	37.2	65.3	52.4
#40	19.5	43.5	38.9
#50	15.8	37.1	35.2
#100	10.8	25.9	26.6
#200	7.4	16.2	17.3

Material Description

○

□silty, clayey sand

△

REMARKS:

○

□

△

○Source of Sample: 6NY-B8 Depth: 4.0' - 5.5' Sample Number: 1

□Source of Sample: 6NY-B8 Depth: 7.0' - 8.5 Sample Number: 2

△Source of Sample: 6NY-B8 Depth: 11.0' - 12.5 Sample Number: 3

NEVADA DEPARTMENT OF TRANSPORTATION

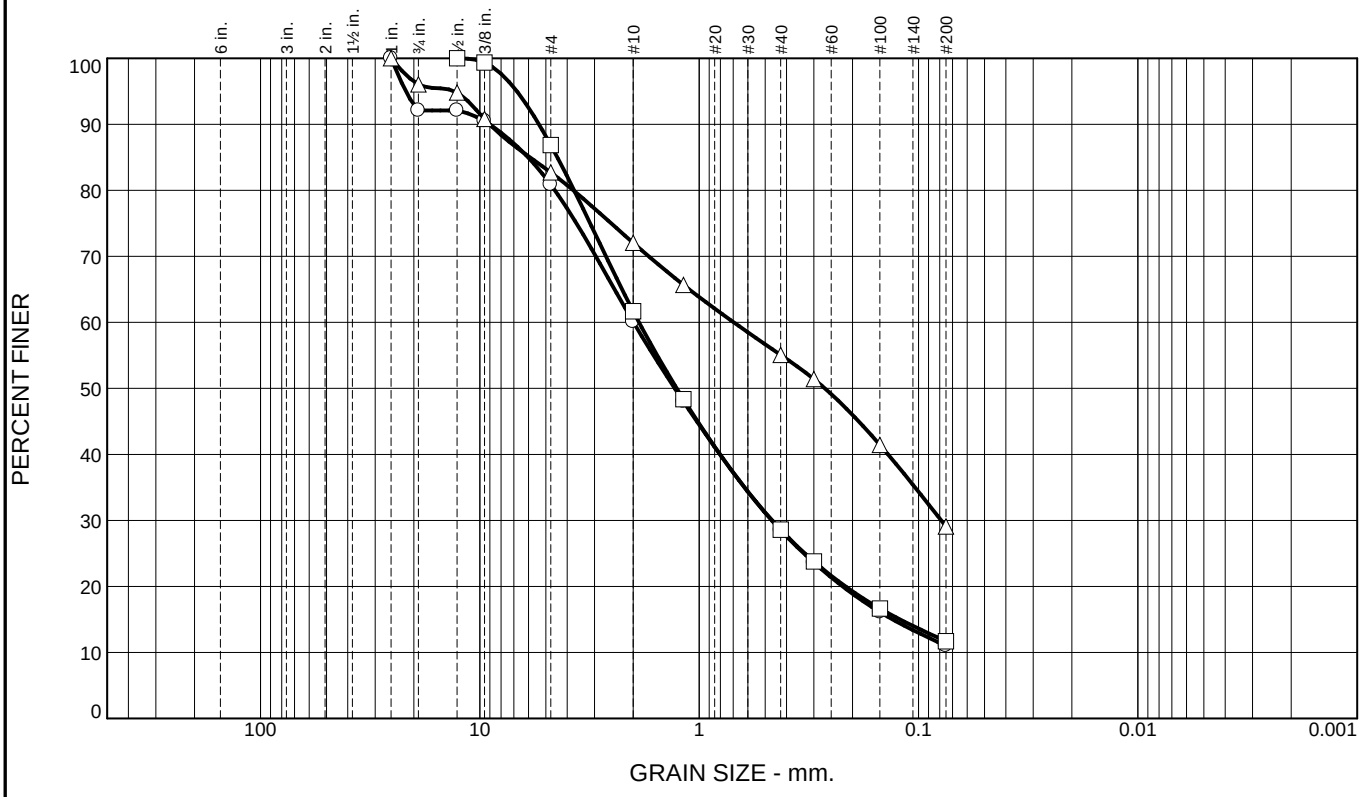
Client: A. Laikram

Project: US 6 / US 95

Project No.: EA 73928

Figure

Particle Size Distribution Report



	+3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
○	0.0	19.1	69.9	11.0					
□	0.0	13.1	75.2	11.7		SP-SM	A-1-b	19	22
△	0.0	17.3	53.6	29.1		SC	A-2-6(0)	21	32

