Appendix 17

Limited Geotechnical Assessment

Limited Geotechnical Assessment I-515/I-215 Feasibility Study Henderson, Nevada

CA Group 2785 South Rainbow Boulevard | Las Vegas, Nevada 89146

August 6, 2019 | Project No. 304433001



Geotechnical | Environmental | Construction Inspection & Testing | Forensic Engineering & Expert Witness Geophysics | Engineering Geology | Laboratory Testing | Industrial Hygiene | Occupational Safety | Air Quality | GIS



Geotechnical & Environmental Sciences Consultants



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August 6, 2019 | Project No. 304433001

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1 INTRODUCTION

In accordance with your request, Ninyo & Moore has performed a limited geotechnical assessment for the subject project. We understand that the I-515/I-215 Feasibility Study will include evaluation of potential improvements along the I-515 and I-215 corridors located in Henderson, Nevada. The purpose of our limited assessment was to evaluate general geologic and geotechnical considerations along the project corridors, which are shown on Figure 1, and to provide general information regarding geotechnical conditions anticipated along the project corridors.

Additional geological/geotechnical evaluations, including performance of subsurface explorations, laboratory testing of collected soil samples, and preparation of a design-level geotechnical report, will need to be performed in the future for the project.

2 SCOPE OF SERVICES

The scope of our services included the following:

- Review of pertinent background data listed in the References section of this report. This information included:
 - Aerial photographs of the project area.
 - Published geologic and soils maps and literature.
 - Published groundwater-related data.
 - Findings of previous Ninyo & Moore geotechnical evaluations performed in the area of the project. Information obtained from the previous evaluations included subsurface soil conditions encountered, measured groundwater depths, and other important engineering considerations that could influence design and construction of proposed project improvements.
- Performance of a preliminary geologic and geotechnical reconnaissance along accessible portions of the corridors.
- Compilation and analysis of accumulated data.
- Preparation of this limited geotechnical evaluation report presenting findings that could impact design and construction of the project improvements, including anticipated subsurface conditions along the project corridors.

3 PROJECT DESCRIPTION

The I-515/I-215 Feasibility Study will include evaluation of potential improvements to the I-515 corridor between approximately Galleria Drive and Horizon Drive, and the I-215 (Lake Mead Parkway) corridor between approximately Van Wagenen Street and Valle Verde Drive. The I-515 corridor is approximately 5.0 miles in length, and the I-215 corridor is approximately 3.4 miles in length. It is our understanding that improvement plans along these corridors include possible widening of roadways and construction of new bridges, walls, embankments, and other related structures and improvements. We understand that additional improvements may also be constructed along roadways adjacent to the project corridors as part of the project.

4 GENERAL SITE CONDITIONS

The project corridors include the right-of-ways (ROW) of portions of I-515 and I-215. Roadways within these corridors are composed primarily of asphalt concrete pavement with three to four travel lanes in each direction. Several bridge structures, including fly-over bridges supported on concrete columns, are located at the I-515/I-215 interchange. Other bridges extend over local surface streets and rail lines that traverse the I-515 and I-215 corridors. On ramps, off ramps, paved shoulders, and emergency lanes are also located along roadways within the project corridors. Other improvements include light poles, signage, landscaping, and concrete sound walls. Gravel mulch covers embankment slopes and slopes along depressed portions of roadways. Gravel mulch also covers ground surface areas between travel lanes and sound walls.

The project corridors are generally bordered by residential, commercial, industrial, and resort properties. Drainage detention basins, as well as concrete- and riprap-lined drainage channels extend along portions of the I-515 alignment.

The eastern portion of I-215 (east of the I-515 interchange) transitions into Lake Mead Parkway, which includes a landscaped center median, concrete curbs, gutters, and sidewalks. Traffic control systems are located at the Lake Mead Parkway intersections at Eastgate Road/Fiesta Henderson Boulevard and West Van Wagenen Street/8th Street.

Indications of underground utilities in the area of the project corridors include sewer, water, storm drain, gas, fiber optic, and electric lines as well as traffic control system wiring. Overhead utilities include communication and high-voltage transmission lines. Other underground and overhead utility lines may also be present along the proposed alignments.

5 GEOLOGY

Based on Ninyo & Moore's previous project experience in the area of the subject project, and review of referenced geologic and soils data, the project corridors are underlain by deep Quaternary-age alluvium (native soil), as shown in Figure 2. Portions of the corridors are underlain by fill material associated primarily with existing roadways, embankments, and other improvements. Ninyo & Moore's findings regarding the geologic setting, and potential geologic hazards and problematic soils along the project corridors are provided in the following sections.

5.1 Geologic Setting

The subject corridors are located in the southeast portion of Las Vegas Valley, which lies in the southwestern portion of the Great Basin, within the Basin and Range physiographic province. Las Vegas Valley is a naturally formed structural basin as a result of block faulting, a fundamental characteristic of the Basin and Range physiographic province.

Las Vegas Valley extends in a northwest-southeast direction and drains generally toward the southeast through Las Vegas Wash into Lake Mead. Bordering the alluvium-filled valley are relatively steep mountain ranges, including the Spring Mountains to the west; the Desert, Sheep, and Las Vegas ranges to the north; the McCullough Range to the south; and Sunrise Mountain, Frenchman Mountain, and River Mountains to the east.

Las Vegas Valley is underlain at depth by Proterozoic-age igneous and metamorphic basement rock, which is overlain by thick layers of Paleozoic- and Mesozoic-age sedimentary rock, and Tertiary-age volcanic rock. The lower lying areas of Las Vegas Valley generally contain relatively fine-grained alluvial, aeolian, and playa deposits. Extending outward into the valley from the bordering mountain fronts, are sloping alluvial aprons, or fans, comprised primarily of poorly sorted gravel and sand deposits with cobbles and boulders. The soils are up to approximately 5,000 feet thick in some areas of the valley.

The southern portion of the I-515 corridor (south of the I-215 interchange) extends near a mountain in the McCullough Range. This mountain is composed primarily of volcanic rock previously mapped as Mount Davis Volcanics, which is a miocene-age dacite and andesite.

5.2 **Potential Geologic Hazards and Problematic Soils**

Ninyo & Moore's limited study included an evaluation of the possible presence of geologic hazards, such as faults and ground fissures, in the project area. This evaluation included review of published geologic and soils maps and literature, and other data listed in the References section of this report. Referenced geologic data were also reviewed to evaluate seismic activity

levels, and associated potential earthquake hazards, for faults in the project vicinity. It should be noted that the fault seismic activity levels provided in this section were obtained/interpreted primarily from United States Geological Survey (USGS, 2019b) data.

Review of referenced geologic data indicates that the nearest active fault (i.e., a fault that has experienced ground surface rupture within the past 11,000 years) is the Black Hills fault, which is located several miles south of the project. The Frenchman Mountain fault and the Eglington fault, which are considered potentially active (i.e., faults that have experienced ground surface rupture within the past 1.6 million years) are located several miles north and northwest of the project. The distances from the project corridors to these active and potentially active faults are provided in Table 1. Several other older inactive faults were mapped extending through the nearby McCullough Range. These inactive faults are not anticipated to be a design or construction concern.

Review of referenced geologic data indicates that "unnamed faults" of Las Vegas Valley were previously mapped near portions of the project corridors (Figure 4). These nearby faults extend roughly parallel to and west of the I-515 corridor. Referenced USGS data and other publications indicate that these faults are of uncertain origin and their seismic activity level has not been established. These geologic features, and other similar features in southern Nevada, are generally referred to as "compaction faults." Proposed origins for these faults include:

- Differential natural consolidation or compaction over time of the thick alluvial and lakebed sediments in valley areas.
- Tectonic factors associated with faults that may extend into the basement bedrock beneath the valley sediment.

Table 1 – Faults in Project Vicinity							
Fault Name	Seismic Activity Level*	Approximate Distance From Project Corridors to Fault (miles)					
Black Hills fault	Active	6					
Eglington fault	Potentially Active	16					
Frenchman Mountain fault	Potentially Active	5					
Unnamed faults of Las Vegas Valley	Not Established	0.2 miles south of I-215 0.3 miles west of I-515					

• A combination of differential consolidation and tectonic factors.

Note: *From United States Geological Survey (USGS, 2019b) data.

Ground fissures, generally believed to be caused by erosion and differential stress resulting from regional subsidence due primarily to withdrawal of groundwater, are known to occur near faults in southern Nevada. The nearest mapped zone of ground fissures is located approximately 1 mile north and 2 miles west of I-215 and I-515, respectively. Ground fissures were not observed during our preliminary site reconnaissance. However, it should be noted that the much of the ground surface had been disturbed/obscured by previous development.

As part of this study, Ninyo & Moore evaluated the referenced Clark County Soil Guidelines Map (Figure 4). This map indicates generalized near-surface soil considerations and geologic features. Review of the Clark County Soil Guidelines Map indicates that most of the project corridors are located primarily in an area mapped as *Standard Geotechnical Considerations Area (Mixed Alluvial Sand and Gravel)*. Areas north of I-215 and east of I-515 are mapped as a *Special Geotechnical Considerations Area (Solubility, Clay Swell, Corrosion, Gypsum Salt, Expansive or Hydro-collapsible Potential*). Areas west of the northern and southern portions of I-515 are mapped in a *Special Geotechnical Considerations Area (Subsidence and 2,000-foot compaction or seismic fault buffer zone)*. These seismic fault buffer zones are associated with the previously mentioned compaction faults.

The Clark County Expansive Soil Guidelines Map (Figure 5) indicates general trends of nearsurface soils in the Las Vegas Valley. This map shows areas where previous geotechnical studies have indicated the presence of moderately, highly, and critically expansive soils. Based on review of this map, the project corridors are located in areas with high expansive soil. The west portion of the I-215 alignment was mapped in a critical expansive soil area. However, it should be noted that based on Ninyo & Moore's previous experience in the project area, we anticipate scattered fine-grained soil layers with low to moderate expansive potential along the project corridor.

6 ANTICIPATED SUBSURFACE SOIL CONDITIONS

Ninyo & Moore has performed numerous previous geotechnical evaluations in the vicinity of the project corridors. Information from selected projects was reviewed as part of our limited assessment. The locations of these projects are shown on Figure 6. Information reviewed included logs of exploratory borings drilled utilizing various methods to depths of up to approximately 100 feet. Based on findings from these previous studies, proposed project improvements are anticipated to be underlain generally by relatively shallow fill, uncemented and slightly cemented native soils, and layers of caliche. Generalized descriptions of soils encountered in the project area during our previous geotechnical evaluations are described in the following sections. Logs for these previous exploratory excavations are provided in the

Appendices. Similar soils and subsurface conditions should be anticipated along the project corridors.

6.1 Fill

Fill material encountered in previous exploratory excavations was relatively shallow and consisted primarily of engineered fill associated with existing roadways and improvements. In general, the fill was composed primarily of granular material with minor amounts of fine-grained soil. Deep fill will likely be encountered in areas of roadway embankments and in areas adjacent to washes.

Though not encountered in our borings, or during our site reconnaissance, Ninyo & Moore understands that the remnants of multiple "burn pits", possibly associated with nearby industrial facilities, were previously located in the vacant area southwest of the I-215/I-515 interchange. Debris-laden fill associated with these former burn pits may be encountered during excavation activities in this area.

6.2 Native Soils

Review of boring logs from Ninyo & Moore's subsurface explorations from previous geotechnical evaluations in the vicinity of the project corridors indicates that encountered native soils were comprised primarily of layers of granular (sandy and gravelly) soils with varying amounts of silt and clay, interbedded with relatively thinner fine-grained soil layers (clay and silt). Cobbles and small boulders were also encountered in previous exploratory borings, primarily in the central and southern portions of the I-515 corridor and the west and central portions of the I-215 corridor. Layers of fine-grained soils increase in thickness in the northern portions of I-515 corridor and the eastern portion of the I-215 corridor. Encountered coarse-grained soils were generally medium dense to very dense, and fine-grained soils were primarily stiff to very stiff.

Based on our review of encountered subsurface conditions and previous laboratory test results, we anticipate that native soils encountered along for the project corridors will contain varying amounts of gypsum, a naturally occurring mineral, which can be corrosive to concrete/ cementitious materials and has the potential to be water-soluble. Soils with elevated sulfate contents, which are considered to be deleterious to concrete, and relatively low resistivity, which are considered to be corrosive to metal, will also be encountered.

The southern portion of the I-515 corridor (south of the I-215 interchange) extends across an alluvial fan at the base of a mountain in the McCullough Range. In this area, the alluvial native soil is composed of coarse-grained material with cobbles and small boulders underlain by formational material (bedrock). The volcanic bedrock was previously mapped as Mount Davis

Volcanics, which is a miocene-age dacite and andesite, and is anticipated to be moderately hard to very hard. The nearest bedrock exposure is located about 1,000 feet west of I-515, but is anticipated to be relatively deep (greater than 50 feet) in the area of the I-515 corridor.

6.3 Cemented Soil (Caliche)

Cemented soil, locally known as caliche, is a naturally occurring cemented soil, which is prevalent in Las Vegas Valley, including the area of the project corridors. The cementation occurs when surface water, rich in carbonate minerals, infiltrates into the subsurface soils. The moisture subsequently dissipates/evaporates, depositing minerals between soil particles. This cycle of water infiltration, evaporation, and mineral buildup continues over long periods of time, creating naturally cemented soil layers of varying hardness and degrees of cementation. Cementation also occurs when carbonate minerals are present in the groundwater and migrate through soil pores via capillary action. The residual carbonate minerals deposited in the soil pores increases induration and densification of soil layers.

Hardness of caliche ranges from moderately hard to very hard, and the degree of cementation ranges from moderately cemented to strongly cemented. Some hard to very hard, strongly cemented caliche layers have been known to exhibit extreme hardness similar to high strength manufactured concrete. The following provides additional description of caliche typically encountered in southern Nevada.

- Generally occurs in layers a few inches to several feet thick.
- Layers typically vary significantly in thickness, degree of cementation, and hardness over relatively short distances and depths.
- Varies in composition from primarily fine-grained material to primarily coarse-grained material.
- Moderately hard, moderately cemented caliche can generally be gouged with a knife with difficulty and broken with a few hammer blows.
- Hard and very hard, strongly cemented caliche is difficult to scratch with a knife and breaks with difficulty with repeated hammer blows.
- In-place caliche samples are difficult to obtain utilizing conventional geotechnical drive sampling techniques. Cuttings of caliche samples are typically obtained for classification and possible chemical testing. Rock coring techniques to obtain in-place caliche samples can be considered.
- Impedes earthwork operations, including grading, shaft drilling, pile driving, and utility line trenching and tunneling. Rock excavation methods are generally needed.

Layers of cemented soil or caliche, were encountered in the majority of Ninyo & Moore's borings drilled during our previous geotechnical evaluations in the area of the project corridors. These

cemented layers were generally encountered at various depths and ranged from a few inches to over several feet thick. Caliche layers encountered in previous exploratory borings ranged from moderately hard to very hard and were moderately cemented to strongly cemented. Layers of slight cementation were also encountered.

7 ANTICIPATED GROUNDWATER CONDITIONS

To evaluate anticipated groundwater conditions in the area of the project corridors, we reviewed previous Ninyo & Moore exploratory boring logs, the referenced State of Nevada Well Log Database, and the referenced Southern Nevada Water Authority groundwater map. The referenced map titled *Las Vegas Valley Depth to Shallow Groundwater Map* (SNWA, 2003) provides groundwater depth contour lines in the area of the project. These groundwater contour lines, which are shown on Figure 3, indicate groundwater depths on the order of 30 feet to more than 100 feet in the area of the project.

However, groundwater was encountered at shallow depths in some areas of the project. In particular, near Galleria Drive, stabilized groundwater was measured as shallow as 6.5 feet below the ground surface in a previous boring. In addition, shallow groundwater previously contributed to standing water that would accumulate in low-lying areas northeast of Galleria Drive and I-515 prior to the grade being raised and development of this area.

In general, the depth to groundwater is relatively deep (30 feet or more) along most of both project corridors, but becomes relatively shallow in the northern portion of the I-515 corridor. Groundwater depths change significantly with time and rapid fluctuations can occur, particularly near washes and depressed areas where water accumulates.

8 PRELIMINARY ENVIRONMENTAL REVIEW

Ninyo & Moore conducted a preliminary review of environmental records consisting of a search for information regarding Corrective Actions on the Nevada Department of Environmental Protection's (NDEP's) website (eMap). A review of the Leaking Underground Storage Tank (LUST) and non-LUST cases indicated there are several facilities within 1.0-mile of the project corridors, including both open and closed cases of releases of total petroleum hydrocarbons (TPH), solvents, and metals, which mostly impacted soil. Based on the results of this preliminary review, contaminated soil and/or groundwater may be encountered during construction.

As previously mentioned, Ninyo & Moore understands that the remnants of multiple "burn pits", possibly associated with nearby industrial facilities, were previously located in the vacant area

southwest of the I-215/I-515 interchange. Debris-laden fill associated with these former burn pits may be encountered during excavation activities in this area.

9 FINDINGS AND CONCLUSIONS

Based on the findings of this study, it is Ninyo & Moore's opinion that development of the proposed project is feasible from a geotechnical and geological perspective. Subsequent phases of this project should include performance of exploratory borings to evaluate subsurface conditions in areas of proposed structures and improvements, laboratory testing of obtained subsurface soils and groundwater samples, installation of monitoring wells as appropriate, geotechnical analyses, and preparation of design-level geotechnical recommendations. It is our opinion that the following geotechnical, geological, groundwater, and construction considerations should be considered during planning and development of the project.

- Anticipated Subsurface Soil: Native soils along the project corridor will consist primarily of granular material (sandy and gravelly) with a few, relatively thin layers of fine-grained soil (clay and silt). The layers of fine-grained soil generally increase in thickness in the northern portion of I-515 corridor and the eastern portion of the I-215 corridor. Significant amounts of cobbles and small boulders will also likely be encountered, primarily along the southern portion of the I-515 corridor and along the western portion of the I-215 corridor, particularly in alluvial fan areas near the base of the McCullough Range.
- **Caliche:** Significant layers of cemented soil, or caliche, were encountered during previous geotechnical evaluations performed in the project area. Caliche layers will likely range from a few inches to several feet thick. Based on previous project experience, heavy ripping and rock excavation techniques should be anticipated. The presence of caliche layers may impede drilled shaft, trenching, and other excavations.
- **Oversize Materials:** Significant amounts of oversize material, including cobbles, boulders, and rocks or hard chunks greater than 3 to 4 inches in nominal diameter, will be generated during grading operations. It should be anticipated that some oversize material will also be generated during excavation of caliche.
- Potential Burn Pit Debris: Ninyo & Moore understands that the remnants of multiple "burn pits", may be located in the vacant area southwest of the I-215/I-515 interchange. Debrisladen fill associated with these former burn pits may be encountered during excavation activities in this area. If encountered, these materials will need to be removed and properly disposed.
- **Groundwater:** Review of referenced groundwater-related data and Ninyo & Moore's previous professional experience in the area indicate that the depth to static groundwater is relatively shallow (less than 5 feet in low-lying areas) in the northern portion of the I-515 corridor. Groundwater depths are generally deeper (30 feet or more) in the central and southern portions of the I-515 corridor and significantly deeper beneath the I-215 corridor.
- Moisture-Sensitive Soils: Numerous layers of moderately to highly gypsiferous soil will be present along the project corridors. These gypsiferous soils should be considered potentially water-soluble.

- **Corrosive Soils:** Based on Ninyo & Moore's previous professional experience, soils with relatively high sulfate contents, relatively low resitivities, and other potentially corrosive characteristics will be encountered along the project corridors.
- Geologic Faults and Ground Fissures: Review of referenced published geologic maps and observations during our site reconnaissance indicate that the project corridors are not traversed by faults or ground fissures. Nearby "compaction" faults that extend generally parallel to and west of the I-515 corridor should not significantly affect design or construction of the project.
- Foundation Systems: Based on Ninyo & Moore's previous professional experience in the project area and anticipated subsurface soil conditions, conventional spread footings and drilled shaft foundations will be appropriate for support for proposed structures and improvements.

Project-related considerations discussed in this report will need to be addressed during subsequent geotechnical evaluation performed for pre-design and final design for this project. Ninyo & Moore recommends that the additional geotechnical evaluation include performance of a geotechnical site reconnaissance, subsurface explorations, and laboratory testing. Findings, conclusions, and recommendations resulting from this additional geotechnical evaluation include performance of section in geotechnical reports to be utilized for design and construction purposes.

10 LIMITATIONS

The geotechnical evaluation described in this report has been conducted in accordance with current engineering practice and the standard of care exercised by reputable geotechnical consultants performing similar tasks in this area. No other warranty, expressed or implied, is made regarding the professional opinions presented in this report. Variations may exist and conditions not described in this report may be encountered. Our opinions are primarily based on review of referenced information. If conditions different than those described in this report are encountered, our office should be notified and additional evaluation, if appropriate, will be provided upon request.

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FIGURES

Ninyo & Moore | I-515/I-215 Feasibility Study, Henderson, Nevada | 304433001 R | August 6, 2019

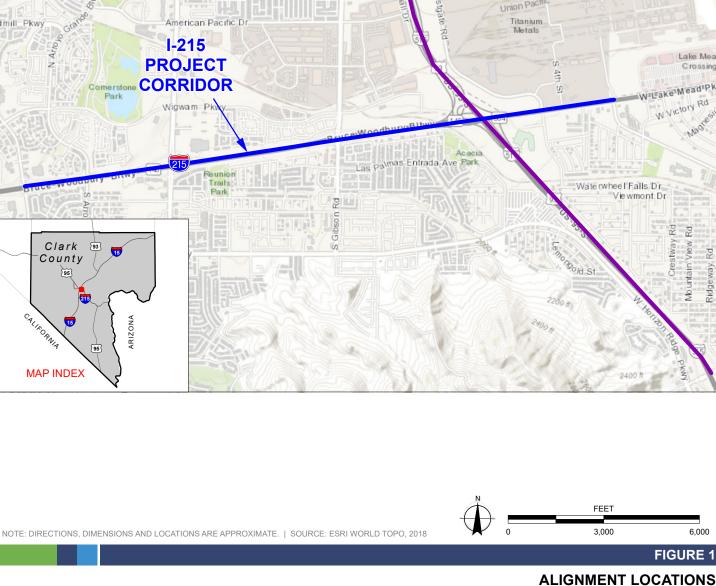
304433001 | 8/19

FIGURE 1

6,000

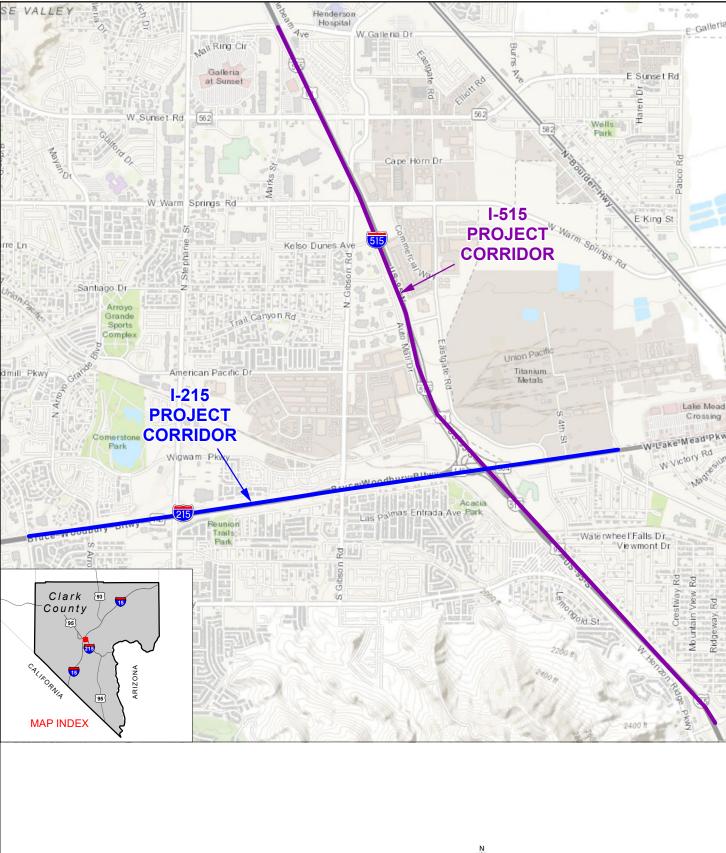
HENDERSON, NEVADA

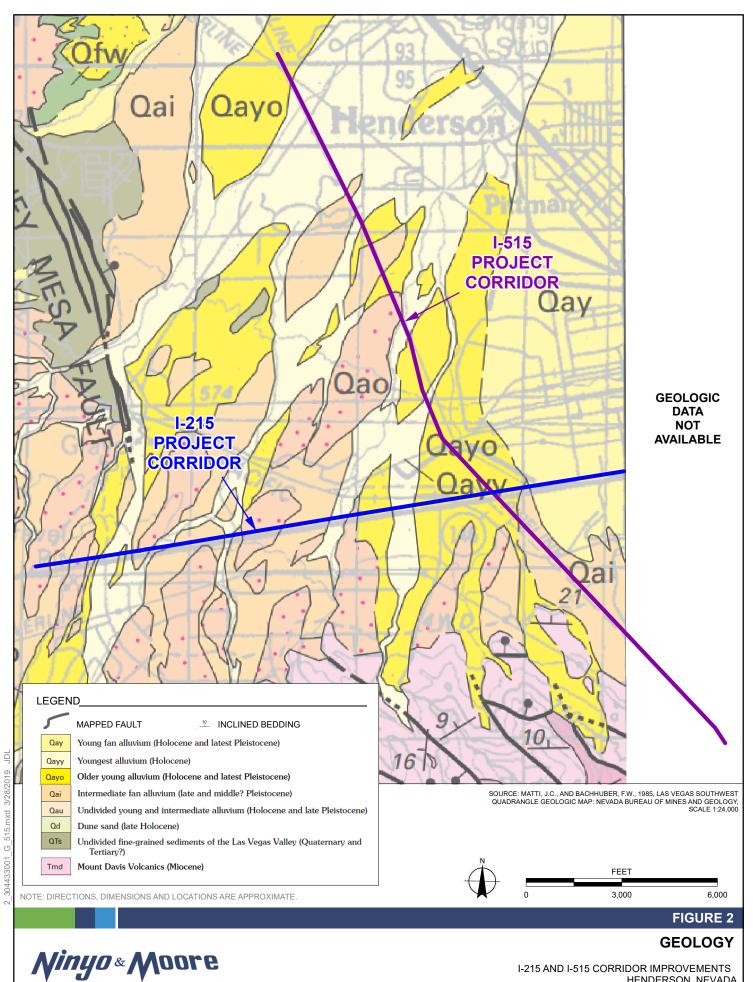
I-215 AND I-515 CORRIDOR IMPROVEMENTS



Ninyo & Moore

Geotechnical & Environmental Sciences Consultants

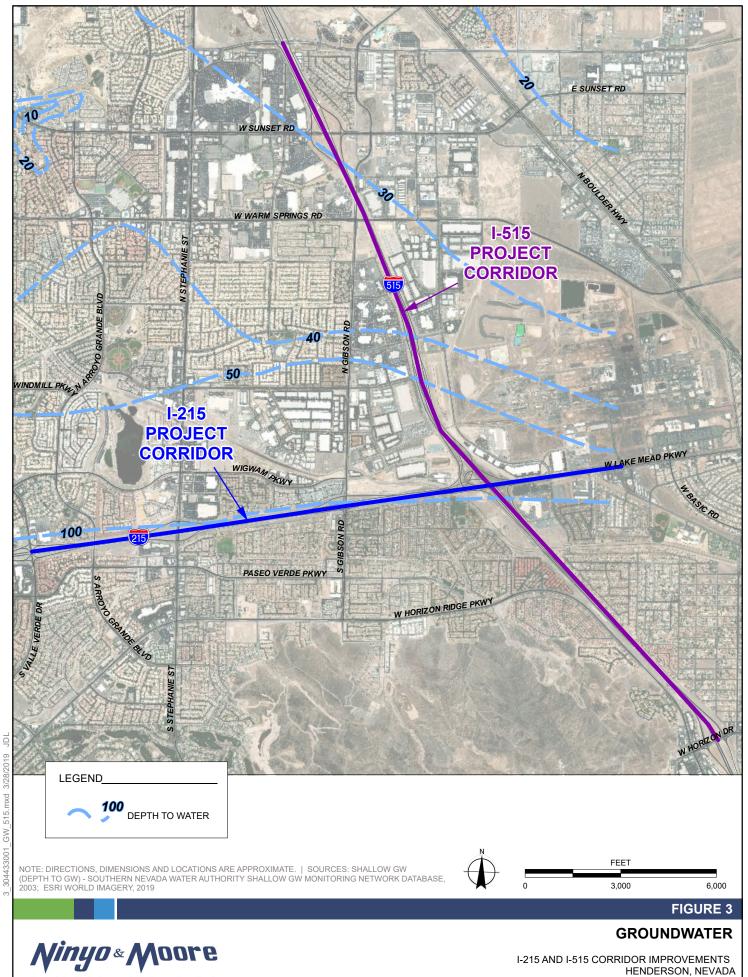




Geotechnical & Environmental Sciences Consultants

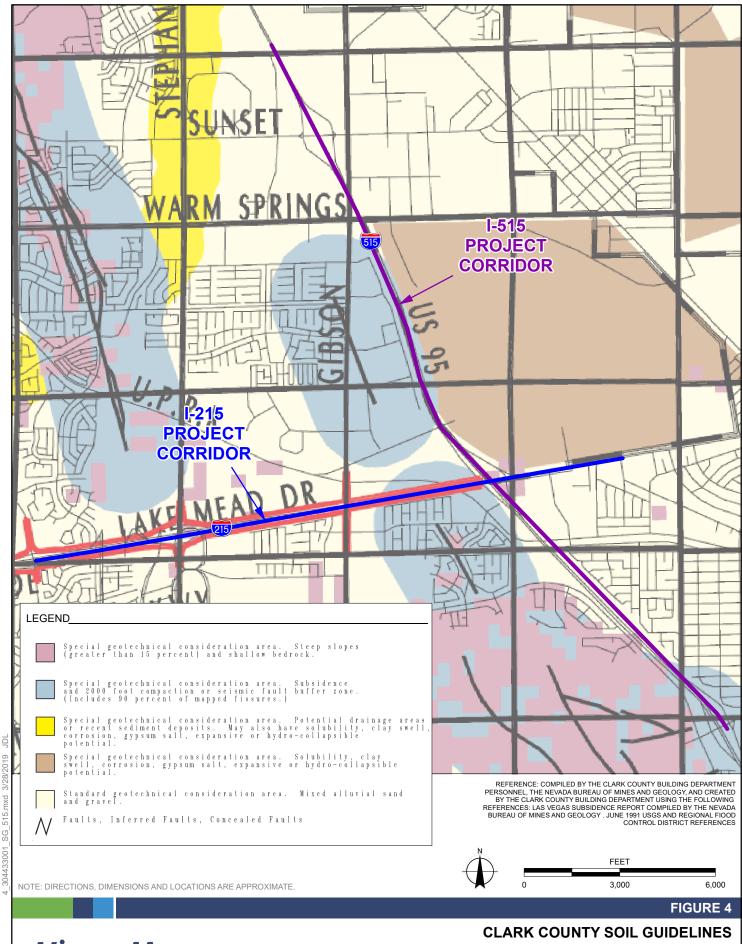
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HENDERSON, NEVADA



Geotechnical & Environmental Sciences Consultants

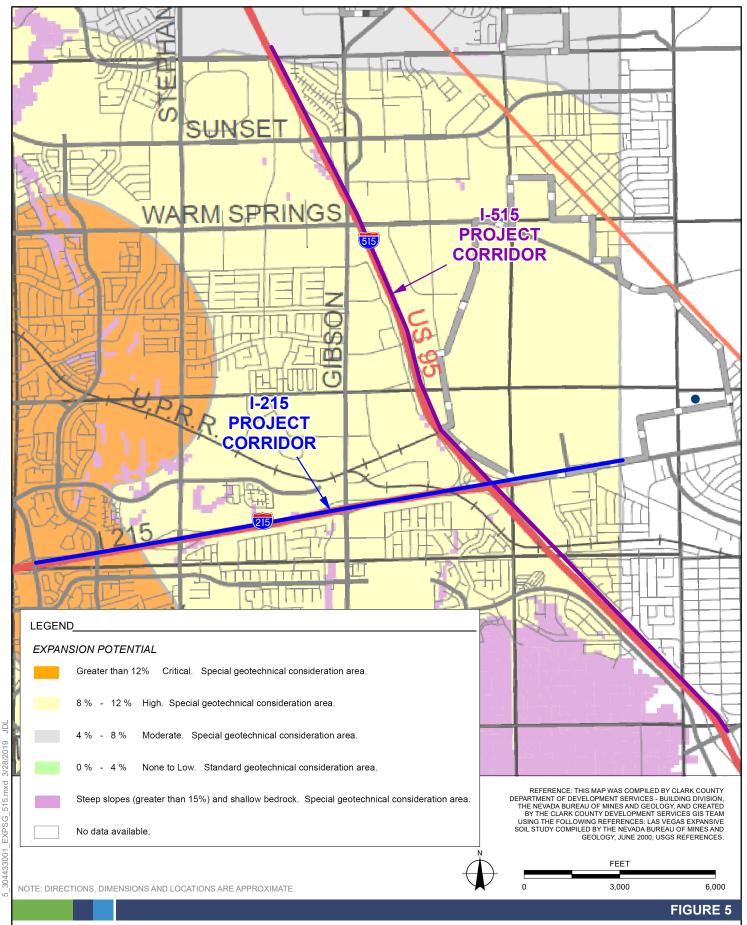
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I-215 AND I-515 CORRIDOR IMPROVEMENTS HENDERSON, NEVADA

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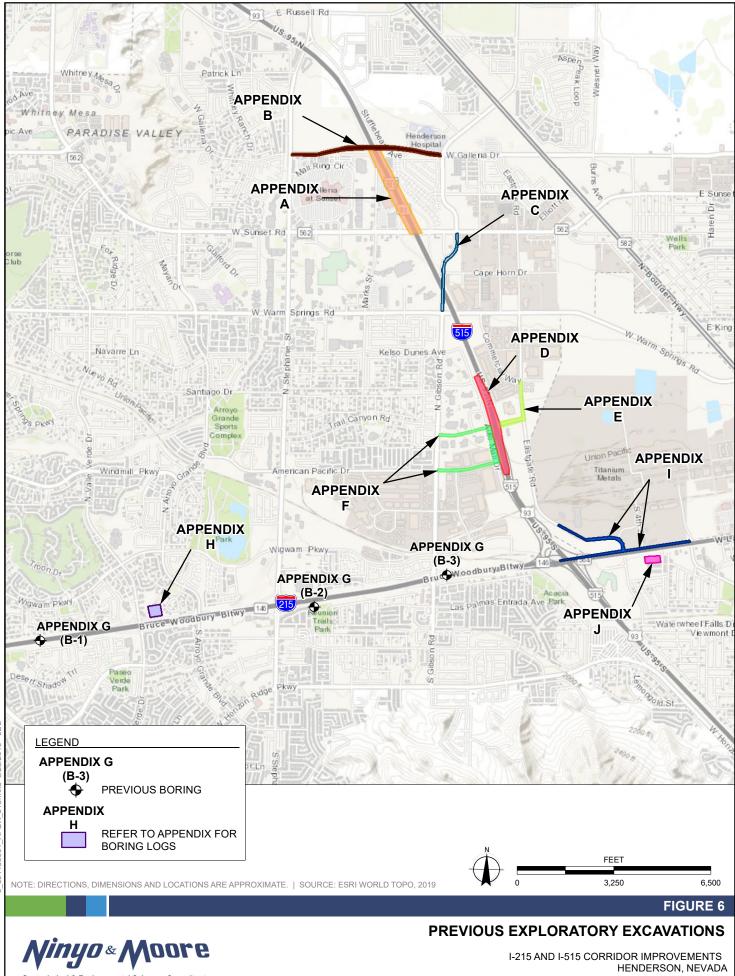
Ninyo & Moore **Geotechnical & Environmental Sciences Consultants**



CLARK COUNTY EXPANSIVE SOIL GUIDELINES

I-215 AND I-515 CORRIDOR IMPROVEMENTS HENDERSON, NEVADA

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FIGURE 7

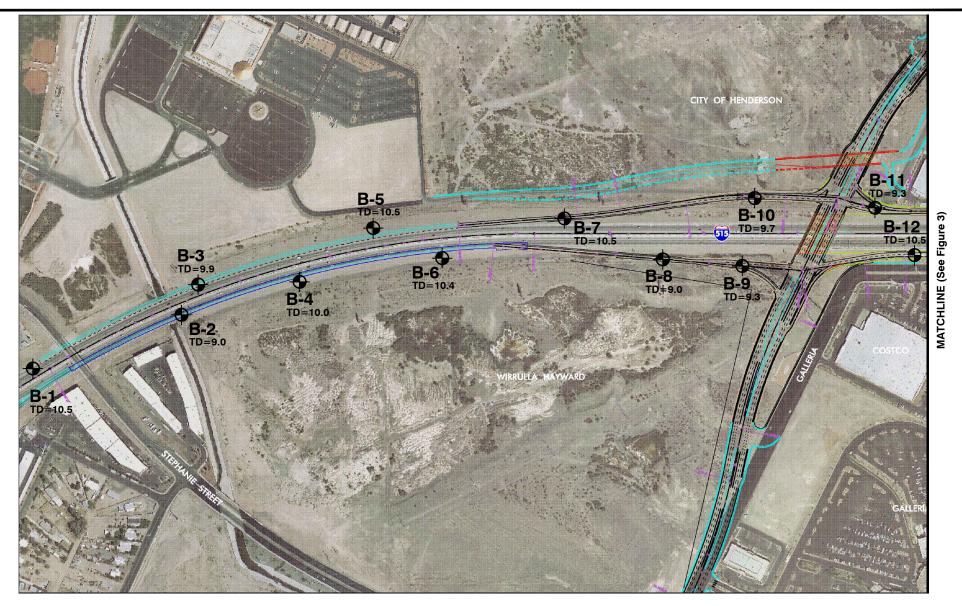
AERIAL PHOTOGRAPH

I-215 and I-515 CORRIDOR IMPROVEMENTS HENDERSON, NEVADA



APPENDIX A

I-515 and Galleria Drive



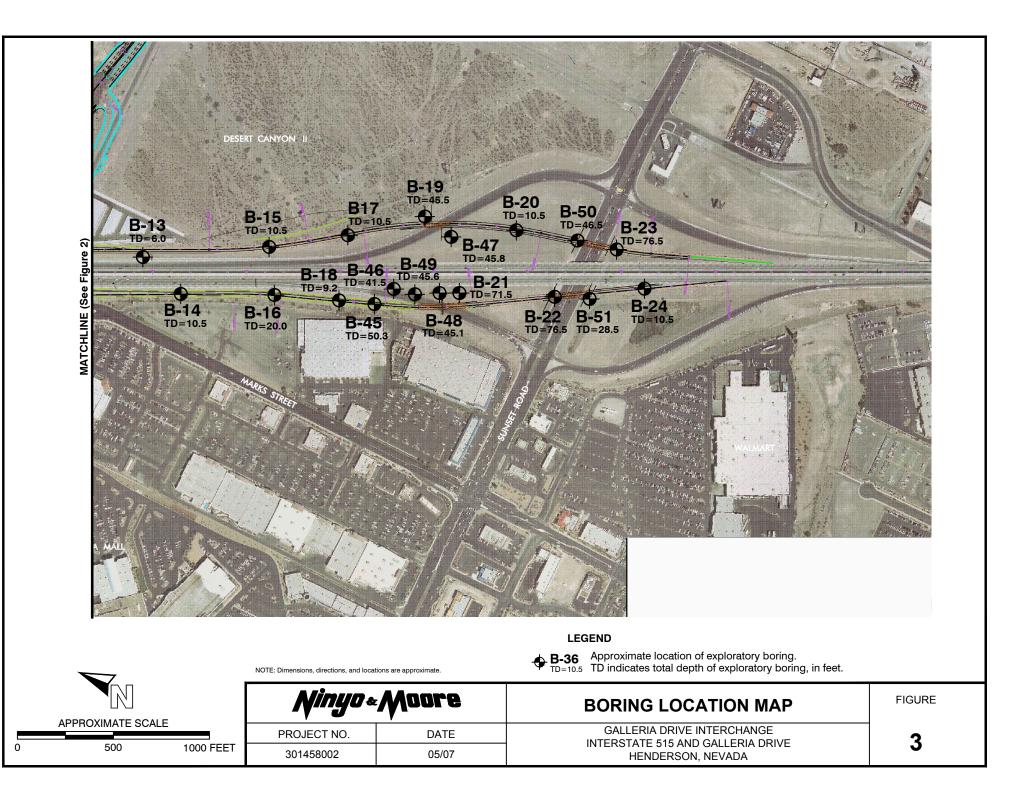
LEGEND

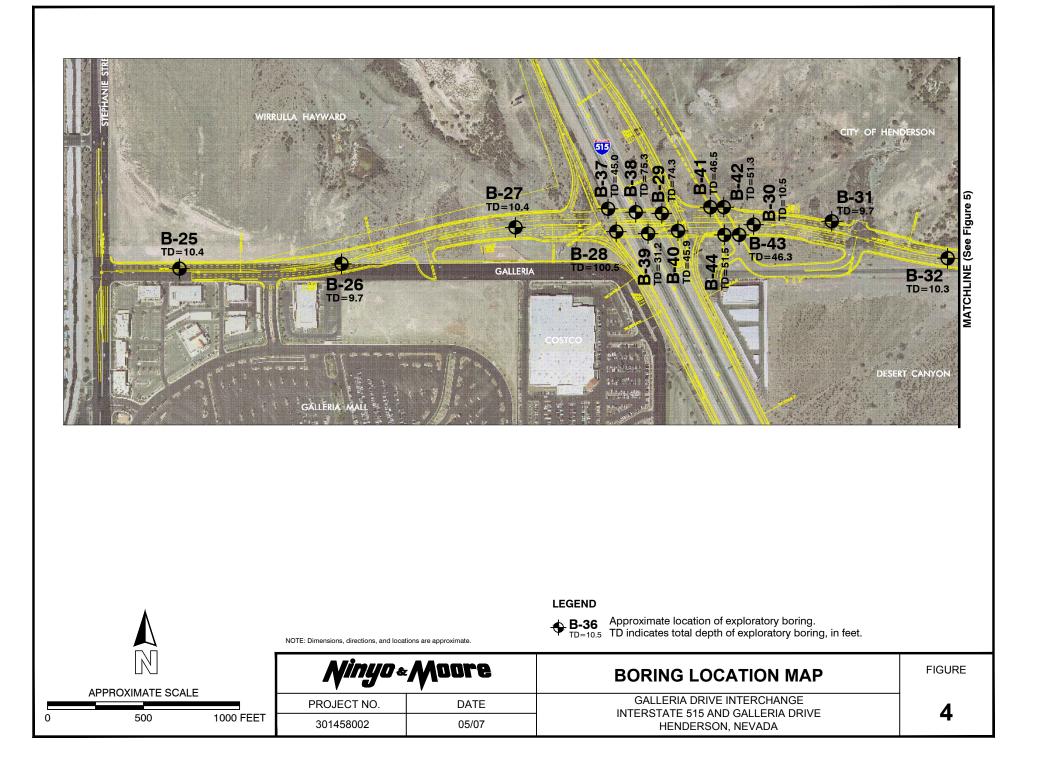
APPROXIMATE SCALE

NOTE: Dimensions, directions, and locations are approximate.

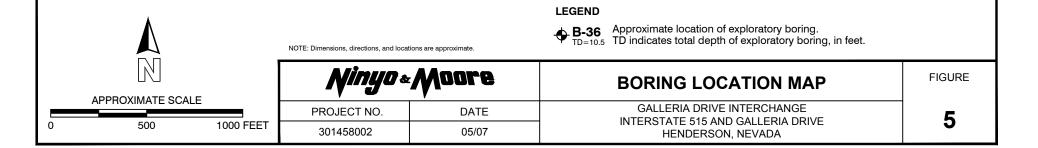
B-36 Approximate location of exploratory boring. TD indicates total depth of exploratory boring, in feet.

CALE	Ninyo	Moore	BORING LOCATION MAP	FIGURE
	PROJECT NO.	DATE	GALLERIA DRIVE INTERCHANGE INTERSTATE 515 AND GALLERIA DRIVE	2
1000 FEET	301458002	05/07	HENDERSON, NEVADA	2









DEPTH (feet) Bulk compiles	- S	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	BORING LOG EXPLANATION SHEET			
0						Bulk sample.			
	X					Modified split-barrel drive No recovery with modified	-	e sampler.	
+f	T					Sample retained by others	8.		
						Standard Penetration Test	t (SPT).		
5	7					No recovery with a SPT.			
						Shelby tube sample. Dista in inches.	ance pushed in in	ches/length of sample	e recovered
	Ν					No recovery with Shelby tube sampler. Continuous Push Sample.			
10	-	아 네트 헤드				Seepage. Groundwater encountered during drilling. Groundwater measured after drilling.			
	-				SM	ALLUVIUM: Solid line denotes unit cha	-		
						Dashed line denotes mater	rial change.		
	_					Attitudes: Strike/Dip b: Bedding			
15	_					c: Contact j: Joint			
						f: Fracture F: Fault			
						cs: Clay Seam s: Shear bss: Basal Slide Surface			
						bss: Basal Slide Surface sf: Shear Fracture sz: Shear Zone			
						sbs: Sheared Bedding Surface			
20						The total depth line is a so boring.	olid line that is dra	awn at the bottom of	the
	* # \$							BORING LO	G
	Λ[]	4		2	ΥĽ	ore	EXPL PROJECT NO.	ANATION OF BORING LOG	G SYMBOLS
	,				•			Rev. 01/03	

U U	<u></u>						
et) SAMDI FS	ארנ			(F)		7	DATE DRILLED03/09/06 BORING NOB-1
eet)	NAC NO	001	E (%)	Y (PC	F	ATIOI S.	GROUND ELEVATION 1,672'± MSL SHEET 1 OF 1
DEPTH (feet) ulk S4		BLOWS/FOOT	MOISTURE (%)	ISNE	SYMBOL	SIFIC.	METHOD OF DRILLING CME 75 8-inch hollow-stem auger drill rig
BUR DEF	Driven	BLO	MOIS	DRY DENSITY (PCF)	Ś	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT 140 lbs. (auto trip hammer) DROP 30"
				DF		0	SAMPLED BY <u>RCH</u> LOGGED BY <u>RCH</u> REVIEWED BY <u>EDE</u> DESCRIPTION/INTERPRETATION
0						GM	FILL: Brown, damp, medium dense, silty GRAVEL with sand.
						SC	Brown, damp, medium dense, clayey SAND.
-		24	10.8	105.9			
5		17	9.1			SC	ALLUVIUM: Light brown, medium dense, clayey SAND with gravel; highly gypsiferous.
			- <u>2</u> -			CL	Brown, saturated, stiff, sandy lean CLAY.
							Slightly cemented.
-							Very stiff.
10		18					
15					<i><!--</i--></i>		Total depth = 10.5 feet. Seepage encountered at approximately 6.5 feet during drilling. Water measured at approximately 6.8 feet approximately 48 hours after drilling. Note: Boring location approximately 90 feet east of NDOT Station No. 802+36. Backfilled on 03/11/06.
20					ľ		BORING LOG
				10 8	&	Ma	GALLERIA DRIVE INTERCHANGE, INTERSTATE 515 AND GALLERIA DRIVE HENDERSON, NEVADA PROJECT NO. DATE FIGURE
	-		1				
				_	_		

	SAMPLES			í.			DATE DRILLED 03/08/06 BORING NO. B-2	
set)	SAM	DOT	(%)	DRY DENSITY (PCF)	SYMBOL	NOIT .	GROUND ELEVATION 1,672.15'± MSL SHEET 1 OF 1	
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	LISN		MBO	MBO	IFICA S.C.S
DEP	Bulk Driven	BLO	MOIS	sy de	S	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT 140 lbs. (auto trip hammer) DROP 30"	
				Ľ			SAMPLED BY <u>RCH</u> LOGGED BY <u>RCH</u> REVIEWED BY <u>EDE</u> DESCRIPTION/INTERPRETATION	
0					HEUR	GM	FILL:	
							Brown, damp, loose, silty GRAVEL with sand.	
		16	3.1	104.0		SM	<u>ALLUVIUM</u> : Light brown, damp, medium dense, silty SAND with gravel; highly gypsiferous.	
5 -		45	2.4			GM	Brown, damp, dense, silty GRAVEL with sand and cobbles; highly gypsiferous.	
		25/0"					Light brown, damp, hard, CALICHE; strongly cemented; composed primarily of fine-	
	-+-				===		grained material.	
							Total depth = 9.0 feet. Groundwater not encountered during drilling.	
10 -							Backfilled on 03/08/06.	
							Note: Boring location approximately 80 feet west of NDOT Station No. 792+40.	
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l -	$\left \right $							
15 -								
15								
-	$\left \right $							
2.0								
					e. 1	AÄn	GALLERIA DRIVE INTERCHANGE, INTERSTATE 515 AND GALLERIA DRIVE	
		V	14		×	AL	GALLERIA DRIVE INTERCHANGE, INTERSTATE 515 AND GALLERIA DRIVE HENDERSON, NEVADA PROJECT NO. DATE FIGURE	
		V		_		V	J01458002 10/06 A-2	

	ES							03/09/06	BORING NO.	
	SAMPLES	F	(%	PCF)	SYMBOL	CLASSIFICATION U.S.C.S.				
(feet	S I	/F00	RE (9	ITY (N <u>1,674'± MSL</u>		1OF1
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	DENS		SYME	SSIFI U.S.(NG CME 75 8-inch hollo	
ā	Bulk Driven	BL	Ň	DRY DENSITY (PCF)		CLA		140 lbs. (auto trip han		30"
							SAMPLED BY R	CH LOGGED BY DESCRIPTION	RCH REVIEWE	D BY <u>EDE</u>
0						GM	FILL: Brown, damp, dense,			
			5.0			SM	ALLUVIUM:			and aphlas highly
							Light brown, dry to da gypsiferous.	ump, medium dense, si	iny SAND with graver	and coobles; highly
	M	34								
	Ν	34								
		38	3.1							
5 -										
						GM	Light brown, damp, vo	ery dense, silty GRAV	EL with sand; slightly	cemented; highly
						Civi	gypsiferous.			, , ,
		50/5"				GP-GM	Brown, damp, very de Sampler refusal after		CAVEL with silt, sand	, and cobbles.
10 -							Total depth = 9.9 feet. Groundwater not enco		σ.	
							Backfilled on 03/09/0		5.	
							Note: Boring location	approximately 85 feet	east of NDOT Station	n No. 791+45.
-										
15 -										
-										
-										
-										
_										
20)						BORING LOG	
			<u>n</u>	10 2	Se	MO	ore	GALLERIA DRIVE INT	TERCHANGE, INTERSTATE HENDERSON, NEVADA	515 AND GALLERIA DRIVE
		V	J					PROJECT NO. 301458002	DATE 10/06	FIGURE A-3

	0	5				1								
	SAMPLES			-	CE)		z	DATE DRILLED 03/08/06 BORING NOB-4						
(feet)	SAI	5	-001	MOISTURE (%)	DRY DENSITY (PCF)	Ы	CLASSIFICATION U.S.C.S.	GROUND ELEVATION 1,675.43'± MSL SHEET 1 OF 1						
DEPTH (feet)		_	BLOWS/FOOT	ISTUF	ENSI	SYMBOL	SSIFIC U.S.C	METHOD OF DRILLING CME 75 8-inch hollow-stem auger drill rig						
B	Buk	Drive	BLC	ЮW	DRY D		CLAS	DRIVE WEIGHT140 lbs. (auto trip hammer) DROP30"						
								SAMPLED BY RCH LOGGED BY RCH REVIEWED BY EDE DESCRIPTION/INTERPRETATION						
0							GM	FILL: Brown, damp, dense, silty GRAVEL with sand and cobbles.						
-			26	2.6				Sampler refusal after 12 inches.						
5 -			40	3.4	105.3								GP-GM	ALLUVIUM: Brown, damp, medium dense, poorly graded GRAVEL with silt, sand, and cobbles; highly gypsiferous.
- 10 -			50/6"	4.7			SP-SM	Brown, damp, very dense, poorly graded SAND; few gravel. Sampler refusal after 12 inches. Total depth = 10.0 feet. Groundwater not encountered during drilling. Backfilled on 03/08/06. Note: Boring location approximately 70 feet west of NDOT Station No. 788+38.						
. 20_								BORING LOG						
			y //	Ц	D s	£	Mg	GALLERIA DRIVE INTERCHANGE, INTERSTATE 515 AND GALLERIA DRIVE HENDERSON, NEVADA						
			V		_		V	PROJECT NO. DATE FIGURE 301458002 10/06 A-4						

Image: Serie of the serie	3
Image: Section of the section of th	3
0 SP FILL: Brown, dry to damp, medium dense, poorly graded SAND with gravel and cobble 16 3.7 SP-SM ALLUVIUM: Brown, damp, medium dense, poorly graded SAND with silt and gravel. 16 3.7 GP-GM Brown, damp, medium dense, poorly graded GRAVEL with silt, sand, and cobble	
0 SP FILL: Brown, dry to damp, medium dense, poorly graded SAND with gravel and cobble 16 3.7 SP-SM ALLUVIUM: Brown, damp, medium dense, poorly graded SAND with silt and gravel. 16 3.7 GP-GM Brown, damp, medium dense, poorly graded GRAVEL with silt, sand, and cobble	
0 SAMPLED BY RCH LOGGED BY RCH REVIEWED BY EDF 0 DESCRIPTION/INTERPRETATION 16 3.7 SP-SM ALLUVIUM: Brown, damp, medium dense, poorly graded SAND with silt and gravel. Increase in gravel content. 18 5.1 108.9 SP-GM Brown, damp, medium dense, poorly graded GRAVEL with silt, sand, and cobble	
0 SP FILL: Brown, dry to damp, medium dense, poorly graded SAND with gravel and cobble 16 3.7 SP-SM ALLUVIUM: Brown, damp, medium dense, poorly graded SAND with silt and gravel. Increase in gravel content. 18 5.1 108.9 GP-GM Brown, damp, medium dense, poorly graded GRAVEL with silt, sand, and cobble	s.
Brown, damp, medium dense, poorly graded SAND with silt and gravel. Increase in gravel content. 18 5.1 108.9 GP-GM Brown, damp, medium dense, poorly graded GRAVEL with silt, sand, and cobble	
GP-GM Brown, damp, medium dense, poorly graded GRAVEL with silt, sand, and cobble	
18 5.1 108.9	
	s. — —
10 55 2.7 Very dense. Total depth = 10.5 feet. Groundwater not encountered during drilling. Backfilled on 03/09/06.	
Note: Boring location approximately 80 feet east of NDOT Station No. 782+38.	
Note: Boring location approximately 80 feet east of NDOT Station No. 782+38.	
Note: Boring location approximately 80 feet east of NDOT Station No. 782+38.	
	DRIVE