SIEVE inches size	PERCENT FINER ○	□	△
1"	100.0		100.0
3/4"	92.1		96.0
1/2"	92.1	100.0	94.8
3/8"	90.5	99.4	90.8
	GRAIN SIZE		
D_{60}	1.9926	1.8814	0.6956
D_{30}	0.4669	0.4648	0.0788
D_{10}			
	COEFFICIENTS		
C_c			
C_u			

SIEVE number size	PERCENT FINER ○	□	△
#4	80.9	86.9	82.7
#10	60.1	61.7	72.0
#16	48.0	48.4	65.7
#40	28.5	28.6	55.1
#50	23.6	23.8	51.4
#100	16.1	16.7	41.4
#200	11.0	11.7	29.1

Material Description

○

□poorly graded sand with silt

△clayey sand with gravel

REMARKS:

○

□

△

○Source of Sample: 6NY-B9 Depth: 4.0' - 5.5' Sample Number: 1

□Source of Sample: 6NY-B9 Depth: 7.0' - 8.5' Sample Number: 2

△Source of Sample: 6NY-B9 Depth: 12.0' - 13.0' Sample Number: 4

NEVADA DEPARTMENT OF TRANSPORTATION

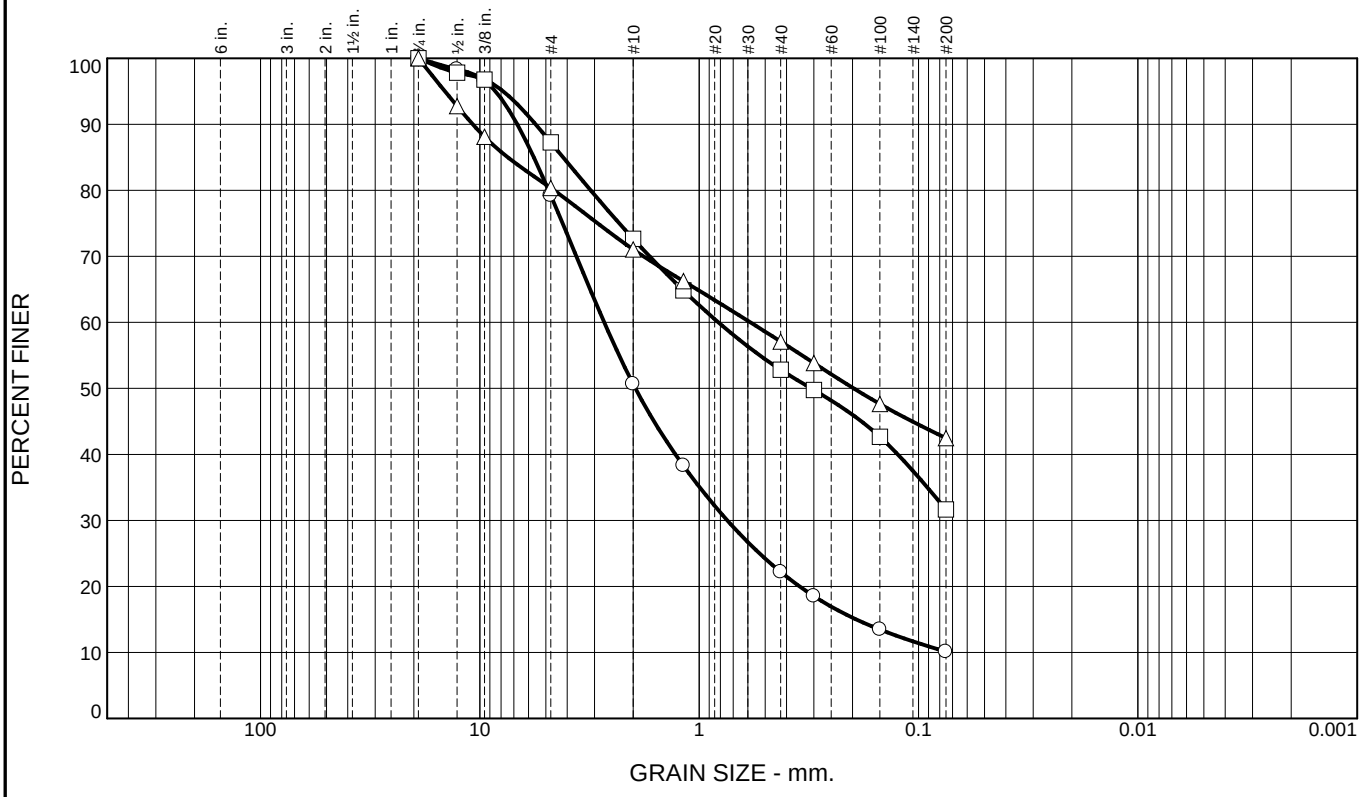
Client: A. Laikram

Project: US 6 / US 95

Project No.: EA 73928

Figure

Particle Size Distribution Report



	+3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
○	0.0	20.8	69.1	10.1					
□	0.0	12.7	55.6	31.7		SC	A-2-6(0)	20	31
△	0.0	19.6	37.9	42.5		SC	A-6(3)	15	33

SIEVE inches size	PERCENT FINER ○	□	△
3/4"	100.0	100.0	100.0
1/2"	98.3	97.8	92.8
3/8"	96.6	96.8	88.1
	GRAIN SIZE		
D_{60}	2.7094	0.8176	0.5840
D_{30}	0.7445		
D_{10}			
	COEFFICIENTS		
C_c			
C_u			

SIEVE number size	PERCENT FINER ○	□	△
#4	79.2	87.3	80.4
#10	50.6	72.7	71.0
#16	38.3	64.8	66.2
#40	22.2	52.8	57.1
#50	18.5	49.8	53.8
#100	13.5	42.7	47.6
#200	10.1	31.7	42.5

Material Description

○

□clayey sand

△clayey sand with gravel

REMARKS:

○

□

△

○Source of Sample: 6NY-B11 Depth: 4.0' - 5.5' Sample Number: 1

□Source of Sample: 6NY-B11 Depth: 7.0' - 8.5' Sample Number: 2

△Source of Sample: 6NY-B11 Depth: 11.0' - 12.5' Sample Number: 3

NEVADA DEPARTMENT OF TRANSPORTATION

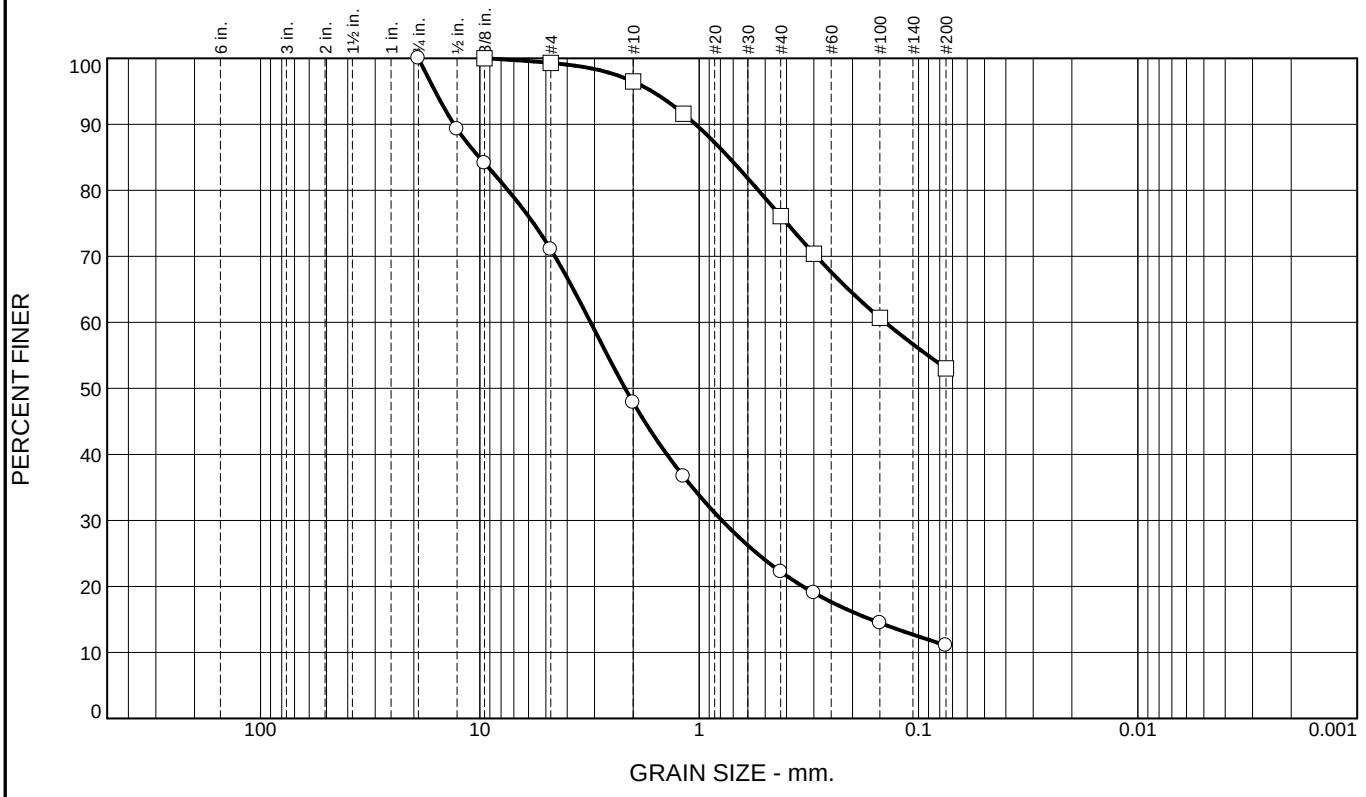
Client: A. Laikram

Project: US 6 / US 95

Project No.: EA 73928

Figure

Particle Size Distribution Report



	+3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
○	0.0	28.9	60.0	11.1		SP-SC	A-2-4(0)	19	28
□	0.0	0.7	46.3	53.0		CL	A-7-6(11)	18	47

SIEVE inches size	PERCENT FINER ○	PERCENT FINER □
3/4"	100.0	
1/2"	89.3	
3/8"	84.1	100.0
GRAIN SIZE		
D_{60}	3.1272	0.1418
D_{30}	0.7877	
D_{10}		
COEFFICIENTS		
C_c		
C_u		

SIEVE number size	PERCENT FINER ○	PERCENT FINER □
#4	71.1	99.3
#10	47.9	96.5
#16	36.7	91.6
#40	22.2	76.1
#50	19.0	70.4
#100	14.5	60.7
#200	11.1	53.0

Material Description

○ poorly graded sand with clay and gravel

□ sandy lean clay

REMARKS:

○

□

○ Source of Sample: 6NY-B12 Depth: 4.0' - 5.5' Sample Number: 1

□ Source of Sample: 6NY-B12 Depth: 11.0' - 12.5' Sample Number: 3

NEVADA DEPARTMENT OF TRANSPORTATION

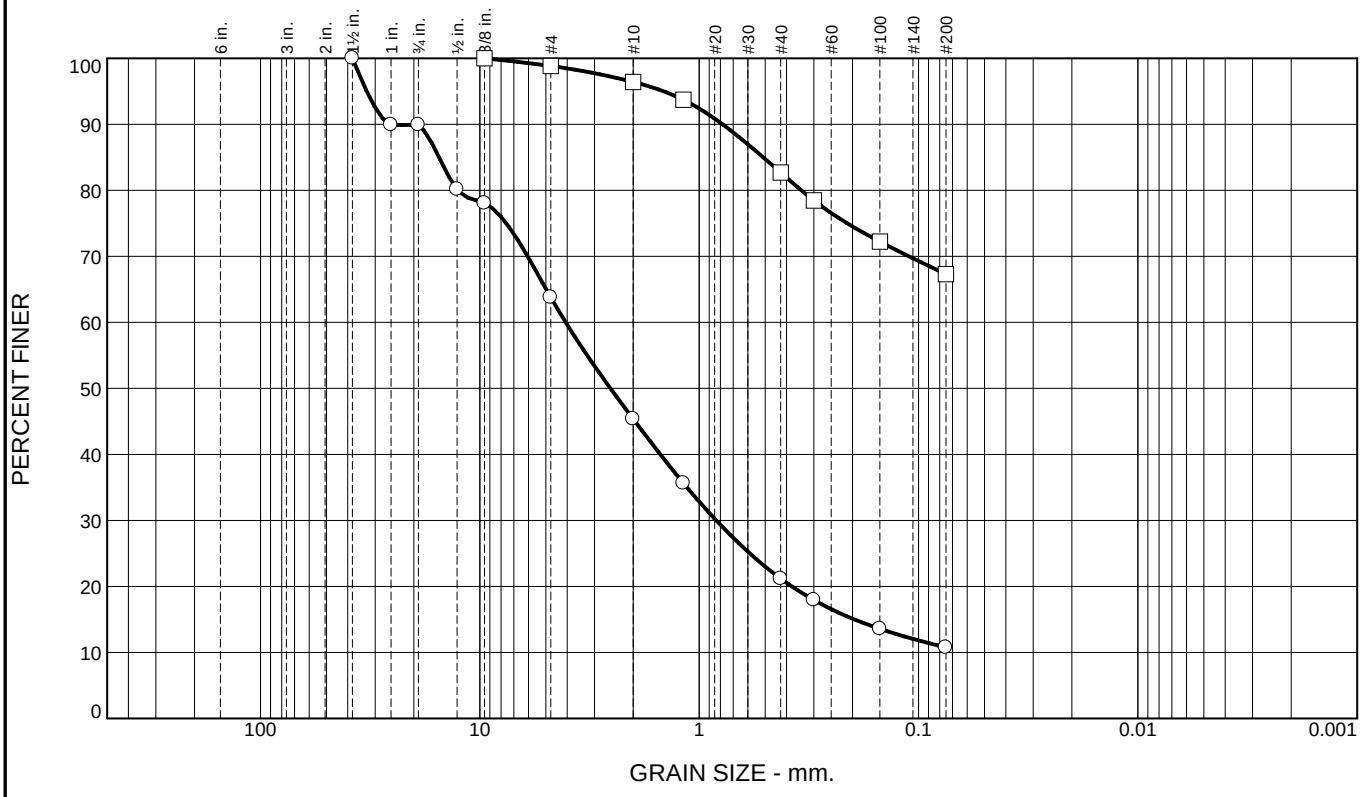
Client: A. Laikram

Project: US 6 / US 95

Project No.: EA 73928

Figure

Particle Size Distribution Report



	+3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
○	0.0	36.2	53.1	10.7		SP-SC	A-2-6(0)	17	29
□	0.0	1.2	31.5	67.3		CL	A-7-6(17)	19	47

SIEVE inches size	PERCENT FINER ○	PERCENT FINER □
1.5"	100.0	
1"	89.9	
3/4"	89.9	
1/2"	80.1	
3/8"	78.1	100.0
GRAIN SIZE		
D_{60}	4.0594	
D_{30}	0.8358	
D_{10}		
COEFFICIENTS		
C_c		
C_u		

SIEVE number size	PERCENT FINER ○	PERCENT FINER □
#4	63.8	98.8
#10	45.4	96.4
#16	35.6	93.7
#40	21.2	82.7
#50	17.9	78.5
#100	13.6	72.2
#200	10.7	67.3

Material Description

○ poorly graded sand with clay and gravel

□ sandy lean clay

REMARKS:

○

□

○ Source of Sample: 6NY-B13 Depth: 7.0' - 8.5' Sample Number: 2

□ Source of Sample: 6NY-B13 Depth: 11.0' - 12.5' Sample Number: 3

NEVADA DEPARTMENT OF TRANSPORTATION

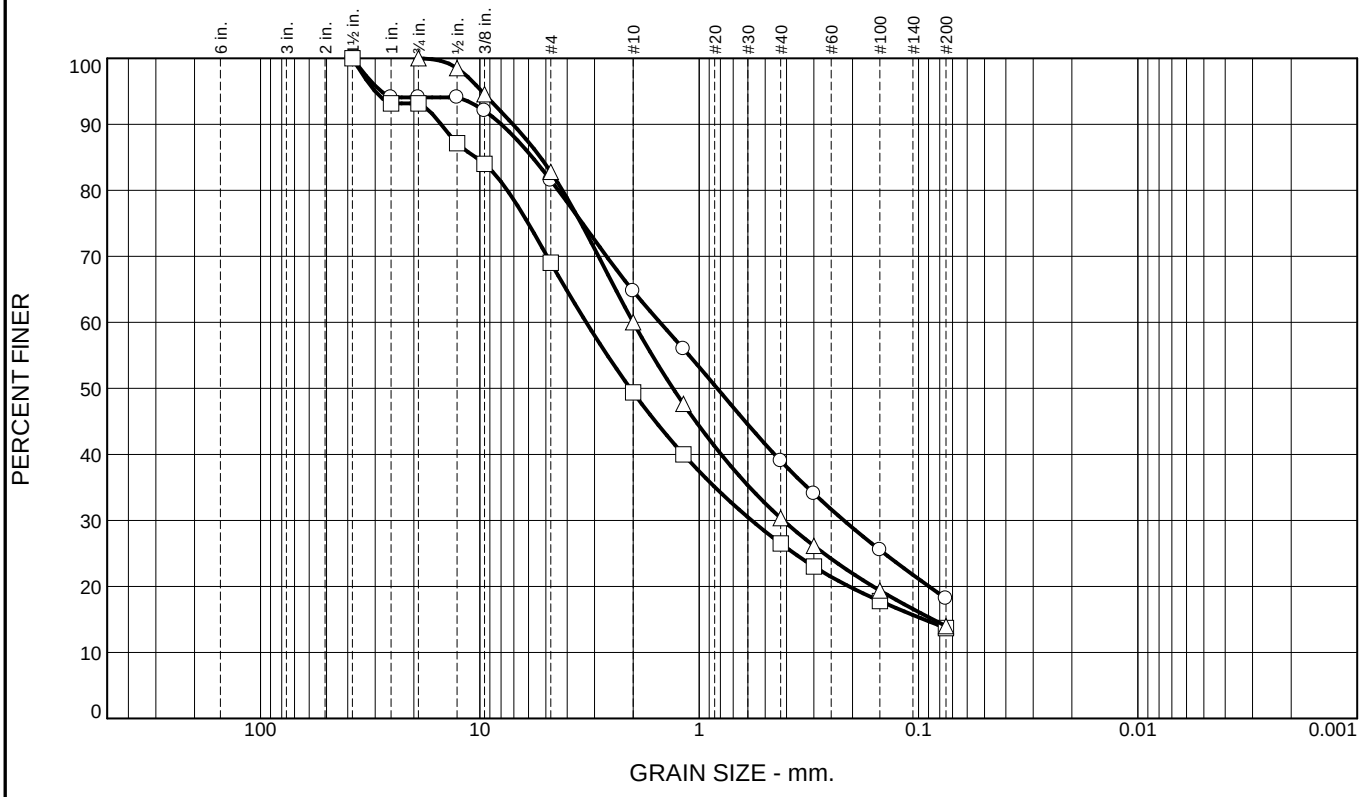
Client: A. Laikram

Project: US 6 / US 95

Project No.: EA 73928

Figure

Particle Size Distribution Report



	+3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
○	0.0	18.5	63.3	18.2					
□	0.0	31.0	55.3	13.7					
△	0.0	17.2	68.8	14.0		SC-SM	A-2-4(0)	17	24

SIEVE inches size	PERCENT FINER ○	□	△
1.5"	100.0	100.0	
1"	94.1	93.2	
3/4"	94.1	93.2	100.0
1/2"	94.1	87.1	98.5
3/8"	92.1	84.0	94.6
GRAIN SIZE			
D_{60}	1.5097	3.2731	1.9992
D_{30}	0.2190	0.5766	0.4137
D_{10}			
COEFFICIENTS			
C_c			
C_u			

SIEVE number size	PERCENT FINER ○	□	△
#4	81.5	69.0	82.8
#10	64.7	49.4	60.0
#16	56.0	40.0	47.7
#40	39.0	26.5	30.4
#50	34.1	23.0	26.1
#100	25.5	17.8	19.4
#200	18.2	13.7	14.0

Material Description

○

□

△silty, clayey sand with gravel

REMARKS:

○

□

△

○Source of Sample: 6NY-B14 Depth: 4.0' - 5.5' Sample Number: 1

□Source of Sample: 6NY-B14 Depth: 7.0' - 8.5' Sample Number: 2

△Source of Sample: 6NY-B14 Depth: 11.0' - 12.5' Sample Number: 3

NEVADA DEPARTMENT OF TRANSPORTATION

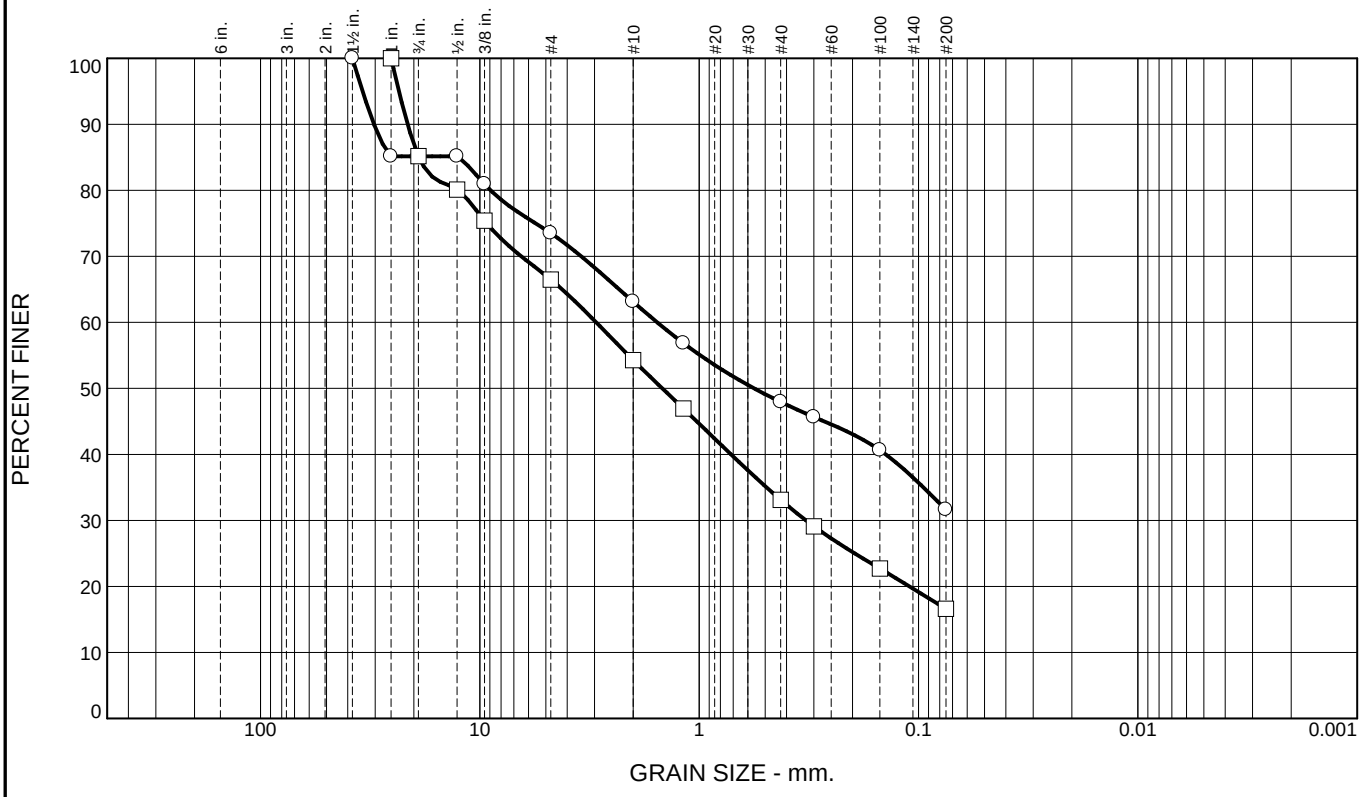
Client: A. Laikram

Project: US 6 / US 95

Project No.: EA 73928

Figure

Particle Size Distribution Report



	+3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
○	0.0	26.5	41.9	31.6		SC-SM	A-2-4(0)	18	25
□	0.0	33.5	49.9	16.6		SC-SM	A-1-b	20	25

SIEVE inches size	○	□
	PERCENT FINER	
1.5"	100.0	
1"	85.2	100.0
3/4"	85.2	85.2
1/2"	85.2	80.1
3/8"	80.9	75.4
	GRAIN SIZE	
D_{60}	1.5532	2.9482
D_{30}		0.3259
D_{10}		
	COEFFICIENTS	
C_c		
C_u		

SIEVE number size	○	□
	PERCENT FINER	
#4	73.5	66.5
#10	63.1	54.3
#16	56.8	47.0
#40	47.9	33.1
#50	45.7	29.1
#100	40.6	22.7
#200	31.6	16.6

Material Description

○ silty, clayey sand with gravel

□ silty, clayey sand with gravel

REMARKS:

○

□

○ Source of Sample: 6NY-B15 Depth: 4.0' - 5.5' Sample Number: 1

□ Source of Sample: 6NY-B15 Depth: 11.0' - 12.5' Sample Number: 3

NEVADA DEPARTMENT OF TRANSPORTATION

Client: A. Laikram

Project: US 6 / US 95

Project No.: EA 73928

Figure