	6	0					_	
		SAMPLES			Ŀ,		7	DATE DRILLED03/08/06 BORING NOB-6
feet)	2	NAN SAL	001	E (%)	DRY DENSITY (PCF)	لح ا	CLASSIFICATION U.S.C.S.	GROUND ELEVATION 1,683'± MSL SHEET 1 OF 1
DEPTH (feet)			BLOWS/FOOT	MOISTURE (%)	IISNE	SYMBOL	SIFIC.	METHOD OF DRILLING CME 75 8-inch hollow-stem auger drill rig
BE	Bulk	Driven	BLO	MOIS	۲ DE	S	CLAS	DRIVE WEIGHT 140 lbs. (auto trip hammer) DROP 30"
					ă		0	SAMPLED BY RCH LOGGED BY REVIEWED BY EDE DESCRIPTION/INTERPRETATION
0							GP-GM	FILL: Brown to light brown, damp, very dense, poorly graded GRAVEL with silt and sand.
			93/11"	3.0	126.3			Sampler refusal after 17 inches.
							GW-GM	ALLUVIUM: Brown, damp, very dense, well-graded GRAVEL with silt, sand, and cobbles.
							GP-GM	Brown, damp, very dense, poorly graded GRAVEL with silt, sand, and cobbles.
	L							
		I	100/9"	3.5				Sampler refusal after 15 inches.
5 -		Ц						
10 -	╞		98/11"	4.3	124.1			Sampler refusal after 17 inches.
								Total depth = 10.4 feet. Groundwater not encountered during drilling.
								Backfilled on 03/08/06.
	┢	$\left \cdot \right $						Note: Boring location approximately 75 feet west of NDOT Station No. 778+20.
		$\left \right $						
15 -								
-								
	T							
-		$\left \right $						
20								
	-	<u></u> _				I		BORING LOG
				D	[]]	Sz		GALLERIA DRIVE INTERCHANGE, INTERSTATE 515 AND GALLERIA DRIVE HENDERSON, NEVADA PROJECT NO. DATE FIGURE
			V	J				PROJECT NO. DATE FIGURE 301458002 10/06 A-6
	_	_		_		_		

<u> </u>	<u></u>						
	SAMPLES			Ĺ,		7	DATE DRILLED03/09/06 BORING NOB-7
eet)	SAN	001	∈ (%)	Y (PC	۲.	ATION S.	GROUND ELEVATION 1,682.28'± MSL SHEET 1 OF 1
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	NSIT	SYMBOL	S.C.S	METHOD OF DRILLING CME 75 8-inch hollow-stem auger drill rig
DEP	Bulk	BLON	MOIS	DRY DENSITY (PCF)	S	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT 140 lbs. (auto trip hammer) DROP 30"
		נ		DF		0	SAMPLED BY <u>RCH</u> LOGGED BY <u>RCH</u> REVIEWED BY <u>EDE</u> DESCRIPTION/INTERPRETATION
0					điji i	GM	FILL: Brown, damp, very dense, silty GRAVEL with sand, cobbles, and boulders.
		50/3"				GP-GM	ALLUVIUM: Brown, damp, very dense, poorly graded GRAVEL with silt, sand, cobbles, and boulders. Sampler refusal after 9 inches. Sampler refusal after 9 inches.
				-		SP-SM	Brown, damp, very dense, poorly graded SAND with silt.
- 10 -		77	4.6			GP-GM	Brown, damp, very dense, poorly graded GRAVEL with silt, sand, and cobbles.
-		-					Total depth = 10.5 feet. Groundwater not encountered during drilling. Backfilled on 03/09/06. Note: Boring location approximately 80 feet east of NDOT Station No. 772+95.
15 -		-					
_							
-							
20			•		<u> </u>		BORING LOG
		Mİ			Se		GALLERIA DRIVE INTERCHANGE, INTERSTATE 515 AND GALLERIA DRIVE HENDERSON, NEVADA PROJECT NO. DATE FIGURE
							PROJECT NO. DATE FIGURE

	0	<u>0</u>						
		SAMPLES			Έ)		7	DATE DRILLED BORING NOB-8
feet)	0	NAN I	00T	MOISTURE (%)	DRY DENSITY (PCF)	Ы	CLASSIFICATION U.S.C.S.	GROUND ELEVATION 1,685'± MSL SHEET 1 OF 1
DEPTH (feet)			BLOWS/FOOT	STUR	IISN	SYMBOL	SIFIC.	METHOD OF DRILLING CME 75 8-inch hollow-stem auger drill rig
DEF	Bulk	Driven	BLO	MOIS	K DE	Ś	U U	DRIVE WEIGHT 140 lbs. (auto trip hammer) DROP 30"
					DF		0	SAMPLED BY <u>RCH</u> LOGGED BY <u>RCH</u> REVIEWED BY <u>EDE</u> DESCRIPTION/INTERPRETATION
0			29				GM	<u>FILL</u> : Light brown to brown, damp, medium dense, silty GRAVEL with sand and cobbles.
5 -			50/5"				GP-GM	ALLUVIUM: Brown, damp, dense, poorly graded GRAVEL with silt, sand, and cobbles. Very dense; sampler refusal after 5 inches.
								Light brown, damp, very hard, CALICHE; strongly cemented; composed primarily of coarse-grained material.
	+	⊠∖	50/<1" /			===		Sampler refusal. Total depth = 9.0 feet.
10 -								Groundwater not encountered during drilling.
								Backfilled on 03/08/06.
								Note: Boring location approximately 85 feet west of NDOT Station No. 769+12.
15 -	$\left \right $	H						
-								
-								
-								
-								
20								BORING LOG
				11	10 4	&	MO	GALLERIA DRIVE INTERCHANGE, INTERSTATE 515 AND GALLERIA DRIVE HENDERSON, NEVADA PROJECT NO. DATE FIGURE
				J				
					_		_	<u>301458002</u> <u>10/06</u> <u>A-8</u>

	(N N									
		SAMPLES			E,		7	DATE DRILLED	03/07/06	BORING NO.	B-9
eet)		SA	ООТ	(%)	Y (PC	۲.	ATIOI S.	GROUND ELEVATION	1,685'± MSL	SHEET	1 OF 1
DEPTH (feet)			VS/F(TUR	NSIT	SYMBOL	S.C.S	METHOD OF DRILLING	G CME 75 8-inch hollo	ow-stem auger drill rig	
DEP	Bulk	Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SΥ	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	140 lbs. (auto trip han	nmer) DROP _	30"
					DR		0	SAMPLED BYRCH			BY EDE
0	-	╞┼				833	GP-GM	FILL:			
							SM	Brown, damp, medium o Brown, damp, medium o	lense, poorly graded lense, silty SAND w	GRAVEL with silt and vith gravel.	sand
	Γ							2,	,,,		
	╞		37	6.6	114.2		GP-GM	ALLUVIUM:			
							0. 0	Brown, damp, medium o	lense, poorly graded	GRAVEL with silt and	sand.
.	-						SP-SM	Brown, damp, medium d	lense, poorly graded	SAND with silt and gra	avel.
			16	2.6			01-0141			-	
5 -											
.											
	Γ			L				Brown, damp, very dens	a noorly graded GE	AVEL with silt and sar	
	╞						GP-GM	Brown, damp, very dens	e, poorty graded Gr	CAVEL with shit and sai	iu.
		A	50/3"					Sampler refusal after 3 i Total depth = 9.3 feet.	nches.		
10 -	+	$\left \right $						Groundwater not encour	ntered during drilling	g.	
								Backfilled on 03/07/06.			
	T							Note: Boring location ap	proximately 120 fe	et west of NDOT Station	n No. 763+85.
	╞										
	T	Π									
	╞	\mathbb{H}									
15 -		П									
	-	H									
		[]									
	-	$\left \cdot \right $									
20											
				n		e I	AAn	nre	GALLERIA DRIVE INT	BORING LOG	5 AND GALLERIA DRIVE
				3				ore	PROJECT NO.	HENDERSON, NEVADA DATE	FIGURE
							•		301458002	10/06	A-9

10 10 <td< th=""><th></th><th>1</th><th></th><th></th><th>1 1</th><th></th><th></th><th></th><th></th><th></th></td<>		1			1 1					
Bit	APLES			Ĺ,		7	DATE DRILLED	03/09/06		B-10
0 SAMPLED BY RCH COGEC DY EDE DEE 0 0 DESCRIPTIONNITERPRETATION EDE DEE 0 0 0 FILL: Brown, damp, very dense, silty GRAVEL with sind, cobbles, and boulders. 0 0 0 0 ALL/UVIUM: Brown, damp, very dense, poorly graded GRAVEL with silt, sand, cobbles, and boulders. 0 0 4.1 Brown, saturated, very dense, poorly graded SAND with gravel. Sampler refusal after 10 inches. 0 0 4.1 Brown, saturated, very dense, poorly graded SAND with gravel. Sampler refusal after 10 inches. 10 0 0 0 Sampler refusal after 3 inches. 10 0 0 0 0 Sampler refusal after 4 inches. 10 0 0 0 0 Sampler refusal after 4 inches. 10 0 0 0 0 0 0 10 0 0 0 0 0 0 10 0 0 0 0 0 0 0 10 0 0 0 0	eet) SAM	001	E (%)	У (РС	۲	ATIONS.	GROUND ELEVATIO	N <u>1,688.17'± MSL</u>	SHEET	1OF1
0 SAMPLED BY RCH COGEC DY EDE DEE 0 0 DESCRIPTIONNITERPRETATION EDE DEE 0 0 0 FILL: Brown, damp, very dense, silty GRAVEL with sind, cobbles, and boulders. 0 0 0 0 ALL/UVIUM: Brown, damp, very dense, poorly graded GRAVEL with silt, sand, cobbles, and boulders. 0 0 4.1 Brown, saturated, very dense, poorly graded SAND with gravel. Sampler refusal after 10 inches. 0 0 4.1 Brown, saturated, very dense, poorly graded SAND with gravel. Sampler refusal after 10 inches. 10 0 0 0 Sampler refusal after 3 inches. 10 0 0 0 0 Sampler refusal after 4 inches. 10 0 0 0 0 Sampler refusal after 4 inches. 10 0 0 0 0 0 0 10 0 0 0 0 0 0 10 0 0 0 0 0 0 0 10 0 0 0 0	TH (f	WS/F	sturi	IISN	YMBC	SIFIC.	METHOD OF DRILLI	IG <u>CME 75 8-inch hol</u>	low-stem auger drill rig	_
0 SAMPLED BY RCH COGEC DY EDE DEE 0 0 DESCRIPTIONNITERPRETATION EDE DEE 0 0 0 FILL: Brown, damp, very dense, silty GRAVEL with sind, cobbles, and boulders. 0 0 0 0 ALL/UVIUM: Brown, damp, very dense, poorly graded GRAVEL with silt, sand, cobbles, and boulders. 0 0 4.1 Brown, saturated, very dense, poorly graded SAND with gravel. Sampler refusal after 10 inches. 0 0 4.1 Brown, saturated, very dense, poorly graded SAND with gravel. Sampler refusal after 10 inches. 10 0 0 0 Sampler refusal after 3 inches. 10 0 0 0 0 Sampler refusal after 4 inches. 10 0 0 0 0 Sampler refusal after 4 inches. 10 0 0 0 0 0 0 10 0 0 0 0 0 0 10 0 0 0 0 0 0 0 10 0 0 0 0	DEF DIVen	BLO	MOIS	ζΥ DE	Ś	n CLAS:	DRIVE WEIGHT	140 lbs. (auto trip ha	mmer) DROP	30"
0 .504" 31 108.1 GM FLL: Brown, dry to damp, very dense, silty GRAVEL with sand, cobbles, and boulders. 5 40 4.1 GP-GM ALLUVIUM: Sampler refusal after 10 inches. 5 40 4.1 F F Brown, damp, very dense, poortly graded GRAVEL with silt, sand, cobbles, and boulders. Sampler refusal after 10 inches. 10 50/2" SP Brown, saturated, very dense, poortly graded SAND with gravel. 10 SP Brown, saturated, very dense, poortly graded SAND with gravel. 10 SP Brown, saturated, very dense, poortly graded SAND with gravel. 10 SP Brown, saturated, very dense, poortly graded SAND with gravel. 10 SP Brown, saturated on portal term hand in moderately hard, moderately camented layer. 10 Sampler refusal after 8 inches. 10 Sampler refusal after 8 inches. 10 Sampler refusal after 8 inches. 10 <td< td=""><td></td><td></td><td></td><td>Ð</td><td></td><td>0</td><td>SAMPLED BY</td><td></td><td></td><td>D BYEDE</td></td<>				Ð		0	SAMPLED BY			D BYEDE
GP-GM ALLUYIDM: Sorve, damp, very dense, poorly graded GRAVEL with silt, sand, cobbles, and boulders. Sampler refusal after 10 inches. Sampler refusal after 10 inches. Sorve, damper refusal after 8 inches. Boring terminated in moderately hard, moderately comented layer. Total depth = 9.7 feet. Groundwater encountered at approximately 9.0 feet during drilling. Hole caved to approximately 6.0 feet approximately 48 hours after drilling. Backfilled on 03/11/06. Note: Boring location approximately 130 feet east of NDOT Station No. 763+33. EORING LOG GALLERLA DRIVE BITERGRANCE, INTERSTATE 515 AND CALLERA DRIVE JENDREXON, INVALA	0					GM	FILL: Brown, dry to damp, v			s, and boulders.
10 50/2" - - SP Dromy address of the set of the	5			108.1		GP-GM	Brown, damp, very de		RAVEL with silt, sand,	cobbles, and boulders.
20 20 BORING LOG GALLERIA DRIVE INTERSTATE 515 AND GALLERIA DRIVE HENDERSON, NEVADA PROJECT NO. DATE FIGURE	10	50/2"				SP	Sampler refusal after 8 Boring terminated in r Total depth = 9.7 feet. Groundwater encounte Hole caved to approxi Backfilled on 03/11/00	b inches. <u>noderately hard, moo</u> pred at approximately mately 6.0 feet appro 5.	derately cemented layer. 9.0 feet during drilling eximately 48 hours after	; drilling.
Boring Log Galleria drive interchange, interstate 515 and Galleria drive Henderson, nevada PROJECT NO. DATE Figure	15									
Boring Log Galleria drive interchange, interstate 515 and Galleria drive Henderson, nevada PROJECT NO. DATE Figure										
					L					
		M //	Ŋ	[]]	Sz	MO	ore		HENDERSON, NEVADA	
	-		U		_	V -				

	<i>u</i>	0						
					CF)		z	DATE DRILLED 03/08/06 BORING NO. B-11
feet)		Fo -	TOOT	E (%)	LY (P	Ы	S.	GROUND ELEVATION 1,698.93'± MSL SHEET 1 OF 1
DEPTH (feet)			BLOWS/FOOT	MOISTURE (%)	ENSI	SYMBOL	SIFIC J.S.C.	METHOD OF DRILLING CME 75 8-inch hollow-stem auger drill rig
DEI	Buk	Driven	вго	MOI	DRY DENSITY (PCF)	S	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT 140 lbs. (auto trip hammer) DROP 30"
					D			SAMPLED BY RCH LOGGED BY RCH REVIEWED BY EDE
0						ž. 1	GM	<u>FILL</u> : Brown, damp, dense, silty GRAVEL with sand.
-			28	10.0	106.2		SM	<u>ALLUVIUM</u> : Brown, damp, medium dense, silty SAND with gravel.
			50/4"	2.7			GP-GM	Brown, damp, very dense, poorly graded GRAVEL with silt, sand, and cobbles; a few moderately hard; moderately cemented layers up to a few inches thick. Sampler refusal after 10 inches.
-		\mathbf{X}	50/4"					Sampler refusal after 4 inches.
10								Total depth = 9.3 feet. Groundwater not encountered during drilling.
10								Backfilled on 03/08/06.
-								Note: Boring location approximately 130 feet east of NDOT Station No. 756+40.
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15 -								
-	$\left \cdot \right $	_						
-		_						
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20								BORING LOG
				Π	10 4	&		GALLERIA DRIVE INTERCHANGE, INTERSTATE 515 AND GALLERIA DRIVE HENDERSON, NEVADA PROJECT NO. DATE FIGURE

et) SAMPLES OT (%)	(H)	z	DATE DRILLED03/09/06 BORING NOB-12				
Feet)	or J	ATIO S.	GROUND ELEVATION 1,702'± MSL SHEET 1 OF 1				
DEPTH (feet) <u>Bulk</u> SAM riven SAM BLOWS/FOOT MOISTURE (%)	DENSITY (SYMBOL	SIFIC I.S.C.	METHOD OF DRILLING CME 75 8-inch hollow-stem auger drill rig				
DEP Driven MOIS MOIS	DRY DENSITY (PCF) SYMBOL	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT140 lbs. (auto trip hammer) DROP30"				
		0	SAMPLED BY RCH LOGGED BY RCH REVIEWED BY EDE DESCRIPTION/INTERPRETATION				
0		GP-GM	ALLUVIUM: Brown, damp, loose, poorly graded GRAVEL with silt, sand, cobbles, and boulders.				
			Very dense; sampler refusal after 11 inches.				
50/5"							
3.0							
93/10"			Sampler refusal after 16 inches.				
5/							
		SC	Brown, damp to moist, medium dense, clayey SAND with gravel; slightly gypsiferous.				
30 32.8 9	0.8						
			Total depth = 10.5 feet. Groundwater not encountered during drilling.				
			Backfilled on 03/09/06.				
			Note: Boring location approximately 115 feet west of NDOT Station No. 754+08.				
15							
20							
			BORING LOG GALLERIA DRIVE INTERCHANGE, INTERSTATE 515 AND GALLERIA DRIVE				
GALLERIA DRIVE INTERCHANGE, INTERSTATE 515 AND GALLERIA DRIVE INTERCHANGE, INTERSTATE 515 AND GALLERIA DRIVE INTERCHANGE, INTERSTATE 515 AND GALLERIA DRIVE INTERSON, NEVADA PROJECT NO. DATE FIGURE							
		V	301458002 10/06 A-12				

Image: Serie of the serie	<u> </u>
Image: How	
0 SAMPLED BYRCHLOGGED BYRCHREVIEWED BYEDE 0 GMFILL: Brown, damp, medium dense, silty GRAVEL with sand. 0 SP-SMALLUVIUM: Brown dampmedium dense _ poorly graded SAND with silt and gravel	
0 GM FILL: Brown, damp, medium dense, silty GRAVEL with sand. 0 SP-SM ALLUVIUM: Brown, damp, medium dense, poorly graded SAND with silt and gravel	
0 GM FILL: Brown, damp, medium dense, silty GRAVEL with sand. 0 SP-SM ALLUVIUM: Brown, damp, medium dense, poorly graded SAND with silt and gravel	
SP-SM ALLUVIUM: Brown, damp, medium dense, silty GRAVEL with sand.	
Brown damp medium dense poorly graded SAND with silt and gravel	
5 4 4.4 110.7 5 Brown, damp, medium dense, poorly graded GRAVEL with silt, sand, cobbles and boulders.	[
Drill rig refusal on boulder.	
Groundwater not encountered during drilling. Backfilled on 03/08/06.	
Note: Boring location approximately 130 feet east of NDOT Station No. 750+85.	
10	
	DRIVE

	0	_											
		SAMPLES			E)		7	DATE DRILLED	03/09/06	BORIN	NG NO	B-14	
feet)		No.	001	E (%)	DRY DENSITY (PCF)	Ы	CLASSIFICATION U.S.C.S.	GROUND ELEVATION	1,707'± MSL		_ SHEET _	<u>1</u> OF	
DEPTH (feet)			BLOWS/FOOT	MOISTURE (%)	LISNE	SYMBOL	SIFIC	METHOD OF DRILLIN	IG <u>CME 75 8-inch hollo</u>	w-stem aug	ger drill rig		
DEI	Bulk	Driven	BLO	MOI	RY DI	S	CLAS	DRIVE WEIGHT	140 lbs. (auto trip ham	imer)	DROP _	30'	·
					ā			SAMPLED BY	EH LOGGED BY		REVIEWEI	D BY	EDE
0							SP-SM	ALLUVIUM: Brown, damp, medium					
								Very dense; sampler re	• • •		initi sht und g		
			50/5"	3.9									
	-							Increase in gravel cont	ent.				
							GP-GM	Brown, damp, dense, p	oorly graded GRAVE	EL with si	It, sand, and	cobbles.	
5 -			57	4.4	118.5								
	-												
								Brown, damp, very der			cilt and grave	<u>. </u>	
							SP-SM	Brown, damp, very der	ise, poorty graded SA		Sint and grave		
10 -			65	4.8									
	_							Total depth = 10.5 feet Groundwater not enco	Intered during drilling	g.			
								Backfilled on 03/09/06					
								Note: Boring location	approximately 130 fee	et west of	NDOT Stati	on No. 749+	-12.
	+	$\left \right $											
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15 -													
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20													
						& 1		ore	GALLERIA DRIVE INT	TERCHANGE	RING LOG E, INTERSTATE S ERSON, NEVADA	15 AND GALLE	ERIA DRIVE
				7					PROJECT NO. 301458002	D	0/06	FIG	URE -14
	_								501450002	1	0.00	A	

	0	0									
		SAMPLES			Ĺ,		7	DATE DRILLED	03/08/06	BORING NO.	B-15
eet)		SAI	001	MOISTURE (%)	DRY DENSITY (PCF)	ب	CLASSIFICATION U.S.C.S.	GROUND ELEVATION	1,709'± MSL	SHEET	1 OF 1
DEPTH (feet)			BLOWS/FOOT	STUR	INSIT	SYMBOL	SIFIC/ S.C.S	METHOD OF DRILLIN	G <u>CME 75</u> 8-inch hollo	w-stem auger drill rig	
DEF	Bulk	Driven	BLO	MOIS	SY DE	Ś	n N	DRIVE WEIGHT	140 lbs. (auto trip ham	mer) DROP	30"
					E E		U	SAMPLED BY RO		RCH REVIEWE	D BYEDE
0			53	3.1	123.8		GP-GM	<u>ALLUVIUM</u> : Brown, damp, loose, p Dense.			ples, and boulders.
5			23				SM	Brown, damp, medium	dense, silty SAND; fo	ew gravel.	
-							GP-GM	Brown, damp, medium boulders.	dense to dense, poorl	y graded GRAVEL w	ith silt, sand, cobbles, and
10			63					Dense. Total depth = 10.5 feet			
-								Groundwater not encou Backfilled on 03/08/06 Note: Boring location			on No. 746+00.
-											
15 -											
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- 20											
			• / 3	-		0			GALLERIA DRIVE INT	BORING LOG	515 AND GALLERIA DRIVE
				4	μ	Š2		ore	PROJECT NO.	HENDERSON, NEVADA	
							•		301458002	10/06	A-15

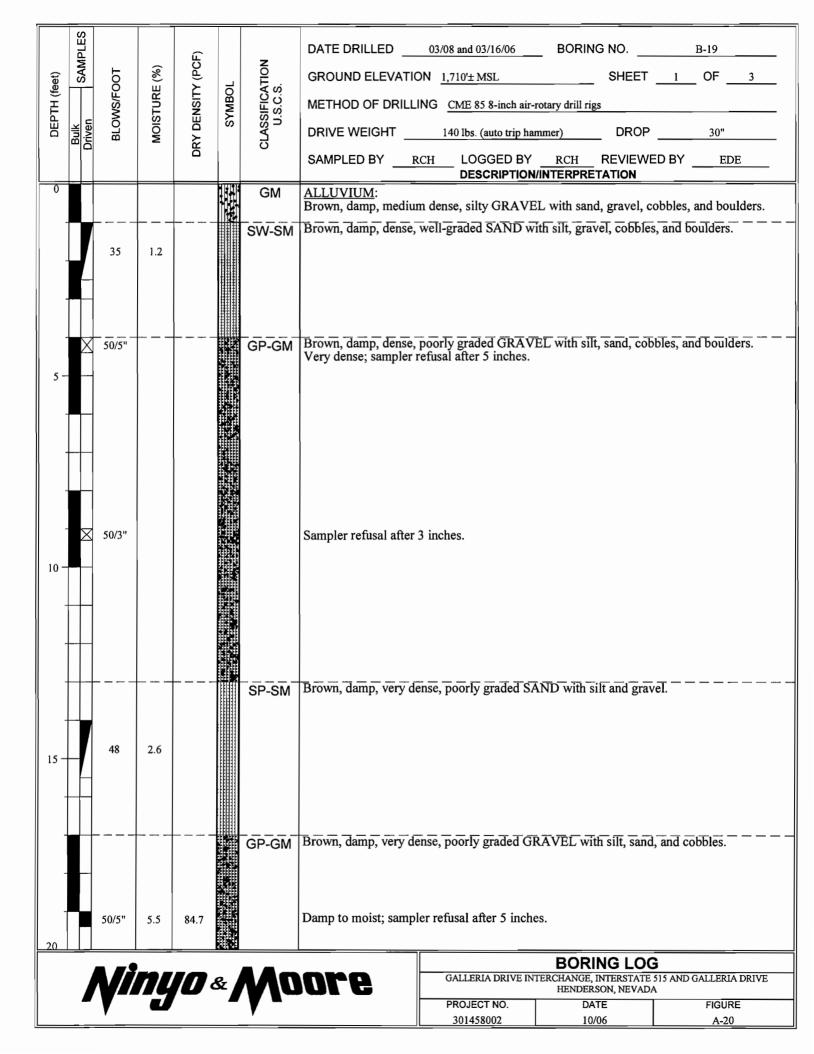
	0	2									
			6		CF)		N	DATE DRILLED	03/14/06	BORING NO.	
(feet)	0	5	FOOT	3E (%	TY (P	ы	CATIC	GROUND ELEVATIO	N <u>1,707.44'± MSL</u>	SHEET	OF
DEPTH (feet)		c	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	METHOD OF DRILLI	NG CME 75 8-inch holl		
ä	Bul	Driven	BLC	MO	IRY D		CLAS	DRIVE WEIGHT	140 lbs. (spooling c		
								SAMPLED BYR	CH LOGGED BY DESCRIPTION	<u>RCH</u> REVIEWE	ED BY EDE
0				1.0			GP-GM	ALLUVIUM: Brown damp very de	nse, poorly graded G	RAVEL with silt. sand	, cobbles, and boulders.
		X	50/4"					Sampler refusal after 4		,	,,
-							SM	Brown, damp, very de	nse. silty SAND with	gravel, cobbles, and b	oulders
				3.6						-	
-	Π						GP-GM	Brown, damp, very de	nse, poorly graded G	RAVEL with silt, sand	, cobbles, and boulders.
5 -							 GM	Brown, damp, very de	nse, silty GRAVEL w	ith silt, sand, and cobl	oles.
			45			ĺ.		,,,,,,		,	
				2.4							
10 -			50/5"				GP-GM		nse, poorly graded G	RAVEL with silt, sand	, and cobbles; slightly
				2.6				cemented. Sampler refusal after 5	inches.		
-											
-				3.4							
15 -			- • • • •								
15-		\leq	50/2"					Sampler refusal after 2	inches.		
-							SP-SM	Brown, damp, very de	nse, poorly graded SA	ND with silt and grav	rel
				4.0			GP-GM	Brown, damp, very de	nse, poorly graded G	RAVEL with silt, sand	, and cobbles.
-											
-				└髶┘			SP-SM	Brown, saturated, dens Drill rig refusal.	e, poorly graded GR	AVEL with silt and gra	avel
20		×									<u> </u>
						Se l		ore	GALLERIA DRIVE IN	BORING LOC TERCHANGE, INTERSTATE HENDERSON, NEVAD/	515 AND GALLERIA DRIVE
				7					PROJECT NO.	DATE	FIGURE
		_							301458002	10/06	<u>A-16</u>

	LES			_			DATE DRILLED 03/14/06 BORING NO. B-1	6
et)	SAMPLES	от	(%)	DRY DENSITY (PCF)		LION	GROUND ELEVATION 1,707.44'± MSL SHEET 2 O	
H (fe		S/FO	URE	ISITY	SYMBOL	FICA S.C.S.	METHOD OF DRILLING CME 75 8-inch hollow-stem auger drill rig	
DEPTH (feet)	Bulk Driven	BLOWS/FOOT	MOISTURE (%)	DEN	sγι	CLASSIFICATION U.S.C.S.		30"
	<u>م</u>	ш	2	DR		CL	SAMPLED BY RCH LOGGED BY RCH REVIEWED BY	EDE
20		50/<1"					DESCRIPTION/INTERPRETATION Total depth = 20.0 feet.	
							Groundwater encountered at approximately 19.0 feet during drilling. Backfilled on 03/14/06.	
							Note: Boring location approximately 120 feet west of NDOT Station No. 74	4+30.
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25 -								
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30 -								
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35 -								
-								
-								
_								
40								
40							BORING LOG	
		V //	ĽĽ	[]] {	۶£	MQ	GALLERIA DRIVE INTERCHANGE, INTERSTATE 515 AND GAL HENDERSON, NEVADA	
<i>Ninyo</i> & Moore								IGURE A-17

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	(0				1			
	SAMPLES			Ŀ,		7	DATE DRILLED 03/08/06 BORING NO. B-17	,
(teet)	SAM	001	E (%)	DRY DENSITY (PCF)	۲	CLASSIFICATION U.S.C.S.	GROUND ELEVATION 1,710'± MSL SHEET 1 OF	- <u>1</u>
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	LISNE	SYMBOL	SIFIC.	METHOD OF DRILLING CME 75 8-inch hollow-stem auger drill rig	
DEF	Bulk Driven	BLO	MOIS	3Y DE	N	CLAS	DRIVE WEIGHT 140 lbs. (auto trip hammer) DROP 3	0"
				ä			SAMPLED BY <u>RCH</u> LOGGED BY <u>RCH</u> REVIEWED BY <u>DESCRIPTION/INTERPRETATION</u>	EDE
0						SW-SM		
-							Brown, damp, loose, well-graded SAND with silt and gravel. Medium dense to dense.	
			4.0	+		GP-GM	Sampler refusal after 8 inches. Brown, damp, very dense, poorly graded GRAVEL with silt, sand, cobbles, a	nd boulders.
-]						
-		_						
_								
		50/2"					Sampler refusal after 2 inches.	
5 -		-						
-		-						
		1						
-		-						
-		_						
-								
10-		77	6.1	113.2				
_					1211-3	1	Total depth = 10.5 feet.	
-							Groundwater not encountered during drilling. Backfilled on 03/08/06.	
-							Note: Boring location approximately 240 feet east of NDOT Station No. 740	+20.
-								
-		-						
15 -		_						
-		-						
-		-						
-		-						
-		-						
20								
						A A -	GALLERIA DRIVE INTERCHANGE, INTERSTATE 515 AND GALL	FRIA DRIVE
			ΠĻ	Π	&		HENDERSON, NEVADA	GURE
		T		,		V		GURE A-18

				1					
et) SAMPLES			Ĥ			DATE DRILLED	03/14/06	BORING NO.	B-18
eet) SAN	001	≡ (%)	Y (PC	2	ATION S.	GROUND ELEVATION	1,710'± MSL	SHEET	1 OF 1
DEPTH (feet)	IVEN I BLOWS/FOOT	MOISTURE (%)	ENSIT	SYMBOL	SIFIC/ I.S.C.5	METHOD OF DRILLIN	G CME 75 8-inch hollo	w-stem auger drill rig	
Bulk	BLOV	MOIS	DRY DENSITY (PCF)	S	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	140 lbs. (spooling cal	ble) DROP	30"
						SAMPLED BY		RCH REVIEWE	DBY <u>EDE</u>
0					GP-GM	ALLUVIUM: Brown, damp, very den			cobbles and boulders
	_					Brown, dump, vory dom	se, poony graded en		
	50/4"					Sampler refusal after 4	inches.		
	-					Slightly cemented.			
5 - 2	≤ 50/<1"	2.5				Sampler refusal.			
	_					-			
	-								
	Z 50/2" ,					Sampler refusal after 2	inches.		
						Sampler refusal after 2 Total depth = 9.2 feet.			
10	-					Groundwater not encour Backfilled on 03/14/06.	ntered during drilling		
	-					Note: Boring location a	pproximately 160 fee	t west of NDOT Stati	on No. 740+65.
							,		
	-								
	-								
15									
	-								
	-								
20									
								BORING LOG	
	Mi		10 4	&	M	ore	GALLERIA DRIVE INT	ERCHANGE, INTERSTATE : HENDERSON, NEVADA	515 AND GALLERIA DRIVE
	•	J					PROJECT NO.	DATE	FIGURE
							301458002	10/06	A-19



et) SAMPLES			E			DATE DRILLED	03/08 and 03/16/06		B-19
et) SAM	ОТ	(%)	(PCI		NOIL	GROUND ELEVATIO	ON 1,710'± MSL	SHEET	OF
DEPTH (feet)	BLOWS/FOOT	TURE	(LISN	SYMBOL	IFICA S.C.S	METHOD OF DRILLI	NG CME 85 8-inch air-ro	otary drill rigs	
DEP Bulk Driven	BLOV	MOISTURE (%)	DRY DENSITY (PCF)	sγ	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	140 lbs. (auto trip ham	umer) DROP	30"
			L R		U U	SAMPLED BY R	CH LOGGED BY		ED BYEDE
20								INTERPRETATION	
					GP-GM		<u>ted)</u> : t, very dense, poorly gr layers up to a few inch		silt, sand, and cobbles; a
	-	Ţ				Saturated.			
	-	포							
25	50/4"					Sampler refusal after	4 inches.		
30	50/2"					Sampler refusal after 2	2 inches.		
35	50/3"					Sampler refusal after 3	3 inches.		
	50/5"	17.6	114.4			Brown saturated ver	dense, clayey SAND.		
40	5015	17.0	114.4		SC	Sampler refusal after			
)						BORING LOO	
	MĨ	Ŋ	[]	Se	MQ	ore		HENDERSON, NEVAD	
	V			_	y -		PROJECT NO. 301458002	DATE 10/06	FIGURE

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et) SAMPIES				Ű.		7	DATE DRILLED03/08 and 03/16/06 BORING NOB-19
eet)	NAC N	DOT	MOISTURE (%)	DRY DENSITY (PCF)	۲	CLASSIFICATION U.S.C.S.	GROUND ELEVATION 1,710'± MSL SHEET 3 OF 3
DEPTH (feet)		BLOWS/FOOT	TUR	NSIT	SYMBOL	S.C.S	METHOD OF DRILLING CME 85 8-inch air-rotary drill rigs
DEP Bulk	Driven	BLO	MOIS	ΥDE	S	U U	DRIVE WEIGHT 140 lbs. (auto trip hammer) DROP 30"
				DR		0	SAMPLED BY LOGGED BY REVIEWED BY
40					****	SC	DESCRIPTION/INTERPRETATION ALLUVIUM (continued):
						00	Brown, saturated, very dense, clayey SAND.
H							
		. <u> </u>					
						CL	Brown, saturated, very stiff, lean CLAY.
+							
45		35	45.3				
	\vdash						Total depth = 45.5 feet.
	\prod						Groundwater encountered at approximately 23.5 feet during drilling. Groundwater measured at approximately 21.9 feet approximately 2 weeks after initial
+	H						drilling. Backfilled on 04/03/06.
	Ц						Note: Boring location approximately 350 feet east of NDOT Station No. 734+60.
							Note: Boring location approximately 550 lect east of NDOT Station No. 754 (00.
+-1	Ħ						
50	$\left - \right $						
+	H						
+							
55							
	\prod						
	H						
+-	$\left - \right $						
60							
					e i	445	GALLERIA DRIVE INTERCHANGE, INTERSTATE 515 AND GALLERIA DRIVE
		V	74		x		GALLERIA DRIVE INTERCHANGE, INTERSTATE 515 AND GALLERIA DRIVE HENDERSON, NEVADA PROJECT NO. DATE FIGURE
		٧				•	301458002 <u>10/06 A-22</u>

	S									
	SAMPLES			(H)		z	DATE DRILLED	03/10/06		B-20
feet)	SAI	001	E (%)	Υ (P(Ъ	ATIO S.	GROUND ELEVATIO	N <u>1,711'± MSL</u>	SHEET	1OF1
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	LISNE	SYMBOL	SIFIC S.C.	METHOD OF DRILLIN	IG CME 75 8-inch hollo	w-stem auger drill rig	
DEF	Bulk	BLO	MOIS	DRY DENSITY (PCF)	Ś	CLASSIFICATION U.S.C.S.		140 lbs. (auto trip ham	nmer) DROP	30"
				Ð		0	SAMPLED BY		RCH REVIEWED I	BYEDE
0						GP-GM	<u>FILL</u> : Brown, damp, medium	dense, poorly graded	GRAVEL with silt, sand	l, and cobbles.
		42	3.4	117.9		GP-GM	ALLUVIUM: Brown, damp, dense, p	oorly graded GRAVE	EL with silt, sand, and co	bbles.
5 -		63/8"	4.1				Very dense; sampler re			
10 -		83	3.4	120.8		SP-SM	Brown, damp, very der	ise, poorly graded SA	ND with silt and gravel.	
		-					Total depth = 10.5 feet Groundwater not enco Backfilled on $03/10/06$	untered during drilling	 2.	
							Note: Boring location	approximately 100 fee	et west of NDOT Station	No. 730+40.
		-								
15										
15 -										
		-								
	+	-								
	+	-								
20										
					e -	AAn	nro	GALLERIA DRIVE INT	BORING LOG	AND GALLERIA DRIVE
			19		*		ore	PROJECT NO.	HENDERSON, NEVADA DATE	FIGURE
						•		301458002	10/06	A-23

	LES						DATE DRILLED	04/05/06	BORING NO.	B-21
ţ,	SAMPLES	ы	(%)	(PCF)		NOL	GROUND ELEVATIO		-	1 OF 4
H (fee	Ĩ	S/FO(URE (SITY	SYMBOL	FICAT C.S.	METHOD OF DRILLI			
DEPTH (feet)	Bulk Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYA	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT			30"
	DB	ш	2	DRY		C		CH LOGGED BY	RCH REVIEWE	D BY EDE
0						GP-GM		DESCRIPTION/	INTERPRETATION	
		73	5.7	111.2		GP-GIVI	<u>FILL</u> : Brown, damp, dense, <u>j</u>	boorly graded GRAVI	EL with silt, sand, and	cobbles.
.						sc	Brown, damp, dense, o	layey SAND with gra	ivel	
5-										
		71	7.4			GP-GM	Brown, damp, very de	nse, poorly graded GI	XAVEL with silt, sand	, and cobbles.
.				 -		SC	Brown, damp, very de	nse, clayey SAND wit	th gravel.	
10 -		76	5.9	117.5		GP-GM	Brown, damp, dense,	boorly graded GRAV	EL with silt, sand, cob	bles, and boulders. — — —
						SP-SM	ALLUVIUM: Brown, damp, dense, j	poorly graded SAND	with gravel.	
15 -		32	4.0				Drown down over t			, cobbles, and boulders; a
						GP-GM	few hard; strongly cen			, coories, and ooulders, a
_20	>	50/<1"					Sampler refusal.			
	<u></u>				CHEC PL				BORING LOO	
		M //	<u>l</u>	10	Se	M	ore		TERCHANGE, INTERSTATE HENDERSON, NEVADA	A
								PROJECT NO. 301458002	DATE 10/06	FIGURE A-24

	_	_				1					
		SAMPLES			(L		-	DATE DRILLED	04/05/06	BORING NO.	B-21
eet)		SAM	ООТ	≡ (%)	DRY DENSITY (PCF)	L.	CLASSIFICATION U.S.C.S.	GROUND ELEVATIO	N <u>1,725.8'± MSL</u>	SHEET	OF
DEPTH (feet)			BLOWS/FOOT	MOISTURE (%)	LISN	SYMBOL	SIFIC/	METHOD OF DRILLI	NG Mobile B-61 HDX	8-inch hollow-stem auger of	Irill rig
DEF	Buk	Driven	BLOI	NOIS	SY DE	Ś	U U	DRIVE WEIGHT	140 lbs. (cathead	I) DROP	30"
					B		0	SAMPLED BY R		RCH REVIEW	ED BYEDE
20							GP-GC	ALLUVIUM (continu Brown, damp, very de boulders; a few hard;	ed): ense, poorly graded G	RAVEL with clay, silt	
25 -			50/4"	4.4	111.1			Sampler refusal after	10 inches.		
30 -			50/4"	5.0				Sampler refusal after :	5 inches.		
							SC	thick.	nedium dense, ciayey	SAIND; a lew clay lay	vers up to a few inches
				.							
35 -				-	02.4						
			42	45.0	83.4						
		$\left \cdot \right $						Light brown, saturated		ALICHE; moderately	cemented; composed
		$\left \right $				= = = ////	CL	primarily of fine-grain Brown, saturated, very		Y: a few silty sand to	clayey sand layers up to a
							UL	few inches thick.	,	,, only ound to	, _, _, ,, , , , , , , ,
40			•	I						BORING LOO	 }
					10 8	&	M	ore	GALLERIA DRIVE IN		515 AND GALLERIA DRIVE
				J					PROJECT NO. 301458002	DATE 10/06	FIGURE A-25
	_	_									

	SAMPI ES	APLES					7	DATE DRILLED	04/05/06	BORING NO	B-21
feet)	NAS L	NAN T	001	MOISTURE (%)	DRY DENSITY (PCF)	F	CLASSIFICATION U.S.C.S.	GROUND ELEVATIO	N <u>1,725.8'± MSL</u>	SHEET3	OF4
DEPTH (feet)			BLOWS/FOOT	STUR	ENSIT	SYMBOL	SIFIC, I.S.C.	METHOD OF DRILLI	NG Mobile B-61 HDX 8	3-inch hollow-stem auger drill rig	<u> </u>
DEF	Bulk	Driven	BLO	NOIS	ζΥ DE	Ś	U U		140 lbs. (cathead) DROP	30"
					ä		0	SAMPLED BY	LOGGED BY	RCH REVIEWED B	Y <u>EDE</u>
40			25	25.3			CL	ALLUVIUM (continu Brown, saturated, very few inches thick.	ed): stiff, sandy lean CLA	AY; a few silty sand to clay	ey sand layers up to a
45 -			24	<u>두</u> 39.7	78.9						
50			27	27.2							
			50/4"				SC	Brown, saturated, very inches thick. Sampler refusal after 1		; a few slightly cemented la	ayers up to a few — —
60										ROPING LOC	
				77		&	Мп	ore	GALLERIA DRIVE INT	BORING LOG TERCHANGE, INTERSTATE 515 AN HENDERSON, NEVADA	ND GALLERIA DRIVE
	4		V	7			V r		PROJECT NO.	DATE	FIGURE
							-		301458002	10/06	A-26

ES							0.1/0.5/0.6		B-21			
et) SAMPLES	L _		CF)		N	DATE DRILLED						
DEPTH (feet)	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	ğ	CLASSIFICATION U.S.C.S.	GROUND ELEVATION		SHEET _	4 OF 4			
HTH 0	/SMC	ISTU	ENSI	SYMBOL	SSIFI(U.S.C	METHOD OF DRILLIN	G Mobile B-61 HDX 8-					
DEP Bulk Driven	BLC	MO	RYD		CLAS		140 lbs. (cathead)	DROP	30"			
			Δ			SAMPLED BY RCI		RCH REVIEWE	D BY <u>EDE</u>			
60	31	29.3			SC	ALLUVIUM (continued Brown, saturated, dense a few inches thick.	1):		ely cemented layers up to			
70	36	37.0	106.0		cl	Brown, saturated, very Total depth = 71.5 feet. Groundwater encounter						
75	-					Groundwater measured Backfilled on 04/07/06. Note: Boring location a	at approximately 34.8	3 feet approximately 2	24 hours after drilling.			
	-											
				.1				BORING LOG				
	BORING LOG GALLERIA DRIVE INTERCHANGE, INTERSTATE 515 AND GALLERIA DRIVE HENDERSON, NEVADA PROJECT NO. DATE											
	V						PROJECT NO. 301458002	DATE 10/06	FIGURE A-27			
							501100002	10.00				

	ن ا	N N						
		SAMPLES	L	(9	CF)		N	DATE DRILLED 03/28 and 04/07/06 BORING NO. B-22
(feet)	5	\$ 	FOO	RE (%	ITY (F	SOL	CATIC S.S.	GROUND ELEVATION 1,718'± MSL SHEET 1 OF 4
DEPTH (feet)		c,	BLOWS/FOOT	MOISTURE (%)	DENSI	SYMBOL	CLASSIFICATION U.S.C.S.	METHOD OF DRILLING Mayhew 1000 mud-rotary 8-inch drill rig
ä	Bulk	Driven	BLG	0 M	DRY DENSITY (PCF)		CLA	DRIVE WEIGHT 340 lbs. (auto trip hammer) DROP 30"
								SAMPLED BY RCH LOGGED BY RCH REVIEWED BY EDE DESCRIPTION/INTERPRETATION
0							GP-GM	FILL: Brown, damp, very dense, poorly graded GRAVEL with silt and sand.
-			57	3.7	118.2		SP-SM	<u>ALLUVIUM</u> : Brown, damp, very dense, poorly graded SAND with silt, gravel, cobbles, and boulders.
-							GP-GM	Brown, damp, very dense, poorly graded GRAVEL with silt, sand, cobbles, and boulders.
-	_							Dense.
			34	5.2				
5 -								
-		\square						
-								
-		\square						
10 -								Medium dense.
		M	29					
-	-	Д						
-		$\left \right $						
-								
-								
15 -								Dense.
-	_	┦	51	7.9				Damp dance poorly graded SAND with silty gravely and each blog
		Н					SP-SM	Damp, dense, poorly graded SAND with silt; gravel; and cobbles.
-	T							
-		$\left \right $						
-								
20								
20		<u> </u> 	. "			<u> </u>		BORING LOG
			Vİ	<u> 14</u>	10 4	Se	MO	GALLERIA DRIVE INTERCHANGE, INTERSTATE 515 AND GALLERIA DRIVE HENDERSON, NEVADA PROJECT NO. DATE FIGURE
		-	V	U	7	_	V -	PROJECT NO. DATE FIGURE

	0											
	SA INDI FS				Ę,		7	DATE DRILLED	03/28 and 04/07/06	BORING N	0	B-22
eet)	SAN		00T	E (%)	Y (PC	۲	ATION S.	GROUND ELEVATIO	0N <u>1,718'± MSL</u>	s	HEET 2	_ OF
DEPTH (feet)			BLOWS/FOOT	MOISTURE (%)	INSIT	SYMBOL	SIFIC/	METHOD OF DRILLI	NG Mayhew 1000 mud-re	otary 8-inch drill	rig	
DEF	Buk	Driven	BLO	MOIS	DRY DENSITY (PCF)	s,	CLASSIFICATION U.S.C.S.		340 lbs. (auto trip ham	mer)	DROP	30"
							Ũ	SAMPLED BY R	CH LOGGED BY DESCRIPTION/I			EDE
20	-						SP-SM	ALLUVIUM (continu				
		XI	32					Brown, wet, dense, po	oorly graded SAND wit	h silt; gravel;	and cobbles.	
		Δ										
	$\left \cdot \right $	_		¥. ₽								
	\square											
							GP-GM	Brown, saturated, very	y dense, poorly graded	GRAVEL WIT	h siit, sand, ar	id cobbles.
		7	50/4"	9.9				Sampler refusal after	10 inches			
25 -			50/1	7.5				Sumpler locusur alter	to menes.			
					_				v hard, CALICHE; stro	ngly cemented	I; composed p	rimarily of coarse-
·								grained material.				
		_										
·												
.	\square	_										
30 -												
	\square	-										
	$\left \right $	+					GP-GM	Dark brown, saturated	, very dense, poorly gra	aded GRAVE	L with silt and	sand; slightly — —
								cemented.				
			67	5.3								
35 -			.,	5.5								
	Ц											
-												
-		_					SC	Brown, saturated, dens	se, clayey SAND; a fev	v clay layers u	p to a few incl	hes thick.
-												
40												
						e I	AAn	nro	GALLERIA DRIVE INTE	BORING ERCHANGE, INTE	RSTATE 515 AND	GALLERIA DRIVE
				9		*		ore	PROJECT NO.	HENDERSON,	NEVADA	FIGURE
	_								301458002	10/06		A-29

DEPTH (feet)	Bulk SAMPLES	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	GROUND ELEVATION METHOD OF DRILLI DRIVE WEIGHT	NG <u>Mayhew 1000 mud-re</u> 340 lbs. (auto trip ham CH LOGGED BY	otary 8-inch drill rig mer) DROP	OF
40		95	22.8	108.3		SC	ALLUVIUM (continu Brown, saturated, den	<u>ied)</u> : ise, clayey SAND; a fev	w clay layers up to a	few inches thick.
-		27	27.2				Medium dense.			
50 -		50/4"	20.3	108.0		SP-SM	Sampler refusal after			y cemented; a few clay
55		50/4"	14.7				layers up to a few incl Sampler refusal after	nes thick. 10 inches.		nall clay nodules/lenses.
60						SP-SM			BORING LOC	
		Vi	<u>n</u>	[] 8	Se	MD	ore	GALLERIA DRIVE INTE		515 AND GALLERIA DRIVE
		V	J					PROJECT NO. 301458002	DATE 10/06	FIGURE A-30

	SAMPLES			(L)		7	DATE DRILLED03/28 and 04/07/06 BORING NOB-22
feet)	SAN	001	E (%)	DRY DENSITY (PCF)	ъ	CLASSIFICATION U.S.C.S.	GROUND ELEVATION 1,718'± MSL SHEET 4 OF 4
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	ENSIT	SYMBOL	SIFIC.	METHOD OF DRILLING Mayhew 1000 mud-rotary 8-inch drill rig
BE	Bulk Driven	BLO	MOIS	ZY DE	ŝ	CLAS	DRIVE WEIGHT 340 lbs. (auto trip hammer) DROP30"
						U	SAMPLED BY RCH LOGGED BY RCH REVIEWED BY EDE
60 		50/2"	14.4	114.9		SP-SM	ALLUVIUM (continued): Brown, saturated, very dense, poorly graded SAND with silt; a few small clay nodules/ lenses. Sampler refusal after 8 inches. Brown, saturated, moderately hard, CALICHE; moderately cemented; composed primarily of coarse-grained material.
75							
75 –					= = =		Sampler refusal after 4 inches. Total depth = 75.3 feet.
-							Groundwater measured at approximately 21.9 feet 72 hours after drilling. Backfilled on 04/13/06.
-							Note: Boring location approximately 145 feet west of NDOT Station No. 728+65.
80							BORING LOG
		M			&		GALLERIA DRIVE INTERCHANGE, INTERSTATE 515 AND GALLERIA DRIVE HENDERSON, NEVADA PROJECT NO. DATE FIGURE
			-7	_			PROJECT NO. DATE FIGURE 301458002 10/06 A-31
				_			

DEPTH (feet) tulk SAMPLES iven BLOWS/FOOT		<u> </u>						
H (feet)		5 1	2		DATE DRILLED	3/10, 3/17, and 3/24/06	BORING NO.	B-23
Н I I S	Е (%	۲ (PC		с vi	GROUND ELEVATIO	N <u>1,716'± MSL</u>	SHEET	1 OF
FIIS	MOISTURE (%)	IISN	SYMBOL	S.C.S.	METHOD OF DRILLI	NG CME 95 8-inch holle	ow-stem auger drill rigs	
DEF Bulk Driven BLO	MOIS	DRY DENSITY (PCF)	S S	U.S.C.S.	DRIVE WEIGHT	140 lbs. (auto trip har	nmer) DROP	30"
		Ľ		,	SAMPLED BYR	CH LOGGED BY	RCH REVIEWED	BY <u>EDE</u>
0			GP	-GM	<u>FILL</u> : Brown, damp, dense, t		EL with silt, sand, cobble	es, and boulders.
73	4.0	120.2	GP	P-GM	ALLUVIUM:		EL with silt, sand, cobble	
			S	SM	Brown, damp, dense, s	ilty SAND with grave	el, cobbles, and boulders	· <u> </u>
5 <u>- 36</u>	0.6		GP	-GM	Brown, damp, dense, p	boorly graded GRAVI	EL with silt, sand, and co	bbbles
87/10"	5.9		 S	SM	Brown, damp, very de	nse, silty SAND with	gravel.	·
10			GP		Brown, damp, very de Sampler refusal after 1		RAVEL with silt, sand, c	obbles, and boulders.
			SP	-SM	Brown, damp, very de	nse, poorly graded SA	ND with silt, gravel, and	d cobbles
53	2.2		· GP	-GM	Brown, damp, very de	nse, poorly graded GF	AVEL with silt, sand, a	nd cobbles
20 50	5.1	111.4					SAND with silt and gra	
	<u>n</u> /	10 8	Ż	10	ore		TERCHANGE, INTERSTATE 515 HENDERSON, NEVADA	AND GALLERIA DRIVE
	J		- •			PROJECT NO. 301458002	DATE 10/06	FIGURE A-32

		ES						DATE DRILLED 3/10, 3/17, and 3/24/06 BORING NO. B-23				
(t)		SAMPLES	Ц	(%)	(PCF)		NOI	GROUND ELEVATION 1,716'± MSL SHEET 2 OF 4				
DEPTH (feet)		Ť	S/FO(URE (SITY	SYMBOL	FICAT C.S.	METHOD OF DRILLING CME 95 8-inch hollow-stem auger drill rigs				
DEPT	Ч Н	Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYN	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT 140 lbs. (auto trip hammer) DROP 30"				
		Ď	_	4	DR		Ö	SAMPLED BY RCH LOGGED BY RCH REVIEWED BY EDE				
20	-						SP-SM	DESCRIPTION/INTERPRETATION ALLUVIUM (continued):				
								Brown, damp, medium dense, poorly graded SAND with silt and gravel. Brown, damp, very dense, well-graded SAND with silt, gravel, cobbles, and boulders.				
				▼			SW-SM	Saturated.				
-												
-		-		Ţ								
-												
25 -			50/3"	8.9				Sampler refusal after 9 inches.				
25												
-	-	H										
-	-	+				===		Brown, saturated, very hard, CALICHE; strongly cemented; composed primarily of coarse-				
-								grained material.				
-												
30	-	×	50/<1"					Approximately 3-foot diameter boulder.				
-	_	\square										
-												
-	-	Π										
-		$\left \right $					SM	Brown, saturated, very dense, silty SAND with gravel.				
35 -												
-			14									
		Н										
-		Π										
-	_	$\left \right $										
-												
40												
				78 7				BORING LOG GALLERIA DRIVE INTERCHANGE, INTERSTATE 515 AND GALLERIA DRIVE				
			Y	4		Ý		GALLERIA DRIVE INTERCHANGE, INTERSTATE 515 AND GALLERIA DRIVE HENDERSON, NEVADA PROJECT NO. DATE FIGURE				
							V					

	S									
	SAMPLES			Ê		z	DATE DRILLED	3/10, 3/17, and 3/24/06	BORING NO.	B-23
feet)	SA	ООТ	MOISTURE (%)	DRY DENSITY (PCF)	۲	CLASSIFICATION U.S.C.S.	GROUND ELEVATIO	N <u>1,716'± MSL</u>	SHEET	3 OF4
DEPTH (feet)		BLOWS/FOOT	TUR	IISN	SYMBOL	SIFIC, S.C.3	METHOD OF DRILLI	NG <u>CME 95 8-inch hollow</u>	-stem auger drill rigs	
DEF	Bulk Driven	BLO	MOIS	۲ DE	Ś	U U	DRIVE WEIGHT	140 lbs. (auto trip hamn	ner) DROP	30"
				ĽŐ			SAMPLED BYR	CH LOGGED BY		D BYEDE
40		50/3"				SM	ALLUVIUM (continu		TERPRETATION	
						Cini	Brown saturated, very	dense, silty SAND with	n gravel.	
-							Sampler refusal after 3	s inches.		
-						GM	Brown, saturated, very	dense, silty GRAVEL	with sand.	
		77	15.3	120.7		Givi	,,			
-										
-										
45 -										
-										
-										
-							Trace clay.			
-		50/4"	28.9	95.6			Sampler refusal after 1	0 inches.		
50 -							Brown, saturated, very	stiff, lean CLAY with	sand and silt.	
_										
-										
-										
-										
55 -										
-										
-										
-										
-										
60				_	([]]]				BORING LOO	
		MÌ	77	10 2	۶£	MO	ore	GALLERIA DRIVE INTE		515 AND GALLERIA DRIVE
				_				PROJECT NO. 301458002	DATE 10/06	FIGURE A-34
				_				501458002	10/00	<u></u>

	177			×				HENDERSON, NEV	VADA													
				e.		ore	GALLERIA DRIVE INTI	BORING L ERCHANGE, INTERST	ATE 515 AND	GALLERIA D	RIVE											
						Note: Boring location	approximately 100 fee	t east of NDOT S	Station No.	725+93.												
						Total depth = 76.5 fee Groundwater encounte Groundwater measured Backfilled on 03/27/06	red at approximately 2 d at approximately 21.3			after drilli	ng.											
;	53	49.1	49.1	49.1	49.1	49.1	49.1	49.1	49.1	49.1	49.1	49.1	49.1	72.2								
9	95/9"	42.9	42.9	42.9	42.9	42.9	42.9	42.9	42.9	42.9	81.9			Sampler refusal after 1	5 inches.							
	30	29.6				Brown, saturated, very	stiff, lean CLAY with	sand and sin.														
					CL	SAMPLED BY RC	DESCRIPTION/I	NTERPRETATION	WED BY	EDE												
Bulk Driven	BLOM	LSIOW	DRY DENSITY (PCF)	SY	SYMBUL CLASSIFICATION U.S.C.S.		140 lbs. (auto trip ham		OP													
ulk SA	BLOWS/FOOT	MOISTURE (%)	ISITY (F	SYMBOL		GROUND ELEVATIO	N <u>1,716± MSL</u> NG <u>CME 95 8-inch hollor</u>		ET <u>4</u>	_ 0F	4											
SAMPLES	L	(9	CF)		N		3/10, 3/17, and 3/24/06	BORING NO.		B-23												

1<u>0/06</u>

A-35

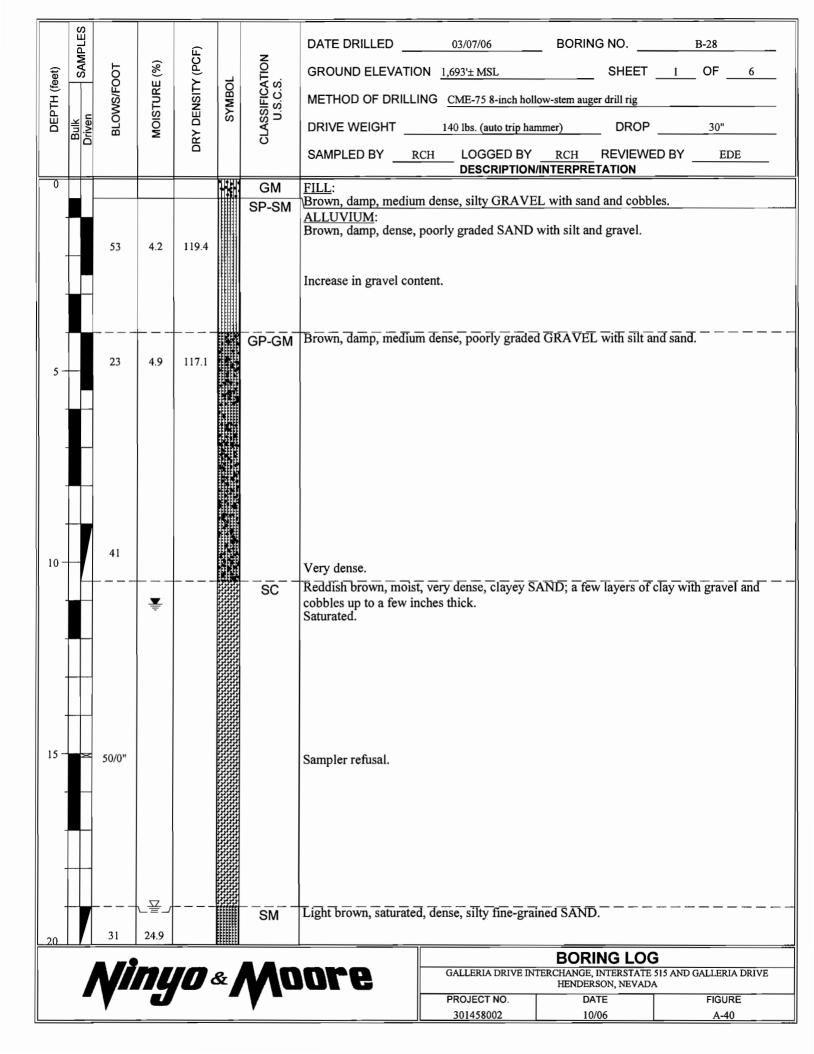
301458002

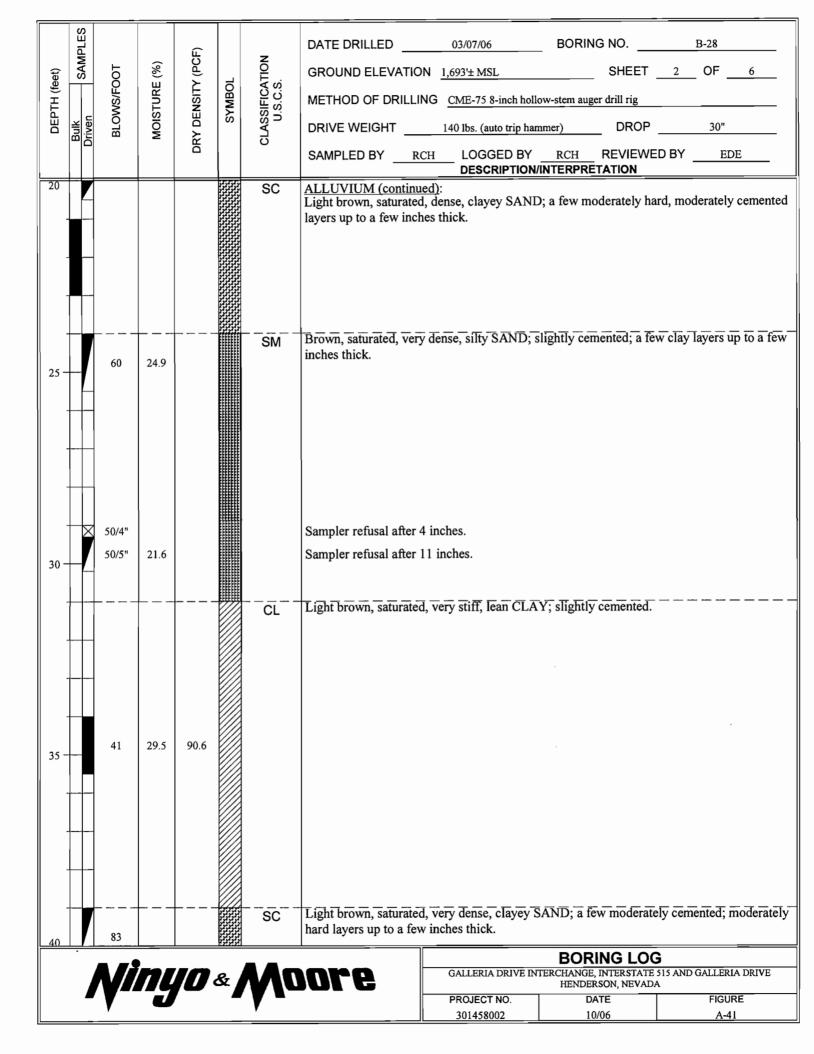
	4	s N				1		
		SAMPLES			Ĺ,		7	DATE DRILLED03/10/06 BORING NOB-24
feet)		SA	OOT	MOISTURE (%)	DRY DENSITY (PCF)	۲	CLASSIFICATION U.S.C.S.	GROUND ELEVATION Not measured SHEET 1 OF 1
DEPTH (feet)			BLOWS/FOOT	STUR	INSIT	SYMBOL	SIFIC	METHOD OF DRILLING CME 75 8-inch hollow-stem auger drill rig
DEF	Buk	Driven	BLO	NOI	SY DE	ςς		DRIVE WEIGHT 140 lbs. (auto trip hammer) DROP 30"
							0	SAMPLED BY <u>RCH</u> LOGGED BY <u>RCH</u> REVIEWED BY <u>EDE</u> DESCRIPTION/INTERPRETATION
0							GM	FILL: Brown, damp, dense, silty GRAVEL with sand, cobbles, and boulders.
	-						GP-GM	ALLUVIUM:
			36	2.2				Brown, damp, dense, poorly graded GRAVEL with silt, sand, cobbles, and boulders.
							GM	Brown, damp, very dense, silty GRAVEL with sand, cobbles, and boulders.
	-		50/3"					Sampler refusal after 3 inches.
5 -								
5								
	-							
	_							
							_ 	
							SM	Brown, damp, very dense, silty SAND with gravel.
	┢	T						
10 -	╞		35	10.3				
								Total depth = 10.5 feet. Groundwater not encountered during drilling.
								Backfilled on 03/10/06.
	╀							Note: Boring location approximately 125 feet west of NDOT Station No. 724+35.
,	╞							
15 -	+-	$\left \right $						
	-							
	L							
	T	$\left \right $						
	_	$\left - \right $						
20								
						0		BORING LOG GALLERIA DRIVE INTERCHANGE, INTERSTATE 515 AND GALLERIA DRIVE
			V	14		Ý		GALLERIA DRIVE INTERCHANGE, INTERSTATE 515 AND GALLERIA DRIVE HENDERSON, NEVADA PROJECT NO. DATE FIGURE
			•				•	301458002 10/06 A-36

	ES						DATE DRILLED 02/06/06 BORING NO. B-25
t	SAMPLES	н	(%	PCF)		NO	GROUND ELEVATION Not measured SHEET 1 OF 1
H (fee	<u></u>	S/FOC	JRE (SITY (SYMBOL	ICATI C.S.	METHOD OF DRILLING Mobile B-61 8-inch HDX hollow-stem auger drill rig
DEPTH (feet)	Bulk Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYM	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT 140 lbs. (cathead) DROP
	Drive	Ξ	×	DRY		CL	SAMPLED BY MAB LOGGED BY MAB REVIEWED BY EDE
0							DESCRIPTION/INTERPRETATION
Ŭ						GM	ASPHALT CONCRETE: Approximately 4-1/2" to 5" thick.
		50/4" 37 50/5"	5.5	105.8		SM	FILL: Dark brown, damp, dense, silty GRAVEL with sand (aggregate base material); unit is approximately 7.5 inches to 8.0 inches thick. <u>ALLUVIUM</u> : Dark brown, very dense, silty SAND with gravel. Sampler refusal after 4 inches.
							Total depth = 10.4 feet. Groundwater not encountered during drilling. Backfilled and patched on 02/06/06.
_							
-							
0		_					
					s.	Мп	BORING LOG GALLERIA DRIVE INTERCHANGE, INTERSTATE \$15 AND GALLERIA DRIVE HENDERSON, NEVADA PROJECT NO. DATE FIGURE
			- 7				PROJECT NO. DATE FIGURE
	-	Ţ					

	S	_								
	SAMPLES			CF)		z	DATE DRILLED	02/06/06		B-26
feet)	SAI	001	MOISTURE (%)	DRY DENSITY (PCF)	5	CLASSIFICATION U.S.C.S.	GROUND ELEVATIO	N Not measured	SHEET _	1 OF 1
DEPTH (feet)		BLOWS/FOOT	STUR		SYMBOL	SIFIC I.S.C.	METHOD OF DRILLI	NG Mobile B-61 8-inch Hl	DX hollow-stem auger dri	ll rig
DE	Bulk Driven	BLO	MOIS	۲ DE	S.		DRIVE WEIGHT	140 lbs. (cathead)	DROP	30"
				L R			SAMPLED BY			DBYEDE
0	+++					GM	FILL:	DESCRIPTION/IN		
						GM	Brown, damp, dense, s	silty GRAVEL with san	d	
						SM	ALLUVIUM: Dark brown, damp, de	ense, silty GRAVEL with Fry dense, silty SAND w	h sand, cobbles, and	oulders.
		38	5.4				Dark brown, damp, ve	ery dense, silty SAND w	ith gravel, cobbles, a	nd boulders.
	ΙH									
5 -		50/3"	3.6	103.0			Sampler refusal after 9	inches.		
ļ										
	111									
	╘┛╌┤						Increase in gravel con	tent.		
							increase in graver con			
		50/3"	4.9				Sampler refusal after 9	9 inches.		
10 -					EEEEEEE		Total depth = 9.8 feet.			
							Backfilled on 02/06/0	ountered during drilling. 6.		
	++									
1										
	+									
15 -										
	$\left + \right $									
	++-									
20				L	L		<u> </u>		BORING LOG	
		Mì			Sz		ore	GALLERIA DRIVE INTE	RCHANGE, INTERSTATE 5 HENDERSON, NEVADA	
			7	_				PROJECT NO.	DATE	FIGURE
			_					301458002	10/06	A-38

					1				
		SAMPLES			Ű.		7	DATE DRILLED 02/06/06 BORING NO. B-27	
feet)		SAM	001	MOISTURE (%)	DRY DENSITY (PCF)	Ч	CLASSIFICATION U.S.C.S.	GROUND ELEVATION 1,699.22'± MSL SHEET 1 OF 1	l
DEPTH (feet)			BLOWS/FOOT	STUR	ENSI	SYMBOL	SIFIC J.S.C.	METHOD OF DRILLING Mobile B-61 8-inch HDX hollow-stem auger drill rig	
B	Buik	Driven	BLC	MOM	RYDI	0	CLAS	DRIVE WEIGHT 140 lbs. (cathead) DROP 30"	
					Δ			SAMPLED BY MAB LOGGED BY MAB REVIEWED BY EDE DESCRIPTION/INTERPRETATION	
0							GM	FILL: Brown, damp, dense, silty GRAVEL with sand, cobbles, and boulders.	
		X	56				GM	<u>ALLUVIUM</u> : Dark brown, damp, dense, silty GRAVEL with sand, cobbles, and boulders.	
							SW-SM	Dark brown, damp, dense, well-graded SAND with silt, gravel, cobbles, and boulder	'S.
			81/9"	5.7				Very dense; sampler refusal after 15 inches.	
5 -							GM	Dark brown, damp, dense, silty GRAVEL with sand, cobbles, and boulders.	
10 -			86/11"	4.3	112.3		SM	Dark brown, damp, very dense, silty SAND with gravel, cobbles, and boulders. Sampler refusal after 17 inches.	
						EEEEEEE		Total depth = 10.4 feet. Groundwater not encountered during drilling. Backfilled on 02/06/06.	
15 -	+	+							
	-								
-		-							
20									
				n		e I		BORING LOG GALLERIA DRIVE INTERCHANGE, INTERSTATE 515 AND GALLERIA DR HENDERSON, NEVADA PROJECT NO. DATE FIGURE	IVE
				3		-		HENDERSON, NEVADA PROJECT NO. DATE FIGURE	
		_							_





	ES	3												
~	SAMPLES		⊢	(%	CF)		NO			- BORIN			<u>3-28</u>	
DEPTH (feet)	0	5	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	BOL	CLASSIFICATION U.S.C.S.				SHEET _		UF	6
ЕРТН	Ţ	en	SMO	DISTU	DENS	SYMBOL	SSIF U.S.(NG <u>CME-75 8-inch holl</u>					
۵	Ang.	Driven	ы	¥	DRY I		CLA		140 lbs. (auto trip har		_ DROP _		30"	
									CH LOGGED BY DESCRIPTION		REVIEWED		EDE	<u> </u>
-40 -							SC	ALLUVIUM (continu Light brown, saturated hard layers up to a few	d, very dense, clayey S	SAND; a fe	w moderatel	y cemer	nted, mo	oderately
45 -			50/3"	22.4	104.5		SM	Brown, saturated, ver layers up to a few incl Sampler refusal after	nes thick.	a few mode	erately hard, i	moderat	tely cen	nented –
50			22	40.7			SC	Light brown, saturated cemented; layers up to		ey SAND;	a few moder	ately ha	ard; mo	derately –
			62	39.2	82.3			Light brown, saturated	I, very stiff, sandy lead	n CLAY.				
	-						SC	Brown, saturated, med	lium dense to dense, c	layey SAN	D. — — — —			
- 60			30	38.1	[] 8	&		ore	GALLERIA DRIVE IN PROJECT NO.	TERCHANGE, HENDER	ING LOG INTERSTATE 51 ISON, NEVADA	15 AND G	ALLERIA	

DEPTH (feet) Bulk SAMPLES	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	METHOD OF DRILLI	 N <u>1,693'± MSL</u> NG <u>CME-75 8-inch hollo</u> 140 lbs. (auto trip han CH LOGGED BY 	ow-stem auger drill rig	B-28 6
	24	38.7	81.4		SC	Medium dense.	dium dense to dense, cl		
80	37	37.9			CL	Brown, saturated, ver	y stiff, sandy lean CLA		hented layers up to a few
		-						BORING LOO	
		IĽ	10 8	۶£		ore	GALLERIA DRIVE INT	ERCHANGE, INTERSTATE HENDERSON, NEVAD	515 AND GALLERIA DRIVE A
	V	J					PROJECT NO. 301458002	DATE	FIGURE
							301458002	10/06	A-43

	SAMPLES			(-			DATE DRILLED	03/07/06		 6 NO		B-28	
et)	SAM	ŎŢ	(%)	(PCF		TION	GROUND ELEVATIO	N <u>1,693'± MSL</u>		SHEET	5	_ OF	6
DEPTH (feet)	[]	IS/FO	URE	4SITY	SYMBOL	FICA:	METHOD OF DRILLI	NG CME-75 8-inch hol	llow-stem auger	drill rig			
DEP1	Bulk Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SΥ	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	140 lbs. (auto trip ha	mmer)	DROP		30"	
			~	DR		U	SAMPLED BY R	CH LOGGED BY	RCH	REVIEWE	D BY	EDE	
80							ALLINIUM (continu	DESCRIPTION	INTERPRET	ATION			
85 -						CL	<u>ALLUVIUM (continu</u> Brown, saturated, ver inches thick.	<u>ied)</u> : y stiff, sandy lean CL	AY; a few sli	ightly cem	ented l	ayers up to	o a few
	╎╴╎╻┝					SC	Brown, saturated, med	lium dense, clayey SA	\overline{AND} . — — —				
90 -		41	40.2	80.4									
1.													
95 -													
100		24	35.5			CL	Light brown, saturated few inches thick.	l, very stiff, sandy lea	in CLAY; a f	ew slightly	cemer	nted layers	s up to a
					[/././]					NG LOG			
		V //	ΠŲ	[]]	۶£	MO	ore	GALLERIA DRIVE IN	HENDERS	ON, NEVADA	515 AND		DRIVE
		V				V -		PROJECT NO. 301458002	DAT 10/0			FIGURE <u>A-44</u>	

		2						
	SAMPLES		L		ĆF)		N	DATE DRILLED03/07/06 BORING NOB-28
DEPTH (feet)	s S	5	BLOWS/FOOT	MOISTURE (%)	TY (F	ы	CLASSIFICATION U.S.C.S.	GROUND ELEVATION 1,693'± MSL SHEET 6 OF 6
PTH		_	/SMC	ISTUI	ENSI	SYMBOL	SSIFIC U.S.C	METHOD OF DRILLING CME-75 8-inch hollow-stem auger drill rig
DE	Hng.	Driven	BLC	W	DRY DENSITY (PCF)		CLAS	DRIVE WEIGHT 140 lbs. (auto trip hammer) DROP 30"
								SAMPLED BY RCH LOGGED BY RCH REVIEWED BY EDE DESCRIPTION/INTERPRETATION
100								Total depth = 100.5 feet.
-								Groundwater encountered at approximately 19.0 feet during drilling. Groundwater encountered at approximately 11.1 feet approximately 48 hours after drillin Backfilled on 03/09/06.
-								Note: Boring location approximately 125 feet west of NDOT Station No. 758+85.
105								
105 -								
-		_						
-								
-								
110 -								
_		_						
-		-						
-		-						
115 -	$\left \right $							
-		_						
-								
-		-						
-		-						
120								BORING LOG
				Ľ		Se 🖌		GALLERIA DRIVE INTERCHANGE, INTERSTATE 515 AND GALLERIA DRIVE HENDERSON, NEVADA PROJECT NO. DATE FIGURE

					1	1				
	SAMPLES			Ĺ,		~	DATE DRILLED	03/09/06	BORING NO.	B-29
eet)	SAM	00T	≡ (%)	γ (PC	L L	ATION.	GROUND ELEVATIO	0N 1,693.99'± MSL	SHEET	OF4
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	INSIT	SYMBOL	S.C.S	METHOD OF DRILLI	NG CME 75 8-inch hollo	ow-stem auger drill rig	
DEP	Bulk Driven	BLO	MOIS	DRY DENSITY (PCF)	S	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	140 lbs. (auto trip han	nmer) DROP	30"
				۲ <u>۵</u>			SAMPLED BYR	CH LOGGED BY		ED BYEDE
						GM	FILL:	DESCRIPTION	INTERPRETATION	
				_		SM	Brown, damp, mediur	n dense, silty GRAVE n dense, silty SAND w	L with sand and cobb	les
									in graver.	
		27	4.3	116.3						
						SP-SM	ALLUVIUM:		SAND with ailt and	
							gypsiferous.	n dense, poorly graded	SAND with sitt and	graver, slignily
.										
5 -		20	3.6							
	ΙH									
·						GP-GM	Brown, damp, very de	ense, poorly graded GF	AVEL with silt, sand	, and cobbles.
		50/5"	5.1	115.9			Sampler refusal after	11 inches.		
10 -										
	$\left \right $									
			60				O torret de come la contra			
		50/4"	6.2 T				Saturated; sampler ref	usai after 10 inches.		
15 -										
-							Layer of clay approxim	•		
						SM	Brown, saturated, very	dense, silty SAND; s	lightly cemented.	
									х.	
-		50/2"	15.1	96.6			Sampler refusal after a	8 inches.		
20		_								
					Sz /	AAn	ore	GALLERIA DRIVE INT	BORING LOC ERCHANGE, INTERSTATE HENDERSON, NEVAD	515 AND GALLERIA DRIVE
			3					PROJECT NO.	DATE	FIGURE
			_			-		301458002	10/06	A-46

	0				<u> </u>							
	SAMPLES			(L		7	DATE DRILLED	03/09/06	BORING N	0	B-29	
eet)	SAM	001	E (%)	γ (PC	Ч	ATIOP. S.	GROUND ELEVATIO	N <u>1,693.99'±</u> MSL	s	HEET 2	OF	4
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	INSIT	SYMBOL	SIFIC, S.C.(METHOD OF DRILLI	NG <u>CME 75 8-inch hollo</u>	ow-stem auger dri	ll rig		
DEF	Bulk Driven	BLO	MOIS	DRY DENSITY (PCF)	Ś	CLASSIFICATION U.S.C.S.		140 lbs. (auto trip han	nmer)	DROP	30"	
				ä		0	SAMPLED BYR	CH LOGGED BY DESCRIPTION/			EDE	
20	╞╞╍					SM	ALLUVIUM (continu	ed):				
							Brown, saturated, very Brown, saturated, very			ed. — — — — — —		
						CL	brown, saturated, very	Strift, Sundy Touri CLA				
			Ţ									
											fouringhas	Thick -
		23	28.3			SM	Brown, saturated, med	num dense, silty SAN	D; a few clay I	ayers up to a	i iew inches	IIICK.
25 -		23	28.3									
	117											
30 -	1-1Ň	8										
							Brown, saturated, very	stiff, sandy lean CLA	Y; a few clay	ey sand layer	s up to a fe	winches
35 -		55					thick.					
	$\left - \right $											
	+											
							Brown, damp, very de	nee noorly graded SA	ND with eilt.	few gravel		
40		50/4"	19.0	109.4		SP-SM	Sampler refusal after		and while shit,	iow gravei.		
40)						BORING			
		MÏ	Ŋ	Π	Sz		ore	GALLERIA DRIVE IN	HENDERSON	ERSTATE 515 AI I, NEVADA		
		V	J					PROJECT NO. 301458002	DATE 10/06		FIGURE A-47	
		-		_		_						

			-								_	_	
	SAMPLES			Έ)		7	DATE DRILLED	03/09/06	BORIN	IG NO]	B-29	
feet)	SAN	001	MOISTURE (%)	DRY DENSITY (PCF)	Ы	CLASSIFICATION U.S.C.S.	GROUND ELEVATIO	N <u>1,693.99'± MSL</u>		SHEET _	3	OF _	4
DEPTH (feet)		BLOWS/FOOT	STUR	LISNE	SYMBOL	SIFIC	METHOD OF DRILLI	NG CME 75 8-inch holl	ow-stem aug	er drill rig			
DE	Bulk	BLO	MOI	RY DI	S	ר כושצ	DRIVE WEIGHT	140 lbs. (auto trip har	nmer)	_ DROP _		30"	
							SAMPLED BY	CH LOGGED BY			D BY _	EDE	<u> </u>
40		-				SP-SM	ALLUVIUM (continu Brown, damp, very de	ed): nse, poorly graded SA	AND with s	silt; few grav			
45 -		28				sc	Brown, saturated, mec cemented layers up to moderately gypsiferou	a few inches thick; a t					
50 -		62	42.4	83.0									
55 -		- - -					Brown, saturated, very	dense_poorly graded	SANDW	th silt and or	avel: se	everal cl	av lavers
60		44	25.5			37-3IVI	up to a few inches thic			an one and gi			uy layers
					2.	AAn	nro	GALLERIA DRIVE INT	TERCHANGE,			ALLERIA	DRIVE
			"5		×		ore	PROJECT NO.	HENDER	RSON, NEVADA		FIGURE	
								301458002	10	/06		A-48	

	S	2										_		
	SAMPLES				É.		7	DATE DRILLED	03/09/06	BORIN	NG NO.	_	B-29	
feet)	SAN	5	001	MOISTURE (%)	DRY DENSITY (PCF)	ы Б	CLASSIFICATION U.S.C.S.	GROUND ELEVATIO	N <u>1,693.99'± MSL</u>		SHEET	4	_ OF	4
DEPTH (feet)			BLOWS/FOOT	STUR	LISNE	SYMBOL	SIFIC .S.C.	METHOD OF DRILLII	NG CME 75 8-inch hollo	w-stem aug	ger drill rig			
DEF	Bulk	Driven	BLO	MOIS	۲ DE	S	U	DRIVE WEIGHT	140 lbs. (auto trip ham	mer)	DROP		30"	
					ä		0	SAMPLED BYR	CH LOGGED BY		REVIEWE	D BY	ED	E
60 			50/5"	23.9	100.3		SP-SM	ALLUVIUM (continu Brown, saturated, very up to a few inches thic Sampler refusal after 5 Sampler refusal after 3 Total depth = 74.3 fee Groundwater measured Backfilled on 03/11/00 Note: Boring location	dense, poorly graded k. inches. inches. t. red at approximately 2 d at approximately 14.45.	SAND w SAND w 23.0 feet o 4 feet app	tith silt and g	g. 8 hou	rs after d	rilling.
80					_								_	
						e. /	AAn	ore	GALLERIA DRIVE INT	ERCHANGE	ING LOG		GALLERIA	DRIVE
				/		V								
			 	4					PROJECT NO.		RSON, NEVADA		FIGUR	E

	SAMPLES			Ű,		7	DATE DRILLED	02/06/06		B-30
eet)	SAN	001	E (%)	Y (PC	۲.	ATION.	GROUND ELEVATIO	0N <u>1,678.30'± MSL</u>	SHEET _	1 OF 1
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	IISN	SYMBOL	SIFIC.	METHOD OF DRILLI	NG Mobile B-61 8-inch H	DX hollow-stem auger dr	ill rig
DEF	Bulk Driven	BLO	NOI	DRY DENSITY (PCF)	0 N	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	140 lbs. (cathead)	DROP	30"
				ä			SAMPLED BY		MAB REVIEWE	DBY EDE
0						SM	FILL:			
						ML	ALLUVIUM:	ose to loose, silty SANE		
		37	22.2							
5-						СН	Reddish brown, damp	to moist, very stiff, san	dy fat CLAY; modera	ately gypsiferous.
		82/11"	19.0	108.8			Very dense; sampler r	efusal after 17 inches.		
						CL	Reddish brown, damp gypsiferous.	to moist, very stiff, lear	CLAY with sand; sl	ightly to moderately
10 -	┢╋	82	20.4							
							Total depth = 10.5 fee Groundwater not enco	et.		
							Backfilled on 02/06/0	6.		
·										
1.										
15 -										
	$\left \right $									
20										
	<u> </u>								BORING LOG	
		\ //	ГĻ		Se	Ma	ore		RCHANGE, INTERSTATE 5 HENDERSON, NEVADA	
		V			_	V		PROJECT NO. 301458002	DATE 10/06	FIGURE

	(0)						
	SAMPLES			Э. Э.		z	DATE DRILLED 02/06/06 BORING NOB-31
feet)	SAN	001	E (%)	Y (PC	Ч	ATIO S.	GROUND ELEVATION Not measured SHEET 1 OF 1
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	ENSIT	SYMBOL	SIFIC.	METHOD OF DRILLING Mobile B-61 8-inch HDX hollow-stem auger drill rig
B	Bulk Driven	BLO	MOIS	DRY DENSITY (PCF)	S.	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT 140 lbs. (cathead) DROP 30"
				ā		U	SAMPLED BY MAB LOGGED BY MAB REVIEWED BY EDE DESCRIPTION/INTERPRETATION
0	╞╼┼╺┲		Ŧ			SM	ALLUVIUM:
							Brown, saturated, loose, silty SAND; trace gravel.
		50/3"	15.6	109.6			Very dense; sampler refusal after 9 inches.
						CL	Reddish brown, saturated, very stiff, sandy lean CLAY; a few layers of clayey GRAVEL approximately a few inches thick.
							approximately a few menes mick.
_							
		50/3"					Sampler refusal after 9 inches.
						SC	Reddish brown, saturated, very dense, clayey SAND with gravel.
		50/2"	16 .0	110.3			Sampler refusal after 8 inches.
10 -		5012	10.0	110.5			Total depth = 9.7 feet.
							Groundwater measured at ground surface approximately 24 hours after drilling. Backfilled on 02/07/06.
15 -							
20							BORING LOG
		M	77		Se		GALLERIA DRIVE INTERCHANGE, INTERSTATE 515 AND GALLERIA DRIVE HENDERSON, NEVADA PROJECT NO. DATE FIGURE
			7	_			
L							

	SAMPLES			Ē			DATE DRILLED	02/06/06	BORING NO.	B-32
eet)	SAM	DOT	(%)	Y (PC	_	VTION	GROUND ELEVATIO	DN Not measured	SHEET	1OF1
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	NSIT	SYMBOL	S.C.S	METHOD OF DRILLI	NG Mobile B-61 8-inch F	IDX hollow-stem auger d	rill rig
DEP	Bulk Driven	BLO	MOIS	DRY DENSITY (PCF)	Ś	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	140 lbs. (cathead)	DROP	30"
				Ë			SAMPLED BYM		MAB REVIEWE	ED BYEDE
0						GM	FILL:			
						GM	Brown, damp, dense,	silty GRAVEL with sat	nd	
							ALLUVIUM: Dark brown, damp, ve	ery dense, silty GRAVE	EL with sand.	
		86/9"	4.0				Sampler refusal after	15 inches.		
1										
ľ										
5 -		-				 	Dark brown, damp, m	edium dense, silty SAN	ID with gravel.	
		30	5.5	108.7						
10 -		75/9"	3.4				Very dense; sampler i	refusal after 15 inches.		
							Total depth = 10.3 fee	et. Suntered during drilling		
	++						Backfilled on 02/06/0			
	+									
	<u> -</u>									
	·									
15 -										
20										
		a /}	.		0	4 A -		GALLERIA DRIVE INT	BORING LOG	515 AND GALLERIA DRIVE
		V	Щ		Ý		ore	PROJECT NO.	HENDERSON, NEVADA	
		V				V		<u>301458002</u>	10/06	A-52

	0						
	SAMPLES			Ĺ,		7	DATE DRILLED03/07/06 BORING NOB-33
feet)	SAM	001	E (%)	DRY DENSITY (PCF)	Ч	CLASSIFICATION U.S.C.S.	GROUND ELEVATION 1,678.01'± MSL SHEET 1 OF 1
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	ENSIT	SYMBOL	SIFIC J.S.C.	METHOD OF DRILLING CME 75 8-inch hollow-stem auger drill rig
DEI	Bulk Driven	BLO	MOI	RY DI	S	CLAS	DRIVE WEIGHT140 lbs. (auto trip hammer) DROP30"
							SAMPLED BY RCH LOGGED BY RCH REVIEWED BY EDE
0						GM	FILL: Brown, damp, dense, silty GRAVEL with sand and cobbles.
-		83	4.0	125.7		GP-GM	<u>ALLUVIUM</u> : Brown, damp, very dense, poorly graded GRAVEL with silt, sand, and cobbles.
5	X	50/4"					Sampler refusal after 10 inches.
-			2.9				
10 -		75	4.3	116.6			
-							Total depth = 10.5 feet. Groundwater not encountered during drilling. Backfilled on 03/07/06.
-							
-							
15 -							
-							
-							
-							
20							BORING LOG
		\mathcal{N}	777		Se	Μ	GALLERIA DRIVE INTERCHANGE, INTERSTATE 515 AND GALLERIA DRIVE HENDERSON, NEVADA PROJECT NO. DATE FIGURE
				_			PROJECT NO. DATE FIGURE

	(ŝ									
		SAMPLES			ب ب		z	DATE DRILLED	02/06/06	BORING NO.	B-34
eet)		SA	001	E (%)	γ (PC	2	ATIOI S.	GROUND ELEVATIO	N <u>1,668.21'± MSL</u>	SHEET1	OF
DEPTH (feet)			BLOWS/FOOT	MOISTURE (%)	IISN	SYMBOL	SIFIC.	METHOD OF DRILLI	NG Mobile B-61 8-inch	HDX hollow-stem auger drill rig	g
DEF	Bulk	Driven	BLO	NOIS	DRY DENSITY (PCF)	s.	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	140 lbs. (cathead) DROP	30"
					E E		0	SAMPLED BY	AB LOGGED BY	MAB REVIEWED B	Y <u>EDE</u>
0		Ħ					GM	FILL:		and, cobbles, and boulders.	
_	-	H					GM	ALLUVIUM:		rith sand, cobbles, and bou	
								Brown, damp, very de	lise, silly OKAVEL w	fui sand, coobles, and bou	
		M	50/4"					Sampler refusal after	0 inches.		
-											
_											
			76	4.3							
5 -											
-											
_											
-		Η									
-											
10			50/4"	4.1	112.2			Sampler refusal after 1 Total depth = 9.8 feet.			
10 -								Groundwater not enco Backfilled on 02/06/06	untered during drillin	g.	
-	-	Η						Backfilled on 02/06/0).		
-		_									
-		Π									
-		$\left \right $									
15 -											
15											
-		\parallel									
-		$\left \right $									
		Π									
-		$\left \right $									
2.0											
			a / 3	.		0	444	nro	GALLERIA DRIVE IN	BORING LOG	ND GALLERIA DRIVE
			V	4		×		ore	PROJECT NO.	HENDERSON, NEVADA	FIGURE
			v				Y		301458002	10/06	A-54

		0									
		SAMPLES			Ĵ.		-	DATE DRILLED	03/07/06	BORING NO.	B-35
set)		SAN	ТОС	(%)	ү (РС	_	ATION .	GROUND ELEVATION	Not measured	SHEET	1 OF 1
DEPTH (feet)			BLOWS/FOOT	TURE	USIT	SYMBOL	S.C.S	METHOD OF DRILLIN	IG CME 75 8-inch holl	ow-stem auger drill rig	
DEP	Bulk	Driven	BLOV	MOISTURE (%)	DRY DENSITY (PCF)	S	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	140 lbs. (auto trip har	nmer) DROP	30"
					DR		O	SAMPLED BY		RCH REVIEWE	D BY EDE
0	┢	+						ASPHALT:			
	Ļ						GP-GM	Approximately 6-1/2 to FILL:			
			44	5.5	113.5		GP-GM	unit is approximately 5		I GRAVEL with silt ar	id sand (aggregate base);
								ALLUVIUM: Brown, damp, dense, p	oorly graded GRAV	EL with silt and sand.	
	-	_									
								Very dense.			
			76	5.2	114.9			very dense.			
5 -											
	-										
	-	-									
								Dense.			
			48	5.0	118.0			Dense.			
10 -								Total depth = 10.5 fee	· · · · · · · · · · · · · · · · · · ·		
	┝	-						Groundwater not enco	untered during drillin	g.	
								Backfilled and patched	l on 03/07/06.		
	+-										
	╞										
15 -											
19-											
	+										
	_										
	T										
	┝	+									
20											
						P	A An		GALLERIA DRIVE IN	BORING LOG	515 AND GALLERIA DRIVE
				74		×		ore	PROJECT NO.	HENDERSON, NEVADA	FIGURE
			۲				• 		301458002	10/06	<u>A-55</u>

	SAMPLES			E)			DATE DRILLED	02/06/06	BORING NO.	B-36
eet)	SAM	DOT	(%)	Y (PC	2	ATION S.	GROUND ELEVATIO	N <u>1,651.39'± MSL</u>	SHEET	1 OF 1
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	NSIT	SYMBOL	S.C.S	METHOD OF DRILLI	NG Mobile B-61 8-inch H	DX hollow-stem auger dr	ill rig
DEP	Bulk Driven	BLO	MOIS	DRY DENSITY (PCF)	S	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	140 lbs. (cathead)	DROP	30"
				Б		0	SAMPLED BY		MAB REVIEWE	D BYEDE
0	╞╼┼╾╁				1 248	GP-GM		DESCRIPTION/II		
						GM	Brown to light brown,	damp, loose, poorly gr	aded GRAVEL with	silt and sand.
							ALLUVIUM:	ry dense, silty GRAVE	I with sand	
							Dark brown, damp, ve	Ty dense, sinty GIGTVE	E with Suid.	
		50/5"	5.6	111.3			Sampler refusal after 1	1 inches.		
							-	ry dense, silty GRAVE	L with sand.	
						SM	Dark brown, damp, ve	ry dense, sing Grarve	E with Suite.	
							0 1	1 in the		
		50/5"	5.9				Sampler refusal after 1	l I inches.		
5 -										
	$\left \right $									
		36	5.5				Dense.			
10 -	┝┦║	50	0.0							
							Total depth = 10.5 fee Groundwater not enco	t. Juntered during drilling.		
							Backfilled on 02/06/0	6.		
	$\left - \right $									
	Ш									
15 -	+									
	┼┼┥									
20										
		• •			0			GALLERIA DRIVE INTI	BORING LOC ERCHANGE, INTERSTATE	515 AND GALLERIA DRIVE
			Τζ	Ψ	στ		ore	PROJECT NO.	HENDERSON, NEVADA	
		V				V		301458002	10/06	A-56

	U L							DATE DRILLED 09/06/06 BORING NO. B-37
et)		SAMPLES	от	(%)	(PCF)		NOL	GROUND ELEVATION 1,692.70'± MSL SHEET 1 OF 3
DEPTH (feet)			BLOWS/FOOT	URE	ISITY	SYMBOL	FICAT S.C.S.	METHOD OF DRILLING CME-75 8-inch hollow-stem auger drill rig
DEPT	Bulk	Driven	BLOW	MOISTURE (%)	DRY DENSITY (PCF)	SYI	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT 140 lbs. (auto trip hammer) DROP 30"
	В	ā		2	DR		Ü	SAMPLED BY NB LOGGED BY NB REVIEWED BY EDE
0							GM	FILL:
-							GP-GM	Brown, damp, medium dense, silty GRAVEL with sand, cobbles, and boulders. ALLUVIUM:
		-					SP-SM	Brown, damp, dense, poorly graded GRAVEL with silt, sand, cobbles, and boulders Brown, damp, very dense, poorly graded SAND with silt, gravel, and cobbles.
-		Z	50/6"		 			Sampler refusal after 6 inches.
-		$\left \right $					GP-GM	Brown, damp, very dense, poorly graded GRAVEL with silt, sand, and cobbles.
5 -								
-			84/9"	4.3	127.9			Sampler refusal after 15 inches.
-								
-								
-								
10 -							SP-SM	Brown, damp, very dense, poorly graded SAND with silt and gravel.
-			50/6"					Sampler refusal after 12 inches.
				Ţ				Saturated.
-								
-								
_								
							SM	Brown, saturated, very dense, silty SAND with gravel and cobbles.
15 -	\parallel	×	50/2"					Sampler refusal after 2 inches.
-								Brown, saturated, dense, clayey SAND with silt and gravel.
							SC	Brown, sauratou, donso, orayoy Skivid with Sitt and gravel.
-								
-	-							
20								BORING LOG
					10	&	Mo	GALLERIA DRIVE INTERCHANGE, INTERSTATE 515 AND GALLERIA DRIVE HENDERSON, NEVADA PROJECT NO. DATE FIGURE
				J				PROJECT NO. DATE FIGURE 301458002 10/06 A-57
	_		_	_	_			

				1					
et) SAMPLES			F)		_	DATE DRILLED	09/06/06	BORING NO.	B-37
eet) SAM	J T	(%)	r (PC	_	TION.	GROUND ELEVATIO	N <u>1,692.70'± MSL</u>	SHEET	2 OF 3
DEPTH (feet)	BLOWS/FOOT	TURE	NSIT	SYMBOL	S.C.S	METHOD OF DRILLII	NG <u>CME-75 8-inch hollo</u>	ow-stem auger drill rig	
DEP.	BLOV	MOISTURE (%)	DRY DENSITY (PCF)	S	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	140 lbs. (auto trip han	nmer) DROP	30"
			DR		0		B LOGGED BY	NB REVIEWE	D BY EDE
20				777	CL	ALLUVIUM (continu		INTERPRETATION	
	47				0L	Brown, saturated, very	v stiff, sandy lean CLA	Y.	
	_								
	_								
	_								
25		<u>+</u>			SM	Brown, saturated, den	se, silty SAND.	·	
	48	16.7	120.1						
	_								
		┾				Brown, saturated, very	stiff, sandy lean CLA	A <u>7</u> . — — — — — — — — — —	
30					UL				
	14								
	-								
	_					A few silty sand layers	up to a few inches th	ick	
						A lew sitty saild layers	s up to a rew menes u	IICK.	
35						Stiff.			
	12	32.3	84.1						
	-								
	_								
40									
								BORING LOO	
			Π	&		ore		TERCHANGE, INTERSTATE HENDERSON, NEVAD	A
							PROJECT NO. 301458002	DATE 10/06	FIGURE A-58

	U L							DATE DRILLED 09/06/06 BORING NO. B-37
et)			от	(%)	DRY DENSITY (PCF)		TION	GROUND ELEVATION 1,692.70'± MSL SHEET 3 OF 3
DEPTH (feet)	Π		BLOWS/FOOT	MOISTURE (%)	NSITY	SYMBOL	IFICA: S.C.S.	METHOD OF DRILLING CME-75 8-inch hollow-stem auger drill rig
DEP	Bulk	Driven	BLOV	MOIS	ςΥ DEI	S	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT140 lbs. (auto trip hammer) DROP30"
					۲ <u>۵</u>		0	SAMPLED BY NB LOGGED BY NB REVIEWED BY EDE DESCRIPTION/INTERPRETATION
40			18				CL	ALLUVIUM (continued): Brown, saturated, very stiff, sandy lean CLAY.
45 -			50/6"	23.1	104.3			Sampler refusal after 12 inches.
								Groundwater encountered at approximately 20.0 feet during drilling. Groundwater measured at approximately 11.4 feet approximately 48 hours after drilling. Backfilled on 09/08/06.
-								Note: Boring location approximately 140 feet west of NDOT Station No. 759+75.
50 -								
-								
55 -								
-								
-								
-		_						
60								BORING LOG
			Vľ	N	10	Sz	Ma	GALLERIA DRIVE INTERCHANGE, INTERSTATE 515 AND GALLERIA DRIVE HENDERSON, NEVADA
			V				V -	PROJECT NO. DATE FIGURE 301458002 10/06 A-59

	LES						DATE DRILLED		BORING NO.	B-38
÷	SAMPLES	ы	(%	(PCF)		NO		DN 1,698'± MSL		1 OF 4
DEPTH (feet)	Ť	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.		ING Mobile B-61 8-inch		
EPTI	₹ē	LOWS	OISTI	DEN	SYN	ASSIF U.S.		140 lbs. (cathead		30"
	Bulk Driven	B	ž	DRY		CL			NB REVIEWE	
0							CONCRETE: Approximately 12 to	13 inches thick.		
						SP-SM	<u>FILL</u> : Brown, damp, mediur	n dense, poorly graded	SAND with silt and g	gravel.
5		56				GP-GM		ense, poorly graded GF ented caliche layers up		and; a few moderately
10		50/3"					Sampler refusal after	3 inches.		
+						SP-SM	Brown, damp, mediur	n dense, poorly graded	SAND with silt and g	gravel
15 -							Brown, damp, very st	iff, sandy lean CLAY.		
		28								
						SP-SM	Brown, damp, medium	n dense, poorly graded	SAND with silt and g	gravel.
			-		-			GALLEDIA DDIVE DIT	BORING LOG	
		V	Ц	U	Ý.		ore	PROJECT NO.	HENDERSON, NEVADA	·
		V				V		301458002	10/06	FIGURE A-60

					6			DATE DRILLED 09/25/06 BORING NO. B-38
et)		SAMPLES	от	(%)	DRY DENSITY (PCF)		NOL	GROUND ELEVATION 1,698'± MSL SHEET 2 OF 4
H (fee	F		S/FO(JRE (SITY	SYMBOL	fICAT C.S.	METHOD OF DRILLING Mobile B-61 8-inch HDX hollow-stem auger drill rig
DEPTH (feet)	¥	en	BLOWS/FOOT	MOISTURE (%)	DEN	SYN	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT 140 lbs. (cathead) DROP 30"
	Bul	Driven	ā	ž	DRY		CL	
								DESCRIPTION/INTERPRETATION
20			85/11"	22.2	106.1		CL	ALLUVIUM (continued): Reddish brown, damp, very stiff, sandy lean CLAY. Sampler refusal after 17 inches.
	t			∟≝_∕			SC	Reddish brown, saturated, very dense, clayey SAND; a few slightly cemented layers up to few inches thick.
25 -								
			50/5"					Sampler refusal after 11 inches.
30 -							CL	Reddish brown, saturated, very stiff, sandy lean CLAY.
	-		28					
							SC	Reddish brown, saturated, medium dense, clayey SAND; few gravel.
-							CL	Reddish brown, saturated, very stiff, sandy lean CLAY.
35			40	39.4	83.9			
40						<u>////</u>		
						s I		BORING LOG GALLERIA DRIVE INTERCHANGE, INTERSTATE 515 AND GALLERIA DRIVE HENDERSON, NEVADA PROJECT NO. DATE FIGURE
				Э				
								30145800210/06A-61

	L							DATE DRILLED	09/25/06	BORING NO.	B-38
et)		SAMPLES	OT	(%)	DRY DENSITY (PCF)		TION .	GROUND ELEVATIO		SHEET	3OF4
DEPTH (feet)		Π	BLOWS/FOOT	MOISTURE (%)	VSITY	SYMBOL	CLASSIFICATION U.S.C.S.	METHOD OF DRILLI	NG Mobile B-61 8-inch	HDX hollow-stem auger d	rill rig
DEP.	Zuk M	Driven	BLOV	NOIS	Y DEI	sγ	LASS U.		140 lbs. (cathead	i) DROP	30"
					DR		0	SAMPLED BY	B LOGGED BY		DBY EDE
40	-						CL	ALLUVIUM (continu		/INTERPRETATION	
			39					Reddish brown, satura	ted, very stiff, sandy	lean CLAY.	
				+			SC	Reddish brown, satura	ted, very dense, claye	y SAND; slightly cem	ented.
45 -	-										
			50/6"	21.8	103.9			Sampler refusal after			
							CL	Reddish brown, satura	ted, very stiff, sandy	lean CLAY.	
	+	$\left \cdot \right $									
50 -											
			64								
		_									
55 -											
	+	$\left \right $									
		Ц									
								Moderately hard, mod	erately cemented cali	che layer up to 6 inche	s thick.
	-	$\left - \right $									
60			_								
						e. 1	AAn	nro	GALLERIA DRIVE IN	BORING LOG TERCHANGE, INTERSTATE	515 AND GALLERIA DRIVE
				IJ		×		ore	PROJECT NO.	HENDERSON, NEVADA	FIGURE
			,				•		301458002	10/06	A-62

_	ŝ						
	SAMPLES	L		CF)		N	DATE DRILLED 09/25/06 BORING NOB-38
DEPTH (feet)	SA	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	JOL	CLASSIFICATION U.S.C.S.	GROUND ELEVATION 1,698'± MSL SHEET 4 OF 4
PTH		I/SMC	STUF	ENSI	SYMBOL	SIFIC J.S.C	METHOD OF DRILLING Mobile B-61 8-inch HDX hollow-stem auger drill rig
Ы	Bulk Driven	BLO	IOM	RYD		CLAS	DRIVE WEIGHT 140 lbs. (cathead) DROP 30"
						C	SAMPLED BY NB LOGGED BY NB REVIEWED BY EDE DESCRIPTION/INTERPRETATION
60		50/2"	19.7	104.1		SC	ALLUVIUM (continued): Reddish brown, saturated, very dense, clayey SAND; a few moderately hard, moderately cemented layers up to a few inches thick. Sampler refusal after 2 inches.
-							Brown, saturated, hard, CALICHE; strongly cemented; composed primarily of coarse- grained material.
-		+					Reddish brown, saturated, very stiff, sandy lean CLAY.
- 65 - - - - 70 - - - - -		34					
75	X	50/4"					Sampler refusal after 4 inches.
-							Total depth = 75.3 feet. Groundwater encountered at approximately 24.0 feet during drilling. Backfilled and patched on 09/25/06. Note: Boring location approximately 5 feet east of NDOT Station No. 759+75.
80							BORING LOG
		N i			&		GALLERIA DRIVE INTERCHANGE, INTERSTATE 515 AND GALLERIA DRIVE HENDERSON, NEVADA PROJECT NO. DATE FIGURE
		▼	-7				
		_			_		

	SAMPLES			(=			DATE DRILLED	09/21/06	_ BORING NO	B-39
et)	SAM	DOT	(%)	(PCI	_	NOIT.	GROUND ELEVATION	1,701'± MSL	SHEET	1 OF 2
DEPTH (feet)		BLOWS/FOOT	TURE	ASIT.	SYMBOL	IFICA S.C.S	METHOD OF DRILLING	G Mobile B-61 8-inch	HDX hollow-stem auger dril	l rig
ДЕР	Bulk Driven	BLOV	MOISTURE (%)	DRY DENSITY (PCF)	sγ	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	140 lbs. (cathead) DROP _	30"
	٦			DR		Ö	SAMPLED BY NB		NB REVIEWED	BY EDE
0							CONCRETE: Approximately 11-1/2 to			
-						SP-SM	FILL: Brown, damp, medium of			avel.
-						GP-GM	ALLUVIUM:			
5 -							Brown, damp, very dens		RAVEL with silt, sand, a	and cobbles.
-		50/4"					Sampler refusal after 4 i	nches.		
10 -	_						Medium dense.			
-		37	3.7	108.4						
-						SP-SM	Brown, damp, dense, po	orly graded SAND	with silt and gravel.	
-										
15 -		50/6"				GP-GM	Brown, damp, very dens Sampler refusal after 12		AVEL with silt, sand, a	ind cobbles.
-										
							<u> </u>		BORING LOG	
20										
20		<u>///</u>			&		ore	GALLERIA DRIVE INT	TERCHANGE, INTERSTATE 51 HENDERSON, NEVADA	AND GALLERIA DRIVE

	0									
	SAMPLES			CF)		z	DATE DRILLED	09/21/06		B-39
feet)	SAM	00T	MOISTURE (%)	DRY DENSITY (PCF)	Ы	CLASSIFICATION U.S.C.S.	GROUND ELEVATION	1,701'± MSL	SHEET _	2 OF 2
DEPTH (feet)		BLOWS/FOOT	STUR	LISNE	SYMBOL	SIFIC J.S.C.	METHOD OF DRILLING	G Mobile B-61 8-inch	HDX hollow-stem auger dri	ll rig
DE	Bulk Driven	вго	MOI	RY DI	S	CLAS		140 lbs. (cathead) DROP _	30"
				ā			SAMPLED BY NB		NB REVIEWE	BY EDE
20		79/9"	20.7	103.6		SC	ALLUVIUM (continued Brown, damp, very dens	L): se, clayey SAND wit		
							Sampler refusal after 15	inches.		
						SP-SM	Brown, damp, very dens	e, poorly graded SA	ND with silt and grave	T. — — — — — — — — — — — — — — — — — — —
	_									
						CL	Brown, damp, very stiff	, sandy lean CLAY.		
25 -										
		91								
30 -		80/8"					Sampler refusal after 14	inches.		
	┝┦┥						Total depth = 31.2 feet.			
							Groundwater not encour Backfilled on 09/25/06.	ntered during drilling	<u>z</u> .	
							Note: Boring location a	oproximately 5 feet of	east of NDOT Station N	Jo. 758+80.
35 -										
55										
-										
40									BORING LOG	
		V ľ	<u>n</u>	[]	Se		ore		ERCHANGE, INTERSTATE 5 HENDERSON, NEVADA	
		V	U					PROJECT NO. 301458002	DATE 10/06	FIGURE A-65

et) SAMPLES		Э Э		-	DATE DRILLED	09/06/06	BORING NO.	B-40
eet) SAM	(%)	Y (PC	_	CLASSIFICATION U.S.C.S.	GROUND ELEVATIO	N 1,694'± MSL	SHEET	1 OF
DEPTH (feet) bulk [SA] iven [SA]	MOISTURE (%)	NSIT	SYMBOL		METHOD OF DRILLI	NG <u>CME-75 8-inch hollo</u>	ow-stem auger drill rig	
DEP Bulk Driven	MOIS	DRY DENSITY (PCF)	S		DRIVE WEIGHT	140 lbs. (auto trip han	nmer) DROP	30"
		Ъ		0	SAMPLED BY		NB REVIEWE	DBY EDE
	_			GM	FILL:	DESCRIPTION		
				SM	Brown, damp, mediun	n dense, silty GRAVE	L with sand and cobbl	es
				CIVI	ALLUVIUM: Brown, damp, dense, s	silty SAND with grave	and cobbles.	
				GP-GM	Brown, damp, very de	nse, poorly graded GR	AVEL with silt, sand	, and cobbles.
50/	6"				Sampler refusal after	12 inches.		
5				SP-SM	Brown, damp, very de	nse, poorly graded SA	ND with silt, gravel, a	and cobbles.
					Brown, damp, very de	nse noorly graded GE	AVEL with silt sand	and cobbles
				GP-GM	Brown, uamp, very de	inse, poorty graded OF	CAVEL with shi, sand	, and coooles.
10 50/	6"				Sampler refusal after i	12 inches.		
15 50/	/5"				Sampler refusal after :			
				GM	Brown, damp to moist	t, very dense, silty GR	AVEL with sand and o	cobbles.
	X				Saturated.			
				SM	Brown, saturated, den	se, silty SAND with g	avel	
					<u> </u>		BORING LOG	
	lin		&	Mn	ore	GALLERIA DRIVE INT	ECHANGE, INTERSTATE HENDERSON, NEVADA	515 AND GALLERIA DRIVE
▏				A In		PROJECT NO.	DATE	FIGURE
L				V		301458002	10/06	A-66

S.						
et) SAMPLES			CF)		z	DATE DRILLED BORING NO B-40
feet)	001	MOISTURE (%)	Z (P	5	ATIO S.	GROUND ELEVATION 1,694'± MSL SHEET 2 OF 3
DEPTH (feet) ulk SA iven SA	BLOWS/FOOT	STUR	LISNE	SYMBOL	SIFIC S.S.C.	METHOD OF DRILLING CME-75 8-inch hollow-stem auger drill rig
DEP Driven	BLO	MOIS	DRY DENSITY (PCF)	ŝ	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT 140 lbs. (auto trip hammer) DROP 30"
			ä		Ũ	SAMPLED BY NB LOGGED BY NB REVIEWED BY EDE DESCRIPTION/INTERPRETATION
20				777	CL	
	46				UL	<u>ALLUVIUM (continued)</u> : Brown, saturated, very stiff, sandy lean CLAY.
						A few silty sandy layers up to a few inches thick.
25	50/5"	₽				Sampler refusal after 5 inches; trace cobbles.
-						
-						
30						
	24					
35						
	33					
	55					
40						
	_ / \$			•		BORING LOG GALLERIA DRIVE INTERCHANGE, INTERSTATE 515 AND GALLERIA DRIVE
		14	ĮŪš	Š.	M	GALLERIA DRIVE INTERCHANGE, INTERSTATE 515 AND GALLERIA DRIVE HENDERSON, NEVADA PROJECT NO. DATE FIGURE
	V				V	201458002 10/06 A_67

	S.	2									
	SAMPI ES			~	CF)		z	DATE DRILLED	09/06/06	_ BORING NO	B-4 0
(feet)		5	BLOWS/FOOT	MOISTURE (%)	IY (P	Ы	S.	GROUND ELEVATION	1,694'± MSL	SHEET	3 OF 3
DEPTH (feet)			WS/F	STUF	ENSI	SYMBOL	CLASSIFICATION U.S.C.S.	METHOD OF DRILLIN	G <u>CME-75 8-inch holl</u>	ow-stem auger drill rig	
DE	Bulk	Driven	BLC	MO	DRY DENSITY (PCF)	v		DRIVE WEIGHT	140 lbs. (auto trip har	mmer) DROP	30"
					ō		-	SAMPLED BY N	B LOGGED BY	NB REVIEWE	D BY
40			59/11"				CL	ALLUVIUM (continue Brown, saturated, very Sampler refusal after 1 Sampler refusal after 1 Total depth = 45.9 feet Groundwater encounter Groundwater measured Backfilled on 09/08/06 Note: Boring location a	d): stiff, sandy lean CLA 7 inches. I inches. red at approximately at approximately 18	AY with gravel. 25.0 feet during drillir 22 feet approximately 4	48 hours after drilling.
55											
55 -											
	$\left \right $										
	$\left \cdot \right $	_									
	$\left \right $	-									
60											
						0			GALLERIA DRIVE IN	BORING LOG	
			V	4		×		ore	PROJECT NO.	HENDERSON, NEVADA	
	_		V			_	V		301458002	10/06	A-68

					_								
	SAMPLES			Е.			DATE DRILLED	09/06/06	BORING NO.	B-41			
eet)	SAM	DOT	(%)	r (PCI	_	TION .	GROUND ELEVATIO	DN 1,680.22'± MSL	SHEET	OF			
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	USIT	SYMBOL	CLASSIFICATION U.S.C.S.	METHOD OF DRILLI	NG CME-75 8-inch hollo	w-stem auger drill rig				
DEP	Bulk Driven	BLOV	MOIS	DRY DENSITY (PCF)	S)		DRIVE WEIGHT	140 lbs. (auto trip ham	mer) DROP	30"			
				ä		0	SAMPLED BY R		RCH REVIEWE	ED BYEDE			
0	-++			<u> </u>		SM	FILL:	DESCRIPTION					
							Brown, damp, loose, s	silty SAND with gravel	and cobbles.				
						GM	ALLUVIUM: Brown, damp, medium	n dense, silty GRAVEI	with sand and cobbl	es.			
	⊢╿ ┝					<u>-</u>	Brown to reddish brow	wn_damp to moist_stiff	sandy lean CLAY:	moderately gypsiferous.			
	ΙH					UL	brown to reacisit brow		, sandy roun 02211, 1	nicueratery gyponerous.			
5 -							A few slightly cemented layers a few inches thick.						
		12	28.8	90.6									
			Į ₹				Saturated.						
10 -							Very stiff.						
		42											
·													
┦.													
15 -													
		57	30.9	92.6									
	$\left - \right +$					CL	Brown, saturated, very	y stiff, sandy lean CLA	<u> </u>				
20_													
									BORING LOO				
				[] «	Sz		ore	GALLERIA DRIVE INT	ERCHANGE, INTERSTATE HENDERSON, NEVADA	515 AND GALLERIA DRIVE			
		V		,				PROJECT NO.	DATE	FIGURE			
								301458002	1 <u>0/06</u>	A-69			

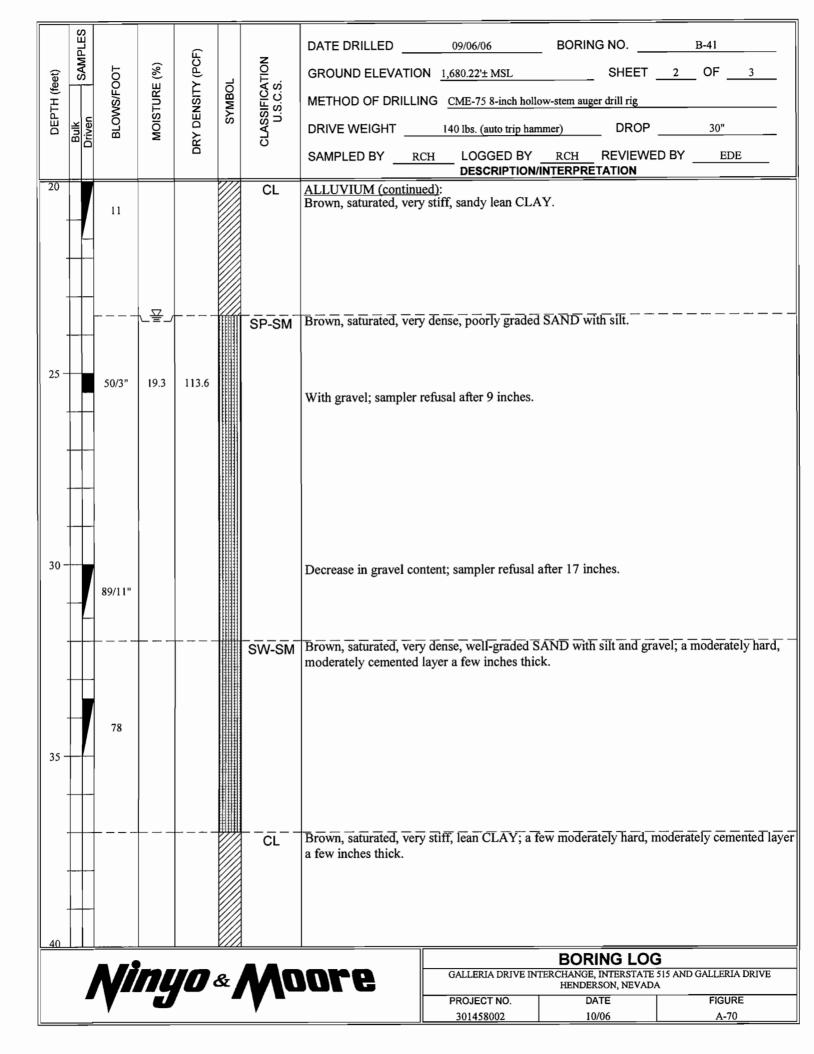


Image: Similar of the second secon
Image: Second second
40 41 41.3 76.8 CL ALLUVIUM (continued): Brown, saturated, very stiff, lean CLAY; a few moderately hard, moderately cemented a few inches thick. 45 21 Total depth = 46.5 feet. Groundwater encountered at approximately 23.5 feet during drilling. Groundwater measured at approximately 7.9 feet approximately 48 hours after drilling.
40 41 41.3 76.8 CL ALLUVIUM (continued): Brown, saturated, very stiff, lean CLAY; a few moderately hard, moderately cemented a few inches thick. 45 21 Total depth = 46.5 feet. Groundwater encountered at approximately 23.5 feet during drilling. Groundwater measured at approximately 7.9 feet approximately 48 hours after drilling.
40 41 41.3 76.8 CL ALLUVIUM (continued): Brown, saturated, very stiff, lean CLAY; a few moderately hard, moderately cemented a few inches thick. 45 21 Total depth = 46.5 feet. Groundwater encountered at approximately 23.5 feet during drilling. Groundwater measured at approximately 7.9 feet approximately 48 hours after drilling.
40 41 41.3 76.8 CL ALLUVIUM (continued): Brown, saturated, very stiff, lean CLAY; a few moderately hard, moderately cemented a few inches thick. 45 21 Total depth = 46.5 feet. Groundwater encountered at approximately 23.5 feet during drilling. Groundwater measured at approximately 7.9 feet approximately 48 hours after drilling
Total depth = 46.5 feet. Groundwater encountered at approximately 23.5 feet during drilling. Groundwater measured at approximately 7.9 feet approximately 48 hours after drilling
Groundwater measured at approximately 7.9 feet approximately 48 hours after drilling
50
60 60 BORING LOG GALLERIA DRIVE INTERSTATE 515 AND GALLERIA DRIV HENDERSON, NEVADA PROJECT NO. DATE FIGURE

	SAMPLES			Ĵ.		7	DATE DRILLED	09/05/06	BORING NO.	B-42
eet)	SAN	001	E (%)	Y (PC	F	ATION S.	GROUND ELEVATIO	DN <u>1,678.58'±</u> MSL	SHEET	OF3
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)		SYMBOL	SIFIC/ S.C.S	METHOD OF DRILLI	NG <u>CME-75 8-inch hollo</u>	w-stem auger drill rig	
DEF	Bulk Driven	BLO	NOIS	DRY DENSITY (PCF)	Ś	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	140 lbs. (auto trip ham	nmer) DROP	30"
				ä		U	SAMPLED BYR		<u>RCH</u> REVIEWE	ED BY <u>EDE</u>
0	╞╾╞╼┾					GM	FILL:			
						SC	Brown, damp, loose, s	silty GRAVEL with sa	nd and cobbles.	
						30	Brown, damp, mediur	n dense, clayey SAND		
	┢	9								
							Brown damp very st	iff, sandy lean CLAY.		
						CL	Brown, damp, very st			
5 -							Prour down modius	n donce silty SAND w	ith clow several clow	layers a few inches thick;
		36	18.0	107.2		SM		l, moderately cemented		
			Ţ	Ţ		Saturated.				
						Saturated.				
10 -							Dense.			
		64	24.9	101.5						
							Silty sand layer a few			
						CL/CH	Brown, saturated, ver	y stiff, sandy lean to far	CLAY.	
						OL/OIT		· · ·		
15 -						CL-ML	Brown, saturated, ver layers a few inches thi	y stiff, silty CLAY; a fe	ew moderately hard, r	noderately cemented
		48					layers a few menes un	ICK.		
-										
-										
2.0										
					e. 1	A A n	nro	GALLERIA DRIVE INT		515 AND GALLERIA DRIVE
		V "/	IJ		×	AL	ore	PROJECT NO.	HENDERSON, NEVADA	
	_					·		301458002	10/06	A-72

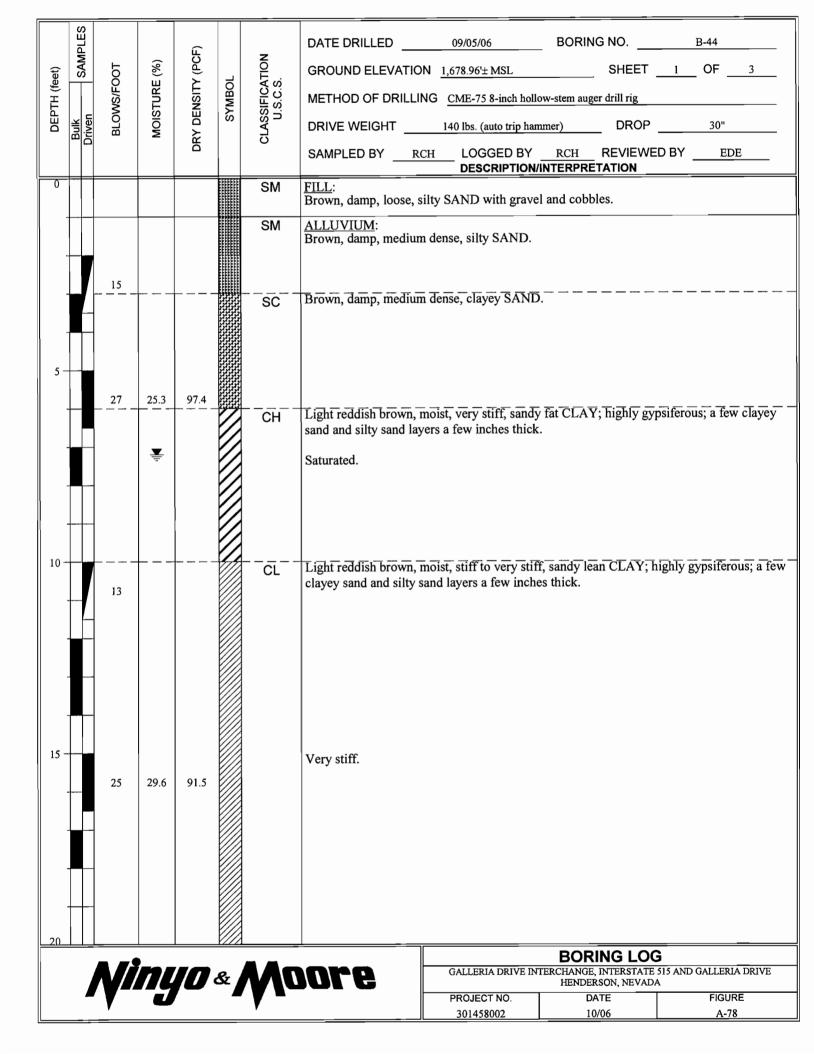
	LES						DATE DRILLED	09/05/06	BORING NO.	B-42
et)	SAMPLES	ОТ	(%)	DRY DENSITY (PCF)		NOI	GROUND ELEVATIO	N 1,678.58'± MSL	SHEET	2 OF 3
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	ISITY	SYMBOL	CLASSIFICATION U.S.C.S.	METHOD OF DRILLI	NG CME-75 8-inch hollo	w-stem auger drill rig	
DEPI	Bulk Driven	BLOM	LSION	Y DEN	SΥ		DRIVE WEIGHT	140 lbs. (auto trip ham	mer) DROP	30"
	ΞĞ			DR		Ö		CH LOGGED BY	RCH REVIEWE	D BYEDE
20		50	30.7	91.2		CL/CH	ALLUVIUM (continu Reddish brown, satura inches thick.	ed): ted, very stiff, lean to f	fat CLAY; a few sligh	tly cemented layers a few
25 -		7	<u>⊥</u> Ξ				Stiff.			
30 -		50/5"	26.9	102.2		SP-SM	Brown, saturated, very Sampler refusal after 1		SAND; few gravel.	
35 -		80				CL	Brown, saturated, very moderately hard, mod	v stiff, sandy lean CLA erately cemented layer.	Y; few sand layers a f s a few inches thick.	ew inches thick; a few
40_					////				BORING LOG	
		Mi	n		Sz		ore	GALLERIA DRIVE INT	ERCHANGE, INTERSTATE	515 AND GALLERIA DRIVE
		V	J					PROJECT NO. 301458002	DATE 10/06	FIGURE A-73

b DEPTH (feet) Bulk Bulk Bulk SAMPLES BLOWS/FOOT MOISTURE (%) MOISTURE (%) DRY DENSITY (PCF)	CLA	DATE DRILLED 09/05/06 BORING NO. B-42 GROUND ELEVATION 1,678.58'± MSL SHEET 3 OF 3 METHOD OF DRILLING CME-75 8-inch hollow-stem auger drill rig
40 50/5" 21.9 105.0 45 30	SM	ALLUVIUM (continued): Brown, saturated, very dense, silty SAND. Sampler refusal after 11 inches.
50	CL	Brown, saturated, very stiff, lean CLAY; a few moderately hard, moderately cemented layers a few inches thick. Sampler refusal after 15 inches. Layer of silty SAND a few inches thick. Total depth = 51.3 feet. Groundwater encountered at approximately 25.0 feet during drilling. Groundwater measured at approximately 7.8 feet 48 hours after drilling. Backfilled on 09/07/06.
Ninyo &	Ma	BORING LOG GALLERIA DRIVE INTERCHANGE, INTERSTATE 515 AND GALLERIA DRIVE HENDERSON, NEVADA PROJECT NO. DATE FIGURE 301458002 10/06 A-74

-		SAMPLES		(9	°CF)		NO	DATE DRILLED 09/05/06 BORING NO. B-43								
DEPTH (feet)	0	20	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	GROUND ELEVATION 1,679.04'± MSL SHEET 1 OF 3 METHOD OF DRILLING CME-75 8-inch hollow-stem auger drill rig								
DEP	Buk	Driven	BLOV	.SIOW	Y DEI	SΥ	ILASS U.	DRIVE WEIGHT 140 lbs. (auto trip hammer) DROP 30"								
					DR		0	SAMPLED BY <u>RCH</u> LOGGED BY <u>RCH</u> REVIEWED BY <u>EDE</u> DESCRIPTION/INTERPRETATION								
0							SM	FILL: Brown, damp, loose, silty SAND.								
			30				CL	ALLUVIUM: Brown, damp to moist, very stiff, sandy lean CLAY; highly gypsiferous; a few slightly cemented layers a few inches thick.								
			47	24.9	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	CI	CL	Light brown to brown, moist, very stiff, Tean CLAY. Saturated. A few slightly cemented layers a few inches thick; several silty sand layers a few inches thick.
			22													
						e.	AAn	BORING LOG GALLERIA DRIVE INTERCHANGE, INTERSTATE 515 AND GALLERIA DRIVE								
			V	4		×		GALLERIA DRIVE INTERCHANGE, INTERSTATE 515 AND GALLERIA DRIVE HENDERSON, NEVADA PROJECT NO. DATE FIGURE								
			•				•	301458002 10/06 A-75								

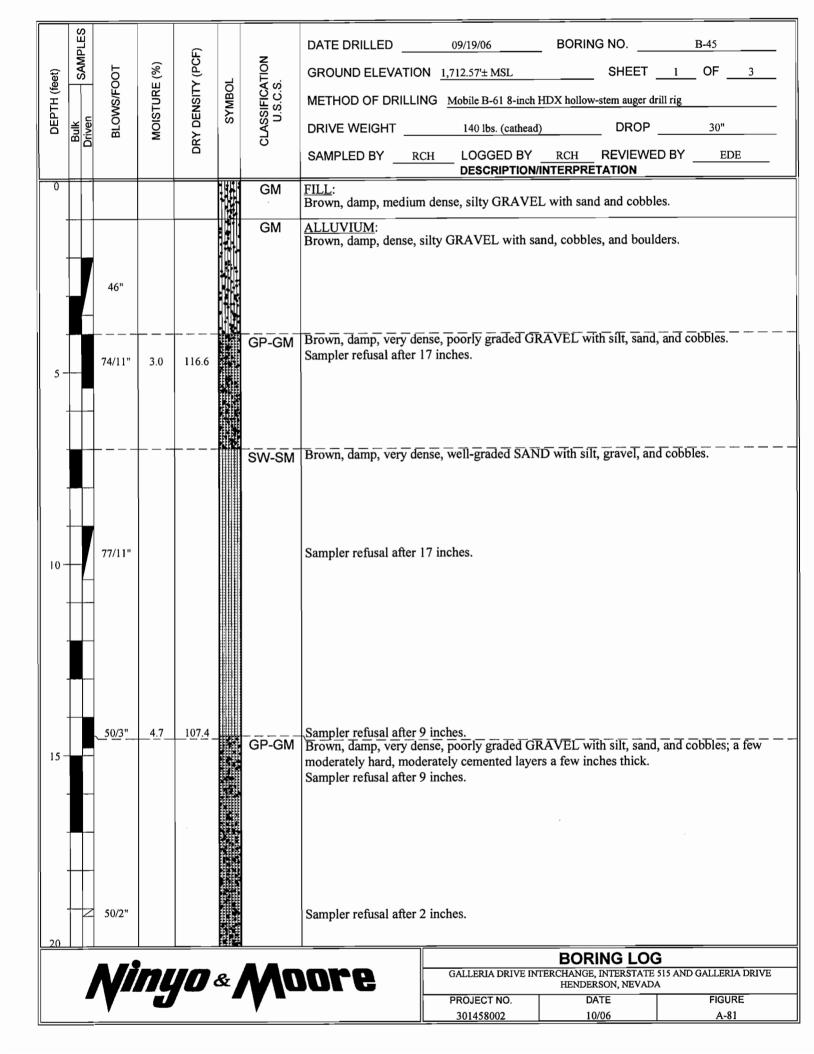
	SAMPLES			F)			DATE DRILLED 09/05/06 BORING NO. B-43
et)	SAN	Ю	(%)	(PC		NOIL	GROUND ELEVATION 1,679.04'± MSL SHEET 2 OF 3
DEPTH (feet)		BLOWS/FOOT	TURE	LISN	SYMBOL	IFICA S.C.S	METHOD OF DRILLING CME-75 8-inch hollow-stem auger drill rig
DEP	Bulk Driven	BLOV	MOISTURE (%)	DRY DENSITY (PCF)	Ś	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT 140 lbs. (auto trip hammer) DROP 30"
			-	DR		O	SAMPLED BY RCH LOGGED BY RCH REVIEWED BY EDE
20						SC	DESCRIPTION/INTERPRETATION ALLUVIUM (continued):
		45	27.1	98.0			Brown, saturated, dense, clayey SAND; a few slightly sand layers a few inches thick; moderately gypsiferous.
						1	
			₽	I			
25 -						SM	Brown, saturated, very dense, silty SAND; a few moderately hard, moderately cemented
		68/10"					layers a few inches thick. Sampler refusal after 16 inches.
							r.
30 -						CL-ML	Brown, saturated, very stiff, silty CLAY.
		48	29.1	93.3			
35 -							Brown, saturated, stiff to very stiff, lean CLAY.
		13					
	$ $						
40							BORING LOG
		Mi			&	AAn	GALLERIA DRIVE INTERCHANGE, INTERSTATE 515 AND GALLERIA DRIVE HENDERSON, NEVADA PROJECT NO. DATE FIGURE
			7				
							<u>301458002</u> <u>10/06</u> <u>A-76</u>

	LES				_		DATE DRILLED	09/05/06	BORING NO.	B-43
st)	SAMPLES	1	(%)	(PCF		NO	GROUND ELEVATIO			3 OF 3
DEPTH (feet)	Ť	S/FO	URE	ISITY	SYMBOL	FICAT C.S.	METHOD OF DRILLI			
DEPT	Bulk Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYI	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT			30"
		5	2	DR		Ū	SAMPLED BY RO	H LOGGED BY		BY EDE
40		50/44				SM	ALLUVIUM (continue		/INTERPRETATION	
		50/4"					Brown, saturated, very Sampler refusal after 1	dense, silty SAND.		
45 -						CL	Brown, saturated, very			
		63/9"	38.6	79.0			Sampler refusal after 1			
							Total depth = 46.3 feet Groundwater encounter		23.0 feet during drilling	
								at approximately 8.	9 feet approximately 24	
		-								
		-								
50 -										
		-								
		-								
	<u> </u>	_								
55 -		-								
-										
-		-								
-		-								
60									BORING LOG	
					&		ore	GALLERIA DRIVE IN	BORING LOG TERCHANGE, INTERSTATE 51 HENDERSON, NEVADA	5 AND GALLERIA DRIVE
		▼ ▼ - '	7	_				PROJECT NO.	DATE	FIGURE
								301458002	10/06	<u> </u>



	S									
	SAMPLES			(H		z	DATE DRILLED	09/05/06	BORING NO.	B-44
feet)	SAI	00T	MOISTURE (%)	DRY DENSITY (PCF)	Ы	CLASSIFICATION U.S.C.S.	GROUND ELEVATIO	0N <u>1,678.96'± MSL</u>	SHEET	OF3
DEPTH (feet)		BLOWS/FOOT	STUR	LISNE	SYMBOL	SIFIC J.S.C.	METHOD OF DRILLI	NG <u>CME-75 8-inch hollo</u>	ow-stem auger drill rig	
DE	Bulk Driven	BLO	WO	RY DI	S	CLAS	DRIVE WEIGHT	140 lbs. (auto trip han	umer) DROP	30"
				ā			SAMPLED BY R		RCH REVIEW	ED BYEDE
20						SM	ALLUVIUM (continu			
		37					Brown, saturated, den	se, silty SAND; a few	slightly cemented lay	ers a few inches thick.
	ΙH									
25 -						SC	Brown, saturated, den	se, clayey SAND.		
		67	20.9	103.7						
30 -			ᠸ᠊ᡜᢧ			SP-SM	Brown, saturated, ver	dense, poorly graded	SAND with silt.	
		88								
·										
.										
35 -						CL	Brown, saturated, very	stiff, lean CLAY.		
		32	19.2	98.5						
40									BORING LOG	
				10 8	Sz	Μ	ore	GALLERIA DRIVE INT		515 AND GALLERIA DRIVE
		V	J					PROJECT NO. 301458002	DATE 10/06	FIGURE A-79

	U L	2										
_	N MD	SAMPLES	F	()	CF)		N			_ BORIN		
DEPTH (feet)	0	<i>ì</i>	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	ğ	CLASSIFICATION U.S.C.S.	GROUND ELEVATIO				_3OF3
EPTH		c	SMO	ISTU	DENS	SYMBOL	SSIFI U.S.C	METHOD OF DRILLI				
Ö	Bulk	Driven	BL(MO	DRY D		CLA				_ DROP _	30"
								SAMPLED BYR	CH LOGGED BY DESCRIPTION		REVIEWED	BY <u>EDE</u>
40		I	67				SW-SM	ALLUVIUM (continu Brown, saturated, very hard, moderately ceme	ed): dense, well graded S	SAND with		vel; a few moderately
-												
45 -	$\left \right $						sc	Brown, saturated, very thick.	dense, clayey SANE); a few sli	ghtly cemente	d layers a few inches
-	-		92/10"	23.7	103.6			Sampler refusal after 1	6 inches.			
_												
-												
-		Н										
c 0												
50 -			60									
-			52									
-								Total depth = 51.5 fee Groundwater encounter		30.0 feet o	during drilling	
								Groundwater measured Backfilled on 09/06/06	at approximately 7.			
-		Π										
-	$\left \cdot \right $	H										
55 -												
-		Π										
-	$\left \cdot \right $	$\left \right $										
_												
-												
60											ING LOG	
			M			& _		ore	GALLERIA DRIVE IN	TERCHANGE		5 AND GALLERIA DRIVE
			V	1	_				PROJECT NO.	D	ATE	FIGURE
					_				301458002		0/06	<u>A-80</u>



	1 1		1	1	_					
	SAMPLES			Ē		_	DATE DRILLED	09/19/06	BORING NO.	B-45
eet)	SAM	DOT	(%)	Y (PC	Ļ	VIION.	GROUND ELEVATIO	0N <u>1,712.57'± MSL</u>	SHEET	OF3
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	USIT	SYMBOL	S.C.S	METHOD OF DRILLI	NG Mobile B-61 8-inch	HDX hollow-stem auger d	rill rig
DEP	Bulk Driven	BLOV	MOIS	DRY DENSITY (PCF)	S	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	140 lbs. (cathead) DROP	30"
				DR		0	SAMPLED BYR	CH LOGGED BY		DBY EDE
20					ERSE	GP-GM			INTERPRETATION	
							<u>ALLUVIUM (continu</u> Brown, damp, very de moderately hard, mod	ense, poorly graded GF erately cemented layer	rs a few inches thick.	
			— — —			SW-SM	Brown, moist, very de	ense, well-graded SAN	D with silt and gravel	
25 -	X	50/5"	Ŧ				Saturated; sampler ref			
							Brown, saturated, mod of coarse-grained mat		HE; moderately cemen	ted; composed primarily
							Very hard; strongly ce			
l										
		50/2"					Samular refuel after () inchas		
		50/2					Sampler refusal after 2	2 menes.		
30 -										
	$\left \right $				EEE					
· ·	$\left \right $									
35 -										
						SP-SM	Yellowish brown, satu few inches thick.	irated, very dense, poo	orly graded SAND wit	h silt; a few clay layers a
							TOW MONOS UNCK.			
	$\left \right $									
		50/4"	17.3	115.1			Sampler refusal after 1	10 inches.		
40										
					e- 1	AAn	nro	GALLERIA DRIVE IN	BORING LOG TERCHANGE, INTERSTATE	515 AND GALLERIA DRIVE
		V	14		×		ore	PROJECT NO.	HENDERSON, NEVADA	
		V				V		301458002	10/06	A-82

0	o								
et) SAMPI ES			Э.Э.		7	DATE DRILLED	09/19/06	BORING NO.	B-45
feet) SAN	TOO	MOISTURE (%)	DRY DENSITY (PCF)	Ч	CLASSIFICATION U.S.C.S.	GROUND ELEVATIO	N <u>1,712.57'± MSL</u>	SHEET	OF
DEPTH (feet)	iven Jun	STUR	LISNE	SYMBOL	SIFIC.	METHOD OF DRILLIN	G Mobile B-61 8-i	nch HDX hollow-stem auger of	lrill rig
Bulk DE	Driven BLOV	MOIS	SY DE	Ś	n CLAS	DRIVE WEIGHT	140 lbs. (cat	head) DROP	30"
			5			SAMPLED BY RO		BY <u>RCH</u> REVIEWE	ED BY EDE
40					SP-SM	NATIVE (continued): Yellowish brown, satu few inches thick.			h silt; a few clay layers a
45	100/11"				GP-GM	Sampler refusal after 1	7 inches.	ded GRAVEL with silt a	nd sand (fine).
+		+			CL/CH	Reddish brown, saturat	ed, very stiff, lear	to fat CLAY.	
50	73/10"	26.4	98.2			Sampler refusal after 1 Silty sand layer a few i	6 inches. nches thick.		
55						Hole caved to approxim Backfilled on 09/22/06	red at approximat nately 14.0 feet aj	ely 24.0 feet during drilli oproximately 72 hours af	ter drilling.
60		Îng	10 4	&	Ma	ore	GALLERIA DRIVI PROJECT NO. 301458002	BORING LOC E INTERCHANGE, INTERSTATE HENDERSON, NEVAD DATE 10/06	515 AND GALLERIA DRIVE

et) SAMPLES OT		CF)		z	DATE DRILLED	09/22/06	BORING NO.	B-46
eet) SAI	E (%)	γ (PC	۲	ATIO S.	GROUND ELEVATIO	ON <u>1,731.74'± MSL</u>	SHEET	OF3
DEPTH (feet) bulk SA iven BLOWS/FOOT	MOISTURE (%)	IISN	SYMBOL	SIFIC.	METHOD OF DRILLI	NG Mobile B-61 8-inch H	DX hollow-stem auger d	rill rig
DEP Bulk Driven BLOV	MOIS	DRY DENSITY (PCF)	Ś	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	140 lbs. (cathead)	DROP	30"
		۲ ۲			SAMPLED BY		NB REVIEWE	ED BY EDE
0				GP-GM	FILL:	DESCRIPTION/I		
					Brown, damp, dense,	poorly graded GRAVE	L with silt and sand.	
31								
5								
98/11"	5.0	116.0			Sampler refusal after	17 inches; very dense.		
				SW-SM	Brown, damp, very de	ense, well-graded SANI	with silt and gravel	
				SP-SM	Brown, damp, very de	ense, poorly graded SAI	ND with silt and grav	el
10								
95/11"					Sampler refusal after	17 inches.		
				GP-GM	Brown, damp, very de	ense, poorly graded GR	AVEL with silt and s	and
15								
50/5"	8.4	112.3			Sampler refusal after	11 inches.		
-								
				SP-SM	ALLUVIUM: Brown damp yery de	anse noorly graded CAN		el
20						ense, poorly graded SAN		
	n		е /		ore	GALLERIA DRIVE INTE	BORING LOG	515 AND GALLERIA DRIVE
	J		~_			PROJECT NO.	HENDERSON, NEVADA DATE	FIGURE
· · · · · · · · · · · · · · · · · · ·				¥		301458002	10/06	_A <u>-84</u>

	SAMPLES				F)			DATE DRILLED	09/22/06	BORING NO.	B-46
eet)	SAN	5	00T	≡ (%)	Y (PC		ATIO	GROUND ELEVATIO	N <u>1,731.74'± MSL</u>	SHEET	OF3
DEPTH (feet)			BLOWS/FOOT	TURE	NSIT	SYMBOL	S.C.S	METHOD OF DRILLI	NG Mobile B-61 8-inch H	IDX hollow-stem auger drill rig	<u> </u>
DEP	Hang I	Driven	BLOV	MOISTURE (%)	DRY DENSITY (PCF)	S	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	140 lbs. (cathead)	DROP	30"
					Ц Ц		0	SAMPLED BY N	B LOGGED BY	NB REVIEWED B	Y <u>EDE</u>
20		8	50/<1"			= = =		ALLUVIUM (continu	ed):	nented; coarse grained.	
-		_						Sampler refusal after <		nemed, coarse grained.	
		_	· _ ·				GP-GM	Brown, damp, very de	nse, poorly graded GR	AVEL with silt and sand.	
		$\left \right $	·		 			Brown, damp, hard, C	ALICHE; strongly cen	nented; coarse grained.	
-											
-		-									
25 -											
20			50/5"	5.9	117.8		GP-GM	Sampler refusal after 1	1 inches.	AVEL with silt and sand.	
-	F	┭	· _ ·					Brown, damp, modera Sampler refusal after 1		moderately cemented; coa	rse grained.
-	$\left \right $	_							T menes.		
-							GM	Brown, damp, very de	nse, silty GRAVEL wi	th sand and cobbles.	
-		-									
30 -				Ť							
		Λ	49	-							
-											
-											
-											
-	\square										
35 -								Medium dense.			
-	_		34	5.5	107.3						
_											
-											
_								Proven down	dance noorly and		
							SP-SM	brown, damp, medium	i dense, poorty graded	SAND with silt and grave	51.
40								·			
40		_								BORING LOG	
40			Vi	Ŋ		&		ore	GALLERIA DRIVE INT	ERCHANGE, INTERSTATE 515 A HENDERSON, NEVADA	ND GALLERIA DRIVE

	<i>u</i>	0						
	SAMDI ES			-	CF)		z	DATE DRILLED09/22/06 BORING NOB-46
feet)	v.	Re la	001	E (%)	ר (P(Ы	ATIO S.	GROUND ELEVATION 1,731.74'± MSL SHEET 3 OF 3
DEPTH (feet)			BLOWS/FOOT	MOISTURE (%)	LISNE	SYMBOL	SIFIC S.S.C.	METHOD OF DRILLING Mobile B-61 8-inch HDX hollow-stem auger drill rig
DEF	Bulk	Driven	BLO	MOIS	DRY DENSITY (PCF)	Ś	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT 140 lbs. (cathead) DROP 30"
					5		0	SAMPLED BY NB LOGGED BY NB REVIEWED BY EDE EDE
40		7					SP-SM	
-			20					brown, damp, medium dense, poorty graded SARD with sitt and graver.
_						11111		Total depth = 41.5 feet. Groundwater not encountered during drilling.
								Backfilled on 09/22/06.
-								Note: Boring location approximately 90 feet west of NDOT Station No. 737+30.
-								
45 -		Η						
		_						
-	Π							
-	$\left \right $							
-		-						
50 -		-						
_								
-		-						
-								
-	$\left \cdot \right $							
55 -								
-								
-								
-		-						
-								
60								
60								BORING LOG
				7/		e l		GALLERIA DRIVE INTERCHANGE, INTERSTATE 515 AND GALLERIA DRIVE HENDERSON, NEVADA PROJECT NO. DATE FIGURE
				LC	, 	~		HENDERSON, NEVADA

	ol ES	2			(DATE DRILLED	09/07/06	BORI	NG NO.	E	3-47	
∋ť)	SAMPI ES		ы	(%)	DRY DENSITY (PCF)		NOL	GROUND ELEVATIO			SHEET			
DEPTH (feet)	\square	4	BLOWS/FOOT	MOISTURE (%)	SITY	SYMBOL	CLASSIFICATION U.S.C.S.	METHOD OF DRILLI						_
EPTI	¥	eu	Mo-	DIST	DEN	SYN	NSSIF U.S.				DROP		30"	
	Buk	Driven	B	ĕ	DRY		CLA							-
									CH LOGGED DESCRIPT	BY <u>RCH</u>		<u></u>	EDE	
0							GP-GM	<u>FILL</u> : Brown, damp, dense,	poorly-graded GF	RAVEL with s	ilt, sand, and o	cobbles	•	
-			32	3.4	118.7		GP-GM	ALLUVIUM: Brown, damp, dense,	poorly graded GF	AVEL with s	ilt, sand, and o	cobbles		
5 —			45				SP-SM	Brown, damp, dense,	poorly graded SA	ND with silt,	gravel, and co	bbles.		
-							GP-GM	Brown, damp, dense,	poorTy graded GR	AVEL with s	ilt, sand, and d	obbles.		
10			62				SP-SM	Brown, damp, very de	nse, poorly grade	d SAND with	silt, gravel, a	nd cobb	oles.	
15 -			58				GP-GM	Brown, damp, very de	nse, poorly grade	d GRAVEL v	vith silt, sand,	and cot	obles. — — —	
-20						275	SW-SM	Brown, damp, dense,	well-graded SAN	D with silt, gr	avel, and cobb	iles.		
				56 -							RING LOG	-		
			<u> ///</u>	Ľ	10 8	£	MQ	ore		HENDI	E, INTERSTATE 51 ERSON, NEVADA	5 AND G		
		-	V	U			V -		PROJECT NO. 301458002		DATE		FIGURE A-87	

Image: Signed state of the	3
Image: Second state sta	
20 SW-SM ALLUVIUM (continued): Proum moiot year/ dama well graded SAND with silt gravel and cobbles	
20 SW-SM ALLUVIUM (continued): Proum moiot year/ dama well graded SAND with silt gravel and cobbles)"
20 SW-SM ALLUVIUM (continued): Proum moiot yeary dama, well graded SAND with silt_gravel, and cohbles	EDE
Prove moint very dame, well graded SAND with silt gravel and cobbles	
Slightly cemented.	
$\begin{array}{c c} & & & & & \\ \hline & & & & \\ 25 \end{array} \end{array} \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad $	
93/8" Sampler refusal after 14 inches.	
Brown, saturated, very hard, CALICHE; strongly cemented; composed primar grained material.	ily of coarse-
30 50/4" SC Light brown, saturated, very dense, clayey SAND with gravel; slightly cement Sampler refusal after 4 inches.	ed. — — — — —
Brown, saturated, moderately hard, CALICHE; moderately cemented; compose of coarse-grained material.	ed primarily
CL Brown, saturated, very stiff, lean CLAY; few gravel; a few slightly cemented linches thick.	ayers a few
35	
39 28.6 91.2	
40.	
BORINGLOG	
GALLERIA DRIVE INTERCHANGE, INTERSTATE 515 AND GALLA HENDERSON, NEVADA	ERIA DRIVE
	BURE88

				1			
	SAMPLES			(L		-	DATE DRILLED09/07/06 BORING NOB-47
eet)	SAN	DOT	(%)∃	DRY DENSITY (PCF)	Ļ	CLASSIFICATION U.S.C.S.	GROUND ELEVATION 1,711.68'± MSL SHEET 3 OF 3
DEPTH (feet)		BLOWS/FOOT	TURE	NSIT	SYMBOL	S.C.S	METHOD OF DRILLING CME-75 8-inch hollow-stem auger drill rig
DEP	Bulk Driven	BLOV	MOISTURE (%)	ΥDE	S	LASS U.	DRIVE WEIGHT 140 lbs. (auto trip hammer) DROP30"
				DR		с О	SAMPLED BY RCH LOGGED BY REVIEWED BYEDE
40	╞╌┟┉				777	CL	DESCRIPTION/INTERPRETATION ALLUVIUM (continued):
		17				01	Brown, saturated, very stiff, lean CLAY; few gravel; a few slightly cemented layers a few inches thick.
		-					
	++	-					
		-					
45 -						 SM	Brown, saturated, very dense, silty SAND.
		50/4"	24.8	100.8			Sampler refusal after 10 inches. Total depth = 45.8 feet.
							Groundwater encountered at approximately 24.0 feet during drilling. Groundwater measured at approximately 23.0 feet approximately 5 days after drilling.
	+	-					Backfilled on 09/12/06.
		-					Note: Boring location approximately 150 feet east of NDOT Station No. 735+30.
	++						
50 -		-					
		_					
	+	-					
		-					
	\square	-					
55 -		-					
	++-	-					
		-					
	+						
60			<u> </u>				BORING LOG
		M			&		GALLERIA DRIVE INTERCHANGE, INTERSTATE 515 AND GALLERIA DRIVE HENDERSON, NEVADA PROJECT NO. DATE FIGURE
		′ ▼−′	J				
							<u>301458002</u> <u>10/06</u> <u>A-89</u>

	LES						DATE DRILLED	09/18/06	BORING NO.	B-48
t)	SAMPLES	1	(%	(PCF)		NOI	GROUND ELEVATIO			1 OF 3
DEPTH (feet)	Ĵ	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.		NG Mobile B-61 8-inch HI		
DEPT	Bulk Driven	NOT	OIST	DEN	SYA	ASSIF U.S		140 lbs. (cathead)	DROP	30"
	<u>D</u>	ш	Σ	DRY		บี		CH LOGGED BY	RCH REVIEWE	D BY EDE
						SM	FILL:	DESCRIPTION/IN	TERPRETATION	
-						SIM	Brown, damp, dense,	silty SAND with gravel		
		47				SP-SM		poorly graded SAND wi	-	
5		50/3"	9.0	109.2		GW-GC	Brown, damp to mois Sampler refusal after	t, very dense, well-grade 9 inches.	d GRAVEL with cla	iy, sand, and cobbles.
-		90								
15 -		50/3"				GP-GM		ers a few inches thick.	VEL with silt, sand	, and cobbles; a few hard,
- 20						SW-SM	Brown, damp, very de	ense, well-graded SAND	with silt, gravel, and	1 cobbles
		. //	50 -						BORING LOG	515 AND GALLERIA DRIVE
		V	Ι.Υ		Ý		ore	PROJECT NO.	HENDERSON, NEVADA	FIGURE
		V				V		301458002	10/06	A-90

	S	?						
	SAMPLES			-	(H)		z	DATE DRILLED09/18/06BORING NOB-48
feet)	A SA	5	001	MOISTURE (%)	۲ (P	5	ATIO S.	GROUND ELEVATION 1,726.16'± MSL SHEET 2 OF 3
DEPTH (feet)			BLOWS/FOOT	STUR	LISNE	SYMBOL	SIFIC I.S.C.	METHOD OF DRILLING Mobile B-61 8-inch HDX hollow-stem auger drill rig
DEF	Bulk	Driven	BLO	MOIS	DRY DENSITY (PCF)	N	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT 140 lbs. (cathead) DROP 30"
					ä		U	SAMPLED BY RCH LOGGED BY RCH REVIEWED BY EDE DESCRIPTION/INTERPRETATION
20	2	Ż	50/2"				SW-SM	ALLUVIUM (continued): Brown, damp, very dense, well-graded SAND with silt, gravel, and cobbles; a few hard,
-							GP-GM	strongly cemented layers a few inches thick. Sampler refusal after 2 inches. Brown, damp, very dense, poorly graded GRAVEL with silt, sand, and cobbles; slightly cemented; a few hard, strongly cemented layers a few inches thick.
25 -		X	50/3"					Sampler refusal after 3 inches.
-		+-						Brown, damp, very hard, CALICHE; strongly cemented; composed primarily of coarse- grained material.
30			76	49	113.7		SW-SM	Brown, damp, very dense, well-graded SAND with silt and gravel; a few moderately har moderately cemented layers a few inches thick.
-			50/2"	4.9	113.7			Sampler refusal after 8 inches.
40		-		5				
40								BORING LOG
40					/0 <	Se		BORING LOG GALLERIA DRIVE INTERCHANGE, INTERSTATE 515 AND GALLERIA DRIVE HENDERSON, NEVADA PROJECT NO. DATE

40 50/5* 50
Image: Second
40 50/5" SW-SM ALLUVIUM (continued): Brown, saturated, very dense, well-graded SAND with silt and gravel; a few moderately hard; moderately cemented layers a few inches thick. Sampler refusal after 5 inches. 45 50/1 Sampler refusal after 1 inch. Total depth = 45.1 feet. Groundwater encountered at approximately 40.0 feet during drilling. Hole caved to approximately 20.0 feet approximately 72 hours after drilling. Backfilled on 09/21/06. Note: Boring location approximately 110 feet west of NDOT Station No. 735+00 feet.
40 50/5" SW-SM ALLUVIUM (continued): Brown, saturated, very dense, well-graded SAND with silt and gravel; a few moderately hard; moderately cemented layers a few inches thick. Sampler refusal after 5 inches. 45 50/1 Sampler refusal after 1 inch. Total depth = 45.1 feet. Groundwater encountered at approximately 40.0 feet during drilling. Hole caved to approximately 20.0 feet approximately 72 hours after drilling. Backfilled on 09/21/06. Note: Boring location approximately 110 feet west of NDOT Station No. 735+00 feet.
40 50/5" SW-SM ALLUVIUM (continued): Brown, saturated, very dense, well-graded SAND with silt and gravel; a few moderately hard; moderately cemented layers a few inches thick. Sampler refusal after 5 inches. 45 50/1 Sampler refusal after 1 inch. Total depth = 45.1 feet. Groundwater encountered at approximately 40.0 feet during drilling. Hole caved to approximately 20.0 feet approximately 72 hours after drilling. Backfilled on 09/21/06. Note: Boring location approximately 110 feet west of NDOT Station No. 735+00 feet.
45 30/3° SW-SM ALLOVION (continued): Brown, saturated, very dense, well-graded SAND with silt and gravel; a few moderately hard; moderately cemented layers a few inches thick. Sampler refusal after 5 inches. 45 50/1 Sampler refusal after 1 inch. Total depth = 45.1 feet. Groundwater encountered at approximately 40.0 feet during drilling. Hole caved to approximately 20.0 feet approximately 72 hours after drilling. Backfilled on 09/21/06. Note: Boring location approximately 110 feet west of NDOT Station No. 735+00 feet.
GALLERIA DRIVE INTERCHANGE, INTERSTATE 515 AND GALLERIA DRIVE HENDERSON, NEVADA PROJECT NO. DATE FIGURE

	Ĺ	ES						DATE DRILLED	09/18/06	BORING NO.	B-49
it)		SAMPLES	DT .	(%)	DRY DENSITY (PCF)		NOL	GROUND ELEVATION			OF 3
DEPTH (feet)		Ť	S/FO(URE (SITY	SYMBOL	FICAT C.S.			IDX hollow-stem auger drill rig	
DEPT	Ę	Driven	BLOWS/FOOT	MOISTURE (%)		SYA	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT			30"
	ß	Ϊ			DR		IJ	SAMPLED BY RCH	LOGGED BY	RCH REVIEWED BY	EDE
0							GM	FILL: Brown, damp, dense, silt			
-	-	$\left \right $				**	SM	Brown, damp, dense, silt	-		
			87	4.9	114.1						
5 -			39								
- 10			60	8.1	129.0						
						······································	GM	Brown, damp, dense, silt	y GRAVEL with sar	nd and cobbles.	
- 15			37								
-										BORING LOG	
20			-								
<u>20</u>			Mi			Se	λλη	ore	GALLERIA DRIVE INTE	ERCHANGE, INTERSTATE 515 AN HENDERSON, NEVADA	ND GALLERIA DRIVE

	- (N N											
		SAMPLES	L	(CF)		z	DATE DRILLED			ING NO		
DEPTH (feet)	ŭ	3	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	Ы	SATIC	GROUND ELEVATIO	N <u>1,730.28'± M</u>	SL	SHEET	2 OF	3
PTH			I/SM	STUF	ENSI	SYMBOL	SW-SM A B	METHOD OF DRILLI	IG Mobile B-6	1 8-inch HDX holl	ow-stem auger dril	l rig	
B	Bulk	Driven	BLO	MOI	RYD	0	CLAS	DRIVE WEIGHT	140 lbs.	(cathead)	DROP _	30"	
					Ō		C	SAMPLED BYR	LOGGE	ED BY <u>RCH</u> IPTION/INTERPI	REVIEWED	BY E	DE
20			50/4"				SW-SM	ALLUVIUM: Brown, damp, very der after 4 inches.	nse, well-grade	ed SAND with s	silt; gravel; and	cobbles. Sar	npler refusa
25 -			30				SP-SM	Brown, damp, medium gypsiferous.	dense to dens	e, poorly grade	d SAND with s	ilt and grave	I; hīghly —
30 -			50/5"				SW-SM	Brown, damp, very de cemented layers a few Sampler refusal after 5	inches thick.	ed SAND with s	silt, gravel, and	cobbles; a fe	ew slightly
			50,5					Sampler refusal area 2	inches.				
35 -			50/3"					Sampler refusal after 3	inches.				
40										BO	RING LOG		
			MÌ	77	10	Sz	MO	ore	GALLERIA D	RIVE INTERCHANO		5 AND GALLER	IA DRIVE
			V	J			V	-	PROJECT N 301458002		DATE 10/06	FIGU A-9	
					_								

	s			1			
	SAMPLES			(H		7	DATE DRILLED 09/18/06 BORING NOB-49
feet)	SA	001	MOISTURE (%)	DRY DENSITY (PCF)	٦٢	CLASSIFICATION U.S.C.S.	GROUND ELEVATION 1,730.28'± MSL SHEET 3 OF 3
DEPTH (feet)		BLOWS/FOOT	STUR	LISNE	SYMBOL	SIFIC J.S.C.	METHOD OF DRILLING Mobile B-61 8-inch HDX hollow-stem auger drill rig
BO	Bulk Driven	ВГО	MOI	RY DI	S	ך כואצ	DRIVE WEIGHT 140 lbs. (cathead) DROP 30"
				ā			SAMPLED BY <u>RCH</u> LOGGED BY <u>RCH</u> REVIEWED BY <u>EDE</u> DESCRIPTION/INTERPRETATION
		38/6" 50/2" 39/6" 50/1"				SW-SM	ALLUVIUM (continued): Brown, damp, very dense, well-graded SAND with silt, gravel, and cobbles; a few slightly cemented layers a few inches thick. Sampler refusal after 8 inches. Saturated. Sampler refusal after 7 inches. Total depth = 45.6 feet. Groundwater encountered at approximately 41.9 feet during drilling. Hole caved to approximately 20.0 feet approximately 72 hours after drilling. Backfilled on 09/21/06. Note: Boring location approximately 100 feet west of NDOT Station No. 736+00.
ł							
							BORING LOG
		V i	<i>nų</i>	10 4	Se d		BORING LOG GALLERIA DRIVE INTERCHANGE, INTERSTATE 515 AND GALLERIA DRIVE HENDERSON, NEVADA PROJECT NO. DATE FIGURE

		ES						DATE DRILLED	09/15/06	BORING NO.	B-50
et)		SAMPLES	ЪТ	(%)	DRY DENSITY (PCF)		NOI	GROUND ELEVATIO			1 OF 3
DEPTH (feet)		Ť	S/FO(URE (ISITY	SYMBOL	FICAT S.C.S.			HDX hollow-stem auger di	
DEPT	Bulk	Driven	BLOWS/FOOT	MOISTURE (%)		SYI	CLASSIFICATION U.S.C.S.		140 lbs. (cathead		30"
		δ	ш	~	DR		บี		CH LOGGED BY	RCH REVIEWE	D BYEDE
0	╞						GM	FILL:			
	╞						SC-SM	Brown, damp, dense, ALLUVIUM:	silty GRAVEL with sa	and and cobbles.	
							00-0101	Brown, damp, very de	nse, clayey, silty SAN	D with gravel and cob	bles.
		I	76/11"	4.3	155.5			Sampler refusal after	7 inches.		
	t										
5 -							GP-GM	Brown, damp dense	poorly graded GRAV	EL with silt, sand, and	cobbles.
			65					,	G	,,	
								Slightly cemented.			
		_									
	ļ	_									
10 -											
10			50				SW-SM	Brown, damp, very de	nse, well-graded SAN	D with silt, gravel, and	a cobbles.
	ſ										
	L										
16											
15 -			28	4.6	111.7			Medium dense.			
	┢		20	4.0	111./						
	-	$\left \right $									
				₹.							
				-				Saturated.			
20	<u> </u>									BORING LOG	
			\ //	ΓĻ		Se	Mg	ore	GALLERIA DRIVE IN	TERCHANGE, INTERSTATE HENDERSON, NEVADA DATE	
			V			_	V		<u>301458002</u>	10/06	<u>A-96</u>

	ES.							00/15/00	BORING NO.	D 50
	SAMPLES	L	(9	CF)		N	DATE DRILLED			
DEPTH (feet)	\\$ □	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	ЗОL	CLASSIFICATION U.S.C.S.	GROUND ELEVATIO			OF
EPTH	, c	SWO	ISTU	DENS	SYMBOL	SSIFF U.S.O		NG Mobile B-61 8-inch H		
ä	Bulk Driven	BLo	MO	RY D		CLA	DRIVE WEIGHT	140 lbs. (cathead)		
							SAMPLED BY R	CH LOGGED BY	RCH REVIEWE	D BYEDE
20		50/5"	Ŧ							
		L					Brown converted ver		adv comented: comp	osed primarily of coarse-
							grained material.	y hard, CALICITE, SUO	igiy comence, comp	used primarily of course-
.										
.		-								
-										
25 -										
		-								
		-								
30 -		-								
.		-								
.										
							Hard.			
	~~~~	50/<1"					Sampler refusal after	1 inch.		
35 -							X7 1 1			
							Very hard.			
-										
-							Moderately hard; mod	-		
		50/5"					Sampler refusal after :	5 inches.		
-										
-										
40						CL/CH	Brown, saturated, stiff	i, lean to fat ULAY.		
<u>40</u>			)						BORING LOG	
		<b>N//</b>	$D_{i}$	<b>[</b> ]] «	&	DNA	ore		HENDERSON, NEVADA	
			U			V -		PROJECT NO. 301458002	DATE 10/06	FIGURE A-97

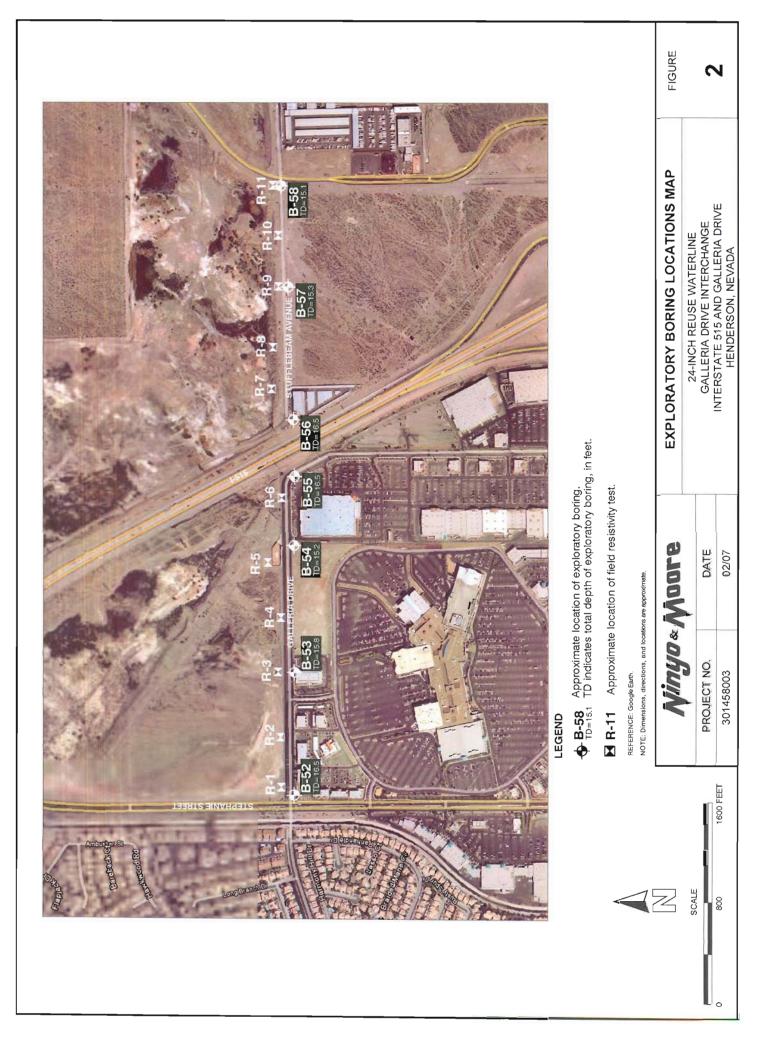
	6	-								
	SAMPLES			(H		7	DATE DRILLED	09/15/06	BORING NO.	B-50
(eet)	SAN	ООТ	E (%)	γ (PC	5	ATIONS.	GROUND ELEVATION	1,711.21'± MSL	SHEET	3 OF 3
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	ENSIT	SYMBOL	SIFIC.	METHOD OF DRILLING	G Mobile B-61 8-inch H	DX hollow-stem auger dr	ill rig
DEF	Bulk Driven	BLO	MOIS	DRY DENSITY (PCF)	N	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	140 lbs. (cathead)	DROP	30"
				ā		C	SAMPLED BY		RCH REVIEWE	DBY
40						CL/CH	ALLUVIUM (continued	d):		
		16	82.9	51.0			Brown, saturated, stiff,	lean to fat CLAY.		
	$\left  + \right $									
15										
45 -		26				CL-ML	Reddish brown, saturate	d, very stiff, silty CL	AY.	
	$\left  \right $	20								
							Total depth = $46.5$ feet. Groundwater encounter	ed at approximately 2	0.0 feet during drillin	ıg.
							Groundwater measured Backfilled on 09/17/06.		) feet approximately 4	18 hours after drilling.
							Boring location approxi	mately 140 feet east o	of NDOT Station No.	726+90.
								5		
50 -	$\left  \right $									
55 -										
	++-									
	++-									
60										
					e i			GALLERIA DRIVE INTE	BORING LOG	15 AND GALLERIA DRIVE
		<b>V</b> Z	Π.Υ	70 °	×		ore		HENDERSON, NEVADA	·
		V				V		PROJECT NO. 301458002	DATE 10/06	FIGURE

	U.	2									
	SAMPI ES			-	(H)		z	DATE DRILLED	09/20/06	BORING NO.	B-51
feet)	AS 1	20	001	MOISTURE (%)	Y (PC	٦	ATIOI S.	GROUND ELEVATION	1,720.95'± MSL	SHEET	1 OF
DEPTH (feet)			BLOWS/FOOT	TUR	INSIT	SYMBOL	SIFIC, S.C.(	METHOD OF DRILLING	Mobile B-61 8-inch H	DX hollow-stem auger drill ri	g
DEF	Bulk	Driven	BLO	NOIS	DRY DENSITY (PCF)	S	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	_140 lbs. (cathead)	DROP	30"
					В		0	SAMPLED BYRCH	LOGGED BY	RCH REVIEWED B	Y <u>EDE</u>
0							GM	<u>FILL</u> : Brown, damp, moist, silt			
								Brown, damp, moist, sin	y OICA V LL WITH San		
										_	
			80/9"	3.6	119.3		SW-SM	ALLUVIUM: Brown, damp, very dense	e, well-graded SANI	) with silt and gravel.	
.			0017	5.0					-		
5 -			96/10"				SP-SM	Brown, damp, very dense Sampler refusal after 16		ND with silt, gravel, and	cobbles.
			90/10								
.											
-											
-											
10											
10 -			50/2"	5.1	103.9		GP-GM	Brown, damp, very dense Sampler refusal after 8 in		AVEL with silt, sand, an	d cobbles.
-		_						·			
-											
-											
-		_									
15 -											
15-		4	50/2"				SW-SM	Brown, damp, very dense Sampler refusal after 2 in		D with silt, gravel, and co	bbles.
-		-									
-											
-											
-	$\left  \right $	-									
20											
				<b>F#</b> //		0			GALLERIA DRIVE INTE	BORING LOG	ND GALLERIA DRIVE
			<b>V</b> Z	4		Ý		ore	PROJECT NO.	HENDERSON, NEVADA	FIGURE
			<u> </u>				V		301458002	10/06	<u>A-99</u>

	U L	2						DATE DRILLED	09/20/06	BORING NO.	B-51
t)	IDWV:	SAMPLES	Ц	(%	DRY DENSITY (PCF)		NO	GROUND ELEVATION		_ BORING NO SHEET	2 OF 2
H (fee			S/FOC	JRE (	SITY (	SYMBOL	FICAT C.S.			HDX hollow-stem auger drill	
DEPTH (feet)	Bulk	Driven	BLOWS/FOOT	MOISTURE (%)	DEN	SYN	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT			30"
-	ഷ്	D		Σ	DRY		CL		LOGGED BY		
20			50/5"				Sw-SM	ALLUVIUM (continued	DESCRIPTION		
			50/5"	Ē				Brown, damp, very dens Sampler refusal after 5 i Saturated; sampler refus	e, well-graded SAN nches.	ND with silt, gravel, and o	obbles.
-								Brown, saturated, very l grained material. Drill rig refusal.	nard, CALICHE; str	ongly cemented; compos	ed primarily of coarse-
-		$\square$						Total depth = 28.5 feet.	ed at approximately	25.0 feet during drilling	
30 -									ately 8.0 feet appro	ximately 48 hours after d	
-										eet west of NDOT Station	n No. 727+45.
-											
35 -											
-											
-											
40				)						BORING LOG	
				<u>N</u>	10	Sz		ore		TERCHANGE, INTERSTATE 515 HENDERSON, NEVADA	
		-	V				<b>V –</b>		PROJECT NO. 301458002	DATE 10/06	FIGURE A-100

## **APPENDIX B**

## I-515 from Galleria Drive to West Sunset Road



		0					· · · · · · · · · · · · · · · · · · ·				
		SAMPLES			(H		7	DATE DRILLED	01/31/07	BORING NO.	B-52
feet)		SA	S	MOISTURE (%)	DRY DENSITY (PCF)		CLASSIFICATION U.S.C.S.	GROUND ELEVATIO	Not measured	SHEET	1OF1
DEPTH (feet)			BLOWS	TUR	ISNSIT	SYMBOL	SIFIC, S.C.S	METHOD OF DRILLIN	G Mobile B-61 HDX	hollow-stem auger drill rig	
DEF	Buk	Driven	B	MOIS	KY DE	Ś	U U	DRIVE WEIGHT	140 lbs. (auto trip ha	mmer) DROP	30"
					ĽŐ				DESCRIPTION	NB REVIEW	ED BYEDE
0							GM	ASPHALT CONCRET Approximately 4-1/2 in	<u>[E:</u> nches thick.		
5						2	SM	Approximately 4-1/2 in FILL: Dark brown, damp, de: approximately 7-1/2 in <u>NATIVE SOIL</u> : Dark brown, damp, ve	nse, silty GRAVEL v ches thick.		
- - - 15			26/6" 8/6" 16/6"						fusal after 3 inches		
		ĥ						Very dense; sampler re Total depth = $15.2$ feet			
-		Η						Groundwater not enco Backfilled and patched		ıg.	
											rise to a higher level due discussed in the report.
20										BORING LOO	
						Se		ore	24-INCH REUS	E WATER LINE, GALLERIA I HENDERSON, NEVAD	DRIVE INTERCHANGE
			<b>V</b>	J	_				PROJECT NO.	DATE	FIGURE
							-		301458003	02/07	5

	LES						DATE DRILLED	01/31/07	BORING NO.	B-53
et)	SAMPLES		(%)	(PCF		NOL	GROUND ELEVATIO			1 OF 1
H (fee		BLOWS	URE	SITY	SYMBOL	FICAT C.S.	ļ		hollow-stem auger drill rig	
DEPTH (feet)	Bulk Driven	BL(	MOISTURE (%)	DRY DENSITY (PCF)	SYN	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT			30"
	<u>a</u> D		2	DRY		C		B LOGGED BY		BY EDE
0	_						ASPHALT CONCRE			
						GM	Approximately 4-1/2 to FILL:	o 4-3/4 inches thick.		
						SM			with sand (aggregate base	e material) ; unit is
-							NATIVE SOIL:		with gravel and cobbles	
-							Dark brown, damp, ve	ly delise, sity SAND	with graver and cooples	
5		28/6"								
-		43/6" 35/6"	5.0	116.8						
-			[							
-							Increase in gravel cont	ent.		
0										
0										
-										
-										
-										
-			포							
5	Κ./	29/61	Ŧ							
	Д	28/6" 50/3"					Sampler refusal after 9 Total depth = $15.8$ fee			
-							Groundwater encounte	red at approximately	14.5 feet during drilling	
-							Backfilled and patched	1  on  01/31/07.		
-							NOTE: Groundwater may rise	to a level higher that	n that measured in boreh	ole due to seasonal
									factors as discussed in t	
-										
0							<u> </u>		BORING LOG	
					Sz /		ore	24-INCH REUS	E WATER LINE, GALLERIA DRI HENDERSON, NEVADA	VE INTERCHANGE
		′ ▼″′	7					PROJECT NO.	DATE	FIGURE
	_							301458003	02/07	6

	LES						DATE DRILLED 01/31/07 BORING NO. B-54		
ţ)	SAMPLES		(%)	(PCF)		NOL	GROUND ELEVATION Not measured SHEET 1 OF 1	1	
H (fee	Π	BLOWS	URE (	SITY	SYMBOL	FICAT .C.S.	METHOD OF DRILLING Mobile B-61 HDX hollow-stem auger drill rig		
DEPTH (feet)	Bulk Driven	вго	MOISTURE (%)	DRY DENSITY (PCF)	SYA	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT 140 lbs. (auto trip hammer) DROP 30"		
	۵Ğ		2	DRY		ซี	SAMPLED BY NB LOGGED BY NB REVIEWED BY EDE		
0	┝┼┦						DESCRIPTION/INTERPRETATION ASPHALT CONCRETE:		
_						GM	Approximately 4-1/2 inches thick.		
						GM	Dark brown, damp, medium dense, silty GRAVEL (aggregate base); unit is approxim $7-1/2$ inches thick.	nately	
-					1. A. A. A. A. A. A.		NATIVE SOIL: Dark brown, damp, dense, silty GRAVEL with sand and cobbles.		
5		39/6" 50/3"					Very dense; sampler refusal after 9 inches.		
-						SM	Dark brown, damp, very dense, silty SAND with gravel and cobbles.		
10 -		7/6" 10/6" 35/6"	12.0	115.4			Dense.		
- 15			ŞĮ1₁-						
$15 - \underbrace{50/3"}_{\text{Total depth} = 15.2 \text{ feet.}}$									
Groundwater encountered at approximately 14.5 feet during drilling. Backfilled and patched on 01/31/07.									
	++						NOTE:		
							Groundwater may rise to a level higher than that measured in borehole due to seasonal variations in precipitation and several other factors as discussed in the report.	al	
20_							BORING LOG		
				10	Sz	Μ	24-INCH REUSE WATER LINE, GALLERIA DRIVE INTERCHANGE HENDERSON, NEVADA PROJECT NO. DATE FIGURE		
							PROJECT NO. DATE FIGURE		

	SAMPLES			<u> </u>			DATE DRILLED BORING NO B-55						
et)	SAM		(%)	(PCI		TION .	GROUND ELEVATION Not measured SHEET _1 OF _1						
DEPTH (feet)		BLOWS	TURE	LUSIN	SYMBOL	IFICA S.C.S	METHOD OF DRILLING Mobile B-61 HDX hollow-stem auger drill rig						
DEPT	Bulk Driven	B	MOISTURE (%)	DRY DENSITY (PCF)	SΥ	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT 140 lbs. (auto trip hammer) DROP 30"						
				DR		0	SAMPLED BY NB LOGGED BY NB REVIEWED BY EDE DESCRIPTION/INTERPRETATION						
0						GM	ASPHALT CONCRETE: Approximately 3 to 3-1/2 inches thick.						
-						GM	FILL: Dark brown, damp, medium dense, silty GRAVEL with sand (aggregate base material); uni						
-							is approximately 7 inches thick. <u>NATIVE SOIL</u> : Dark brown, damp, very dense, silty GRAVEL with sand and cobbles.						
5 -		23/6" 50/5"			and the second second second second second second second second second second second second second second secon		Sampler refusal after 11 inches.						
						- <u></u> SM	Dark brown, damp, very dense, silty SAND with gravel and cobbles.						
- 15 -	,						Dark brown, damp, very stiff, sandy lean CLAY.						
-		35/6" 33/6"	20.5	107.6			Total depth = 16.5 feet. Groundwater not encountered during drilling. Backfilled and patched on 01/31/07.						
							NOTE: Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report.						
20							BORING LOG						
			24-INCH REUSE WATER LINE, GALLERIA DRIVE INTERCHANGE HENDERSON, NEVADA PROJECT NO DATE EIGURE										
		₩.	1	_									
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10       Set 5.0° Store       98.7       Set 5.0° Store       <	S				ΓT					
Bet Here       Solution       Solution       METHOD OF DRILLING       Mobile B-61 HDX hollow-stem auger drill rig.         Image: Solution of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the	MPLE			CF)		z	DATE DRILLED	01/31/07	BORING NO.	<u>B-56</u>
0     SMMPLED BY     NB     ICUGED BY     NB     REVIEWED BY     EDE       0     ASPHALT_CONCRETE:     ASPHALT_CONCRETE:       0     B     GM     Approximately 3-1/2 inches thick.       FILL:     Dark brown, damp, medium dense, silty GRAVEL with sand (aggregate base materia is approximately 3-1/2 inches thick.       3     9/6"     6.0     107.0       5     5/6"     4/6"     6.0     107.0       10     5/6"     7.5     98.7       5/6"     7.5     98.7       13     4/6"     31.0     77.2	(feet)		ίΕ (%)	LY (PC	5	ATIOI S.	GROUND ELEVATION	Not measured	SHEET	1OF1
0     SMMPLED BY     NB     ICUGED BY     NB     REVIEWED BY     EDE       0     ASPHALT_CONCRETE:     ASPHALT_CONCRETE:       0     B     GM     Approximately 3-1/2 inches thick.       FILL:     Dark brown, damp, medium dense, silty GRAVEL with sand (aggregate base materia is approximately 3-1/2 inches thick.       3     9/6"     6.0     107.0       5     5/6"     4/6"     6.0     107.0       10     5/6"     7.5     98.7       5/6"     7.5     98.7       13     4/6"     31.0     77.2	HL	BLOW	STUF	ENSI-	YMB	SIFIC J.S.C	METHOD OF DRILLIN	G Mobile B-61 HDX	hollow-stem auger drill rig	
0       SMMPLED BY       NB       ICUGED BY       NB       REVIEWED BY       EDE         0       ASPHALT_CONCRETE:       ASPHALT_CONCRETE:       Asphalt	Driver Driver		ЮW	RYD		CLAS		140 lbs. (auto trip ha	mmer) DROP	30"
3       GM       Approximately 3-1/2 inches thick.         PILL:       GM       Dark brown, damp, medium dense, silty GRAVEL with sand (aggregate base materia is approximately 8 to 8-3/4 inches thick.         NATIVE SOIL:       Dark brown, damp, medium dense, silty GRAVEL with sand.         3       96°         86°       6.0         10       5/6°         5/6°       7.5         98.7       SM         0       Dark brown, damp, loose, silty SAND with gravel.         10       5/6°         5/6°       7.5         98.7       SM         0       CL         0       Dark brown, damp, stiff, sandy lean CLAY.								DESCRIPTION		ED BY EDE
5       9/6"       6.0       107.0         9/6"       6.0       107.0       Image: Constraint of the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second	0					GM				
5/6" 5/6" 7.5 98.7 98.7 CL Dark brown, damp, stiff, sandy lean CLAY.	5	8/6"	6.0	107.0		GM	Dark brown, damp, me is approximately 8 to 8 NATIVE SOIL:	-3/4 inches thick.		regate base material); un
15 <u>4/6"</u> 4/6" 31.0 77.2		4/6"	7.5	98.7		SM	Dark brown, damp, loo	se, silty SAND with	gravel.	
4/6" 4/6" 31.0 77.2		+				CL	Dark brown, damp, stif	f, sandy lean CLAY		
	15	4/6"	31.0	77.2						
Total depth = 16.5 feet. Groundwater not encountered during drilling. Backfilled and patched on 01/31/07.										
NOTE: Groundwater, though not encountered at the time of drilling, may rise to a higher leve to seasonal variations in precipitation and several other factors as discussed in the rep	20	-					Groundwater, though n			
BORING LOG 24-INCH REUSE WATER LINE, GALLERIA DRIVE INTERCHANGE										
24-INCH REUSE WATER LINE, GALLERIA DRIVE INTERCHANGE HENDERSON, NEVADA PROJECT NO. DATE FIGURE		<b>N</b>	74		Ý	M	nn-g		HENDERSON, NEVADA	<b>\</b>
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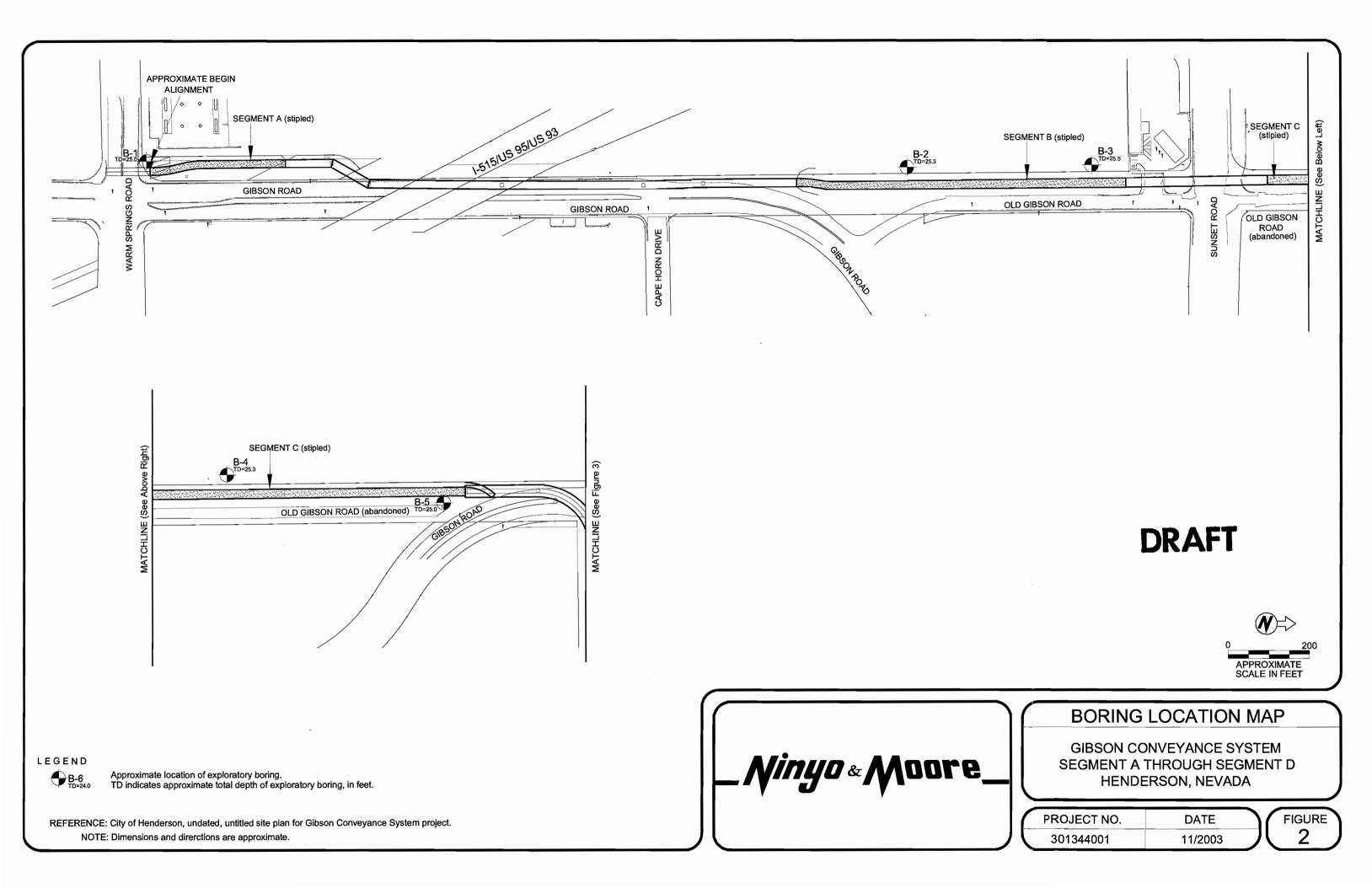
15       50/4"       Sampler refusal after 4 inches.         15       50/4"       Total depth = 15.3 feet.         Groundwater not encountered during drilling.       Backfilled and patched on 01/31/07.         NOTE:       Groundwater, though not encountered at the time of drilling, may rise to a higher level du to seasonal variations in precipitation and several other factors as discussed in the report.		<u> </u>		-									
9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9       9	APLES			Ű.		z	DATE DRILLED 01/31/07 BORING NO. B-57						
0     SAMPLED BY     NB     LOGGED BY     NB     REVIEWED BY     EDB       0     ASPHALT CONCRETE: Descamptowinately 20 6-1/2 inches thick.     ASPHALT CONCRETE: ELL.     ASPHALT CONCRETE: Dark brown, damp, dense, silty GRAVEL with sand (aggregate base material); unit is approximately 20 6-1/2 inches thick.       5     Z 50/*     Sampler refusal after 7 inches.       5     Z 50/*     Sampler refusal after 7 inches.       5     Z 50/*     Sampler refusal after 7 inches.       5     Z 50/*     Sampler refusal after 4 inches.       5     Z 50/*     Sampler refusal after 4 inches.       6     Total depth = 15.3 feet. Groundwater not encountered during drilling. Backfilled and patched on 01/31/07. NOTE: Groundwater, though not encountered at the time of drilling, may rise to a higher level du to seasonal variations in precipitation and several other factors as discussed in the report.	feet)	ω ν	E (%)	γ (PC	5	ATIOI S.	GROUND ELEVATION Not measured SHEET 1 OF 1						
0     SAMPLED BY     NB     LOGGED BY     NB     REVIEWED BY     EDB       0     ASPHALT CONCRETE: Descamptowinately 20 6-1/2 inches thick.     ASPHALT CONCRETE: ELL.     ASPHALT CONCRETE: Dark brown, damp, dense, silty GRAVEL with sand (aggregate base material); unit is approximately 20 6-1/2 inches thick.       5     Z 50/*     Sampler refusal after 7 inches.       5     Z 50/*     Sampler refusal after 7 inches.       5     Z 50/*     Sampler refusal after 7 inches.       5     Z 50/*     Sampler refusal after 4 inches.       5     Z 50/*     Sampler refusal after 4 inches.       6     Total depth = 15.3 feet. Groundwater not encountered during drilling. Backfilled and patched on 01/31/07. NOTE: Groundwater, though not encountered at the time of drilling, may rise to a higher level du to seasonal variations in precipitation and several other factors as discussed in the report.	H	NOT	STUR	IISNE	YMB(	SIFIC S.C.	METHOD OF DRILLING Mobile B-61 HDX hollow-stem auger drill rig						
0     SAMPLED BY     NB     LOGGED BY     NB     REVIEWED BY     EDB       0     ASPHALT CONCRETE: Descamptowinately 20 6-1/2 inches thick.     ASPHALT CONCRETE: ELL.     ASPHALT CONCRETE: Dark brown, damp, dense, silty GRAVEL with sand (aggregate base material); unit is approximately 20 6-1/2 inches thick.       5     Z 50/*     Sampler refusal after 7 inches.       5     Z 50/*     Sampler refusal after 7 inches.       5     Z 50/*     Sampler refusal after 7 inches.       5     Z 50/*     Sampler refusal after 4 inches.       5     Z 50/*     Sampler refusal after 4 inches.       6     Total depth = 15.3 feet. Groundwater not encountered during drilling. Backfilled and patched on 01/31/07. NOTE: Groundwater, though not encountered at the time of drilling, may rise to a higher level du to seasonal variations in precipitation and several other factors as discussed in the report.	DEI Bulk	μ μ	MOIS	RY DE	ŝ	CLAS	DRIVE WEIGHT140 lbs. (auto trip hammer) DROP30"						
5       Sampler refusal after 4 inches.         5       504*         5       504*         5       504*         5       504*         5       504*         5       504*         5       504*         6       Sampler refusal after 7 inches.         6       Sampler refusal after 4 inches.         7       5         5       504*         6       Sampler refusal after 4 inches.         6       Groundwater to encountered during drilling.         8       Backfilled and patched on 01/31/07.         NOTE:       Groundwater, though not encountered at the time of drilling, may rise to a higher level du to seasonal variations in precipitation and several other factors as discussed in the report.				ā			DESCRIPTION/INTERPRETATION						
5       25%         5       25%         5       25%         5       25%         5       25%         5       25%         5       25%         5       25%         5       25%         5       25%         5       25%         5       25%         5       25%         Sampler refusal after 7 inches.         5       504*         5       504*         5       504*         5       504*         5       504*         5       504*         5       504*         5       504*         5       504*         5       504*         5       504*         5       504*         5       504*         5       504*         5       504*         5       504*         5       504*         5       504*         5       504*         5       504*         5       504*         5       504*         5<	0		-			GM	Approximately 2 to 2-1/2 inches thick.						
5       25%*         5       25%*         501*       Sampler refusal after 7 inches.         6       Sampler refusal after 4 inches.         7       70al depth = 15.3 feet.         7       70al depth = 15.3 feet.         7       70al depth = 15.3 feet.         8       Groundwater not encountered during drilling.         8       Backfilled and patched on 01/31/07.         NOTE:       Groundwater, though not encountered at the time of drilling, may rise to a higher level du to seasonal variations in precipitation and several other factors as discussed in the report.         7       NOTE:         7       Groundwater Motore B						GM	Dark brown, damp, dense, silty GRAVEL with sand (aggregate base material); unit is						
Sampler refusal after 7 inches. Sampler refusal after 7 inches. Sampler refusal after 4 inches. Sampler refusal after 4 inches. Total depth = 15.3 feet. Groundwater not encountered during drilling. Backfilled and patched on 01/31/07. NOTE: Groundwater, though not encountered at the time of drilling, may rise to a higher level du to seasonal variations in precipitation and several other factors as discussed in the report. BORING LOG 24-INCH REUSE WATER LING, GALIERIA DRIVE INTERCHANCE: INDURG & MODERE		- - - -					NATIVE SOIL: Dark brown, damp, very dense, silty GRAVEL with sand, cobbles, and boulders.						
15       50/4"       Sampler refusal after 4 inches.         Total depth = 15.3 feet.       Groundwater not encountered during drilling.         Backfilled and patched on 01/31/07.       NOTE:         NOTE:       Groundwater, though not encountered at the time of drilling, may rise to a higher level du to seasonal variations in precipitation and several other factors as discussed in the report.         NOTE:       Groundwater, though not encountered at the time of drilling, may rise to a higher level du to seasonal variations in precipitation and several other factors as discussed in the report.         NO       HENDING LOG         VIENCIP       VIENCIP         VIENCIP       VIENCIP         BORNING LOG       24-INCH REUSE WATER LINE, GALLERIA DRIVE INTERCHANGE         HENDERSON, NEVADA       HENDERSON, NEVADA	5						Sampler refusal after 7 inches.						
304       Image: Sampler relisal after 4 miches.         Total depth = 15.3 feet.       Groundwater not encountered during drilling.         Backfilled and patched on 01/31/07.       NOTE:         Groundwater, though not encountered at the time of drilling, may rise to a higher level du to seasonal variations in precipitation and several other factors as discussed in the report.         NOTE:       Groundwater, though not encountered at the time of drilling, may rise to a higher level du to seasonal variations in precipitation and several other factors as discussed in the report.         NOTE:       Groundwater, though not encountered at the time of drilling, may rise to a higher level du to seasonal variations in precipitation and several other factors as discussed in the report.         NOTE:       Groundwater, though not encountered at the time of drilling, may rise to a higher level du to seasonal variations in precipitation and several other factors as discussed in the report.         NO       E         Stringto & MOOPPE       24-INCH REUSE WATER LINE, GALLERIA DRIVE INTERCHANGE HENDERSON, NEVADA	10												
304       Image: Sampler relisal after 4 miches.         Total depth = 15.3 feet.       Groundwater not encountered during drilling.         Backfilled and patched on 01/31/07.       NOTE:         Groundwater, though not encountered at the time of drilling, may rise to a higher level du to seasonal variations in precipitation and several other factors as discussed in the report.         NOTE:       Groundwater, though not encountered at the time of drilling, may rise to a higher level du to seasonal variations in precipitation and several other factors as discussed in the report.         NOTE:       Groundwater, though not encountered at the time of drilling, may rise to a higher level du to seasonal variations in precipitation and several other factors as discussed in the report.         NOTE:       Groundwater, though not encountered at the time of drilling, may rise to a higher level du to seasonal variations in precipitation and several other factors as discussed in the report.         NO       E         Stringto & MOOPPE       24-INCH REUSE WATER LINE, GALLERIA DRIVE INTERCHANGE HENDERSON, NEVADA							· ·						
Groundwater not encountered during drilling. Backfilled and patched on 01/31/07. NOTE: Groundwater, though not encountered at the time of drilling, may rise to a higher level du to seasonal variations in precipitation and several other factors as discussed in the report.	15 - 🛛						Sampler refusal after 4 inches.						
Groundwater, though not encountered at the time of drilling, may rise to a higher level du to seasonal variations in precipitation and several other factors as discussed in the report.							Groundwater not encountered during drilling.						
<b>BORING LOG</b> 24-INCH REUSE WATER LINE, GALLERIA DRIVE INTERCHANGE HENDERSON, NEVADA	20						Groundwater, though not encountered at the time of drilling, may rise to a higher level due						
24-INCH REUSE WATER LINE, GALLERIA DRIVE INTERCHANGE HENDERSON, NEVADA PROJECT NO. DATE FIGURE							BORING LOG						
PROJECT NO. DATE FIGURE			<u>n</u>		&		24-INCH REUSE WATER LINE, GALLERIA DRIVE INTERCHANGE HENDERSON, NEVADA						
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0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0		0									
B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B		MPLE			(H		z	DATE DRILLED	01/31/07	BORING NO.	B-58
0       SAMPLED BYINI LOGGED BYINI REVERVEND BYEDE         0       DESCRIPTIONNTERPRETATION         0       NATIVE SOLL: Brown, damp, medium dense, silty GRAVEL with sand and cobbles.         1       GP_GM         3       76° 80°         10       Forwin, damp, medium dense, silty GRAVEL with silt and sand.         10       Forwin, damp, medium dense, poorfy graded GRAVEL with silt and sand.         10       100°         10       100°         10       100°         10       100°         10       100°         10       100°         10       100°         10       100°         10       100°         10       100°         10       100°         10       100°         10       100°         10       100°         10       100°         10       100°         10       100°         10       100°         100°       100°         100°       100°         100°       100°         100°       100°         100°       100°         100°       100°	(feet)	SAI	S	KE (%)	TY (Pc	Ъ	S.	GROUND ELEVATIO	N Not measured	SHEE	ET <u>1</u> OF <u>1</u>
0       SAMPLED BYINI LOGGED BYINI REVERVEND BYEDE         0       DESCRIPTIONNTERPRETATION         0       NATIVE SOLL: Brown, damp, medium dense, silty GRAVEL with sand and cobbles.         1       GP_GM         3       76° 80°         10       Forwin, damp, medium dense, silty GRAVEL with silt and sand.         10       Forwin, damp, medium dense, poorfy graded GRAVEL with silt and sand.         10       100°         10       100°         10       100°         10       100°         10       100°         10       100°         10       100°         10       100°         10       100°         10       100°         10       100°         10       100°         10       100°         10       100°         10       100°         10       100°         10       100°         10       100°         100°       100°         100°       100°         100°       100°         100°       100°         100°       100°         100°       100°	PTH		BLOW	STUF	ENSI.	SYMB	SSIFIC U.S.C	METHOD OF DRILLI	NG Mobile B-61 HDX	hollow-stem auger drill	rig
0       SAMPLED BYINI LOGGED BYINI REVERVEND BYEDE         0       DESCRIPTIONNTERPRETATION         0       NATIVE SOLL: Brown, damp, medium dense, silty GRAVEL with sand and cobbles.         1       GP_GM         3       76° 80°         10       Forwin, damp, medium dense, silty GRAVEL with silt and sand.         10       Forwin, damp, medium dense, poorfy graded GRAVEL with silt and sand.         10       100°         10       100°         10       100°         10       100°         10       100°         10       100°         10       100°         10       100°         10       100°         10       100°         10       100°         10       100°         10       100°         10       100°         10       100°         10       100°         10       100°         10       100°         100°       100°         100°       100°         100°       100°         100°       100°         100°       100°         100°       100°	B	Drive		MO	RY D		CLAS				
5       7/0°       5.5       106.9       Brown, damp, medium dense, sity GRAVEL with sand and cobbles.         5       7/0°       5.5       106.9       Brown, damp, medium dense, poorly graded GRAVEL with silt and sand.         10       106°       5.5       106.9       Brown, damp, medium dense, poorly graded GRAVEL with silt and sand.         10       106°       5.5       106.9       Brown, damp, medium dense, poorly graded GRAVEL with silt and sand.         10       106°       5.5       106.9       Brown, damp, medium dense, poorly graded GRAVEL with silt and sand.         10       106°       5.5       106.9       Brown, damp, medium dense, poorly graded GRAVEL with silt and sand.         10       106°       5.5       106.9       Brown, damp, medium dense, poorly graded GRAVEL with silt and sand.         10       106°       5.5       106.9       Brown, damp, medium dense, poorly graded GRAVEL with silt and sand.         11       106°       106°       Fourther dense, sampler refusal after 1 inch.       Total denth = 15.1 fet.         12       501°       Groundvater not encountered during drilling.       Backfilled on 01/31/07.       NOTE:         20       Conudvater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report.       BORING LOG<								SAMPLED BY N			
3       7/6" 106"       5.5       106.9         10       106"       106"       106"         10       9/6"       106"       106"         10       9/6"       106"       106"         10       9/6"       106"       106"         10       9/6"       106"       106"         13       50/1"       106"       106"         14       50/1"       106"       106"         15       106"       106"       106"         16       50/1"       106"       106"         16       50/1"       106"       106"         17       50/1"       106"       106"         16       100"       15.1 feet.       Groundwater not encountered during drilling. Backfilled on 01/31/07.         NOTE:       Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report.         20       BORING LOG       24-NCH REUSE WATTER LINE, GALEBIA NEWE INTERCHANGE IENDERSON, NEVADA	0						GM	<u>NATIVE SOIL</u> : Brown, damp, mediun	a dense, silty GRAVI	EL with sand and co	obbles.
24-INCH REUSE WATER LINE, GALLERIA DRIVE INTERCHANGE HENDERSON, NEVADA         PROJECT NO.       DATE	-		8/6" 10/6" 10/6" 10/6" 9/6"	5.5	106.9		GP-GM	Very dense; sampler r Total depth = 15.1 fee Groundwater not enco Backfilled on 01/31/0 NOTE: Groundwater, though	efusal after 1 inch. t. untered during drillir 7.	ng. e time of drilling, m	ay rise to a higher level du
24-INCH REUSE WATER LINE, GALLERIA DRIVE INTERCHANGE HENDERSON, NEVADA         PROJECT NO.       DATE	20									BORING	06
	<i>Ninyo</i> & Moore								24-INCH REUS	E WATER LINE, GALLERI	IA DRIVE INTERCHANGE
			V						PROJECT NO. 301458003	DATE 02/07	FIGURE 11

## **APPENDIX C**

I-515 Near Gibson Road

Ninyo & Moore | I-515/I-215 Feasibility Study, Henderson, Nevada | 304433001 R | August 6, 2019



	SAMPLES			F)		-	DATE DRILLED	10/17/2003	BORING NO.	B-1												
eet)	SAN	ООТ	≡ (%)	— DRY DENSITY (PCF)	۲	ATION S.	GROUND ELEVATIO	N Not measured	SHEET	1 OF 2												
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	ENSIT	SYMBOL	SIFIC/ S.C.(	METHOD OF DRILLI	NG Truck-mounted Mob	ile B-80 air-rotary drill ri	g												
DEF	DEP Bulk Driven	BLO	MOIS	3Y DE	\$	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	140 lbs. (Spooling ca	ble) DROP	30"												
				ā		Ũ	SAMPLED BY		DJD REVIEWE	D BY <u>BDB</u>												
0			_			SM	<u>FILL</u> : Light brown, damp, v			gravel and cobbles.												
		50/5"					Sampler refusal after			B												
							Medium dense; highl	y gypsiferous.														
5 -		32	5.4	102.4																		
						SP-SM		damp, very dense, poo boulders; slightly ceme		arse SAND with silt, fine												
10	Z	50/3"					Sampler refusal after 3".															
10 -							No cementation.															
15		50/5"																	Sampler refusal after	5".	DR	AFT
			Ě				Saturated.															
		32				CL	Reddish brown, satur	ated, very stiff, sandy	lean CLAY with grav	vel.												
20			<u> </u>		<u> </u>	1			BORING LOC													
		MÌ	<u>n</u>	ΙΟ	&	Ma		veyance System, Segment A th Henderson, Nevada														
	_	V	U			V -		PROJECT NO. 301344001	DATE 11/2003	FIGURE A-1												

·								
	SAMPLES			F)		_	DATE DRILLED <u>10/17/2003</u> BORING NO.	B-1
eet)	SAM	001	E (%)	Y (PC	۲.	CLASSIFICATION U.S.C.S.	GROUND ELEVATION Not measured SHE	ET OF
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	ENSIT	SYMBOL	SIFIC/ I.S.C.(	METHOD OF DRILLING Truck-mounted Mobile B-80 air-rotary of	lrill rig
DEF	Bulk Driven	вго	MOIS	DRY DENSITY (PCF)	Š	CLAS	DRIVE WEIGHT 140 lbs. (Spooling cable) DR	OP
				Ō		-	SAMPLED BY DJD LOGGED BY DJD REVI DESCRIPTION/INTERPRETATIO	EWED BY <u>BDB</u>
20						CL	ALLUVIUM (continued): Reddish brown, saturated, very stiff, sandy lean CLAY with	
	$\mathbb{H}$						·····	
	Ш							
		50/6"	30.0	92.6			Sampler refusal after 12".	
25 -	╷┍						Total depth = 25.0 feet.	
							Groundwater measured at 15.6 feet approximately 15 minut	es after drilling.
	$\prod$						Backfilled on 10/17/2003.	
	++							
	$\left  \right $							
	Ш							
30 ·								
	+							
	$\left  \right $							
	$\square$							
35 ·							וח	RAFT
40			•				BORING	_OG
		VÌ	<u>n</u>	10	&	M	Gibson Conveyance System, Segme Henderson, Ne	nt A through Segment D /ada
	_	V				V -	PROJECT NO. DATE 301344001 11/2003	FIGURE

et) SAMPLES			(in			DATE DRILLED	10/17/2003	BORI	NG NO	В	-2	
eet) SAM	Ю	(%)	r (PCf		NOIL	GROUND ELEVATIO	Not measured		SHEET	1 (	OF	2
DEPTH (feet) ulk S/ ven S/	BLOWS/FOOT	MOISTURE (%)	USIT.	SYMBOL	S.C.S	METHOD OF DRILLI	NG Truck-mounted Mol	oile B-80 ai	r-rotary drill rig			
DEF Bulk Driven	BLO	MOIS	DRY DENSITY (PCF)	လ်	CLASSIFICATION U.S.C.S.		140 lbs. (Spooling ca	able)	_ DROP _		30"	
			Ō		Ŭ	SAMPLED BY	JD LOGGED BY DESCRIPTION/			BY	BDB	
5	52				SP-SM	ALLUVIUM: Light brown, dry, ver cobbles, and boulders Reddish brown; damp Dense.	y dense, poorly graded			with silt	t, gravel	2
	49								DRA	\F1	Г	
	50/<1"					Sampler refusal after	6".					
						Light brown, damp, v fine-grained material	ery hard, CALICHE; s.	strongly	cemented; cor	nposed	primaril	y of — -
		+			CL	Reddish brown, mois	t, very stiff, lean CLA	Y; slightl	y gypsiferous	•		
	70/7"	30.3	90.2			Sampler refusal after	13".					
20.		<u> </u>	<u> </u>	<u> </u>	1		-					
				R- 1		ore	Gibson Cor	veyance Syst	em, Segment A thro	ugh Segme	ent D	
	<b>Y</b> Z	1. <u> </u>		×			PROJECT NO.	Heno	lerson, Nevada	-	FIGURE	
	V				V		301344001		2003		A-3	

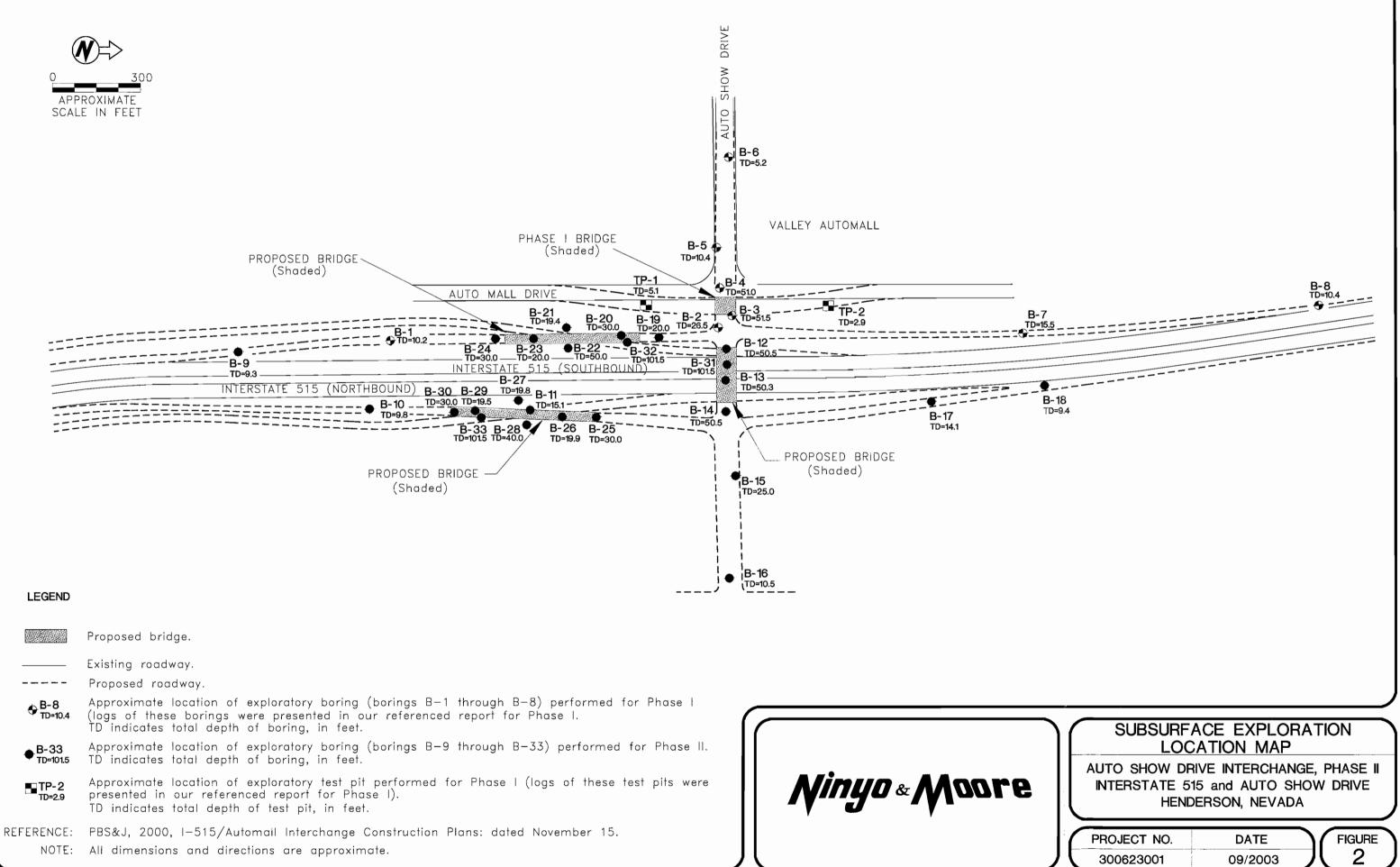
	SAMPLES			CF)		z	DATE DRILLED	10/17/2003	BORING NO.	B-2
feet)	SA	001	E (%)	Z (PC	Ы	ATIOI S.	GROUND ELEVATION	ON Not measured	SHEET	2 OF
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	ENSIT	SYMBOL	CLASSIFICATION U.S.C.S.	METHOD OF DRILL	ING Truck-mounted Mot	oile B-80 air-rotary drill ri	g
DE	Bulk Driven	BLO	MOI	DRY DENSITY (PCF)	S	CLAS	DRIVE WEIGHT	140 lbs. (Spooling ca	able) DROP	30"
							SAMPLED BY			D BYBDB
20							ALLUVIUM (continue)	ued):		nposed primarily of fine-
	$\mathbb{H}$					 CL	grained materials.			ly gypsiferous; scattered
		-	포				thin layers of very ha	rd, strongly cemented		
			-				Saturated.			
			Ţ							
			-							
25 -		72/10"	29.6	86.8			Sampler refusal after	16".		
							Total depth = $25.3$ fe Groundwater encount		22 feet during drillir	ng and measured at 23.5
							feet approximately 12 Backfilled on 10/17/2	5 minutes after drilling	<i>5.</i>	ig und mousured at 25.5
	$\square$	-						2005.		
		-								
		_								
30 -										
	$\left  \right $	-								
		- · ·								
	+	-							DR	471
35 -	$\square$	-								
		-								
		-								
40										
40	<u> </u>								BORING LOO	
		₩//	ПŲ		&	MQ	ore		veyance System, Segment A th Henderson, Nevada	
		V						PROJECT NO. 301344001	DATE 11/2003	FIGURE

6	SAMPLES	Т	(%	PCF)		NO	DATE DRILLED		_ BORING NO	
DEPTH (feet)	- S - - -	BLOWS/FOOT	Moisture (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.				
EPTH	₹ u	TOWS	OISTL	DENS	SYM	ASSIF U.S.		140 lbs (Spooling ca		
	Bulk Driven	B	Ň	DRY		CL				
									DJD REVIEW	ED BY <u>BDB</u>
0		50/<1"				SW-SM	ALLUVIUM: Dark reddish brown, o and coarse gravel, col Sampler refusal.		ll-graded fine to coar	se SAND with silt, fine
5 -		50/3"					Sampler refusal after	9".		
							Medium dense.			
10 -		24				SM	Reddish brown, damp	o, medium dense, silty	fine SAND.	
						SP-SM	Dark reddish brown, gravel, cobbles, and l		orly graded fine to co	arse SAND with silt, — —
15 -		50/5"	4.3	110.5			Sampler refusal after	11".	DR	AFT
			L			SP	Dark reddish brown,	moist, verv dense no	orly graded fine to m	edium SAND: trace
						55	gravel; slightly ceme		y Bradoa Inio to In	
		50/<1"					Sampler refusal.			
20			<b>_</b>			·	Saturated.		BORING LO	
					Sz į		ore	Gibson Co	nveyance System, Segment At Henderson, Nevada	
			7	_				PROJECT NO. 301344001	DATE 11/2003	FIGURE A-5

	S						
	SAMPLES			(H)		z	DATE DRILLED10/17/2003 BORING NOB-3
(feet)	SA	1001	MOISTURE (%)	الح (Pe	Ы	CLASSIFICATION U.S.C.S.	GROUND ELEVATION Not measured SHEET 2 OF 2
DEPTH (feet)		BLOWS/FOOT	STUR	ENSI	SYMBOL	SIFIC J.S.C.	METHOD OF DRILLING Truck-mounted Mobile B-80 air-rotary drill rig
DE	Driven	BLC	MO	DRY DENSITY (PCF)	s s	CLAS	DRIVE WEIGHT 140 lbs (Spooling cable) DROP 30"
						-	SAMPLED BY DJD LOGGED BY DJD REVIEWED BY BDB DESCRIPTION/INTERPRETATION
20						SP	ALLUVIUM (continued): Dark reddish brown, saturated, very dense, poorly graded fine to medium SAND; trace
	$\square$	-					gravel; slightly cemented. Dark reddish brown to black, saturated, very hard, CALICHE; strongly cemented;
		-					composed primarily of coarse-grained materials.
		1					Hard.
			+			SP-SM	Dark reddish brown, saturated, dense, poorly graded fine to coarse SAND with silt and
25 -	$\square$	32					gravel.
							Total depth = 25.5 feet.
	++-	1					Groundwater measured at 19.9 feet approximately 15 minutes after drilling. Backfilled on 10/17/2003.
	$\left  \right $	-					
	$\square$	_					
30 -	++-	1					
		_					
	$\square$	1					
	++	-					
35 -		-					
							DRAFT
	++	-					
	$\left  \right $	-					
		-					
40							
40	<u> </u>						BORING LOG
		<b>N</b> //	ΠĻ		Se	Ma	Gibson Conveyance System, Segment A through Segment D Henderson, Nevada
						V	PROJECT NO. DATE FIGURE 301344001 11/2003 A-6

## **APPENDIX D**

I-515 Near Auto Show Mall



	FACE EXPLO	
INTERSTATE &	RIVE INTERCHA 515 and AUTO S DERSON, NEVA	SHOW DRIVE
PROJECT NO. 300623001	DATE 09/2003	FIGURE 2

DEPTH (feet)	Bulk SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	GROUND ELEVATION METHOD OF DRILL DRIVE WEIGHT	DN ING LOGGED BY	SHEET	SYMBOL SAMPLE          1OF         _1          1OF         _1
		XX/ XX					alluvium to bedrock Dashed line denotes tion within a unit. Modified split-barr No recovery with r Seepage. Groundwater encou Groundwater measu Standard Penetratic No recovery with a Shelby tube sample in inches.	s material change, suc el drive sampler. nodified split-barrel d intered during drilling ared after drilling.	-	ype or classifica-
- 20 -							The total depth line boring.	is a solid line that is	drawn at the bottom o	of the
20 -								B	ORING LO	DG
			14		æ	M	ore_		ATION OF BORING LOO	
	_		J		_	▼ -		PROJECT NO. SYMSAMP	DATE Rev. 12/98	FIGURE

LES			•			DATE DRILLED	07/18/2001	BORING NO.	B-9
et) SAMPLES	от	(%)	(PCF		NOI		N Not measured		1 OF 1
DEPTH (feet) ulk S/	BLOWS/FOOT	rure	ISITY	SYMBOL	FICA S.C.S.	METHOD OF DRILLI	NG Air rotary, 6" diamete	er bit	
DEP Bulk Driven	BLOW	MOISTURE (%)	DRY DENSITY (PCF)	SΥ	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	See "Notes"	DROP	30"
			DR		o	SAMPLED BYBC	M LOGGED BY		D BYBDB
0					SM	ALLUVIUM:		NTERPRETATION	
║╶╇┥						Brown, damp, dense t gravel and cobbles; sl	o very dense, silty fine ightly gypsiferous.	to coarse SAND with	h
	60								
5									
						Sampler refusal after	6"		
	50/6"					Sampler refusar arter	0.		
	50/4"					Sampler refusal after	4".		
10							ountered during drillin	g.	
						Backfilled on 07/18/2	.001.		
							Test (SPT) samples we		
						340-lb hammer.	lit-barrel (MSB) drive	samples were obtain	led with a
						Denin a la cata d'annua	ximately 115 feet west	ANDOT I 515 Sto	ion No. 644105
						Boring located approx	xiniately 115 leet west	. 01 NDO1 1-515 Sta	1011 NO. 044+03.
15									
20									
				R.		nro	Aı	BORING LOC nto Show Drive Interchange, F	
		19				ore	PROJECT NO.	Henderson, Nevada	FIGURE
	-						300623001	09/2003	<u>A-1</u>

	SAMPLES			Έ)		7	DATE DRILLED07/19/2001 BORING NOB-10
feet)	SAN	001	MOISTURE (%)	DRY DENSITY (PCF)	Ъ	CLASSIFICATION U.S.C.S.	GROUND ELEVATION         Not measured         SHEET         1         OF         1
DEPTH (feet)		aLows/Foot	STUR	ENSI	SYMBOL	SIFIC J.S.C.	METHOD OF DRILLING Air rotary, 6" diameter bit
H H	Bulk	BLO	MO	RYD	0	CLAS	DRIVE WEIGHT See "Notes" DROP30"
							SAMPLED BY BOM LOGGED BY BOM REVIEWED BY BDB DESCRIPTION/INTERPRETATION
		_				SM	ALLUVIUM: Brown, damp, dense to very dense, silty fine to coarse SAND with gravel and cobbles.
5 -		88				SP	Brown, damp, very dense, poorly graded SAND with gravel and cobbles and small boulders.
		60	7.9	111.4		GP-GM	Brown, damp, very dense, poorly graded GRAVEL with silt
		40/6" 50/4"					
10 -		_					Total Depth = 9.8 feet. Groundwater not encountered during drilling. Backfilled on 07/19/2001. Notes: Standard Penetration Test (SPT) samples were obtained with a 140-lb hammer. Modified split-barrel (MSB) drive samples were obtained with a 340-lb hammer.
15 -		_					Boring located approximately 110 feet east of NDOT I-515 Station No. 646+15.
20							
		Mi			Sz /		BORING LOG Auto Show Drive Interchange, Phase II Henderson, Nevada PROJECT NO. DATE FIGURE
			J				PROJECT NO.         DATE         FIGURE           300623001         09/2003         A-2
					-		

·										
	SAMPLES		CF)		z		07/19/2001		3 NO	B-11
(feet)	iven SA	MOISTURE (%)	DRY DENSITY (PCF)	ы	CLASSIFICATION U.S.C.S.	GROUND ELEVAT	FION Not measured		SHEET _	_1OF1
DEPTH (feet)	I/SMC	STUF	ENSI	SYMBOL	SIFIC	METHOD OF DRIL	LING Air rotary, 6" dia	meter bit		
DE	Driven BLOV	MO	RYD	s l	ر دلمs	DRIVE WEIGHT	See "Notes	;"	DROP	30"
						SAMPLED BY		BY BOM DN/INTERPRET	REVIEWED TATION	BY <u>BDB</u>
5	38	"			GM	ALLUVIUM: Brown, damp, dense and small boulders. Sampler refusal afte	e to very dense, silty			, with sand and cobbles
	40/6 50/6		128.4			Sampler refusal afte	er 12".			
	<u>50/1</u>	"				Backfilled on 07/19 Notes: Standard Penetratio hammer. Modified 340-lb hammer.	feet. ncountered during dri 9/2001. on Test (SPT) sample split-barrel (MSB) dr	s were obtaine rive samples w	vere obtaine	d with a
_20_							roximately 120 feet e			n No. 052+00.
		ini		s.	Μ	ore		Auto Show Drive	NG LOG Interchange, Pha son, Nevada	ase II
		7	/~ -				PROJECT NO.	DAT	-	FIGURE
					*		300623001	09/20	003	A-3

	_				_								
	SAMPLES			F)		-	DATE DRILLED	07/18/2001	BORIN	IG NO		B-12	
eet)	SAN	001	E (%)	Y (PC	لح ا	NOTION.	GROUND ELEVATION	ON Not measured		SHEET _	1	_ OF	3
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	INSIT	SYMBOL	SIFIC/	METHOD OF DRILL	ING Air rotary, 6" diameter	er bit				
BE	Bulk Driven	BLO	MOIS	DRY DENSITY (PCF)	s.	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	See "Notes"				30"	
ļ				L R			SAMPLED BY B				) BY	BDF	3
0						GW-GM	ALLUVIUM:	DESCRIPTION/II					
							Brown, damp, dense and small boulders; s	to very dense, well-grad lightly gypsiferous.	ded GRA	VEL with si	lt and	sand and	l cobbles
ļ													
		15/<1"					Sampler refusal.						
5-													
	$\mathbb{H}$	25/68					Sampler refusal after	12".					
Į	ĻΛ	35/6"		l									
Ì		23/6"					Sampler refusal after	10".					
10 -		50/4"											
	††												
ľ	┼┼╾												
		25/6" 50/6"	10.1	121.3			Sampler refusal after	12".					
15 ·													
		43/6"					Sampler refusal after	12".					
20		50/6"					. <u> </u>						
					B 1		ore	Au	to Show Driv	ING LOG			
			4		^			PROJECT NO.	DA	TE		FIGURE	1
II.								300623001	09/2	2003		Δ_4	

	0	_												
		SAMPLES			Û.		-	DATE DRILLED	07/18/2001	BORIN	IG NO	]	B-12	
eet)	0		ООТ	(%)∃	DRY DENSITY (PCF)	2	CLASSIFICATION U.S.C.S.	GROUND ELEVATIO	N Not measured		SHEET _	2	OF _	3
DEPTH (feet)			BLOWS/FOOT	MOISTURE (%)	NSIT	SYMBOL	S.C.S	METHOD OF DRILLI	NG Air rotary, 6" diame	ter bit				
DEP	Bulk	Driven	BLOV	MOIS	IY DE	S	LASS U.	DRIVE WEIGHT	See "Notes"		_ DROP _		30"	
	[				DR		0	SAMPLED BYBO	DM LOGGED BY		REVIEWED	BY _	BD	В
20					· · · •		GW-GM	ALLUVIUM (continu	DESCRIPTION/	INTERPRE	TATION			
-								Brown, damp to moist cobbles and small bou	t, dense to very dense		ded GRAVE	L with	silt and	sand and
- 25 -			27/6" 45/6"	7.6	127.2			Sampler refusal after	12".					
			50/5"					Sampler refusal after Brown, damp, modera		; moderat	ely cemented	; comj	posed p	rimarily of
								coarse-grained materi	al.			-		
							SP-SM	Brown, moist, dense t with silt and gravel.	o very dense, poorly	graded fin	e to coarse S	AND		
35 -			43	17.5	93.6		SM	Light brown, damp to	moist, dense, silty fi	ne to medi	ium SAND.			
					 		SC	Light brown, moist, d trace gravel.	ense to very dense, c	ayey fine	to medium S	ĀND;		
_40_		Z	50/6"					Sampler refusal after	6".					
				IL	ĮŪ ·	&	MU	ore		Hend	ive Interchange, Ph lerson, Nevada	ase II		
									PROJECT NO. 300623001		ATE 2003		FIGUF A-5	

DEPTH (feet) Bulk SAMPLES	BLOWS/FOOT		DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED       07/18/2001       BORING NO.       B-12         GROUND ELEVATION       Not measured       SHEET       3       OF       3         METHOD OF DRILLING       Air rotary, 6" diameter bit       DROP       30"
			DR	_	U U	SAMPLED BY BOM LOGGED BY BOM REVIEWED BY BDB DESCRIPTION/INTERPRETATION
40						ALLUVIUM (continued): Light brown, damp, moderately hard to hard, CALICHE; moderately to strongly cemented; composed primarily of fine-grained material.
45		<b>پ</b> 0.0 ۶			SC	Brown, saturated, medium dense, clayey fine to coarse SAND; trace fine gravel.
50	21				CL	Brown, saturated, very stiff, lean CLAY; trace fine sand; trace gravel
						Total Depth = 50.5 feet. Groundwater measured at 43.7 feet approximately 6 days after drilling. Backfilled on 07/24/2001. Notes: Standard Penetration Test (SPT) samples were obtained with a 140-lb hammer. Modified split-barrel (MSB) drive samples were obtained with a 340-lb hammer.
						Boring located approximately 95 feet west of NDOT I-515 Station No. 658+30.
			• <b>•</b>		An	Auto Show Drive Interchange, Phase II
		9				Auto Show Drive Interchange, Phase II Henderson, Nevada PROJECT NO. DATE FIGURE 300623001 09/2003 A-6

	SAWPLES OT		F)			DATE DRILLED	07/19/2001	BORING NO.	B-13
eet)	TOC	E (%)	DRY DENSITY (PCF)	۲.	CLASSIFICATION U.S.C.S.	GROUND ELEVATIO	Not measured	SHEET _	1OF3
DEPTH (feet)	iven 3A BLOWS/FOOT	MOISTURE (%)	INSIT	SYMBOL	SIFIC/ S.C.S	METHOD OF DRILL	NG Air rotary, 6" diameter	er bit	
Buk DEF	Driven BLOV	MOIS	3Y DE	Ś	n CLAS:		See "Notes"	DROP	30"
			ä		U	SAMPLED BY	DM LOGGED BY	BOM REVIEWED	BY <u>BDB</u>
0				80 00 80 89		CONCRETE PAVEN Approximately 11-1/2	<u>4ENT</u> : 2" thick.		
5	98			and the second second second second second second second second second second second second second second secon	GM	FILL:	ense, silty fine and coar	se GRAVEL with fin	e to coarse
	50/4"					Sampler refusal after	4".		
15	20/6" 50/5"				GM	<u>ALLUVIUM</u> : Brown, damp, very d boulders. Sampler refusal after		rse GRAVEL with sa	nd and cobbles and small
	50/4"	Îng		8	Ma	Sampler refusal after		BORING LOG to Show Drive Interchange, Ph Henderson, Nevada DATE	
	V				V		300623001	09/2003	A-7

	ES ES								07/10/2001	PODIN			. 12	
0	SAMPLES		F	(%	PCF)		NO	DATE DRILLED GROUND ELEVATIO			G NO		05	2
DEPTH (feet)	о П	5	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	BOL	CLASSIFICATION U.S.C.S.				SHEET _		UF	3
EPTH	¥	en	SMO	DISTU	DENS	SYMBOL	SSIFI U.S.(		NG <u>Air rotary</u> , 6" diamete	er bit				
D	₩ E E E	Driven	ы В	×	DRY I		CLA				_ DROP _		30"	
								SAMPLED BY BO	DM LOGGED BY DESCRIPTION/I		REVIEWED	Вү _	BDB	<u> </u>
20			34 7/6" 0/4"			and the second second second second second second second second second second second second second second secon	GM	ALLUVIUM (continu Brown, damp, dense to and small boulders.	<u>ed)</u> : o very dense, silty fine	and coar	se GRAVEL			
35 -							GP	Brown, damp, medium and small boulders; tr	ace silt.	BOR uto Show Dri	ING LOG ve Interchange, Pha		d and c	obbles -
		Λ		Ŋ		&	Ma	ore		Hend	erson, Nevada	ase II	FIGURE	-
							V		PROJECT NO. 300623001		ATE 2003		FIGURE A-8	-

DATE DRILLED	07/19/2001 BORING NO. B-13
SI I     Image: Constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constr	ON Not measured SHEET 3 OF 3
Construction of the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second sec	NG Air rotary, 6" diameter bit
DEPTH (feet) DEPTH (feet) BLOWS/FOOT BLOWS/FOOT BLOWS/FOOT BLOWS/FOOT CLASSIFICATION U.S.C.S. BLOWS/FOOT BLOWS/FOOT CLASSIFICATION U.S.C.S. BLOWS/FOOT CLASSIFICATION U.S.C.S.	See "Notes" DROP 30"
SAMPLED BY BO	DM LOGGED BY BOM REVIEWED BY BDB DESCRIPTION/INTERPRETATION
40 40 GP <u>ALLUVIUM (continu</u> Brown, damp, mediur with sand and cobbles 45 45 Dense to very dense;	<u>n dense to dense, poorly graded fine and coarse GRAVEL</u> s and small boulders.
Caving from approxit Groundwater not enc Backfilled and patcher Notes: Standard Penetration hammer. Modified sp 340-lb hammer.	ountered during drilling.
60 Ninyo & Moore	BORING LOG Auto Show Drive Interchange, Phase II Henderson, Nevada PROJECT NO. DATE FIGURE 300623001 09/2003 A-9

	LES							07/18/2001	BORING NO.		B-14	
Ð	SAMPLES	Ы	(%)	DRY DENSITY (PCF)		NOI		DN Not measured		 Г 1		3
H (fee	П	S/FOC	JRE (	SITY	SYMBOL	FICAT C.S.		ING Air rotary, 6" diame		· 1	_ 0,	
DEPTH (feet)	Bulk Driven	BLOWS/FOOT	MOISTURE (%)	DEN	SYN	CLASSIFICATION U.S.C.S.		See "Notes"		5	30"	
	Dri	Ш	Ē	DRY		CL	SAMPLED BY					
								DESCRIPTION				
						GM	ALLUVIUM: Brown, damp, very de boulders.	ense, silty fine and co	arse GRAVEL with	sand an	d cobbles	and small
	2	50/3"					Sampler refusal after	9".				
5 -		28/6" 45/6"					Sampler refusal after	12".				
10 -		50/2"					Sampler refusal after	2".				
		50/4"					Sampler refusal after	4".				
15 -						GM	coarse-grained mater	ately hard, CALICHI ial. ense, silty fine and co				
_20		27/6" 50/4"	4.9	127.4			Sampler refusal after	10".				
		A //							BORING LC			
			ΠĻ	ĮŪ	&	M	ore		Auto Show Drive Interchang Henderson, Nevad			
		V				V		PROJECT NO. 300623001	DATE 09/2003		FIGURE A-10	-

	SAMPLES			í.		7	DATE DRILLED	07/18/2001	BORIN	G NO	B-1	4
feet)	SAN	001	MOISTURE (%)	DRY DENSITY (PCF)	Ъ	CLASSIFICATION U.S.C.S.	GROUND ELEVATIO	Not measured		SHEET _	2 0	F
DEPTH (feet)		BLOWS/FOOT	STUR	INSIT	SYMBOL	SIFIC.	METHOD OF DRILL	NG Air rotary, 6" diamet	ter bit			
	Bulk Driven	BLO	MOIS	۲ DE	S	CLAS	DRIVE WEIGHT	See "Notes"			2	30"
						U	SAMPLED BY BO	DM LOGGED BY			D BY	BDB
20		70				GM	ALLUVIUM (contin Brown, damp, very do and cobbles and smal	<u>led)</u> : ense, silty fine and coa			t and grav	rel
25 -		70										
30												
35		59	6.1	130.0								
40	<i>Ninyo</i> & Moore						<u> </u>		BOR	ING LOG	i	
		NÌÌ	$\mathbb{N}$	10	Se	DVV	ore		uto Show Dri Hend	ve Interchange, Ph erson, Nevada	nase II	
		V	U					PROJECT NO. 300623001		ATE 2003	I	IGURE A-11
	_							500025001	0/1			

1									_	_			
	SAMPLES			(H)		7	DATE DRILLED	07/18/2001	BORIN	IG NO		B-14	
(feet)	SAM	:00T	MOISTURE (%)	DRY DENSITY (PCF)	Ы	CLASSIFICATION U.S.C.S.	GROUND ELEVATIO	Not measured		SHEET _	3	OF _	3
DEPTH (feet)		BLOWS/FOOT	STUR	ENSI	SYMBOL	SIFIC J.S.C.	METHOD OF DRILLIN	NG Air rotary, 6" diamet	ter bit				
B	Bulk Driven	BLC	MOL	RYD	5	CLAS	DRIVE WEIGHT	See "Notes"		_ DROP _		30"	
							SAMPLED BYBO	M LOGGED BY			D BY	BD	В
-40 		-			1	GM	ALLUVIUM (continue Brown, moist, very der boulders. Brown, damp, hard, C.	<u>ed)</u> : nse, silty fine and coa	urse GRA	VEL with sar			s and
45							coarse-grained materia	ıl.			marily	/ OI	
-			¥			CL	Brown, moist, very stir gypsiferous. Saturated.	ff, lean CLAY; trace	fine sand;	slightly			
50		22	24.0	99.0			Total Depth = 50.5 fee Groundwater measure Backfilled on 07/24/20 Notes: Standard Penetration 7 hammer. Modified spl 340-lb hammer.	d at 47.7 feet approxi 001. Fest (SPT) samples w	ere obtain	ned with a 14	-1b	1 a	
							Boring located approx	imately 120 feet east	of NDOT	[ I-215 Static	on No.	658+3	0.
60										ING LOG			
		<b>V</b> /	Ŋ		&	Na	ore	Ai PROJECT NO.	Hend	ve Interchange, Ph erson, Nevada	ase II	FIGUR	:E
								300623001		2003		A-12	

		1										
et) SAMPLES			(H		-	DATE DRILLED	07/19/2001	BORIN	IG NO		B-15	
eet) SAN	DO TO	(%)	Y (PC	_	TION.	GROUND ELEVATION	DN Not measured		SHEET	1	_ OF	2
DEPTH (feet)	BLOWS/FOOT	MOISTURE (%)	NSIT	SYMBOL	S.C.S	METHOD OF DRILL	ING Air rotary, 6" diamet	er bit				
DEP Bulk	BLOV	MOIS	DRY DENSITY (PCF)	ŝ	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	See "Notes"				30"	
			Ц		0	SAMPLED BYB	OM LOGGED BY			D BY	BDI	В
0					GM	ALLUVIUM:	DESCRIPTION/I	NTERPRI	ETATION			
	-				GW	Brown, damp, dense and small boulders.	to very dense, silty fine 12".	e and coa	rse GRAVEI	2 with	sand and	d cobbles
5	35/6" 50/6" 7 45/6"					Sampler refusal after						
	<pre>43/6 50/2" </pre> 25/1"						<ul><li>a few slightly cem</li></ul>	ented lav	ers less than	10"		
						thick.	1 , a lew slightly cent	ented lay	ers less than	12		
	34/6" 90/10"					Sampler refusal after	10".					
20	51	7.3	107.1			<u> </u>	[					
				-			A.		ING LOG			
	<b>N</b> //	ТĻ	ĮŪ	Čt		ore		Hend	lerson, Nevada	11 70 th		
	V	U		_	V -		PROJECT NO. 300623001		ATE 2003		FIGUR A-13	

et) SAMPLES			E)		_	DATE DRILLED	07/19/2001		B-15
eet) SAN	0 1	(%)∃	Y (PC	L L	ATION S.	GROUND ELEVATIO	N Not measured	SHEET _	2 OF
DEPTH (feet)	BLOWS/FOOT	MOISTURE (%)	INSIT	SYMBOL	S.C.S	METHOD OF DRILLIN	NG Air rotary, 6" diamete	r bit	
DEP. Driven	BLON	MOIS	DRY DENSITY (PCF)	S	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	See "Notes"	DROP	30"
			Ð		0	SAMPLED BYBO	M LOGGED BY	BOM REVIEWEI	D BY <u>BDB</u>
20	45/6" 50/6"				GM	and small boulders. Sampler refusal after 1	o very dense, silty fine	and coarse GRAVE	, with sand and cobbles
	-					Total Depth = 25.0 fee Groundwater not enco Backfilled on 07/19/20 Notes: Standard Penetration 7 hammer. Modified spl 340-lb hammer. Boring located approx	untered during drilling 001. Fest (SPT) samples we it barrel (MSB) drive s	re obtained with a 14 samples were obtaine	ed with a
30	-								
	-								
40	 <b></b>						Δ.11	BORING LOG	
	<b>N</b> //	14	U	Š2		ore	PROJECT NO.	Henderson, Nevada	FIGURE
	<b>T</b>				V		300623001	09/2003	A-14

	SAMPLES			F)		_	DATE DRILLED	07/19/2001	BORING NO.	B-16
eet)	SAM	ООТ	(%)	DRY DENSITY (PCF)	Ļ	CLASSIFICATION U.S.C.S.	GROUND ELEVATIO	N Not measured	SHEET	1 OF 1
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	NSIT	SYMBOL	S.C.S	METHOD OF DRILLI	NG Air rotary, 6" diame	ter bit	
DEP	Bulk Driven	BLOV	MOIS	Y DE	S	U.	DRIVE WEIGHT	See "Notes"	DROP	30"
				NG N		0	SAMPLED BYBO	M LOGGED BY	BOM REVIEWE	D BY BDB
5 -		27/6" 94/9" 30	6.7	119.5	and the second second second second second second second second second second second second second second secon	GM	ALLUVIUM: Brown, damp, dense to and small boulders. Sampler refusal after 1 Medium dense to dens	o very dense, silty fin		L with sand and cobbles
10 -		100								
15 -							Total Depth = 10.5 fed Groundwater not enco Backfilled on 07/19/2 Notes: Standard Penetration 7 hammer. Modified spl 340-lb hammer. Boring located approx	ountered during drillin 001. Test (SPT) samples w lit-barrel (MSB) drive	vere obtained with a 1 e samples were obtain t of NDOT I-515 Stat	ned with a ion No. 658+33.
		Vi	n	10	&	Ma	ore	PROJECT NO.	BORING LOC Auto Show Drive Interchange, I Henderson, Nevada DATE	
		V				V		300623001	09/2003	A-15

	ES							0.5/10/2001		D 15
	SAMPLES	⊢	()	CF)		N				
(feet)	\S □	.00J	RE (%	TY (F	õL	CATIC	GROUND ELEVATIO			1 OF1
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	ENSI	SYMBOL	CLASSIFICATION U.S.C.S.	METHOD OF DRILLIN	NG Air rotary, 6" diame	ter bit	
В	Bulk Driven	BLC	WO	DRY DENSITY (PCF)		CLAS	DRIVE WEIGHT	See "Notes"	DROP	30"
							SAMPLED BYBO		BOM REVIEWE	D BY BDB
0		35/6" 50/5"	5.1	104.5		GM	<u>ALLUVIUM</u> : Brown, damp, dense to and small boulders. Sampler refusal after 1	o very dense, silty fin		L with sand and cobbles
5 -		50/2"					Sampler refusal after 2	2".		
10 -		70					A few slightly cement	ed layers less than ar	pproximately 12" thicl	k.
		50/1"					Sampler refusal after 1 Total Depth = 14.1 fee	et.		
15 -							Groundwater not enco Backfilled on 07/19/20		ng.	
							Notes: Standard Penetration 7 hammer. Modified spl 340-lb hammer.	it-barrel (MSB) driv	e samples were obtair	ned with a
20							Boring located approx	imately 110 feet east	t of NDOT I-515 Stat	ion No. 665+30.
									BORING LOO	
			ΠĻ		&	M	ore		Auto Show Drive Interchange, F Henderson, Nevada	
		V						PROJECT NO. 300623001	DATE 09/2003	FIGURE A-16

DATE DRILLED DATE DRILLED GROUND ELEVAT	07/19/2001 BORING NO. B-18
	ON Not measured SHEET 1 OF 1
	LING Air rotary, 6" diameter bit
	See "Notes" DROP 30"
0 GP <u>ALLUVIUM</u> :	DESCRIPTION/INTERPRETATION
Brown, damp, dense small boulders.	to very dense, poorly graded GRAVEL with sand and cobbles and
22/6" 92/8" Sampler refusal after	r 14".
55 4.7 128.2	
50/5"     Sampler refusal after       Total Depth = 9.4 fer	r 5"
10 Groundwater not en Backfilled on 07/19	countered during drilling.
Notes:	
Standard Penetration	n Test (SPT) samples were obtained with a 140-lb plit-barrel (MSB) drive samples were obtained with a
340-lb hammer.	
Borings located ann	roximately 80 feet east of NDOT I-515 Station 671+30.
	Toximately 50 feet east of NDOT 1-515 Station 071+50.
20	
	BORING LOG Auto Show Drive Interchange, Phase II
<i>Ninyo</i> « Moore	Henderson, Nevada PROJECT NO. DATE FIGURE
	PROJECTINO.         DATE         FIGURE           300623001         09/2003         A-17

Image: Stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress of the stress		E	ORING NO.	B	12/26/2002								LES	1	
etc       Og       Up       Eg       Og       Eg <t< td=""><td>2</td><td></td><td></td><td></td><td></td><td></td><td></td><td>NOL</td><td></td><td>(PCF)</td><td>(%)</td><td>01</td><td>SAMP</td><td></td><td>it)</td></t<>	2							NOL		(PCF)	(%)	01	SAMP		it)
0       Image: Construction of the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second seco								FICAT	ABOL	SITY	URE	S/FO(	Ť		H (fee
0       SAMPLED BY BOM_REVIEWED BY BIM_REVIEWED BY BIM								LASSII U.S	SYN	Y DEN	MOIST	BLOW	riven	Sulk	DEPT
0       GP       ALLUVIUM: Brown, damp, very dense, poorly graded GRAVEL with cobbles and small bot fine to coarse sand; trace silt.         5       5       Sampler refusal after 5".         5       50/4"       Sampler refusal after 4".         10       Sightly cemented.         10       Sampler refusal after 1".         10       Sampler refusal after 1".         10       Sampler refusal after 2".	DB	ED BY _				BOM	SAMPLED BY	с		DR	_			ľ	
Brown, damp, very dense, poorly graded GRAVEL with cobbles and small bot         5       5         5       5         2       50/4"         5       5         2       50/4"         5       5         2       50/4"         5       5         3       50/4"         5       5         5       5         5       5         6       50/4"         5       5         6       50/1"         10       5         10       5         10       5         10       5         10       5         10       5         10       5         11       5         12       50/2"         13       5         14       5         15       5         16       5         17       5         18       5         19       5         10       5         10       5         11       5         12       5         13 <td></td> <td></td> <td>RPRETATION</td> <td>ON/INTER</td> <td>DESCRIPTIC</td> <td></td> <td>ALLUVIUM:</td> <td>GP</td> <td>. 3 :</td> <td></td> <td></td> <td></td> <td>╈</td> <td>┿</td> <td></td>			RPRETATION	ON/INTER	DESCRIPTIC		ALLUVIUM:	GP	. 3 :				╈	┿	
	ulders; few	s and sma	EL with cobble	d GRAV	e silt.	d; trace fter 5". fter 4".	Brown, damp, fine to coarse Sampler refus Sampler refus	GP				50/4"			5
20 20 20 20 20 20 20 20 20 20			ow Drive Interchange,				Decrease in co								
Adio show Drive interchange, Phase II Henderson, Nevada		1 11030 11	Henderson, Nevada	Auto 30			<b>H</b> JN	Λſ	Č2	ĮŪš	Ц	<u> ///</u>			
PROJECT NO. DATE FIGU 300623001 09/2003 A-1								V -				V			

	SAMPLES			F)			DATE DRILLED	12/26/2002	BORING NO.	B-19
et)	SAM	Ю	(%)	r (PC		NOIT .	GROUND ELEVATIO	ON 1,783.8 ft. (543.70 m)	SHEET	OF
DEPTH (feet)		BLOWS/FOOT	TURE	LISN	SYMBOL	IFICA S.C.S	METHOD OF DRILLI	NG Air rotary, 6" diamet	er bit	
DEP	Bulk Driven	BLOV	MOISTURE (%)	DRY DENSITY (PCF)	sγ	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	320 lbs.	DROP	30"
				DR		O			BOM REVIEWE	D BYBDB
20							Total depth = 20.0 fee Groundwater not enco Backfilled on 12/26/2 Note:	ountered during drillin 002.	-	
							Boring located approx	cimately 130 feet wes	t of NDOT 1-515 Stat	tion No. 655+18.
25 -										
30 -										
	<u>     </u>									
35 -										
	Щ									
40										
								٨	BORING LOC	
		<b>V</b> //	ΠĻ	Ψ	&		ore		Henderson, Nevada	
		V				<b>V</b>		PROJECT NO. 300623001	DATE 09/2003	FIGURE A-19

0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0	<u></u>											
B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B	MPLE			Э.Н.		z	DATE DRILLED	12/26/2002	BORIN	g NO	B-20	
0       SAM/LED BY BOM_LOGGENT BY BOM_REVEWED Y BDB         0       DESCRIPTION/ITERRETATION         0       SM         10       Sm         13       Sm         10       Sampler refusal after 8".         10       Sampler refusal after 8".         11       Sampler refusal after 8".         10       Sampler refusal after 8".         10       Sampler refusal after 2".	feet)	.00T	E (%)	IY (PC	Ч	ATIOI S.	GROUND ELEVATIO	N <u>1,784.3 ft. (543.85 m</u> )	)	SHEET _	_1OF	2
0       SAM/LED BY BOM_LOGGENT BY BOM_REVEWED Y BDB         0       DESCRIPTION/ITERRETATION         0       SM         10       Sm         13       Sm         10       Sampler refusal after 8".         10       Sampler refusal after 8".         11       Sampler refusal after 8".         10       Sampler refusal after 8".         10       Sampler refusal after 2".	PTH (	WS/F	STUR	ENSI	YMB	SIFIC J.S.C.	METHOD OF DRILLI	NG <u>Air rotary, 6" diame</u>	ter bit			
0       SAM/LED BY BOM_LOGGENT BY BOM_REVEWED Y BDB         0       DESCRIPTION/ITERRETATION         0       SM         10       Sm         13       Sm         10       Sampler refusal after 8".         10       Sampler refusal after 8".         11       Sampler refusal after 8".         10       Sampler refusal after 8".         10       Sampler refusal after 2".	DE Driver	BLC	ЮW	RY DI	, w	CLAS	DRIVE WEIGHT	320 lbs.		_ DROP _	30"	
0       SM       ALLUVIUM: Brown, damp, dense, silty fine to coarse SAND with gravel and cobbles.         3       500°       GM       Brown, damp, very dense, silty fine and coarse GRAVEL with sand and cobbles and small boulders; sampler refusal after 6° at top of unit.         3       426°       Sampler refusal after 8°.         10       Sampler refusal after 8°.         10       GM       Brown, damp, wery dense, sifty fine and coarse GRAVEL with sand and cobbles and small primarily of coarse-grained material.         10       GM       Brown, damp, very dense, sifty fine and coarse GRAVEL with sand and cobbles and small boulders; sightly cemented.         10       GM       Brown, damp, very dense, sifty fine and coarse GRAVEL with sand and cobbles and small boulders; sightly cemented.         20       GM       Brown, damp, very dense, sifty fine and coarse GRAVEL with sand and cobbles and small boulders; sightly cemented.         20       GM       Brown, damp, very dense, sifty fine and coarse GRAVEL with sand and cobbles and small boulders; sightly cemented.         20       GM       Brown, damp, very dense, sifty fine and coarse GRAVEL with sand and cobbles and small boulders; sightly cemented.         20       GM       Brown, damp, very dense, sifty fine and coarse GRAVEL with sand and cobbles and small boulders; sightly cemented.         20       GM       Brown, very dense, sifty fine and coarse GRAVEL with sand and cobbles and small boulders; sightly cemented. <tr< td=""><td></td><td></td><td></td><td>Δ</td><td></td><td></td><td>SAMPLED BY BC</td><td></td><td></td><td></td><td>BY BDI</td><td><u>B</u></td></tr<>				Δ			SAMPLED BY BC				BY BDI	<u>B</u>
3       506*       GM       Brown, damp, very dense, silty fine and coarse GRAVEL with sand and cobbles and small boulders; sampler refusal after 6" at top of unit.         3       42/5*       Sampler refusal after 6" at top of unit.         4       502*       Eight brown, damp, moderately hard, CALICHE, moderately cemented; composed primarily of coarse-grained material.         10       Image: Composed primarily of coarse-grained material.         10       Image: Composed primarily of coarse-grained material.         10       Image: Composed primarily of coarse-grained material.         10       Image: Composed primarily of coarse-grained material.         10       Image: Composed primarily of coarse-grained material.         10       Image: Composed primarily of coarse-grained material.         10       Image: Composed primarily of coarse-grained material.         10       Image: Composed primarily of coarse-grained material.         10       Image: Composed primarily of coarse-grained material.         10       Image: Composed primarily of coarse-grained material.         11       Image: Composed primarily of coarse-grained material.         12       Image: Composed primarily of coarse-grained material.         13       Image: Composed primarily of coarse-grained material.         14       Image: Composed primarily of coarse-grained material.         15	0						ALLUVIUM:				hhloo	
42/6"       Sampler refusal after 8".         10       Light brown, damp, moderately hard, CALICHE; moderately cemented; composed -         10       Finantial         10       Brown, damp, very dense, sifty fine and coarse GRAVEL with sand and cobbles and small boulders; slightly cemented.         15       GM         16       Brown, damp, very dense, sifty fine and coarse GRAVEL with sand and cobbles and small boulders; slightly cemented.         20       Broking Log         20       BORING LOG         20       BORING LOG         20       FIGURE		50/6"					Brown, damp, very de	nse, silty fine and co	arse GRAV	-		s and small
10       Financial         10       Financial         11       Financial         15       Financial         15       Financial         15       Financial         16       Financial         17       Financial         18       Financial         19       Financial         10       Financial         11       Financial         12       Financial         13       Financial         14       Financial         15       Financial         16       Financial         17       Financial         18       Financial         19       Financial         10       Financial         11       Financial         12       Financial         13       Financial         14       Financial         15       Financial         16       Financial         17       Financial         18       Financial         19       Financial         10       Financial         10       Financial         10       Financial <td>5</td> <td></td> <td></td> <td></td> <td>and the second second</td> <td></td> <td></td> <td></td> <td></td> <td>dana sta ku anua</td> <td></td> <td></td>	5				and the second second					dana sta ku anua		
So/2"       Sover, damp, very dense, snry nine and coarse GRAVEL with sand and coorse and small boulders; slightly cemented.         Sampler refusal after 2".       Sampler refusal after 2".         Sover, damp, very dense, snry nine and coarse GRAVEL with sand and coorse and small boulders; slightly cemented.       Sampler refusal after 2".         Sover, damp, very dense, snry nine and coarse GRAVEL with sand and coorse and small boulders; slightly cemented.       Sampler refusal after 2".         Sover, damp, very dense, snry nine and coarse GRAVEL with sand and coorse and small boulders; slightly cemented.       Sampler refusal after 2".         Sover, damp, very dense, snry nine and coarse GRAVEL with sand and coorse and small boulders; slightly cemented.       Sampler refusal after 2".         Sover, damp, very dense, snry nine and coarse GRAVEL with sand and coorse and small boulders; slightly cemented.       Sampler refusal after 2".         Sover, damp, very dense, snry nine and coarse GRAVEL with sand and coorse of the sover second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second secon							primarily of coarse-g	ained material.				
Auto Show Drive Interchange, Phase II Henderson, Nevada PROJECT NO. DATE FIGURE		50/2"			1	GM	boulders; slightly cen	nented.	arse GRA	VEL with sar	id and cobble	s and small
		A //									II	
		<u> ///</u>	IŲ	Π	۶£	<b>N</b>	<b>ULG</b>		Hende	erson, Nevada		
						V -						

	S									
	SAMPLES			(H		7	DATE DRILLED	12/26/2002	BORING NO.	B-20
feet)	SAM	001	MOISTURE (%)	DRY DENSITY (PCF)	Ы	CLASSIFICATION U.S.C.S.	GROUND ELEVATION	ON <u>1,784.3 ft. (543.85 m</u> )	) SHEET	OF
DEPTH (feet)		BLOWS/FOOT	STUR	LISNE	SYMBOL	SIFIC J.S.C.	METHOD OF DRILL	ING Air rotary, 6" diame	ter bit	
BO	Bulk	BLO	MOI	RYDI	S	CLAS	DRIVE WEIGHT	320 lbs.	DROP	30"
							SAMPLED BY B	OM LOGGED BY	BOM REVIEW	ED BY <u>BDB</u>
20		31/6" 50/3"				GM SM	9" at a depth of 20'.	ense, silty fine and coa		and; sampler refusal after
25 -		48				GP-GM	Brown, damp, very d	ense, poorly graded G	RAVEL with silt and	l sand and cobbles. — — —
30 -							Backfilled on 12/26/2 Note:	ountered during drilling	-	ation No. 655+00.
35 -										
40					e. /	AAn	nro	Α	BORING LO	
			14		×	AIG	ore	PROJECT NO.	Henderson, Nevada	FIGURE
		<b>.</b>				V		<u>300623001</u>	09/2003	A-21

					1			_		_				
	SAMPLES			E)		_	DATE DRILLED		12/26/2002	BORIN	IG NO		B-21	
eet)	SAN	ООТ	≡ (%)	Y (PC	2	ATION	GROUND ELEVATIO		,788.7 ft (545.20 m)		SHEET	1	_ OF	2
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	ENSIT	SYMBOL	SIFIC/ S.C.S	METHOD OF DRILLI	ING	Air rotary, 6" diamet	er bit				
DEF	Bulk Driven	BLO	MOIS	DRY DENSITY (PCF)	S	CLASSIFICATION U.S.C.S.			320 lbs.		_ DROP		30"	
				ā		Ū	SAMPLED BY BC	OM	LOGGED BY DESCRIPTION/I			D BY	BDI	3
0						SM	ALLUVIUM:							
							Brown, damp, mediur	m de	nse to dense, silty	fine to co	oarse SAND	with g	ravel an	d cobbles.
						GP-GM	Brown, damp, very de small boulders.	ense	, poorly graded GI	RAVELW	with silt and s	and a	nd cobbl	es and
	+						sman boulders.							
5-		50/6"					Sampler refusal after	6".						
-														
-														
10-	X	45/6" 50/1"					Sampler refusal after	7".						
-														
15 -		50/ <b>0</b> /						~ "						
	ĥ	50/2"					Sampler refusal after	2".						
		50/5"					Sampler refusal after	5".						
20							Total depth = 19.4 fee	et						
			)								ING LOG			
				10 4	Sz 🖌		ore		A	uto Show Dri	ve Interchange, Ph erson, Nevada			
		<b>V</b>	7						PROJECT NO.	DA	ATE		FIGUR	
L						•			300623001	09/2	2003		A-22	

	1													
	SAMPLES			(L)		7			12/26/2002	BORIN	NG NO		B-21	
feet)	SAM	001	MOISTURE (%)	DRY DENSITY (PCF)	Я	CLASSIFICATION U.S.C.S.	GROUND ELEVA	TION	1,788.7 ft (545.20 m)		SHEET	2	_ OF	2
DEPTH (feet)		BLOWS/FOOT	STUR	LISNE	SYMBOL	SIFIC	METHOD OF DRI	lling	Air rotary, 6" diamet	er bit				
B	Bulk Driven	BLO	WO WO	RY DI	S	CLAS	DRIVE WEIGHT		320 lbs.		_ DROP _		30"	
							SAMPLED BY	BOM	LOGGED BY			D BY	BD	В
20							Groundwater not e Backfilled on 12/2	ncount	ered during drillin	g.				
							Note:							
							Boring located app	roxim	ately 150 feet west	of NDO	T I-515 Stati	on No	. 653+9	1.
25 -	+++													
	$\left  \right $													
30 -														
35 -														
	+													
40														
		Vi	77		&		ore		Αι	to Show Driv	ING LOG ve Interchange, Ph erson, Nevada	ase II		
			7						PROJECT NO.	DA	TE		FIGUR	
									300623001	09/2	2003		A-23	

	S													
	SAMPLES			CF)		z	DATE DRILLED		12/27/2002	BORIN	NG NO		B-22	
(feet)	R	BLOWS/FOOT	MOISTURE (%)	۲ (P	ог	S.	GROUND ELEVAT	ION <u>1</u>	,785.9 ft (544.33 m)		SHEET _	1	_ OF _	3
DEPTH (feet)		WS/F	STUR		SYMBOL	SIFIC J.S.C.	METHOD OF DRIL	LING	Mud rotary, 6" diame	ter bit				
DE	Bulk	BLO	WO	DRY DENSITY (PCF)	s	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT		320 lbs.		_ DROP _		30"	
						Ū.	SAMPLED BY	BOM	_ LOGGED BY _ DESCRIPTION/IN			) BY	BD	<u>B</u>
0		-				GP-GM	<u>ALLUVIUM</u> : Brown, damp, very small boulders.	dense,				and a	nd cobb	les and
5 -		50/5"					Sampler refusal afte	er 5".						
		23/6" 50/4"					Sampler refusal afte	er 10".						
10 -		50/4"					Sampler refusal afte	er 4".						
20		≤ 50/3" 					Sampler refusal afte	er 3".						
											ING LOG			
					&	DNN	ore		Au		ive Interchange, Pl derson, Nevada	ase II		
		- •							PROJECT NO. 300623001		ATE /2003		FIGUF A-24	

	SAMPLES			CF)		z	DATE DRILLED	12/27/2002	BORING NO.	B-22
feet)	SAI	001	E (%)	DRY DENSITY (PCF)	Ъ	CLASSIFICATION U.S.C.S.	GROUND ELEVATIO	DN <u>1,785.9 ft (544.33 m)</u>	SHEET	OF
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	LISNE	SYMBOL	SIFIC I.S.C.	METHOD OF DRILLI	NG Mud rotary, 6" diam	eter bit	
DEI	Bulk Driven	BLO	MOIS	۲ Df	S	CLAS	DRIVE WEIGHT	320 lbs.	DROP	30"
				ā		Ũ	SAMPLED BYB	DM LOGGED BY	BOM REVIEWE	D BY <u>BDB</u>
20		50/<1"				GP-GM		ued):	RAVEL with silt and	sand and cobbles and
25.										
25		<u>50/3</u> "				GM	Brown, moist, very de 3" at top of unit.	ense, silty fine and coa	rse GRAVEL with sa	and; sampler refusal after
							Increase in sand cont	ent.		
30						SP-SM	Brown, moist, dense gravel layers several	to very dense, poorly g inches thick.	graded SAND with si	lt and gravel; a few sandy
35										
						SC	Brown, moist, mediu	m dense to dense, clay	vey fine to coarse SAI	ND with gravel.
40			<u> </u>	I	1222	<u>n</u>	<u> </u>		BORING LOO	3
		MÌ	<u>N</u>		Se	Μ	ore	A	uto Show Drive Interchange, H Henderson, Nevada	
								PROJECT NO. 300623001	DATE 09/2003	FIGURE A-25

Same     Ground Elevat	12/27/2002 BORING NO. B-22
	ON 1,785.9 ft (544.33 m) SHEET 3 OF 3
CROUND ELEVAT GROUND ELEVAT GROUND ELEVAT MOISTURE (%) METHOD OF DRIIT C.S.S. DRIVE MEIGHL DRIVE MEIGHL C.S.S. DRIVE MEIGHL	LING Mud rotary, 6" diameter bit
DEPTH (feet)	320 lbs. DROP 30"
SAMPLED BY	BOM LOGGED BY BOM REVIEWED BY BDB DESCRIPTION/INTERPRETATION
40 SC ALLUVIUM (conti Brown saturated m	
	culture dense to dense, elayey fille to coarse SATAD, few fille graver.
45 - CH Brown, saturated, ve	ery stiff, sandy fat CLAY; trace fine gravel.
Groundwater not en	countered during drilling.
Backfilled on 12/31	imately 30 to 50 feet. /2002.
Note:	enimetals 100 features af NDOT I 515 Station Mar (52) 01
	oximately 100 feet west of NDOT I-515 Station No. 653+91.
	BORING LOG
<i>Ninyo</i> «Moore	Auto Show Drive Interchange, Phase II Henderson, Nevada
	PROJECT NO.         DATE         FIGURE           300623001         09/2003         A-26

		-			1									
	SAMPLES			F)		_	DATE DRILLED		12/26/2002	BORIN	g no		B-23	
eet)	SAM	00T	E (%)	Y (PC	۲	ATION.	GROUND ELEVA	TION 1	,789.8 ft. (545.52 m)		SHEET	1	_ OF _	2
DEPTH (feet)	i	BLOWS/FOOT	MOISTURE (%)	INSIT	SYMBOL	SIFIC/ .S.C.S	METHOD OF DRI	LLING	Air rotary, 6" diameter	r bit				
E E	Bulk Driven	BLO	MOIS	DRY DENSITY (PCF)	\S	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT		320 lbs.		DROP		30"	
				DF			SAMPLED BY	BOM	_ LOGGED BY DESCRIPTION/IN	BOM		D BY	BD	B
0	++-					GP-GM	ALLUVIUM:							
							Brown, damp, den cobbles and small	se to ve boulder	ry dense, poorly gr s.	aded GR	AVEL with	silt a	nd sand	and
	+													
	ЦÅ	50												
5 -							Dense to very dens	se.						
	+	45/6"					Sampler refusal af	ter 11".						
	Ļβ	50/5"												
	$\square$													
	$\left  \right $													
10 -		50/6"					Sampler refusal af	ter 6"						
		50/0			200									
	-													
15 -	TM	40												
	+													
	+													
20	Ň	76												
			7/		&		ore		Aut	o Show Driv	NG LOG			
			7						PROJECT NO.	DA			FIGUR	
									300623001	09/2	003		A-27	7

	SAMPLES			ίF)		7	DATE DRILLED	12/26/2002	BORING NO.	B-23
eet)	SAM	DOT	E (%)	Y (PC	F	ATION S.	GROUND ELEVATIO	N <u>1,789.8 ft. (545.52 m)</u>	SHEET	OF2
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	NSIT	SYMBOL	SIFIC/	METHOD OF DRILLI	NG Air rotary, 6" diamet	er bit	
B	Bulk Driven	BLO	MOIS	DRY DENSITY (PCF)	S	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	320 lbs.	DROP	30"
			I	DR		0	SAMPLED BYBO		BOM REVIEWE	D BY <u>BDB</u>
20							Total depth = 20.0 fee Groundwater not enco	et.		
-							Backfilled on 12/26/2		.6.	
							Note: Boring located approx	cimately 120 feet wes	t of NDOT I-515 Stat	ion No. 652+03.
25 -										
30 -										
ļ										
35 -										
	$\prod$									
	$\left  \right $									
40									BORING LOG	3
		Mì			&		ore	Ą	uto Show Drive Interchange, F Henderson, Nevada	
								PROJECT NO. 300623001	DATE 09/2003	FIGURE A-28

		SAMPLES			í.			DATE DRILLED	12/26/2002	BORING NO		B-24
et)	NV3		OT	(%)	(PCF		TION	GROUND ELEVATIO	ON <u>1,791.0 ft. (545.90 m</u>	) SHE	EET 1	OF
DEPTH (feet)			/S/FO	TURE	ISITY	SYMBOL	FICA	METHOD OF DRILL	ING Air rotary, 6" diame	eter bit		
DEP	Bulk	Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SΥ	CLASSIFICATION U.S.C.S.		320 lbs.	DF		30"
					Ð		0	SAMPLED BYB		BOM REV	IEWED BY	BDB
0							SM	<u>ALLUVIUM</u> : Brown, damp, medius small boulders.				d cobbles and
		X	42/6" 50/4"				GM	Brown, damp, mediu small boulders. Dense. Sampler refusal after		l coarse GRAVE	L with sand	and cobbles and
5 -		$\left  \right $						Very dense.				
		×	50/2"					Sampler refusal after	2".			
10 -			75					Sampler refucal after	6"			
20			80					Sampler refusal after	O  .			
	-		. /?						-	BORING Auto Show Drive Intercl		
			$\sqrt{2}$	ĽĽ	ĮŪ ·	&		ore		Henderson, Ne	evada	
		_					V -		PROJECT NO. 300623001	DATE 09/2003		FIGURE A-29

et) SAMPLES			E)		z	DATE DRILLED	12/26/2002	BORI	NG NO	B-24
feet)	001	MOISTURE (%)	DRY DENSITY (PCF)	Ъ	CLASSIFICATION U.S.C.S.	GROUND ELEVATI	ON 1,791.0 ft. (545.90 m	)	SHEET	2 OF 2
DEPTH (feet) ulk SA	BLOWS/FOOT	STUR	LISNE	SYMBOL	SIFIC J.S.C.	METHOD OF DRILL	ING Air rotary, 6" diame	eter bit		
DEP Bulk Driven	BLC	MOM	RY DI	S S	ר כראצ	DRIVE WEIGHT	320 lbs.		_ DROP _	30"
			Δ			SAMPLED BY B	OM LOGGED BY			BY <u>BDB</u>
20				and the second second second second second second second second second second second second second second secon	GM	boulders. Total depth = 30.0 fe	<u>ued</u> ): ense, silty fine and co et.	arse GRA		l and cobbles and smal
35						Backfilled on 12/26/ Note: Boring located appro	ximately 120 feet we	st of NDC		
	Vin	IJ	0	&	Na	ore	PROJECT NO.	Auto Show Dri Hence	ive Interchange, Phas lerson, Nevada	e II FIGURE
	1				/		300623001	09/	2003	<u>A-30</u>

			-							_				
	SAMPLES			(j		_	DATE DRILLED	12	2/24/2002	BORIN	NG NO		B-25	
eet)	SAN	00T	E (%)	DRY DENSITY (PCF)	F	CLASSIFICATION U.S.C.S.	GROUND ELEVATIO	ON <u>1,7</u>	/83.1 ft. (543.49 m)		SHEET	1	_ OF	2
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	ISNSIT	SYMBOL	SIFIC/	METHOD OF DRILL	ING <u>A</u>	ir rotary, 6" diameter	r bit				
DEF	Bulk Driven	BLO	MOIS	RY DE	ί Ο	U U	DRIVE WEIGHT		320 lbs.		_ DROP _		30"	
				ā		U	SAMPLED BYB	OM	LOGGED BY	BOM		D BY	BD	B
0						GM	ALLUVIUM:							
	$\square$						Brown, damp, very d boulders.	lense, s	ilty fine and coars	se GRA	VEL with sar	nd and	l cobbles	s and small
5 -		32/6" 50/1"					Sampler refusal after	r 7".						
		17/6" 50/4"					Sampler refusal after	r 10".						
10 -		50/6"					Sampler refusal after	r 6".						
15 -		38/6" 50/2"					Sampler refusal after	r 8".						
20		39/6" 50/4"	ng	10 ·	<u>8</u>	Ma	Sampler refusal after	PI	ROJECT NO.	o Show Dri Hend	ING LOG ve Interchange, Ph erson, Nevada	ase II	FIGUR	E
		Y				V			00623001		2003		Δ_31	

and the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set o				_							
B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B		MPLES		_	CF)		z	DATE DRILLED	12/24/2002	BORING NO.	B-25
20       SAMPLED BY BOM LOGGED BY BOM REVEWED BY DDB         20       DESCRIPTIONINTERFRETATION         21       ALLUVIUM (continued): Brown, damp, very dense, sity fine and coarse GRAVEL with sand and cobbles and small builders.         23       SM         24       SM         25       SM*         26       SM*         27       SM*         28       GM         29       SM*         20       SM*         21       SM*         22       SM*         23       SM*         24       SM*         25       SM*         26       SM*         27       SM*         28       SM*         29       SM*         20       GM         21       SM*         22       SM*         30       Total depth = 30.0 feet. Groundwate not encountered during drilling. Backfilled on 12/24/2002. Note: Boring located approximately 130 feet east of NDOT 1-515 Station No. 654+06.         33       SM*         34       BORING LOG         Autoring board dapper SM*       Board dapper SM*         35       BORING LOG         36       BORING SM*	feet)	SAI	ООТ	E (%)	Y (PC	7	ATIO S.	GROUND ELEVATIO	N 1,783.1 ft. (543.49 m	) SHEET	2 OF 2
20       SAMPLED BY BOM LOGGED BY BOM REVEWED BY DDB         20       DESCRIPTIONINTERFRETATION         21       ALLUVIUM (continued): Brown, damp, very dense, sity fine and coarse GRAVEL with sand and cobbles and small builders.         23       SM         24       SM         25       SM*         26       SM*         27       SM*         28       GM         29       SM*         20       SM*         21       SM*         22       SM*         23       SM*         24       SM*         25       SM*         26       SM*         27       SM*         28       SM*         29       SM*         20       GM         21       SM*         22       SM*         30       Total depth = 30.0 feet. Groundwate not encountered during drilling. Backfilled on 12/24/2002. Note: Boring located approximately 130 feet east of NDOT 1-515 Station No. 654+06.         33       SM*         34       BORING LOG         Autoring board dapper SM*       Board dapper SM*         35       BORING LOG         36       BORING SM*	PTH (		WS/F	TUR	LISN	YMBO	SIFIC	METHOD OF DRILLI	NG Air rotary, 6" diame	eter bit	
20       SAMPLED BY BOM LOGGED BY BOM REVEWED BY DDB         20       DESCRIPTIONINTERFRETATION         21       ALLUVIUM (continued): Brown, damp, very dense, sity fine and coarse GRAVEL with sand and cobbles and small builders.         23       SM         24       SM         25       SM*         26       SM*         27       SM*         28       GM         29       SM*         20       SM*         21       SM*         22       SM*         23       SM*         24       SM*         25       SM*         26       SM*         27       SM*         28       SM*         29       SM*         20       GM         21       SM*         22       SM*         30       Total depth = 30.0 feet. Groundwate not encountered during drilling. Backfilled on 12/24/2002. Note: Boring located approximately 130 feet east of NDOT 1-515 Station No. 654+06.         33       SM*         34       BORING LOG         Autoring board dapper SM*       Board dapper SM*         35       BORING LOG         36       BORING SM*	DEF	Bulk Driven	BLO	MOIS	SY DE	ι δ	U U	DRIVE WEIGHT	320 lbs.	DROF	30"
25     SOS [*] GM     Brown, damp, very dense, sifty fine and coarse GRAVEL with sand and cobbles and small boulders.       25     SOS [*] GM     Brown, damp, very dense, sifty fine to coarse SAND with gravel.       26     SOS [*] GM     Brown, damp, very dense, sifty fine and coarse GRAVEL with sand and cobbles and small boulders.       26     SOS [*] GM     Brown, damp, very dense, sifty fine and coarse GRAVEL with sand and cobbles and small boulders.       27     SOS [*] GM     Brown, damp, very dense, sifty fine and coarse GRAVEL with sand and cobbles and small boulders.       28     SOS [*] GM     Brown, damp, very dense, sifty fine and coarse GRAVEL with sand and cobbles and small boulders.       30     GM     GM     Brown, damp, very dense, sifty fine and coarse GRAVEL with sand and cobbles and small boulders.       30     Total depth = 30.0 feet.     Groundwater not encountered during drilling.       31     Broing located approximately 130 feet east of NDOT I-515 Station No. 654+06.       33     Broing located approximately 130 feet east of NDOT I-515 Station No. 654+06.       40     Broing located approximately 130 feet east of NDOT I-515 Station No. 654+06.					Ď		0	SAMPLED BY			ED BY <u>BDB</u>
25     505"     GM     Brown, damp, very dense, sifty fine and coarse GRAVEL with sand and cobbles and small boulders.       30     505"     GM     Brown, damp, very dense, sifty fine and coarse GRAVEL with sand and cobbles and small boulders.       30     GM     Fine and coarse GRAVEL with sand and cobbles and small boulders.       30     GM     Fine and coarse GRAVEL with sand and cobbles and small boulders.       30     GM     Fine and coarse GRAVEL with sand and cobbles and small boulders.       30     GM     Fine and coarse GRAVEL with sand and cobbles and small boulders.       30     GM     Fine and coarse GRAVEL with sand and cobbles and small boulders.       30     GM     Fine and coarse GRAVEL with sand and cobbles and small boulders.       30     GM     Fine and coarse GRAVEL with sand and cobbles and small boulders.       30     GM     Fine and coarse GRAVEL with sand and cobbles and small boulders.       30     GM     GM     Fine and coarse GRAVEL with sand and cobbles and small boulders.       30     GM     GM     GM     GM       31     GM     GM     GM     GM       32     GM     GM     GM     GM       33     GM     GM     GM     GM       34     GM     GM     GM     GM       35     GM     GM     GM     G	20						GM	Brown, damp, very de	<u>ied)</u> : ense, silty fine and co	arse GRAVEL with	sand and cobbles and small
25       50/5"       boulders. Sampler refisal after 5".         30       Total depth = 30.0 feet. Groundwater not encountered during drilling. Backfilled on 12/24/2002.         Note: Boring located approximately 130 feet east of NDOT 1-515 Station No. 654+06.         35       Boring located approximately 130 feet east of NDOT 1-515 Station No. 654+06.         40       Boring located approximately 130 feet east of NDOT 1-515 Station No. 654+06.         40       BORING LOG         40       BORING LOG         40       PROJECT NO. DDTE	-					<b>4</b>	SM	Brown, damp, very de	ense, silty fine to coar	se SAND with grave	a.— — — — — — — — — — — — — — — — — — —
Atto Show Drive Interchange, Phase II Hendroson, Nevada PROJECT NO. DATE FIGURE FIGURE	25 -		50/5"				GM	boulders.	· ·	arse GRAVEL with	sand and cobbles and small
40 40 A0 A0 A0 A0 BORING LOG Auto Show Drive Interchange, Phase II Henderson, Nevada PROJECT NO. DATE FIGURE	-							Groundwater not enc Backfilled on 12/24/2 Note:	ountered during drilli 002.	-	tion No. 654+06.
Boring Log           Auto Show Drive Interchange, Phase II           Henderson, Nevada           PROJECT NO.         DATE         FIGURE	- 23										
Auto Show Drive Interchange, Phase II Henderson, Nevada PROJECT NO. DATE FIGURE	40										
			a //	-							
			<b>N//</b>	ĽĽ	μ	۶	<b>N</b>	Jole		Henderson, Nevada	
		_	V				V -				

r=					_							
	SAMPLES			E)		_	DATE DRILLED	12/24/2002	BORING NO		B-26	
set)	SAM	DOT	(%)	Y (PC	_	NOIT .	GROUND ELEVATIO	DN <u>1,783.9 ft. (543.73 m)</u>	SH	EET 1	_ OF	2
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	NSIT	SYMBOL	S.C.S	METHOD OF DRILL	ING Air rotary, 6" diameter	er bit			
DEP	Bulk Driven	BLO	MOIS	DRY DENSITY (PCF)	S	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	320 lbs.	D	ROP	30"	
				<b>D</b>		0	SAMPLED BYB	DM LOGGED BY			BDB	
0						GM	ALLUVIUM: Brown, damp, very de boulders.	ense, silty fine and coar			d cobbles a	and small
5 -		28/6" 50/3"			1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1		Sampler refusal after	9".				
	†×	50/4"					Sampler refusal after	4".				
						SW	Brown, damp, very d	ense, well-graded fine	to coarse SANI	D with fine	gravel.	
10		41/6" 50/5"	4.1	126.2			Sampler refusal after	11".				
							A few thin slightly co	emented layers				
15		50/6"					Sampler refusal after	6".				
		40/6"					Sampler refusal after	11".				
_20		50/5"	<u> </u>		_		]	<u></u>	BORING	LOG		
			n		&		ore	Au	to Show Drive Interc Henderson, N	hange, Phase II		
								PROJECT NO. 300623001	DATE 09/2003		FIGURE A-33	

	LES			_			DATE DRILLED		/24/2002	BORIN	IG NO.		B-26	
et)	SAMPLES	от	(%)	DRY DENSITY (PCF)		NOI	GROUND ELEVATI			•	SHEET			2
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	SITY	SYMBOL	CLASSIFICATION U.S.C.S.	METHOD OF DRILL				_			
DEPT	Bulk Driven	ILOW	IOIST	DEN	SYA	ASSII U.S	DRIVE WEIGHT				DROP		30"	
	ā	ш	≥	DRY		С	SAMPLED BY B			BOM				B
20	$\left  \right $						Total depth = 19.9 fe		DESCRIPTION/				~~~	
							Groundwater not end Backfilled on 12/24/	countere	ed during drillin	ıg.				
-							Note: Boring located appro	oximate	ly 130 feet east	of NDOI	I-515 Static	on No.	653+09	).
25 -														
30 -														
35 -														
	$\left  \right  \right $													
	+++													
40														
			<b>.</b>		0		nro		A		ING LOG			
		<b>Y</b> ″	4		×		ore	PR			erson, Nevada		FIGUR	E
		•						11	00623001	09/2			A-34	

et) SAMPLES OT (%) (PCF)	N		12/24/2002		
(feet) S/ S/ S/	CATIC		DN <u>1,785.8 ft. (544.31 m)</u>		OF
DEPTH (feet) <u>aulk</u> SAM riven SAM mousture (%) MOISTURE (%) Y DENSITY (PC	CLASSIFICATION U.S.C.S.		ING <u>Air rotary, 6" diameter</u>	er bit	
DEPTH (feet) Bulk SAMP Driven SAMP BLOWS/FOOT BLOWS/FOOT MOISTURE (%) DRY DENSITY (PCF) SYMBOL	CLAS	DRIVE WEIGHT	320 lbs.	DROP	30"
		SAMPLED BY B		BOM REVIEWE	D BY <u>BDB</u>
	GM	ALLUVIUM: Brown, damp, very d boulders.	ense, silty fine and coa	rse GRAVEL with sa	nd and cobbles and small
5 - - - - - - - - - - - - -		Sampler refusal after	9".		
10 - 50/4"		Sampler refusal after	4".		
28/6" 50/2"		Sampler refusal after	8".		
20 40/6" 50/4" <b>Ninyo</b> &		Sampler refusal after		BORING LOG uto Show Drive Interchange, P Henderson, Nevada DATE	
	V		300623001	09/2003	

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	TION 1,785.8 ft. (544.31 m) SHEET 2 OF 2
	LING Air rotary, 6" diameter bit
	320 lbs. DROP 30"
SAMPLED BY	BOM LOGGED BY BOM REVIEWED BY BDB DESCRIPTION/INTERPRETATION
20     Total depth = 19.8       Groundwater not en Backfilled on 12/24	feet
Note: Boring located app	roximately 100 feet east of NDOT I-515 Station No. 652+00.
25	
30	
	BORING LOG
<i>Ninyo</i> & Moore	Auto Show Drive Interchange, Phase II Henderson, Nevada
	PROJECT NO.         DATE         FIGURE           300623001         09/2003         A-36

	S											
	SAMPLES			Έ)		7	DATE DRILLED	12/	24/2002	BORING NO.		B-28
eet)	SAN	DOT	E (%)	Y (PC	F	ATIOI S.	GROUND ELEVATIO	ON <u>1, 78</u>	6.5 ft. (544.53 m)	SHEET	1	OF
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	METHOD OF DRILLI	ING <u>Ai</u>	rotary, 6" diameter	r bit		
DEP	Bulk Driven	BLO	MOIS	(Y DE	S	U U	DRIVE WEIGHT		320 lbs.	DROP		30"
				Ľ۵		0	SAMPLED BYBO		LOGGED BY		D BY	BDB
0	+					GM	FILL:		DESCRIPTION/IN	TERPRETATION		
							Brown, damp, very de boulders.	ense, sil	ty fine and coars	se GRAVEL with sa	and and	cobbles and small
-		74				GC	ALLUVIUM: Brown, damp, very de small boulders.	ense, cla	ayey fine and co	arse GRAVEL with	sand a	nd cobbles and
5 -		50/4"					Sampler refusal after	4".				
							Some lon referred offer	0"				
10 -		37/6" 50/3"					Sampler refusal after	9".				
15 -		36/6" 50/5"	6.7	111.4			Sampler refusal after			ATEL with all and	and a	nd ochblog ond
		50/3"				GP-GM	Brown, damp, very d small boulders. Sampler refusal after		ooriy graded GR	A V EL WIIN SIIT and	i sand a	nu coddies and
20			<u> </u>				]			BORING LO	3	
					& [		ore		Au	to Show Drive Interchange, Henderson, Nevada		
		▼	5						OJECT NO.	DATE		FIGURE
		,				,		30	0623001	09/2003		A-37

	LES						DATE DRILLED 12/24/2002 BORING NO. B-28
<b>£</b>	SAMPLES	Ц	(%	(PCF)		NO	GROUND ELEVATION 1, 786.5 ft. (544.53 m)         SHEET         2         OF         3
H (fee		S/FOC	JRE (	SITY (	SYMBOL	ICAT C.S.	METHOD OF DRILLING Air rotary, 6" diameter bit
DEPTH (feet)	ěn	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYN	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT 320 lbs. DROP 30"
	Bulk Driven	Ö	Š	DRY		GL	SAMPLED BY BOM LOGGED BY BOM REVIEWED BY BDB
20					CREE		DESCRIPTION/INTERPRETATION
20						GP-GM	Brown, damp, very dense, poorly graded GRAVEL with silt and sand and cobbles and
							small boulders.
						 	Brown, damp, dense to very dense, silty fine to coarse SAND; few fine gravel.
	Ш						
	$\square$						
25 -							
	ĻЙ	30					Increase in fine to coarse gravel content.
							increase in fine to coarse graver content.
	+++						
30 -							
	+++						
	+++						
35 -	+++						
	+++						
							With cobbles.
40							
					-		BORING LOG Auto Show Drive Interchange, Phase II
		<b>V</b> /	ТĻ	ĮŪ«	&	M	Auto Show Drive Interchange, Phase II Henderson, Nevada PROJECT NO. DATE FIGURE
		V				V	300623001 09/2003 A-38

et) SAMDI ES		(%	(PCF)		NO		12/24/2002 DN 1, 786.5 ft. (544.53 m		
DEPTH (feet) ulk	iven law BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.		ING Air rotary, 6" diame		
DEPT Bulk	iven BLOW	NOIST	Y DEN	SYN	LASSII U.S		320 lbs.		30"
	ā		DR		Ö	SAMPLED BYB		BOM REVIEWE	D BY <u>BDB</u>
40				<u> </u>		Total depth = 40.0 fe Groundwater not enc	et.		
						Backfilled on 12/24/2		15.	
						Note: Boring located appro	ximately 150 feet east	of NDOT I-515 Stat	ion No. 652+00.
45									
+-	H								
50-									
	+-1								
55	+-								
-	+								
	+								
60								BORING LOC	
	<b>N</b>	ПĻ	D	&	Ma	ore	PROJECT NO.	Auto Show Drive Interchange, 1 Henderson, Nevada DATE	Phase II FIGURE
	V				V		300623001	09/2003	A-39

	· ·												
	SAMPLES			(L			DATE DRILLED	12/26/2002	BORI	NG NO	B-:	29	_
eet)	SAM	DOT	(%)∃	DRY DENSITY (PCF)	۲	CLASSIFICATION U.S.C.S.	GROUND ELEVATIO	N <u>1,787.4 ft. (544</u>	4.80 m)	SHEET	1 0	DF	_
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	INSIT	SYMBOL	S.C.S	METHOD OF DRILLI	NG Air rotary, 6"	diameter bit				
DEP	Bulk Driven	BLO	MOIS	sy de	S	U U	DRIVE WEIGHT	3201	bs	DROP _		30"	_
				E E		0	SAMPLED BY BO		D BY <u>Bom</u> TION/INTERPR		BY	BDB	-
0						GM	ALLUVIUM: Brown, damp, very de boulders.				d and co	obbles and a	small
	×	50/2"					Sampler refusal after 2						
5 -		39				GP-GM	Brown, damp, dense, p boulders.	boorly graded (	BRAVEL with	silt and sand a	nd cobb	les and sma	all
							Very dense.						
10 -		50/5"					Sampler refusal after :	5".					
15		26/6" 50/2"					Sampler refusal after a	8".					
		50/6"					Sampler refusal after						
20							Total depth = 19.5 fee						
					0	<b>4 A c</b>				RING LOG	ase II	_	
		<b>V</b>	14	μ	δ <b>Σ</b>		ore	PROJECT NO	Hen	derson, Nevada		FIGURE	
		V				V		300623001		/2003		A-40	

	ŝ													
	SAMPLES			CF)		z	DATE DRILLED		12/26/2002	BORIN	g NO		<u>B-29</u>	
(feet)	SA	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	Ы	CLASSIFICATION U.S.C.S.	GROUND ELEVATIO	_			SHEET _	2	OF _	2
DEPTH (feet)		WS/F	STUR	ENSI-	SYMBOL	SIFIC J.S.C.	METHOD OF DRILL	ING	Air rotary, 6" diamete	er bit				
B	Bulk Driven	ВГО	MO	RYD		CLAS	DRIVE WEIGHT		320 lbs.		_ DROP _		30"	
							SAMPLED BYB	BOM	LOGGED BY			) BY	BI	<u>)</u> B
20							Groundwater not enc Backfilled on 12/26/2		red during drilling					
							Note:							
							Boring located appro	oxima	tely 120 feet east	of NDOT	I-515 Statio	on No	. 650+0	9.
	$\left  \cdot \right $													
25 -	$\left  \right $													
	$\left  \right $													
	$\square$													
30 -	+ +													
	$\left  \right $													
	Ш													
	+++													
35 -														
	$\left  \right $													
40			<u> </u>							BOR	NG LOG			
			<i>n</i>	10	Se		ore		Au	to Show Driv	ve Interchange, Plerson, Nevada			
						<b>V</b>			PROJECT NO. 300623001	DA 09/2			FIGU A-4	
	_			-	_					0772				

					_									
	SAMPLES			E)			DATE DRILLED		12/26/2002	BORI	NG NO		B-30	
eet)	SAN	DOT	(%)	Y (PC	<u>_</u>	ATION S.	GROUND ELEVAT		l,788.3 ft. (545.07 m)		SHEET _	1	_ OF _	2
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	NSIT	SYMBOL	S.C.S	METHOD OF DRIL	LING	Air rotary, 6" diamete	er bit				
DEP	Bulk Driven	BLO	MOIS	DRY DENSITY (PCF)	S	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT		320 lbs.				30"	
				Ъ		0	SAMPLED BY	BOM	LOGGED BY DESCRIPTION/IN			) BY	BD	<u>B</u>
0						GP-GM	ALLUVIUM: Brown, damp, very small boulders.	dense				and a	nd cobb	les and
		50/2"					Sampler refusal aft	er 2".						
5-		28/6" 50/4"					Sampler refusal aft	er 10"						
			┣	+		GM	Brown, damp, very	dense	, silty fine and coar	rse GRA	VEL with sa	nd and	d cobble	s and small
							boulders.							
10 -		50/6"	6.1	111.2			Sampler refusal aft	er 10"						
15		50/4"					Sampler refusal aft	ter 3".						
					- - -									
20											RING LOG			
			ΠĻ		&	MQ	ore			Hen	ive Interchange, Pl derson, Nevada	hase II		
	_		U			V -			PROJECT NO. 300623001		ATE /2003		FIGUF A-42	

<b>—</b>					r							_		
	SAMPLES			Έ)		7	DATE DRILLED		12/26/2002	BORIN	g NO		<b>B-3</b> 0	
eet)	SAN	001	E (%)	Y (PC	2	ATIONS.	GROUND ELEVAT		1,788.3 ft. (545.07 m)		SHEET _	2	_ OF	2
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	ENSIT	SYMBOL	SIFIC, I.S.C.(	METHOD OF DRIL	LING	Air rotary, 6" diameter	r bit				
Ē	Bulk Driven	BLO	MOIS	DRY DENSITY (PCF)	N I	CLASSIFICATION U.S.C.S.			320 lbs.		DROP		30"	
				ā		0	SAMPLED BY	BOM				) BY	BDI	3
20		29/6" 50/4"			and the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of	GM	ALLUVIUM (contin Brown, damp, very of boulders; sampler re Increase in sand con	dense efusal	, silty fine and coars	se GRAV		ad and	l cobbles	and small
30 - 35 -							Total depth = 30.0 f Groundwater not en Backfilled on 12/26 Note: Boring located appr	count /2002		f NDOT		n No	. 649+12	
		Vi	nų	<b>[</b> ]	۶.	Ma	ore			o Show Drive Hender	NG LOG e Interchange, Ph rson, Nevada	ase II		
		<b>V</b>	U			V -			PROJECT NO. 300623001	DA ⁻ 09/2			FIGURI A-43	

et) SAMPLES OT	Ē.		-	DATE DRILLED	05/11/2003	BORING NO.	B-31
eet) SAN DOT	E (%)	۲	ATION .	GROUND ELEVATION	ON Not measured	SHEET	1OF6
DEPTH (feet) Julk SA iven BLOWS/FOOT	MOISTURE (%)	SYMBOL	CLASSIFICATION U.S.C.S.	METHOD OF DRILL	ING Mud rotary, 6" diamet	ter bit	
DEP Bulk Driven BLOV	MOIS	Ś	U U	DRIVE WEIGHT	See "Notes"	DROP	30"
			J	SAMPLED BY	DCF LOGGED BY DESCRIPTION/IN		DBY BDB
0		00 00 00 00		CONCRETE PAVEM Approximately 11" tl	MENT:		
		0.00	GM	FILL:			
				Brown, damp, very d	ense, silty fine and coar	se GRAVEL with sa	nd.
5							
10							
			GM	ALLUVIUM: Brown, damp, very d	ense, silty fine and coar	se GRAVEL with sa	nd and cobbles
					ense, sitty fine and cour		in and coooles.
15							
_20							
	nun	&		ore	Aut	BORING LOG to Show Drive Interchange, Ph Henderson, Nevada	
▏	77				PROJECT NO. 300623001	DATE 09/2003	FIGURE A-44
					300023001	07/2003	A-+++

age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       age       a	TH (feet)				1		DATE DRILLED 05/11/2003 BORING NO. B-31
20       GM       ALLUVIUM (continued): Brown, damp, very dense, silty fine and coarse GRA VEL with sand and cobbles.         25       GM       ALLUVIUM (continued): Brown, damp, very dense, silty fine and coarse GRA VEL with sand and cobbles.         30       GP       Brown, damp, dense, poorfy graded GRAVEL with sand and cobbles.         30       GP       Brown, damp, dense, poorfy graded GRAVEL with sand and cobbles.         30       GP       Brown, damp, dense, poorfy graded GRAVEL with sand and cobbles.         30       GP       Brown, damp, dense, poorfy graded GRAVEL with sand and cobbles.         30       GP       Brown, damp, dense, poorfy graded GRAVEL with sand and cobbles.	TH (fe	o l	(%)	(PCF		NOI	
20       GM       ALLUVIUM (continued): Brown, damp, very dense, silty fine and coarse GRA VEL with sand and cobbles.         25       GM       ALLUVIUM (continued): Brown, damp, very dense, silty fine and coarse GRA VEL with sand and cobbles.         30       GP       Brown, damp, dense, poorfy graded GRAVEL with sand and cobbles.         30       GP       Brown, damp, dense, poorfy graded GRAVEL with sand and cobbles.         30       GP       Brown, damp, dense, poorfy graded GRAVEL with sand and cobbles.         30       GP       Brown, damp, dense, poorfy graded GRAVEL with sand and cobbles.         30       GP       Brown, damp, dense, poorfy graded GRAVEL with sand and cobbles.		/S/FO	LURE	ISITY	MBOI	FICA:	
20       GM       ALLUVIUM (continued): Brown, damp, very dense, silty fine and coarse GRA VEL with sand and cobbles.         25       GM       ALLUVIUM (continued): Brown, damp, very dense, silty fine and coarse GRA VEL with sand and cobbles.         30       GP       Brown, damp, dense, poorfy graded GRAVEL with sand and cobbles.         30       GP       Brown, damp, dense, poorfy graded GRAVEL with sand and cobbles.         30       GP       Brown, damp, dense, poorfy graded GRAVEL with sand and cobbles.         30       GP       Brown, damp, dense, poorfy graded GRAVEL with sand and cobbles.         30       GP       Brown, damp, dense, poorfy graded GRAVEL with sand and cobbles.	DEP. Bulk	BLOW	LSIOM	Y DEN	SY	LASSI U.	
20       GM       ALLUVIUM continued?         Brown, damp, very dense, silty fine and coarse GRAVEL with sand and cobbles.         25       GM         30       GP         31       GP         32       GP         33       GP         40       GP		נ		DR		0	
	25					GM	DESCRIPTION/INTERPRETATION           ALLUVIUM (continued):
PROJECT NO. DATE FIGURE	40		74	10 4			BORING LOG Auto Show Drive Interchange, Phase II Henderson, Nevada

and the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second secon		S									
Image: Section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of th		MPLE		~	CF)		Z	DATE DRILLED	05/11/2003	BORING NO.	B-31
a	feet)	AS A	001	кЕ (%	لم الح	Ы	S.	GROUND ELEVATIO	ON Not measured	SHEET	3 OF <u>6</u>
a	DTH (		WS/F	STUR	LISNE	YMB(	SIFIC S.C.	METHOD OF DRILL	ING Mud rotary, 6" diame	eter bit	
a	DEI	Bulk	BLO	MOIS	SY DE	S		DRIVE WEIGHT	See "Notes"	DROP	30"
10       GP       ALLUYUM (continued): Brown, damp, dense, poorly graded GRAVEL with sand and cobbles.         45       45       GP       GP         45       50       SP       Gray to brown, moist, very dense, poorly graded SAND; few gravel; sampler relusal after 1".         50       SP       Gray to brown, moist, very dense, poorly graded SAND; few gravel; sampler relusal after 1".         50       SP       Gray to brown, moist, very dense, poorly graded SAND; few gravel; sampler relusal after 1".         51       SC       Brown, saturated, very dense, clayey SAND; few gravel.         60       BORING LOG         60       Montoria Berlinge, Plant II         Floctersto, News       Floctersto, News					ā		U	SAMPLED BY			BY <u>BDB</u>
Sol       Sp       Gray to brown, moist, very dense, poorly graded SAND; few gravel; sampler retusal after         S5       Sc       Brown, saturated, very dense, clayey SAND; few gravel.         S5       Sc       Brown, saturated, very dense, clayey SAND; few gravel.         60       Brown, saturated, very dense, clayey SAND; few gravel.         60       Brown, saturated, very dense, clayey SAND; few gravel.         60       Brown, saturated, very dense, clayey SAND; few gravel.         60       Brown, saturated, very dense, clayey SAND; few gravel.         60       Brown, saturated, very dense, clayey SAND; few gravel.         60       Brown, saturated, very dense, clayey SAND; few gravel.         60       Brown, saturated, very dense, clayey SAND; few gravel.         60       Dret Interchange, Phase II Henderson, Nevada         7       PROJECT NO.       DATE			-				GP	ALLUVIUM (contin Brown, damp, dense,	<u>ued)</u> : poorly graded GRAVE	EL with sand and cobble	ës.
SC Brown, saturated, very dense, clayey SAND; few gravel.	50 -						SP		, very dense, poorly gra	aded SAND; few grave	; sampler refusal after
SC     BIOWI, saturated, very dense, crayey SAND, rew gravel.       BORING LOG       Auto Show Drive Interchange, Phase II Henderson, Nevada       PROJECT NO.	55 -		-	\ _₩/							
Boring Log           Auto Show Drive Interchange, Phase II           Henderson, Nevada           PROJECT NO.         DATE         FIGURE	_ 60		-				50	biown, saturateu, ve	y מכווזכ, כומצלץ סאועם	, 10W ELAVOI.	
						KZZX					
			MĨ	D	10 «	&	DM	ore	Au		e II
							<b>V</b> -				

-	SAMPLES	л	(%	PCF)		NO	DATE DRILLED     05/11/2003     BORING NO.     B-31       GROUND ELEVATION Not measured     SHEET 4     OF 6	_
H (feet	S I	S/FOC	URE (	SITY (	SYMBOL	FICATI C.S.	GROUND ELEVATION Not measured       SHEET4 OF6         METHOD OF DRILLING Mud rotary, 6" diameter bit	-
DEPTH (feet)	Bulk Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYN	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT See "Notes" DROP 30"	-
		ш	2	DRY		CL	SAMPLED BY DCF LOGGED BY DCF REVIEWED BY BDB DESCRIPTION/INTERPRETATION	-
60		65	30.0	77.0		SC	ALLUVIUM (continued): Brown, saturated, very dense, clayey SAND; few gravel.	
		05	50.0	77.0				
	++-							
			L					
						CL	Brown, saturated, stiff to very stiff, lean CLAY; few caliche gravel.	
65 -								
	+++							
	$\left  \right $							
70 -								
		30						
	$\left  \right $							
75								
80			<u> </u>		<u> ////</u>		BORING LOG	
		<b>V</b> /	Ŋ	<b>       </b>	Se .	Mo	Auto Show Drive Interchange, Phase II Henderson, Nevada PROJECT NO. DATE FIGURE	
		V				V	PROJECT NO. DATE FIGURE 300623001 09/2003 A-47	

et) SAMPLES	'											
		ь I	(%	PCF)		NO			BORIN	IG NO		B-31
(feet	5	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	BOL	CLASSIFICATION U.S.C.S.	GROUND ELEVATIO			SHEET	5	OF <u>6</u>
DEPTH (feet)	E	ows	ISTU	DENS	SYMBOL	SSIFI U.S.(		ING Mud rotary, 6" diame	ter bit			
DEP Bulk	Driv	В	M	JRY I		CLA		See "Notes"		_ DROP _		30"
	ſ						SAMPLED BY	DCF LOGGED BY		REVIEWED	BY _	BDB
80		27				CL	ALLUVIUM (contin Brown, saturated, stir				-	
90		32										
95												
00			ny	10 4	S	Na	ore	Aut PROJECT NO.	to Show Driv	<b>NG LOG</b> re Interchange, Phas rson, Nevada	se II	FIGURE

	LES						DATE DRILLED 05/11/2003 BORING NO. B-31
(t)	SAMPLES		(%)	(PCF)		NOI	GROUND ELEVATION Not measured SHEET 6 OF 6
H (fee	Ĵ	S/FOC	JRE (	SITY	SYMBOL	ICAT C.S.	METHOD OF DRILLING Mud rotary, 6" diameter bit
DEPTH (feet)	Bulk Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYN	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT See "Notes" DROP 30"
	۳ď			DR		IJ	SAMPLED BY LOGGED BY REVIEWED BY BDB
100						CL	DESCRIPTION/INTERPRETATION ALLUVIUM (continued):
		26	45.8	74.3		ΟL	Brown, saturated, stiff to very stiff, lean CLAY; few caliche gravel.
							Total depth = $101.5$ feet.
							Groundwater encountered at approximately 55.0 feet during drilling. Backfilled and patched on 05/11/2003.
							Notes:
							Standard Penetration Test (SPT) samples were obtained with a 140-lb hammer. Modifie split-barrel (MSB) drive samples were obtained with a 340-lb hammer.
105 -	$\left  \cdot \right $						Boring located approximately 115 feet west of NDOT I-515 Station No. 644+05.
	$\left  \right $						
110 -	$\uparrow$						
	++						
					-		
	+						
115 -		-					
	+						
120							BORING LOG
					&	M	Auto Show Drive Interchange, Phase II Henderson, Nevada PROJECT NO. DATE FIGURE
		V				<b>V</b> -	PROJECT NO.         DATE         FIGURE           300623001         09/2003         A-49

S									
et) SAMPLES			(H		7	DATE DRILLED	05/12/2003	BORING NO.	B-32
eet) SAN	00T	≡ (%)	Υ (PC	-	ATION.	GROUND ELEVATION	ON Not measured	SHEET	1OF6
DEPTH (feet) ulk SA ven SA	BLOWS/FOOT	TURI	NSIT	SYMBOL	S.C.S	METHOD OF DRILL	ING Mud rotary, 6" diam	eter bit	
DEP Bulk Driven	BLOV	MOISTURE (%)	DRY DENSITY (PCF)	ŝ	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	See "Notes"	DROP	30"
			D		0	SAMPLED BY		DCF REVIEWED	BY <u>BDB</u>
0					SM	ALLUVIUM:			
					GM			se SAND with gravel an	
5									
						Light brown, saturate primarily of coarse-g		ALICHE; moderately ce	mented, composed
				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	GM	Brown, saturated, ver	y dense, silty fine and	coarse GRAVEL with s	and and cobbles.
20								BORING LOG	
	Vi	7/	10 2	&	Mn	ore	A	uto Show Drive Interchange, Phase Henderson, Nevada	e II
	V	7					PROJECT NO.	DATE	FIGURE
							300623001	09/2003	A-50

	U L	n L													
t)	ICINA	SAMPLES	F	(%	PCF)		NO	DATE DRILLED		12/2003	BURIN	IG NO		B-32	6
DEPTH (feet)			BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	METHOD OF DRILL				SHEET _	2	_ 0F	6
EPT	¥	eu	SMO	DISTL	DENS	SΥM	SSIF U.S.				eter bit				
	Bu	Driven	B	W	DRY		CLA							30"	
20										LOGGED BY		REVIEWEI	JBY	BDI	3
							GM	ALLUVIUM (contin Brown, saturated, ve	ery dense	s, silty fine and	coarse GI	RAVEL with	n sand	and cob	bles.
										A		ING LOG			
			V	Цļ		Š.	ΝĽ	ore			Hende	erson, Nevada	1450 11		-
			V				V			0623001		2003		FIGUR A-51	_

S							
et) SAMPLES		E)	7	DATE DRILLED	05/12/2003	BORING NO.	<b>B-3</b> 2
feet) SAM	00T E (%)	Z (PC	ATIOI S.	GROUND ELEVATIO	Not measured	SHEET	3 OF 6
DEPTH (feet) ulk SA ven SA	BLOWS/FOOT MOISTURE (%)	DENSITY (	SIFIC	METHOD OF DRILL	ING Mud rotary, 6" diamet	ter bit	
DEP Bulk Driven	BLO MOIS	DRY DENSITY (PCF) SYMBOL	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	See "Notes"	DROP	30"
		ā		SAMPLED BY D		DCF REVIEWEI	D BY BDB
40			GM	ALLUVIUM (continu	ued):		
				Brown, saturated, ver	y dense, silty fine and c	coarse GRAVEL with	a sand and cobbles.
45 ++++ -				Brown, saturated, ver	y stiff, Tean CLAY with	sand; trace gravel.	
	Ť						
50							
	28						
55							
60							
60	<b>#9</b>					BORING LOG	
	<u>  n</u>	<b>0</b> &	M	ore		to Show Drive Interchange, Ph Henderson, Nevada	
	U		<b>Y</b> -		PROJECT NO. 300623001	DATE 09/2003	FIGURE A-52

	SAMPLES			(L			DATE DRILLED	0	5/12/2003	BORI	NG NO.		B-32	
et)	SAM	DOT	(%)	(PCI		NOIL .	GROUND ELEVA	TION N	ot measured		SHEET	4	OF	6
DEPTH (feet)		VS/FC	IURE	VSITY	SYMBOL	IFICA S.C.S	METHOD OF DR	LLING 1	Aud rotary, 6" diame	eter bit				
DEP	Bulk Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	sγ	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT		See "Notes"		DROP		30"	
				DR		ō	SAMPLED BY	DCF	LOGGED BY		REVIEWE	D BY	BDE	3
60						CL	ALL UVIUM (con	tinued):	DESCRIPTION/I					
		26	44.2	77.3		OL	ALLUVIUM (con Brown, saturated,	very stiff	, lean CLAY wit	h sand; ti	race gravel.			
ĮT														
	+1													
65 -	$\square$								,					
-														
70 -														
		38												
	+													
75 -														
	+													
+	+													
80										ROP	ING LOG			
		Vi	77	10 4	Se	Ma	ore		Au	to Show Dri	ve Interchange, Pha erson, Nevada	ase II		
			-1	_					ROJECT NO. 00623001	DA	ATE 2003		FIGURE	

	SAMPLES			CF)		z	DATE DRILLED	05/	12/2003	BORIN	IG NO		B-32	
feet)	SA	100T	KE (%)	 	Ы	ATIO S.	GROUND ELEVATI	ON Not	measured		SHEET _	5	_ OF	6
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	METHOD OF DRILL	ING <u>M</u>	ud rotary, 6" diame	ter bit				
B	Bulk Driven	BLC	MO	RYD	s s	CLAS	DRIVE WEIGHT		See "Notes"		_ DROP _		30"	
						_	SAMPLED BY		LOGGED BY DESCRIPTION/IN	DCF		) BY	BDI	<u> </u>
80						CL	ALLUVIUM (contin	ued):		_				
. –		34	57.6	60.8			Brown, saturated, ve	ry stiff,	lean CLAY with	i sand; tr	ace gravel.			
-	$\left  \right $													
85 -														
-														
-														
-														
90 -														
		40												
		-10												
-														
-	$\left  \cdot \right $													
95 -														
-														
-														
100_										ROP	ING LOG	_		-
		Vi	77	10	&	Mn	ore		Aut	to Show Driv	ve Interchange, Pha erson, Nevada	ase II		
			7	_					0623001	DA	ATE 2003		FIGURE A-54	

	S							
	SAMPLES				CF)		z	DATE DRILLED05/12/2003 BORING NOB-32
(feet)	SA SA	;	BLOWS/FOOT	MOISTURE (%)	Т <b>У</b> (Р	٦ ار	CATIC	GROUND ELEVATION Not measured SHEET 6 OF 6
DEPTH (feet)		_	/SMC	STUF	ENSI	SYMBOL	SSIFIC J.S.C	METHOD OF DRILLING Mud rotary, 6" diameter bit
B	Bulk	Driven	BLC	MOI	DRY DENSITY (PCF)		CLASSIFICATION U.S.C.S.	DRIVE WEIGHT See "Notes" DROP 30"
					Δ		-	SAMPLED BY DCF LOGGED BY DCF REVIEWED BY BDB DESCRIPTION/INTERPRETATION
100							CL	ALLUVIUM (continued):
			45	47.0	78.1			Brown, saturated, very stiff, lean CLAY with sand; trace gravel.
								Total depth = $101.5$ feet.
-								Groundwater measured at 47.2 feet approximately 2 days after drilling. Backfilled 05/14/2003.
	╎╎	-						
		_						Notes: Standard Penetration Test (SPT) samples were obtained with a 140-lb hammer. Modified
								split-barrel (MSB) drive samples were obtained with a 340-lb hammer.
105 -		1						During leasted engraving table 100 for thread a SNDOTL 515 Or visually 655 100
		-						Boring located approximately 120 feet west of NDOT I-515 Station No. 655+00.
	$\square$							
	$\left  \cdot \right $	-						
110 -								
	$\left  \right $	-						
	$\uparrow \uparrow$							
115 -	H	_						
	ÌŢ							
	$\left  \right $							
	$\left  \right $	_						
120								BORING LOG
		_	_					
		A				&		Auto Show Drive Interchange, Phase II Henderson, Nevada PROJECT NO. DATE FIGURE

	С. Ц	2						DATE DRILLED	05/12/2003	BORING NO.	B-33
t)	SAMPI ES		ы	(%	DRY DENSITY (PCF)		NOI	GROUND ELEVATIO			1 OF 6
H (fee			S/FOC	URE (	SITY	SYMBOL	FICAT C.S.		NG Mud rotary, 6" diam		
DEPTH (feet)	Bulk	ven	BLOWS/FOOT	MOISTURE (%)	DEN	SYA	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT		DROF	<b>9</b> 30"
-	Ш	D		Σ	DRY		CL		CF LOGGED BY		/ED BY BDB
0	Ц										
5							GM	ALLUVIUM: Brown, damp to satur cobbles.	ated, very dense, silty		
				-						BORING LO	
			V	IЦ	ĮŪš	Š2		ore		Henderson, Nevada	
			V				Y		PROJECT NO. 300623001	DATE 09/2003	FIGURE A-56

- S											
et) SAMPLES			(H)		z	DATE DRILLED	05/12/2003	BORIN	IG NO	H	3-33
eet) SAM	001	MOISTURE (%)	Y (PC	-	ATIOI S.	GROUND ELEVATIO	Not measured		SHEET _	2	OF
DEPTH (feet) ulk SA ven SA	BLOWS/FOOT	TUR	NSIT	SYMBOL	S.C.S	METHOD OF DRILLI	NG Mud rotary, 6" diame	ter bit			
DEP Bulk Driven	BLO	MOIS	DRY DENSITY (PCF)	ŝ	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	See "Notes"		_ DROP _		30"
			В		0	SAMPLED BY	CFLOGGED BY			DBY_	BDB
20					GM	ALLUVIUM (continu	DESCRIPTION/IN	NTERPRE			
						Brown, damp to satur cobbles.	ated, very dense, silty f	fine and c	coarse GRAN	/EL wi	ith sand and
				. 64.67				BOR	ING LOG	i	
				&		ore	Au	to Show Dri	ve Interchange, Pl erson, Nevada		
		7					PROJECT NO.	DA	TE		FIGURE
					_		300623001	09/2	2003		A-57

<u>()</u>													
et) SAMPLES			Ê		z	DATE DRILLED	05/1	2/2003	BORIN	G NO		B-33	
feet)	001	MOISTURE (%)	DRY DENSITY (PCF)	Ъ	CLASSIFICATION U.S.C.S.	GROUND ELEVATION	ON <u>Not n</u>	neasured		SHEET _	3	OF _	6
DEPTH (feet)	BLOWS/FOOT	STUR	IISNE	SYMBOL	SIFIC.	METHOD OF DRILL	ING Mu	d rotary, 6" diamet	er bit				
DEP Bulk Driven	BLO	MOIS	۲ DE	S	CLAS	DRIVE WEIGHT		See "Notes"		DROP		30"	
			Ō		U	SAMPLED BY D					DBY	BD	B
	21				GM		DCF L <u>ued</u> ): rated, ver	OGGED BY ESCRIPTION/IN	ITERPRE	REVIEWED	DBY.	BD	
55													
60				<u> ////</u>	1	]			BODI	NG LOG			
				&		ore	<u> </u>	Aut	to Show Driv	e Interchange, Ph rson, Nevada			
		7	_					DECT NO.	DA 09/2	TE		FIGUI	

	SAMPLES			(F)		7	DATE DRILLED	05/	/12/2003	BORIN	NG NO		B-33	
eet)	SAM	001	E (%)	Υ (PC	۲	ATION.	GROUND ELEVATI	ON Not	measured		SHEET _	4	_ OF _	6
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	METHOD OF DRILL	LING M	ud rotary, 6" diamet	er bit				
ЦЩ ЦЩ	Bulk	BLO	SIOM	¢Υ DE	Ś	U U	DRIVE WEIGHT		See "Notes"		_ DROP		30"	
				DR		0	SAMPLED BY		LOGGED BY		REVIEWE	D BY	BD	B
60	╞┼┥				777				DESCRIPTION/IN	ITERPRI	ETATION			
00	1					CL	ALLUVIUM (contin Brown, saturated, ve	<u>nued</u> ): erv stiff.	lean CLAY.					
.		24	39.0	79.6			,	- <b>,</b> ,						
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		60/9"												
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80					<u> ////</u>					BOB				
		A	<b>m</b>		e l		ore		Aut	to Show Dr	ive Interchange, Pl			
		/ 7/	14					PR	OJECT NO.		derson, Nevada		FIGUE	RE
		V				V		11	00623001		2003		A-5	

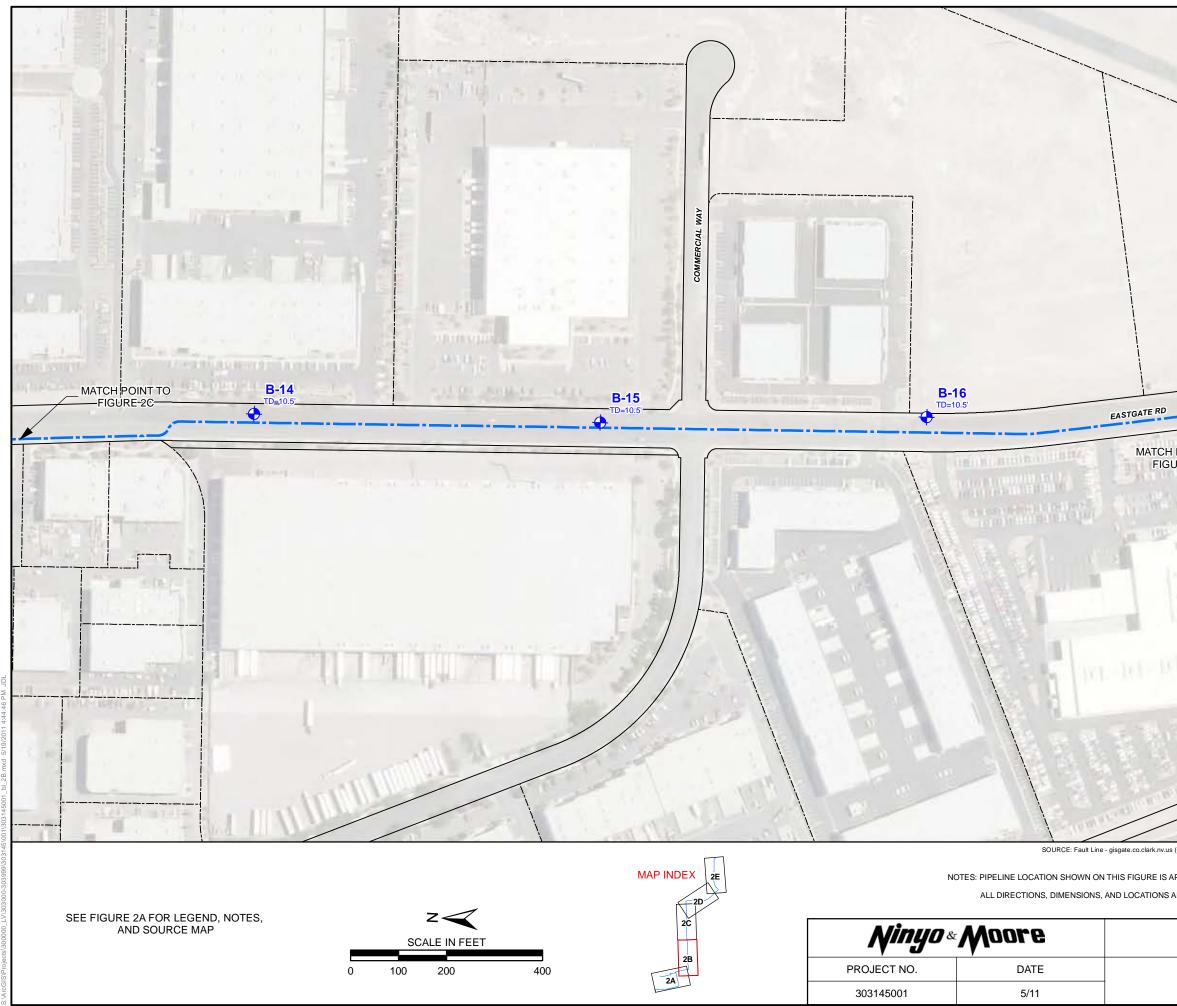
	SAMPLES			CF)		z	DATE DRILLED	05	5/12/2003	BORIN	IG NO		B-33	
eet)	SAM	001	E (%)	Y (PC	۲	ATIOI S.	GROUND ELEVATIO	ON <u>No</u>	t measured		SHEET _	5	_ OF	6
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	ENSIT	SYMBOL	SIFIC, S.C.(	METHOD OF DRILL	ING M	lud rotary, 6" diame	ter bit				
BE	Bulk Driven	BLO	MOIS	DRY DENSITY (PCF)	S	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT		See "Notes"		_ DROP _		30"	
				E E		0	SAMPLED BY	DCF	LOGGED BY			) BY	BDI	3
80		30/2"				CL	ALLUVIUM (contin	ued):						
							Brown, saturated, ver Sampler refusal after	ry stiff, 2".	lean CLAY.					
			l											
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			ļĻ		x		ore	P	ROJECT NO.	Heno	lerson, Nevada		FIGUR	E
1		V				V			00623001		2003		A-60	

	<u></u>		. <u> </u>				BORING LOG Auto Show Drive Interchange, Phase II Henderson, Nevada PROJECT NO. DATE FIGURE
120							
115 -							
110 -							
105 -							Boring located approximately 130 feet east of NDOT I-515 Station No. 650+09.
							Total depth = 101.5 feet. Groundwater measured at 48.1 feet approximately 2 days after drilling. Backfilled 05/14/2003. Notes: Standard Penetration Test (SPT) samples were obtained with a 140-lb hammer. Modified split-barrel (MSB) drive samples were obtained with a 340-lb hammer.
100		32	33.0	87.2		CL	DESCRIPTION/INTERPRETATION           ALLUVIUM (continued):           Brown, saturated, very stiff, lean CLAY.
DEPTH (feet)	Bulk Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	METHOD OF DRILLING       Mud rotary, 6" diameter bit         DRIVE WEIGHT       See "Notes"       DROP       30"         SAMPLED BY       DCF       LOGGED BY       DCF       REVIEWED BY       BDB
(feet)	SAMPLES	FOOT	RE (%)	ІТҮ (РСF)	30L	CATION S.S.	DATE DRILLED         05/12/2003         BORING NO.         B-33           GROUND ELEVATION         Not measured         SHEET         6         OF         6

## **APPENDIX E**

I-515 East of Auto Show Drive

Ninyo & Moore | I-515/I-215 Feasibility Study, Henderson, Nevada | 304433001 R | August 6, 2019



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B-17 TD=9.7	
POINT TO JRE 2A	
B-18 TD=20.0' RAMP AUTO SHOW N US95 RAMP AUTO SHOW N US95	AUTO SHOW
(GISMO), 2010; Aerial Imagery - Photo Date: May, 2007, ESRI, i-cubed, USDA FSA, USGS, AEX, GeoEye PPROXIMATE AND IS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY RE APPROXIMATE	, Getmapping, Aerogrid, IGP.
BORING LOCATIONS	FIGURE
AMPAC PIPELINE GIBSON ROAD AND AUTO SHOW DRIVE HENDERSON, NEVADA	2B

<ul> <li>DEPTH (feet)</li> <li>Bulk</li> <li>SAMPLES</li> <li>Bulk</li> <li>SAMPLES</li> <li>BLOWS</li> <li>MOISTURE (%)</li> </ul>	DRY DENSITY (PCF) SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED       11/1/10       BORING NO.       B-15         GROUND ELEVATION       Not measured       SHEET       1       OF       1         METHOD OF DRILLING       Mayhew 1000 air-rotary drill rig       Image: Comparison of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the st
50/4"			Approximately 5 to 5-1/2 inches thick. <u>FILL</u> : Brown, damp, very dense, poorly graded GRAVEL with sand. Sampler refusal after 4 inches.
5/6"	.12.4		NATIVE SOIL: Brown, damp, medium dense, well graded SAND with silt and gravel.
			Total depth = 10.5 feet. Groundwater not encountered during drilling. Backfilled and patched on 11/1/10. <u>NOTE:</u> Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report. BOPING LOG
Ninye	<b>]</b> &	NO	OTC AMPAC PIPELINE, GIBSON ROAD AND AUTO SHOW DRIVE HENDERSON, NEVADA PROJECT NO. DATE FIGURE 303145001 5/11 A-16

DEPTH (feet) Bulk SAMPLES	BLOWS MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED       11/1/10       BORING NO.       B-16         GROUND ELEVATION       Not measured       SHEET       1       OF       1         METHOD OF DRILLING       Mayhew 1000 air-rotary drill rig             DRIVE WEIGHT       140 lbs. (spooling cable)       DROP       30"       30"         SAMPLED BY       SLM       LOGGED BY       SLM       REVIEWED BY       BDB					
3	7/6" )/2" 7.2	109.0		GP	ASPHALT CONCRETE: Approximately 4-1/2 to 5 inches thick. <u>FILL</u> : Brown, damp, very dense, poorly graded GRAVEL with sand. Sampler refusal after 8 inches.					
	3/6" 3/6" 3/6"		• <b>•</b> •	VV-SM	<u>NATIVE SOIL</u> : Brown, damp, medium dense, well graded SAND with silt and gravel.					
	0/6" /<1" 7.8	118.5			Sampler refusal after 6 inches; very dense. Total depth = 10.5 feet. Groundwater not encountered during drilling. Backfilled and patched on 11/1/10. <u>NOTE</u> : Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report.					
20										
Boring Log         Ampac pipeline, gibson road and auto show drive Henderson, nevada         PROJECT NO.       DATE       Figure 303145001         303145001       5/11       A-17										

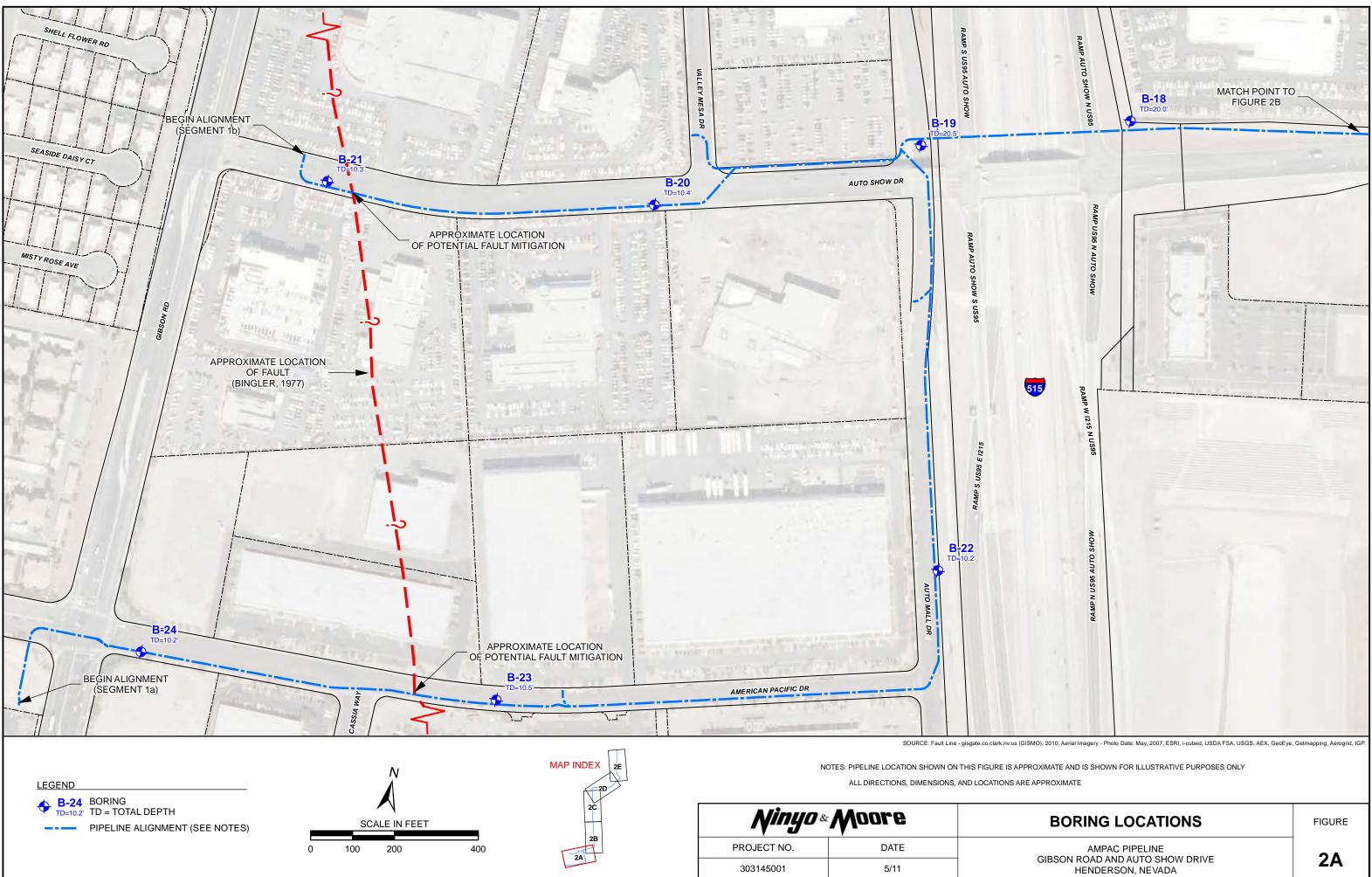
DEPTH (feet) Bulk SAMPLES Driven BLOWS BLOWS MOISTURE (%)	DRY DENSITY (PCF) SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED       11/3/10       BORING NO.       B-17         GROUND ELEVATION       Not measured       SHEET       1       OF       1         METHOD OF DRILLING       Mayhew 1000 air-rotary drill rig       DROP       30"         DRIVE WEIGHT       140 lbs. (spooling cable)       DROP       30"         SAMPLED BY       SLM       LOGGED BY       SLM       REVIEWED BY       BDB
0 32/6" 44/6" 6.9 50/6"	115.0	GP-GM GP-GM	ASPHALT CONCRETE: (Approximately 6 to 6-1/4 inches thick. <u>FILL</u> : Brown, damp, dense, poorly graded GRAVEL with silt and sand. <u>NATIVE SOIL</u> : Dark gray, damp, very dense, poorly graded GRAVEL with silt, sand, cobbles, and boulders.
5 - 28 30/1"			Sampler refusal after 1 inch.
			Sampler refusal after 8 inches. Total depth = 9.7 feet. Groundwater not encountered during drilling. Backfilled and patched on 11/3/10. <u>NOTE</u> : Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report.
	<b>40</b> &	Mo	BORING LOG         AMPAC PIPELINE, GIBSON ROAD AND AUTO SHOW DRIVE         HENDERSON, NEVADA         PROJECT NO.         J03145001         5/11

	LES						DATE DRILLED	11/1/10	BORIN	NG NO.	B-18
et)	SAMPLES		(%)	(PCF		LION	GROUND ELEVATIO				1 OF 2
H (fe		BLOWS	URE	SITY	SYMBOL	FICA ⁻ C.S.	METHOD OF DRILLI				
DEPTH (feet)	Bulk Driven	BLC	MOISTURE (%)	DRY DENSITY (PCF)	SYN	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT				30"
	<u>a</u>		Z	DRY		C		M LOGGED BY			
0					FEFERE			DESCRIPTION			
-		18/6" 22/6" 28/6"	6.4	110.7		GP-GM	<u>FILL</u> : Brown, damp, medium	n dense, poorly grade	ed GRAVI	EL with silt and	sand.
5		40/6" 50/5"				GP	<u>NATIVE SOIL</u> : Dark gray, damp, very cemented; sampler ref				d boulders; slightly
10 -	W	50/1"					Sampler refusal after 1	inch.			
		50/5"					Sampler refusal after 5	inches.		×	
20			ny	<b>10</b> 4		Mo	ore		INE, GIBSON HENDER	ING LOG I ROAD AND AUTC SON, NEVADA	SHOW DRIVE
		W			_	W -		PROJECT NO.	DA		FIGURE

[					1				
	SAMPLES			)F)		7	DATE DRILLED 11/1/10	BORING NO.	B-18
eet)	SAN	S	≡ (%)	Υ (PC	)L	ATIOI S.	GROUND ELEVATION Not measured	SHEET	2OF2
DEPTH (feet)		BLOWS	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	METHOD OF DRILLING Mayhew 1000 air-rotan	ry drill rig	
DEP	Bulk Driven	Ш	MOIS	Y DE	S	U U	DRIVE WEIGHT 140 lbs. (spooling cable	le) DROP	30"
				DR		0	SAMPLED BY LOGGED BY	SLM REVIEWED	BY BDB
20		<u>\ 50/&lt;1" /</u>					DESCRIPTION/IN Sampler refusal after less than 1 inch.	TERPRETATION	~
							Total depth = 20.0 feet. Groundwater not encountered during drilling.		
							Backfilled on 11/1/10.		
							NOTE:		
							Groundwater, though not encountered at the t due to seasonal variations in precipitation and	time of drilling, may r	ise to a higher level
							report.	i several other factors	us discussed in the
25 -									
30 -									
35 -									
								,	
						n.			
40	ĻĻ		)					BORING LOG	
		MÌ	<u>n</u> L		Sz /		OPC AMPAC PIPELIN PROJECT NO.	E, GIBSON ROAD AND AUT HENDERSON, NEVADA	_
		′ ♥=-	J				PROJECT NO. 303145001	DATE 5/11	FIGURE

# **APPENDIX F**

I-515 West of Auto Show Drive



	SAMPLES			(i-			DATE DRILLED 11/1/10 BORING NO. B-19
et)	SAM		(%)	(PCI		NOIT.	GROUND ELEVATION Not measured SHEET 1 OF 2
DEPTH (feet)		BLOWS	MOISTURE (%)	VIIISN	SYMBOL	sifica s.c.s	METHOD OF DRILLING Mayhew 1000 air-rotary drill rig
DEP	Bulk Driven	BI	MOIS	DRY DENSITY (PCF)	S	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT 140 lbs. (spooling cable) DROP 30"
				DR		0	SAMPLED BY <u>SLM</u> LOGGED BY <u>SLM</u> REVIEWED BY <u>BDB</u> DESCRIPTION/INTERPRETATION
0						GP-GM	ASPHALT CONCRETE: Approximately 3-1/4 to 3-1/2 inches thick.
		45/6" 50/5"	6.6	102.8			FILL: Brown, damp, very dense, poorly graded GRAVEL with silt and sand. Sampler refusal after 11 inches.
						SP	NATIVE SOIL: Brown, damp, very dense, poorly graded SAND with gravel and cobbles.
5 -		50/2"					Sampler refusal after 2 inches.
		- 50/6"				GP-GM	Brown, damp, very dense, poorly graded GRAVEL with silt, sand, and cobbles; sampler
10 -		20/1"					refusal after 7 inches at top of unit.
15 -		34/6"	7.1	121.1	14 . A 1		Sampler refusal after 9 inches.
		50/3"					
-		30/6"		104.0			Dense.
20		30/6"	4.6	124.8			
					G /	AAn	BORING LOG AMPAC PIPELINE, GIBSON ROAD AND AUTO SHOW DRIVE HENDERSON, NEVADA PROJECT NO. DATE FIGURE
		′▼″	3			A La	
L							303145001 5/11 A-21

	LES						DATE DRILLED	11/1/10	BORIN	G NO.	B-19
ţ)	SAMPLES		(%	(PCF		NOL	GROUND ELEVATIO				2 OF 2
1 (fee		BLOWS	JRE (	SITY (	SYMBOL	ICAT C.S.	METHOD OF DRILLI		otary drill rig	-	
DEPTH (feet)	노 고 고	BLC	MOISTURE (%)	DRY DENSITY (PCF)	SYN	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT			DROP	30"
Δ	Bulk		MQ	DRY		CLA				REVIEWEI	a
							SAMPLED BY	DESCRIPTION			
20		45/6"				GP-GM	NATIVE SOIL (conti Brown, damp, dense, j	poorly graded GRAV	/EL with si	lt, sand, and	cobbles.
	+	-					Total depth = $20.5$ fee Groundwater not enco		ng.		
		4					Backfilled and patched				
							NOTE:	not an asymptoted at th	a time of d	willing mov	rise to a higher level
							Groundwater, though due to seasonal variati				
		-					report.				
25 -											
23											
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		-									
		1									
		-									
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		$\bigwedge$	ΠĻ	ŢD «	Sz /	MQ	ore		HENDER	SON, NEVADA	JTO SHOW DRIVE
			U			▼ -		PROJECT NO. 303145001	DA 5/		FIGURE A-22

	LES						DATE DRILLED	11/1/10	BORING NO.	В-20
et)	SAMPLES		(%)	(PCF)		NOL		DN Not measured		1 OF 1
DEPTH (feet)		BLOWS	URE	ISITY	SYMBOL	FICAT S.C.S.		ING Mayhew 1000 air-rota	and the second second second second second second second second second second second second second second second	
DEPT	Bulk Driven	BL	MOISTURE (%)	DRY DENSITY (PCF)	SΥΙ	CLASSIFICATION U.S.C.S.		140 lbs. (spooling cab		30"
	ВĘ		2	DR		ŭ	SAMPLED BY		SLM REVIEWE	D BY BDB
0							ASPHALT CONCRE	DESCRIPTION/IN ETE:	ITERPRETATION	
						GP-GM	Approximately 6 to 6 FILL:	-1/2 inches thick.		
		50/3"						ense, poorly graded GR 3 inches.	AVEL with silt and	sand.
						SM	<u>NATIVE SOIL</u> : Brown, damp, mediur	m dense, silty SAND wi	ith gravel.	
5 -										
		14/6" 12/6"	8.2	105.2						
		14/6"	0.2	105.2						
		27/6"	<b>6</b> 0	101.0				177		
10 -		34/6" 50/5"	5.8	121.0			•	17 inches; very dense.		
								ountered during drilling	·,•	
							Backfilled and patche	ed on 11/1/10.		
								not encountered at the		
-							due to seasonal variat report.	ions in precipitation and	d several other facto	ors as discussed in the
15 -										
-										
-										
-										
-										
20									BORING LOO	
		MÍ	ŊΥ	[[] &	& ∕		ore		E, GIBSON ROAD AND A HENDERSON, NEVADA	A
		<b>V</b>						PROJECT NO. 303145001	DATE 5/11	FIGURE A-23

at)	SAMPLES		(%)	(PCF)		NOI	DATE DRILLED     11/1/10     BORING NO.     B-21       GROUND ELEVATION Not measured     SHEET 1     OF 1
DEPTH (feet)		BLOWS	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	METHOD OF DRILLING Mayhew 1000 air-rotary drill rig
DEP.	Bulk Driven	Ш	MOIS	۲ DEI	SΥ	SLASS U.	DRIVE WEIGHT 140 lbs. (spooling cable) DROP 30"
				ä		0	SAMPLED BY <u>SLM</u> LOGGED BY <u>SLM</u> REVIEWED BY <u>BDB</u> DESCRIPTION/INTERPRETATION
0						GP-GM	ASPHALT CONCRETE: Approximately 3 to 3-1/4 inches thick.
-		40/6"					<u>FILL</u> : Brown, damp, dense, poorly graded GRAVEL with silt and sand.
_		40/6" 30/6" 40/6"	9.8	110.7		SP	<u>NATIVE SOIL</u> : Brown, damp, dense, poorly graded SAND with gravel and cobbles.
_							
5-							Madium danas
		7/6" 10/6"	4.6	117.0			Medium dense.
		50/6"					
_							
-							
-		23/6"					
10 -		40/6" 50/4"	7.1	120.8			Very dense; sampler refusal after 16 inches.
-							Total depth = 10.3 feet. Groundwater not encountered during drilling. Backfilled and patched on 11/1/10.
-							NOTE:
							Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the
							report.
15 -							
20							
			'nΠ		3-	Mn	BORING LOG AMPAC PIPELINE, GIBSON ROAD AND AUTO SHOW DRIVE HENDERSON, NEVADA PROJECT NO DATE EIGURE
			J		//	<b>A</b>	
							303145001 5/11 A-24

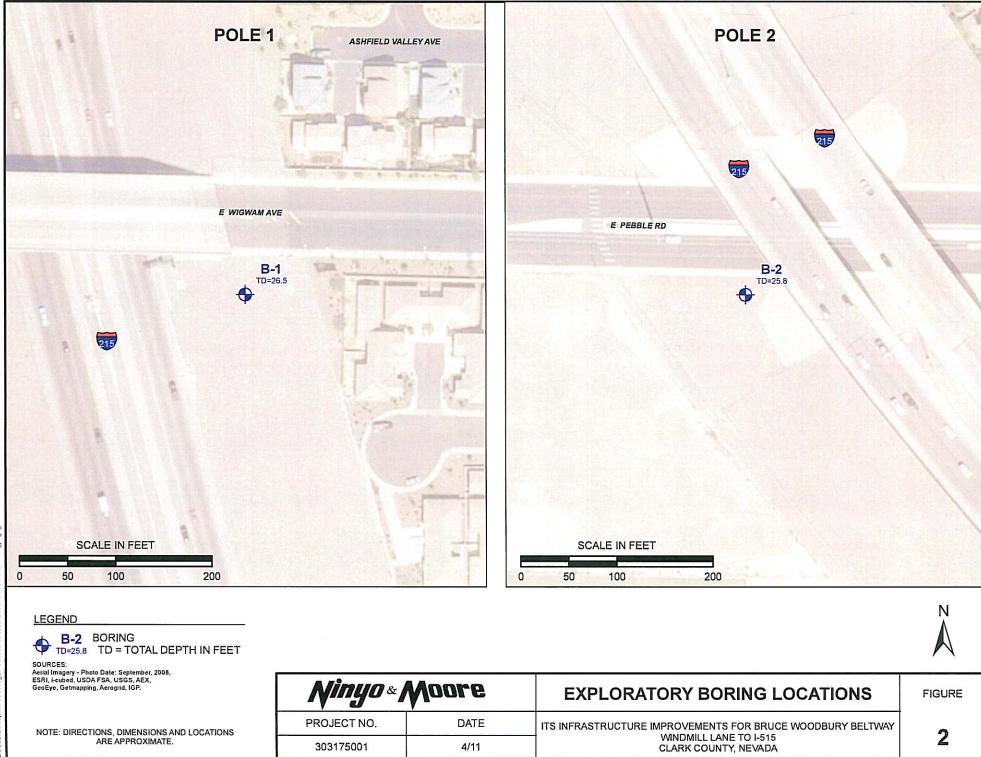
	SAMPLES			<u>(</u>			DATE DRILLED <u>11/1/10</u> BORING NO. <u>B-22</u>
et)	SAM		(%)	DRY DENSITY (PCF)		CLASSIFICATION U.S.C.S.	GROUND ELEVATION Not measured SHEET 1 OF 1
DEPTH (feet)		BLOWS	TURE	VSITY	SYMBOL	IFICA S.C.S	METHOD OF DRILLING Mayhew 1000 air-rotary drill rig
DEP.	Bulk Driven	BL	MOISTURE (%)	Y DEI	sγ	LASS U.	DRIVE WEIGHT 140 lbs. (spooling cable) DROP 30"
	۵		-	DR		C	SAMPLED BY <u>SLM</u> LOGGED BY <u>SLM</u> REVIEWED BY <u>BDB</u> DESCRIPTION/INTERPRETATION
0			-			GP-GM	ASPHALT CONCRETE: Approximately 3-3/8 to 3-5/8 inches thick.
-							<u>FILL</u> : Brown, damp, medium dense, poorly graded GRAVEL with silt and sand.
		30/6" 30/6"	8.0	120.1	:::>\$``	SW-SM	NATIVE SOIL:
		24/6"					Brown, damp, medium dense, well-graded SAND with silt, gravel, and boulders.
-							
-							
5 -		40/6" 50/4"	5.2	115.7			Sampler refusal after 10 inches; very dense.
_		5014					
_							
_							
_		20/61					
10-		30/6" 35/6" 50/2"	7.4	121.4			Sampler refusal after 14 inches.
10							Total depth = 10.2 feet. Groundwater not encountered during drilling.
-							Backfilled and patched on 11/1/10.
-							NOTE:
							Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the
-							report.
-							
15 -							
-							
_							
-							
20		<u></u>			<u> </u>		BORING LOG
			<u>n</u>		Sz /		AMPAC PIPELINE, GIBSON ROAD AND AUTO SHOW DRIVE HENDERSON, NEVADA PROJECT NO. DATE FIGURE
			Ð				PROJECT NO.         DATE         FIGURE           303145001         5/11         A-25
							JUJIJUUI JUII A-2J

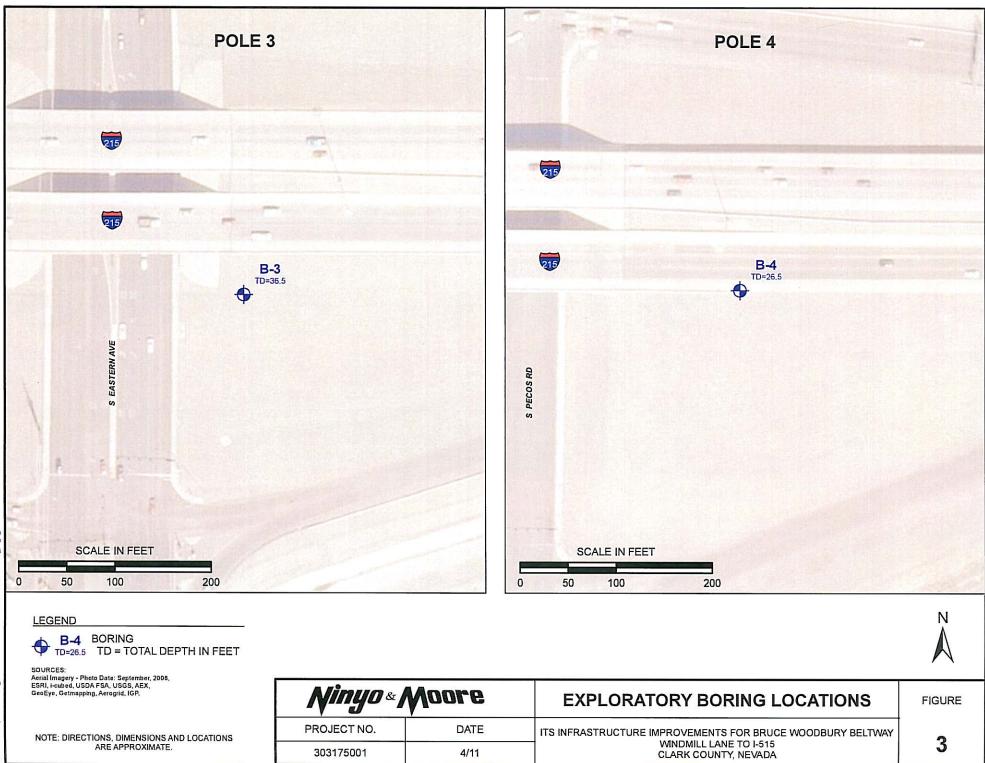
DEPTH (feet) Bulk SAMPLES Driven	BLOWS MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL CLASSIFICATION U.S.C.S.	DATE DRILLED       11/1/10       BORING NO.       B-23         GROUND ELEVATION       Not measured       SHEET       1       OF       1         METHOD OF DRILLING       Mayhew 1000 air-rotary drill rig       DRIVE WEIGHT       140 lbs. (spooling cable)       DROP       30"         SAMPLED BY       SLM       LOGGED BY       SLM       REVIEWED BY       BDB
0			GP-GM	DESCRIPTION/INTERPRETATION           ASPHALT CONCRETE:           Approximately 3 to 3-1/2 inches thick.           FILL:           Brown, damp, medium dense, poorly graded GRAVEL with silt and sand.
	7/6" 8.6 7/6" 8.6 8/6"	113.2	SW-SM	<u>NATIVE SOIL</u> : Brown, damp, medium dense, well-graded SAND with silt and gravel.
1	3/6" 6/6" 4.6 4/6"	113.7		
3	2/6" 7/6" 8.1 3/6"	123.5		Dense.
				Total depth = 10.5 feet. Groundwater not encountered during drilling. Backfilled and patched on 11/1/10. <u>NOTE</u> : Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report.
Λ	liny	08	BORING LOG           AMPAC PIPELINE, GIBSON ROAD AND AUTO SHOW DRIVE           HENDERSON, NEVADA           PROJECT NO.         DATE           303145001         5/11	

DEPTH (feet) Bulk SAMPLES Driven BLOWS BLOWS MOISTURE (%) MOISTURE (%) DRY DENSITY (PCF) SYMBOL CLASSIFICATION	GROUND ELEVATIO	11/1/10         DN       Not measured         ING       Mayhew 1000 air-rota         140 lbs. (spooling cable)         LM       LOGGED BY         DESCRIPTION/IN	sHEET ury drill rig le) DROP SLM REVIEWE	1OF1
0 50/5" GI	ASPHALT CONCRE Approximately 3-1/4 FILL: Brown, damp, very do Sampler refusal after	TE: to 3-1/2 inches thick. ense, silty GRAVEL wit		v
5 36/6" 28/6" 18/6" 		n dense, well-graded SA 14 inches; very dense; 1		el, and cobbles.
10     38/6"     14.4     98.5       10     50/2"     14.4     98.5       11     10     10	Backfilled and patchen <u>NOTE</u> : Groundwater, though	ountered during drilling	time of drilling, may	
20 Ningo & M	loore	AMPAC PIPELIN PROJECT NO. 303145001	BORING LOG E, GIBSON ROAD AND A HENDERSON, NEVADA DATE 5/11	UTO SHOW DRIVE

## **APPENDIX G**

### I-215 West of I-515 (B1, B2, and B3)





C DEPTH (feet) Bulk SAMPLES	BLOWS	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	N Not measured NG Mayhew 1000 air-rotar 140 lbs. (spooling cabl M LOGGED BY DESCRIPTION/IN	ry drill rig c) DROP SLM REVIEWE	1C	F2	
	25/6" 28/6" 30/6"	7.4	115.1	A COLORADO A COLORADO A COLORADO A COLORADO A COLORADO A COLORADO A COLORADO A COLORADO A COLORADO A COLORADO A	GP-GM	Concrete approximate	ly 15 to 16 inches thick		and sand.		
	22/6" 30/6" 33/6"	7.7	111.2		GW	NATIVE SOIL: Brown, damp, medium boulders.	ı dense, well-graded GF	AVEL with sand, o	cobbles, ar	id small	
	6/6" 6/6" 27/6"										
	50/5"					Very dense.					
20		y	* 10 8	2	No	ore	ITS INFRASTRUCTURE IMI	BORING LOG PROVEMENTS FOR BRUG INTERSTATE 515, CLAR DATE 4/11	CE WOODBU K COUNTY, FI	RY BELTV NEVADA GURE A-11	VAY,

		1	r	1 1	<u></u> .	
et) SAMPLES			- -		<b>*</b>	DATE DRILLED 3/3/11 BORING NO. Appendix G (B-1)
eet) SAM	- m	[ (%)	DRY DENSITY (PCF)	<u>ر</u>	CLASSIFICATION U.S.C.S.	GROUND ELEVATION Not measured SHEET 2 OF 2
DEPTH (feet) ulk SA	BLOWS	MOISTURE (%)		SYMBOL	SIFIC/ .S.C.S	METHOD OF DRILLING Mayhew 1000 air-rotary drill rig
DEP Bulk Driven		MOIS	sy de	ŝ	U U	DRIVE WEIGHT 140 lbs. (spooling cable) DROP 30"
	L				0	SAMPLED BY SLM LOGGED BY SLM REVIEWED BY EDE
20	8/6"				SM	DESCRIPTION/INTERPRETATION NATIVE SOIL (continued):
	8/6" 50/4" 8/6" 18/6" 40/6"	7.2	118.4			Brown, damp, very dense, silty SAND with gravel, cobbles, and small boulders. Sample: refusal after 10 inches. Medium dense. Total depth = 26.5 feet. Groundwater not encountered during drilling. Backfilled on 3/3/11. <u>NOTE:</u> Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report.
40						
				2		BORING LOG ITS INFRASTRUCTURE IMPROVEMENTS FOR BRUCE WOODBURY BELTWAY,
		] 🛛 📖 🖉		X. 🕅		WINDMILLIANE TO INTERSTATE SIS CLARK COUNTY NEWARA
	<b>N</b>	ľŸ			Mra	ITS INFRASTRUCTURE IMPROVEMENTS FOR BRUCE WOODBURY BELTWAY, WINDMILL LANE TO INTERSTATE 515, CLARK COUNTY, NEVADA PROJECT NO. DATE FIGURE

	SAMPLES			í.	1		DATE DRILLED	12/18/08	BORING NO.	Appendix	c G (B-2)
set)	SAM	(0	(%)	Y (PCI	بر	ATION	GROUND ELEVATIO	N Not measured	SHEET	<u>1</u>	OF
DEPTH (feet)		BLOWS	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	METHOD OF DRILLI	NG Failing 1250 air-rot	ary drill rig		
DEF	Bulk Driven	Ξ	MOIS	RY DE	Ś	CLAS	DRIVE WEIGHT	140 lbs. (spooling c	able) DROF	>	30"
				ā			SAMPLED BY D		DJF REVIEW	ED BY	EDE
0						GM	<u>NATIVE SOIL</u> : Brown, damp, very de			nd small h	oulders.
		27/6"	24	112.2							
		50/5"	3.4	113.3			Sampler refusal after	11 inches.			
5-	×	50/1"					Sampler refusal after	1 inch.			
							Moist.				
							110100				
10 -		35/6"									
	ΙĂ	55/6 50/2"					Sampler refusal after Total depth = $10.7$ fee				
							Groundwater not enco Backfilled on 12/18/0	ountered during drilli	ng.		
	┼╍┼╍┥						NOTE:				
	$\mathbb{H}$						Groundwater, though due to seasonal variat				
							report.				
15											
15 -											
	$\left  \right $										
20									BORING LO		
		<b>\</b> //	ΠĻ	D	&	MQ	ore	REUNION TRAILS PAI	RK, CASADY HOLLOW A HENDERSON, NEVA		CHAPATA DRIVE
		V				V		302789001	01/09		A-6

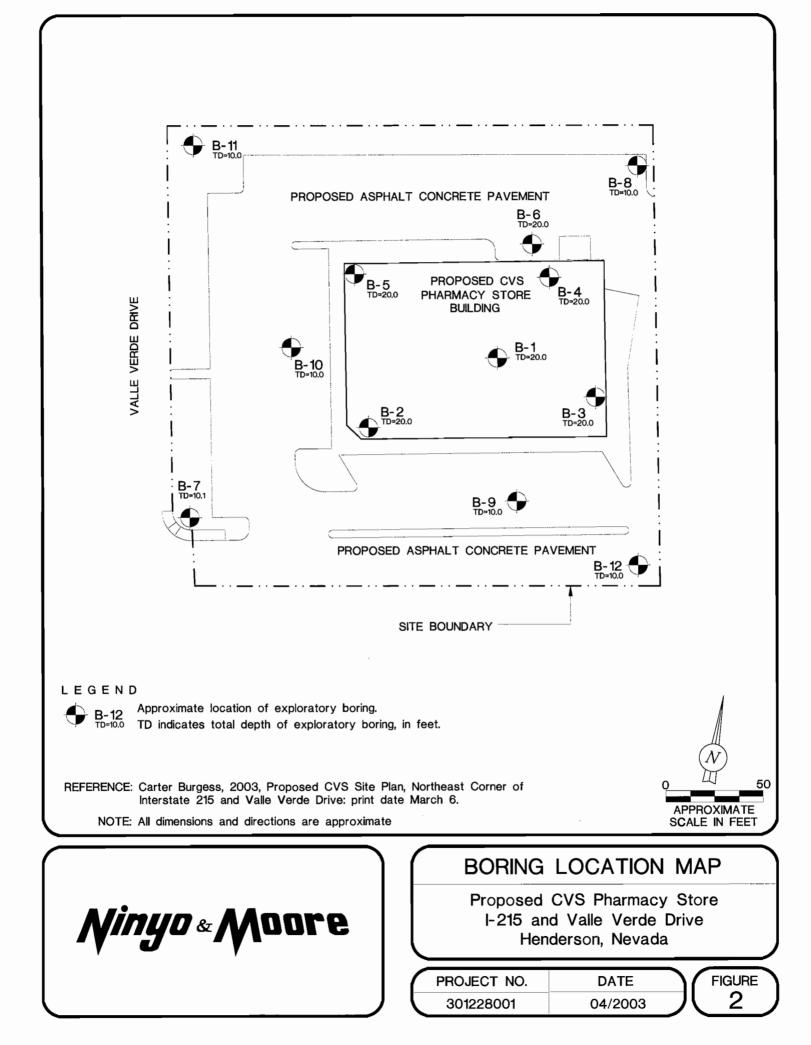
	SAMPLES						DATE DRILLED	2/7/11	BORING NO.	Appendix G (B-3)
et)	SAM		(%)	(PCI	_1	LION	GROUND ELEVATION	Not measured	SHEET	1 OF 3
DEPTH (feet)		BLOWS	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	METHOD OF DRILLIN	IG Mayhew 1000 air-rota	ry drill rig	
DEP.	Bulk Driven	BL	loisi	( DE	sγ	ASS U.	DRIVE WEIGHT	140 lbs. (auto trip hamn	ner) DROP	
	ШĞ		_	DR		0	SAMPLED BYRD			D BY EDE
							PORTLAND CEMEN	DESCRIPTION/IN T CONCRETE:		
							Concrete is approximat	tely 13 to 13-1/2 inche	s thick.	
						SM	<u>FILL</u> : Brown, damp, very der	ise, silty SAND with g	ravel.	
							· · ·			
5-		20161								
		28/6" 48/6" 32/6"	7.5	124.0						
		32/0								
10 -		0.777					Trace clay.			
		27/6" 40/6" 50/6"	8.8	116.1						
		20/0								
15 -							Dense.			
		18/6" 28/6"	7.5	122.8						
		32/6"	1000 And 1000 And 1000 And 1000 And 1000 And 1000 And 1000 And 1000 And 1000 And 1000 And 1000 And 1000 And 100							
	·					:				
.										
20								en and an an an an an an an an an an an an an		
		A <i>li</i> n	, m		& 1	AAn	ore		BORING LOG MPROVEMENTS FOR BRU D INTERSTATE 515, CLA	ICE WOODBURY BELTWAY
		<b>~~</b>	Ð			A Reg		PROJECT NO.	DATE	FIGURE
		•						303175001	4/11	A-13

DEPTH (feet)	SAMPLES	BLOWS	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED <u>2/7/11</u> BORIN GROUND ELEVATION <u>Not measured</u> METHOD OF DRILLING Mayhew 1000 air-rotary drill rig	-	Appendix G (B-3)
DEPT	Bulk Driven	BLC	MOISTI	DRY DEN	SYN	CLASSIF U.S.	DRIVE WEIGHT 140 lbs. (auto trip hammer) SAMPLED BY RDB LOGGED BY RDB	E DROP DROP REVIEWE	
20		34/6" 38/6" 50/6"	7.0	112.5		SM	DESCRIPTION/INTERPRE FILL (continued): Brown, damp, very dense, silty SAND with gravel an	ETATION	
25 -		50/4"					Sampler refusal after 4 inches. Soulder.		
30		20/6" 50/3"	10.1	118.9			ampler refusal after 9 inches.		
35		23/6" 50/4"					ampler refusal after 10 inches.		
40			ng	<b>10</b> 8	₹ /	No	DITE ITS INFRASTRUCTURE IMPROVEME WINDMILL LANE TO INTERSTA PROJECT NO. DAT 303175001 4/1	ATE 515, CLAF	CE WOODBURY BELTWAY,

					1	<u> </u>		T			· · · · ·
	SAMPLES	í	:		Ē			DATE DRILLED	2/7/11	BORING NO.	Appendix G (B-3)
eet)	SAM			(%)	Dd) /		NOIL	GROUND ELEVATIO	DN Not measured	SHEET	OF
DEPTH (feet)	Π		BLOWS	TURE	ASIT)	SYMBOL	IFICA S.C.S	METHOD OF DRILL	ING Mayhew 1000 air-r	otary drill rig	
DEP	Bulk	Driven	BI	MOISTURE (%)	DRY DENSITY (PCF)	ς	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	140 lbs. (auto trip ha	mmer) DROF	30"
					DR		0	SAMPLED BYR	DB LOGGED BY	RDB REVIEW	ED BYEDE
40			22/6" 32/6" 42/6"	3.6	109.5		GP	FILL (continued): Brown, damp, very d	ense, poorly graded (	GRAVEL with sand a	nd boulders.
								Total depth = 41.5 fee Groundwater not ence Backfilled and patche <u>NOTE</u> : Groundwater, though	ountered during drilli ed on 2/7/11.	-	ay rise to a higher level
45 -					5 -						tors as discussed in the
-											
-											
50 -											
55 -						P Printers					
-			****								
-											
			******								
60								······································			·
						er 🖌		npo			UCE WOODBURY BELTWAY,
			▛▆▇	IJ		* /	Ala	ore	WINDMILL LANE PROJECT NO.	TO INTERSTATE 515, CL/ DATE	ARK COUNTY, NEVADA
			T				7		303175001	4/11	A-15

# **APPENDIX H**

I-215 East of I-515 North

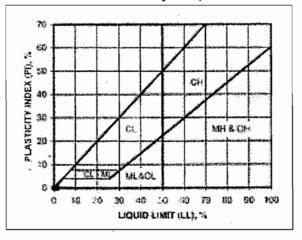


	U.S.C.S. N	AETHOD O	F SOIL CLASSIFICATION
MA	JOR DIVISIONS	SYMBOL	TYPICAL NAMES
		GW	Well graded gravels or gravel-sand mixtures little or no fines
ILS	GRAVELS (More than 1/2 of coarse	GP	Poorly graded gravels or gravel-sand mixtures, little or no fines
ED SOI of soil : size)	fraction > No. 4 sieve size)	GM	Silty gravels, gravel-sand-silt mixtures
LAINF In 1/2 ) sieve		GC	Clayey gravels, gravel-sand-clay mixtures
ARSE-GRAINED SC (More than 1/2 of soi >No. 200 sieve size)		SW	Well graded sands or gravelly sands, little or no fines
COARSE-GRAINED SOILS (More than 1/2 of soil >No. 200 sieve size)	SANDS (More than 1/2 of coarse	SP	Poorly graded sands or gravelly sands, little or no fines
Ŭ	fraction <no. 4="" sieve="" size)<="" td=""><td>SM</td><td>Silty sands, sand-silt mixtures</td></no.>	SM	Silty sands, sand-silt mixtures
		SC	Clayey sands, sand-clay mixtures
		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
SOILS of soil size)	SILTS & CLAYS Liquid Limit <50	CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
NED 1 1/2 o sieve :		OL	Organic silts and organic silty clays of low plasticity
FINE-GRAINED SOILS (More than 1/2 of soil <no. 200="" sieve="" size)<="" td=""><td></td><td>MH</td><td>Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts</td></no.>		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
FINE. (Mo ∧No	SILTS & CLAYS Liquid Limit >50	СН	Inorganic clays of high plasticity, fat clays
_		ОН	Organic clays of medium to high plasticity, organic silty clays, organic silts
HIGH	LY ORGANIC SOILS	Pt	Peat and other highly organic soils

#### CLASSIFICATION CHART (Unified Soil Classification System)

	RANGE OF GRAIN SIZES							
CLASSIFICATION	U.S. Standard Sieve Size_	Grain Size in Millimeters						
BOULDERS	Above 12"	Above 305						
COBBLES	12" to 3"	305 to 76.2						
GRAVEL Coarse Fine	3" to No.4 3" to 3/4" 3/4" to No. 4	76.2 to 4.76 76.2 to 19.1 19.1 to 4.76						
SAND Coarse Medium Fine	No. 4 to No. 200 No. 4 to No. 10 No. 10 to No. 40 No. 40 to No. 200	4.76 to 0.074 4.76 to 2.00 2.00 to 0.420 0.420 to 0.074						
SILT & CLAY	Below No. 200	Below 0.074						
CRAIN SIZE CHART								

GRAIN SIZE CHART



PLASTICITY CHART.

.

*Ninyo* « Moore

U.S.C.S. METHOD OF SOIL CLASSIFICATION

U.S.C.S. CLASSIFICATION CHART.doc

DEPTH (feet)	Bulk SAMPLES	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	BORING LOG EXPLANATION SHEET
0							Bulk sample.
							Modified split-barrel drive sampler.
							No recovery with modified split-barrel drive sampler.
	Ì						Sample retained by others.
5-							Standard Penetration Test (SPT).
	14						No recovery with a SPT.
		XX/XX					Shelby tube sample. Distance pushed in inches/length of sample recovered in inches.
							No recovery with Shelby tube sampler.
							Continuous Push Sample.
			Ş				Seepage.
10 -	+		₽ ₽ ₽				Groundwater encountered during drilling. Groundwater measured after drilling.
			Ŧ				Ground which inclusived uner dimining.
						SM	ALLUVIUM: Solid line denotes unit change.
	<u> </u>						Dashed line denotes material change.
							Attitudes: Strike/Dip
							b: Bedding c: Contact
15 -							j: Joint f: Fracture
							F: Fault cs: Clay Seam
							s: Shear
							bss: Basal Slide Surface sf: Shear Fracture
	┼┼┥						sz: Shear Zone sbs: Sheared Bedding Surface
	$\square$						
20							The total depth line is a solid line that is drawn at the bottom of the boring.
	<u></u>	<u> </u>			•	<u> </u>	BORING LOG
		ŊД	LL!	D	ŝ.		EXPLANATION OF BORING LOG SYMBOLS
		Ţ	Ų			V T	PROJECT NO. DATE FIGURE Rev. 01/03 A-0

	SAMPLES			ίΞ,		7	DATE DRILLED	03/14/2003	BORING NO.	B-1
feet)	SAN	001	E (%)	7 (PC	Ы	ATIOI S.	GROUND ELEVATIO	ON Not measured	SHEET	OF
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	METHOD OF DRILL	ING 6" diameter air-rota	ry	
Ë	Bulk Driven	BLO	MOIS	SY DE	N I	U U	DRIVE WEIGHT	140 lbs.	DROP	30"
				ā		Ũ	SAMPLED BYB		BOM REVIEWE	D BY BDB
0						GP-GM		poorly graded fine a	nd coarse GRAVEL w	ith silt, sand, and
		-					cobbles; scattered cor	ncrete pieces.		
		50/2"	4.9			SW-SM	ALLUVIUM: Brown, damp, very de gravel; slightly cemer Sampler refusal after		e to coarse SAND with	n silt and fine and coarse
5 -		50/3"					Sampler refusal after	3"; few cobbles and	small boulders.	
10 -		2 50/4"					Sampler refusal after	4".		
15 -		50/3"					Sampler refusal after	3".		
20		-					Brown, damp, hard, ( material.	CALICHE; strongly c		rimarily of coarse-grained
					R- 1	<b>A A n</b>	nro		BORING LOC Proposed CVS Pharmacy St	ore
			Ĥ		×		ore	I-215 PROJECT NO.	and Valle Verde Drive, Hender DATE	rson, Nevada FIGURE
		,				,		301228001	04/2003	A-1

	SEL						DATE DRILLED	03/14/2003	BORING NO.	B-1	
et)	SAMPLES	OT	(%)	DRY DENSITY (PCF)		NOIL	GROUND ELEVATIO		SHEET	2 01	2
DEPTH (feet)	$\square$	BLOWS/FOOT	TURE	VSITY	SYMBOL	IFICA S.C.S	METHOD OF DRILLI	NG 6" diameter air-ro	tary		
DEP	Bulk Driven	BLOV	MOISTURE (%)	Y DEI	SΥ	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	140 lbs.	DROF	3	0"
				DR		0	SAMPLED BYBO		Y <u>BOM</u> REVIEW N/INTERPRETATION	ED BY	BDB
20	╞┼╴╪						Total depth = 20.0 fee	et.			
							Groundwater not enco Backfilled on 03/14/2	003.	ling.		
25 -											
23											
	$\left  \right $										
30 -											
	$\left  \right $										
35 -											
55											
	+ + +										
_40_									BORING LO	6	
		Vi			&		ore		Proposed CVS Pharmacy 5 and Valle Verde Drive, Hend	Store	
		V	7	_				PROJECT NO. 301228001	DATE 04/2003	FI	GURE A-2

Image: Construction of the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second	T <u>1</u> OF <u>2</u> P <u>30"</u> VED BY <u>BDB</u>
B       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D       D	P VED BY
0       SAMPLED BY BOM LOGGED BY BOM REVIEWE DESCRIPTION/INTERPRETATION         0       GP-GM         2       50/3"         5       GP-GM         5       Sightly cemented.         5       Sightly cemented.         5       So/5"         5       Sightly cemented.         6       Brown, damp, hard, CALICHE; strongly cemented; composed p material.         10       GP         10       GP         10       GP         10       GP         10       GP	VED BY
0       SAMPLED BY       BOM       LOGGED BY       BOM       REVIEWE         0       DESCRIPTION/INTERPRETATION         0       So/3"       GP-GM       ALLUVIUM: Brown, damp, very dense, poorly graded fine and coarse GRAV cobbles, and small boulders. Sampler refusal after 3".         5       Slightly cemented.         5       Decrease in cementation.         5       So/5"         6       Brown, damp, hard, CALICHE; strongly cemented; composed p material.         10       GP         10       GP         10       GP	VED BY
0       SAMPLED BY       BOM       LOGGED BY       BOM       REVIEWE         0       DESCRIPTION/INTERPRETATION         0       So/3"       GP-GM       ALLUVIUM: Brown, damp, very dense, poorly graded fine and coarse GRAV cobbles, and small boulders. Sampler refusal after 3".         5       Slightly cemented.         5       Decrease in cementation.         5       So/5"         6       Brown, damp, hard, CALICHE; strongly cemented; composed p material.         10       GP         10       GP         10       GP	
0       Sol/3"       GP-GM       ALLUVIUM: Brown, damp, very dense, poorly graded fine and coarse GRAV. cobbles, and small boulders. Sampler refusal after 3".         5       Slightly cemented.         0       Decrease in cementation.         5       Sol/5"         10       GP	VEL with silt, sand,
Brown, damp, hard, CALICHE; strongly cemented; composed p material. 10 10 10 GP Brown, damp, very dense, poorly graded fine and coarse GRAV small boulders; few sand; trace silt; scattered thin moderately ha	
Brown, damp, very dense, poorly graded line and coarse GRAV small boulders; few sand; trace silt; scattered thin moderately ha	primarily of coarse-graine
50/6"     Sampler refusal after 6".	
20 Ningo & Moore PROJECT NO. DATE 301228001 04/2003	

eet) SAMPLES	ЮТ	: (%)	DRY DENSITY (PCF)	. <u> </u>	TION	DATE DRILLED			ORING NO SHEET _		
DEPTH (feet)	BLOWS/FOOT	MOISTURE (%)	ENSIT	SYMBOL	CLASSIFICATION U.S.C.S.	METHOD OF DRILL	ING 6" diameter air-	-rotary			
DEP] Bulk	BLO	MOI	DRY D	0,	CLAS	DRIVE WEIGHT			DROP		
20						SAMPLED BY	DESCRIPT		DM REVIEWEI	) ВҮ 	BDB
20						Total depth = $20.0$ for Groundwater not end Backfilled on $03/14/$	countered during d	rilling.			
	]					Backfilled on 03/14/	2003.				
	-										
	-										
25											
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	M		10 8	&	Mn	ore		Prop	BORING LOG posed CVS Pharmacy Sto lle Verde Drive, Henders	re	
		1					PROJECT NO. 301228001		DATE 04/2003		FIGURE A-4

and begin with the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second s		S										-		
B       0.0       U       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0 </td <td></td> <td>MPLE</td> <td></td> <td>-</td> <td>CF)</td> <td></td> <td>z</td> <td>DATE DRILLED</td> <td></td> <td>03/14/2003</td> <td>BORI</td> <td>NG NO</td> <td></td> <td>B-3</td>		MPLE		-	CF)		z	DATE DRILLED		03/14/2003	BORI	NG NO		B-3
0       SAMPLED BY       DOM       LOGGED BY       DOM       REVIEWED BY       IDA         0       ISM       FILL:       DESCRIPTIONINTERFERENTIATION         0       ISM       FILL:       Brown, damp, dense, silty fine to coarse SAND.         0       ISM       Brown, damp, dense, silty fine and coarse GRAVEL with sand.         0       ISM       GP-GM       ALLUVIUM:         Brown, damp, very dense, poorly graded fine and coarse GRAVEL with silt, sand, and cobbles.       Brown, damp, noderately fine and coarse GRAVEL with sand.         5       ISM       GM       Brown, damp, very dense, silty fine and coarse GRAVEL with sand.         5       ISM       ISM       Brown, damp, very dense, silty fine and coarse GRAVEL with sand.         10       ISM       Brown, damp, wery dense, poorly graded fine and coarse GRAVEL with sand.         10       ISM       ISM       Brown, damp, wery dense, poorly graded fine and coarse GRAVEL with silt, sand, and coarse-grained material.         10       ISM       ISM       ISM       ISM         ISM       ISM       ISM <t< td=""><td>feet)</td><td>SAI</td><td>001</td><td>E (%)</td><td>Υ (P(</td><td>٦٢</td><td>ATIO S.</td><td>GROUND ELEVATION</td><td><u>1</u> NO</td><td>Not measured</td><td></td><td>_ SHEET _</td><td>1</td><td>OF</td></t<>	feet)	SAI	001	E (%)	Υ (P(	٦٢	ATIO S.	GROUND ELEVATION	<u>1</u> NO	Not measured		_ SHEET _	1	OF
0       SAMPLED BY       DOM       LOGGED BY       DOM       REVIEWED BY       IDA         0       ISM       FILL:       DESCRIPTIONINTERFERENTIATION         0       ISM       FILL:       Brown, damp, dense, silty fine to coarse SAND.         0       ISM       Brown, damp, dense, silty fine and coarse GRAVEL with sand.         0       ISM       GP-GM       ALLUVIUM:         Brown, damp, very dense, poorly graded fine and coarse GRAVEL with silt, sand, and cobbles.       Brown, damp, noderately fine and coarse GRAVEL with sand.         5       ISM       GM       Brown, damp, very dense, silty fine and coarse GRAVEL with sand.         5       ISM       ISM       Brown, damp, very dense, silty fine and coarse GRAVEL with sand.         10       ISM       Brown, damp, wery dense, poorly graded fine and coarse GRAVEL with sand.         10       ISM       ISM       Brown, damp, wery dense, poorly graded fine and coarse GRAVEL with silt, sand, and coarse-grained material.         10       ISM       ISM       ISM       ISM         ISM       ISM       ISM <t< td=""><td>TH (</td><td></td><td>WS/F</td><td>STUR</td><td>IISNE</td><td>YMBC</td><td>SIFIC</td><td>METHOD OF DRILL</td><td>ING</td><td>6" diameter air-ro</td><td>tary</td><td></td><td></td><td></td></t<>	TH (		WS/F	STUR	IISNE	YMBC	SIFIC	METHOD OF DRILL	ING	6" diameter air-ro	tary			
0       SAMPLED BY       DOM       LOGGED BY       DOM       REVIEWED BY       IDA         0       ISM       FILL:       DESCRIPTIONINTERFERENTIATION         0       ISM       FILL:       Brown, damp, dense, silty fine to coarse SAND.         0       ISM       Brown, damp, dense, silty fine and coarse GRAVEL with sand.         0       ISM       GP-GM       ALLUVIUM:         Brown, damp, very dense, poorly graded fine and coarse GRAVEL with silt, sand, and cobbles.       Brown, damp, noderately fine and coarse GRAVEL with sand.         5       ISM       GM       Brown, damp, very dense, silty fine and coarse GRAVEL with sand.         5       ISM       ISM       Brown, damp, very dense, silty fine and coarse GRAVEL with sand.         10       ISM       Brown, damp, wery dense, poorly graded fine and coarse GRAVEL with sand.         10       ISM       ISM       Brown, damp, wery dense, poorly graded fine and coarse GRAVEL with silt, sand, and coarse-grained material.         10       ISM       ISM       ISM       ISM         ISM       ISM       ISM <t< td=""><td>DEI</td><td>Bulk Driven</td><td>BLO</td><td>MOIS</td><td>ζΥ DE</td><td>ί Ο</td><td>n CLAS:</td><td>DRIVE WEIGHT</td><td></td><td>140 lbs.</td><td></td><td> DROP _</td><td></td><td>30"</td></t<>	DEI	Bulk Driven	BLO	MOIS	ζΥ DE	ί Ο	n CLAS:	DRIVE WEIGHT		140 lbs.		DROP _		30"
10       Brown, damp, medium dense, silty fine and coarse GRAVEL with sand.         11       GP-GM       ALLUVIUM: Brown, damp, very dense, poorly graded fine and coarse GRAVEL with silt, sand, and cobbles.         12       504"       Brown, damp, Nery dense, silty fine and coarse GRAVEL with sand.         2       504"       Brown, damp, very dense, silty fine and coarse GRAVEL with sand.         3       GM       Brown, damp, very dense, silty fine and coarse GRAVEL with sand.         4       GM       Brown, damp, very dense, silty fine and coarse GRAVEL with sand.         5       GM       Brown, damp, moderately hard, CALICHE; moderately cemented; composed primarily of coarse-grained material.         10       GP-GM       Brown, damp, very dense, poorly graded fine and coarse GRAVEL with silt, sand, and coarse grained material.         10       GP-GM       Brown, damp, very dense, poorly graded fine and coarse GRAVEL with silt, sand, and coarse grained material.         10       GP-GM       Brown, damp, wery dense, poorly graded fine and coarse GRAVEL with silt, sand, and coarse grained material.         10       GP-GM       Brown, damp, wery dense, poorly graded fine and coarse GRAVEL with silt, sand, cobbles.         11       GP-GM       Brown, damp, wery dense, poorly graded fine and coarse GRAVEL with silt, sand, cobbles, and small boulders.         13       GP-GM       Brown, damp, wery dense, poorly graded fine and coarse GRAVEL with silt, sand, c					DF		0	SAMPLED BYB	OM				DBY_	BDB
GM       Brown, damp, dense, silly fine and coarse GRAVEL with sand.         S       GP-GM         ALLUYIUM: Brown, damp, fard, CALICHE; strongly cemented; composed primarily of coarse-grained material.         S       Brown, damp, fard, CALICHE; strongly cemented; composed primarily of coarse-grained material.         Sofe*       GM         Brown, damp, moderately hard, CALICHE; moderately cemented; composed primarily of coarse-grained material.         Intervention       Brown, damp, wery dense, poorly graded fine and coarse GRAVEL with sand.         Sampler refusal after 4*.       Brown, damp, wery dense, poorly graded fine and coarse GRAVEL with silt, sand, and coase-grained material.         Intervention       GP-GM         Brown, damp, moderately bard, CALICHE; moderately cemented; composed primarily of coarse-grained material.         Intervention       GP-GM         Brown, damp, moderately fard, CALICHE; moderately cemented; composed primarily of coarse-grained material.         Intervention       Brown, damp, moderately fard, CALICHE; moderately cemented; composed primarily of coarse-grained material.         Intervention       GP-GM         Brown, damp, wery dense, poorly graded fine and coarse GRAVEL with silt, sand, cobbles, and small boulders.         Intervention       GP-GM         Brown, damp, very dense, poorly graded fine and coarse GRAVEL with silt, sand, cobbles, and small boulders.         Intervention       Brown, damp,	0						SM		m de	nse, silty fine to	o coarse SA	ND.		
Brown, damp, very dense, poorly graded fine and coarse GRAVEL with silt, sand, and cobles. Brown, damp, fard, CALICHE; strongly cemented; composed primarily of coarse-grained material. 5 50/4" Sole" Sole Brown, damp, very dense, silty fine and coarse GRAVEL with sand. Sampler refusal after 4". Brown, damp, moderately hard, CALICHE; moderately cemented; composed primarily of coarse-grained material. 6 GP-GM Brown, damp, very dense, poorly graded fine and coarse GRAVEL with silt, sand, and cobles. Sampler refusal after 6". 8 GP-GM Brown, damp, very dense, poorly graded fine and coarse GRAVEL with silt, sand, and coarse-grained material. 10 GP-GM Brown, damp, very dense, poorly graded fine and coarse GRAVEL with silt, sand, and coarse-grained material. 13 Brown, damp, moderately hard, CALICHE; moderately cemented; composed primarily of coarse-grained material. 14 GP-GM Brown, damp, very dense, poorly graded fine and coarse GRAVEL with silt, sand, and coarse-grained material. 15 Brown, damp, wery dense, poorly graded fine and coarse GRAVEL with silt, sand, cobles, sampler refusal after 6". 8 Brown, damp, wery dense, poorly graded fine and coarse GRAVEL with silt, sand, cobles, and small boulders. 20 BORING LOG Populate (VS Plumas) Store Prouger to VS Plumas) Store Prouger to Datter Prouger Composed primarily of coarse-grained material.		$\left  \right $					GM							
Brown, damp, very dense, poorly graded fine and coarse GRAVEL with silt, sand, and cobles. Brown, damp, fard, CALICHE; strongly cemented; composed primarily of coarse-grained material. 5 50/4" Sole" Sole Brown, damp, very dense, silty fine and coarse GRAVEL with sand. Sampler refusal after 4". Brown, damp, moderately hard, CALICHE; moderately cemented; composed primarily of coarse-grained material. 6 GP-GM Brown, damp, very dense, poorly graded fine and coarse GRAVEL with silt, sand, and cobles. Sampler refusal after 6". 8 GP-GM Brown, damp, very dense, poorly graded fine and coarse GRAVEL with silt, sand, and coarse-grained material. 10 GP-GM Brown, damp, very dense, poorly graded fine and coarse GRAVEL with silt, sand, and coarse-grained material. 13 Brown, damp, moderately hard, CALICHE; moderately cemented; composed primarily of coarse-grained material. 14 GP-GM Brown, damp, very dense, poorly graded fine and coarse GRAVEL with silt, sand, and coarse-grained material. 15 Brown, damp, wery dense, poorly graded fine and coarse GRAVEL with silt, sand, cobles, sampler refusal after 6". 8 Brown, damp, wery dense, poorly graded fine and coarse GRAVEL with silt, sand, cobles, and small boulders. 20 BORING LOG Populate (VS Plumas) Store Prouger to VS Plumas) Store Prouger to Datter Prouger Composed primarily of coarse-grained material.														
3       .       material.         5       .       .         50/4*       .       Brown, damp, very dense, silly fine and coarse GRAVEL with sand.         Sampler refusal after 4*.       .         10       .       Brown, damp, moderately hard, CALICHE; moderately cenented; composed primarily of coarse-grained material.         10       .       .         10       .       .         10       .       .         10       .       .         10       .       .         10       .       .         10       .       .         10       .       .         10       .       .         10       .       .         11       .       .         12       .       .         13       .       .         13       .       .         13       .       .         14       .       .         15       .       .         16       .       .         17       .       .         18       .       .         19       .       .      <			-				GP-GM	Brown, damp, very d	lense,	, poorly graded	fine and co	arse GRAVE	L with	silt, sand, and
2       50/4"       Sampler refusal after 4".         10       Brown, damp, moderately hard, CALICHE; moderately cemented; composed primarily of coarse-grained material.         10       GP-GM       Brown, damp, very dense, poorly graded fine and coarse GRAVEL with silt, sand, and cobles. Sampler refusal after 6".         10       S0/6"       Brown, damp, moderately hard, CALICHE; moderately cemented; composed primarily of cobles. Sampler refusal after 6".         15       GP-GM       Brown, damp, moderately hard, CALICHE; moderately cemented; composed primarily of coarse-grained material.         15       GP-GM       Brown, damp, very dense, poorly graded fine and coarse GRAVEL with silt, sand, and cobles, and small boulders.         20       GP-GM       Brown, damp, very dense, poorly graded fine and coarse GRAVEL with silt, sand, and cobles, and small boulders.         20       Brown, damp, very dense, poorly graded fine and coarse GRAVEL with silt, sand, and cobles, and small boulders.         20       Brown, damp, very dense, poorly graded fine and coarse GRAVEL with silt, sand, and cobles, and small boulders.         20       Brown, damp, very dense, poorly graded fine and coarse GRAVEL with silt, sand, and cobles, and small boulders.         20       Brown dense, bound coarse GRAVEL with silt, sand, and coarse GRAVEL with silt, sand, and cobles, and small boulders.	5 -								<b>CAL</b>	ICHE; strongly	cemented;	composed pri	imarily	of coarse-grained
10       GP-GM       GP-GM       Brown, damp, very dense, poorly graded fine and coarse GRA VEL with silt, sand, and cobles.         50/6"       GP-GM       Brown, damp, moderately hard, CALICHE; moderately cemented; composed primarily of coarse-grained material.         15       GP-GM       Brown, damp, moderately hard, CALICHE; moderately cemented; composed primarily of coarse-grained material.         15       GP-GM       Brown, damp, very dense, poorly graded fine and coarse GRAVEL with silt, sand,         16       GP-GM       Brown, damp, very dense, poorly graded fine and coarse GRAVEL with silt, sand,         20       Brown, damp, very dense, poorly graded fine and coarse GRAVEL with silt, sand,         20       Brown, damp, very dense, poorly graded fine and coarse GRAVEL with silt, sand,         20       Brown, damp, very dense, poorly graded fine and coarse GRAVEL with silt, sand,         20       Brown, damp, very dense, poorly graded fine and coarse GRAVEL with silt, sand,         20       BORING LOG         Propord CVS Pharmacy Store       Propord CVS Pharmacy Store         Propord CVS Pharmacy Store       Propord CVS Pharmacy Store         PROJECT NO.       DATE       FIGURE														
50/6"       Cobbles. Sampler refusal after 6".         15       Brown, damp, moderately hard, CALICHE; moderately cemented; composed primarily of coarse-grained material.         15       Brown, damp, very dense, poorly graded fine and coarse GRAVEL with silt, sand, cobbles, and small boulders.         20       GP-GM         20       Brown, damp, very dense, poorly graded fine and coarse GRAVEL with silt, sand, cobbles, and small boulders.         20       BORING LOG         20       Proposed CVS Pharmacy Store         20       PROJECT NO.         20       DATE	10						<u> </u>			hard, CALICH	(E; moderat	tely cemented	; comp	osed primarily of
15       GP-GM       Brown, damp, very dense, poorly graded fine and coarse GRAVEL with silt, sand, cobbles, and small boulders.         20       BORING LOG         20       Proposed CVS Pharmacy Store         1215 and Valle Verde Drive, Henderson, Nevada       PROJECT NO.         PROJECT NO.       DATE			50/6"				GP-GM	cobbles.		, poorly graded	fine and co	arse GRAVE	L with	silt, sand, and
20       cobbles, and small boulders.         20       Source         20       BORING LOG         Proposed CVS Pharmacy Store       Proposed CVS Pharmacy Store         1:215 and Valle Verde Drive, Henderson, Nevada       PROJECT NO.         PROJECT NO.       DATE	15 -									hard, CALICH	IE; moderat	tely cemented	; comp	osed primarily of
Boring Log           Proposed CVS Pharmacy Store           I-215 and Valle Verde Drive, Henderson, Nevada           PROJECT NO.         DATE							GP-GM				fine and co	oarse GRAVE	L with	silt, sand, — — —
			<b>A</b> # <b>9</b>	-	-									
			<b>N</b> //	Ц		&	Ma	97U			5 and Valle Ver	rde Drive, Henderso		
			•				V -			PROJECT NO. 301228001				FIGURE A-5

et)	SAMPLES	от	(%)	(PCF)		NOL	DATE DRILLED		- —	B-3 2 OF 2
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	VSITY	SYMBOL	CLASSIFICATION U.S.C.S.	METHOD OF DRILLI			
DEP	Bulk Driven	BLOV	MOIS	DRY DENSITY (PCF)	Sγ	SLASS U.	DRIVE WEIGHT	140 lbs.	DROP	30"
						C	SAMPLED BY		BOM REVIEW	ED BY <u>BDB</u>
20							Total depth = 20.0 fee Groundwater not ence	et. Duntered during drilli		
							Backfilled on 03/14/2	003.		
	$\left  \cdot \right $									
25 -										
30 -										
	┼┼┥									
	$\left  \cdot \right $									
	$\left  \right $									
35 -										
_40									BORING LOO Proposed CVS Pharmacy S	
		Y	14		Ý	Μŋ	ore	I-215 PROJECT NO.	and Valle Verde Drive, Hende	erson, Nevada
	_	<u> </u>				•		301228001	04/2003	A-6

	SAMPLES			CF)		7	DATE DRILLED	03/14/2003	BORING NO.	B-4						
eet)	SAA	OOT	E (%)	」 人(Fe	F	ATIO	GROUND ELEVATION	ON Not measured	SHEET	1 OF 2						
DEPTH (feet)		BLOWS/FOOT	- MOISTURE (%)	INSIT	SYMBOL	CLASSIFICATION U.S.C.S.	METHOD OF DRILL	ING <u>6" diameter air-rotary</u>								
DEF	Bulk Driven	BLO	MOIS	DRY DENSITY (PCF)	Ś			140 lbs.	DROP	30"						
				Ω			SAMPLED BYB	DESCRIPTION	BOM REVIEWE	D BY <u>BDB</u>						
0						GP-GM	<u>FILL</u> : Brown, damp, dense,	, poorly graded fine and		th silt and sand.						
						GP	ALLUVIUM: Brown, damp, dense to very dense, poorly graded fine and coarse GRAVEL with cobble									
							few sand; trace silt.	o very hard, CALICHE;		-						
							coarse-grained mater		strongly comenced, v	composed primarily of						
5 -						GP-GM	Brown, damp, dense, and small boulders.	, poorly graded fine and	coarse GRAVEL wi	th silt, sand, cobbles,						
							Brown, damp, hard to coarse-grained mater	o very hard, CALICHE;	strongly cemented;	composed primarily of						
							Jourse Brunier mater									
							Brown damp dense	, poorly graded fine and	COarse GRAVEL wi	th silt sand cobbles						
						GP-GM	and small boulders.									
							Brown, damp, moder coarse-grained mater		moderately cemented	l; composed primarily of						
10 -																
			L				5		<b>.</b>							
						GM	Brown, damp, dense,	, silty fine and coarse G	RAVEL with sand an	id cobbles.						
15 -							Brown damp model	rately hard CALCHE.	moderately comented	I; composed primarily of						
							coarse-grained mater		moderatery comented	, composed primarily of						
	$\left  \right $						Hard; strongly cemented.									
20						GP-GM	Brown, damp, dense, and small boulders.	, poorly graded fine and	coarse GRAVEL wi	th silt, sand, cobbles,						
		a 79							BORING LOG							
		V/	14		ŝ.	Mu	ore	I-215 and	Proposed CVS Pharmacy Sto d Valle Verde Drive, Henders	son, Nevada						
								PROJECT NO. 301228001	DATE 04/2003	FIGURE						

	1										
DEPTH (feet) ulk SAMPLES	S/FO	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED GROUND ELEVA	TION Not	measured		NG NO SHEET2	
DEPT Bulk Driven	BLOW	LSION	Y DEN	SY	LASSI U.S	DRIVE WEIGHT		140 lbs.		DROP	30"
	5 _	~	DR		ö	SAMPLED BY	BOM	LOGGED BY	BOM	_ REVIEWED BY	BDB
20						SAMPLED BY Total depth = 20.0 Groundwater not e Backfilled on 03/1	feet.		INTERPRI	_ REVIEWED BY	BDB
30	-										
35											
				e I		nro			Proposed C	ING LOG	
		9		^/		ore		OJECT NO.	DA	de Drive, Henderson, Nev	FIGURE
							30	1228001	04/2	2003	A-8

												_			
	et) SAMPLES OT (%) (PCF)					7	DATE DRILLED	03/14/2003	BORI	NG NO	_	B-5			
eet)	SAN	001	(%)	Y (PC	<u>ب</u>	CLASSIFICATION U.S.C.S.	GROUND ELEVATION	ON Not measured		SHEET	1	_ OF	2		
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	INSIT	SYMBOL	SIFIC/	METHOD OF DRILL	ING <u>6" diameter air-ro</u>	ary						
DEF	Bulk Driven	BLO	MOIS	DRY DENSITY (PCF)	Ś	U U	DRIVE WEIGHT	140 lbs.		DROP		30"			
				ä			SAMPLED BYB				D BY	BDE	3		
0	╞╞╾					GP-GM	FILL:	DESCRIPTION							
							Brown, damp, dense,	, poorly graded fine a	nd coarse	GRAVEL wi	th silt	and sand			
						GP-GM	ALLUVIUM: Brown, damp, very d boulders; few sand; t	dense, poorly graded fine and coarse GRAVEL with cobbles and							
		50/2"					Sampler refusal after		ioniou.						
5-															
							Brown, damp, hard, o material.	CALICHE; strongly	cemented;	composed pr	imaril	y of coar	se-grained		
	$\left  \right $														
									<u> </u>		<del></del>				
						GP-GM	Brown, damp, very d cobbles, and small be		tine and co	barse GRAVE	L wit	h silt, san	id,		
10 -		50/1"					Sampler refusal after	1".							
15 -		50/5"					Sampler refusal after	5".							
					1997.1				BOR						
		MÌ	$n_{i}$	10 8	Se	MO	ore	1-21	Proposed	CVS Pharmacy Sto rde Drive, Henders	re	ada			
		V	J			<b>V</b>		PROJECT NO. 301228001	1	ATE /2003		FIGURE A-9			
_					_										

	SAMPLES			(L			DATE DRILLED	03/1	4/2003	BORING	10	B-5		
set)	SAM	Ю	E (%)	DRY DENSITY (PCF)	ب ا	NULL	GROUND ELEVATIO	DN <u>Notn</u>	neasured	s	SHEET 2	OF		
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	NSIT	SYMBOL	CLASSIFICATION U.S.C.S.	S.C.S	IFICA S.C.S	METHOD OF DRILLI	ING <u>6" d</u>	iameter air-rotary			
DEF	Bulk Driven	BLO	MOIS	۲ DE	S		DRIVE WEIGHT		140 lbs.		DROP	30"		
				ă		0	SAMPLED BYBO		OGGED BY			BDB		
20							Total depth = 20.0 fee Groundwater not enco	et.						
	$\left  - \right $						Backfilled on 03/14/2			•				
25 -														
30 -														
30-														
	$\left  \left  \right  \right $													
35 -														
	$\left  \right $													
	+													
_ 40							<b>_</b>							
<i>Ninyo &amp; M</i> oore								BORING LOG Proposed CVS Pharmacy Store I-215 and Valle Verde Drive, Henderson, Nevada						
									JECT NO. 228001	DATE 04/2003		FIGURE A-10		

	SAMPLES	т	(%)	°CF)		NO	DATE DRILLED 03/14/2003 BORING NO. B-6
DEPTH (feet)	S 	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	GROUND ELEVATION Not measured       SHEET 1       OF 2         METHOD OF DRILLING 6" diameter air-rotary
DEPT	Bulk Driven	BLOW	MOIST	Y DEN	SΥΛ	LASSII U.S	DRIVE WEIGHT140 lbs DROP30"
				DR		0	SAMPLED BY <u>BOM</u> LOGGED BY <u>BOM</u> REVIEWED BY <u>BDB</u> DESCRIPTION/INTERPRETATION
0						GP-GM	
						GP	ALLUVIUM: Brown, damp, dense to very dense, poorly graded fine and coarse GRAVEL with cobbles few sand; trace silt.
							Brown, damp, hard to very hard, CALICHE; strongly cemented; composed primarily of coarse-grained material.
5-						GP	Brown, damp, dense, poorly graded fine and coarse GRAVEL with cobbles and small – boulders; few sand; trace silt.
-							
-							
10 -	-						
					11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
15 -							
-							
-							Brown, damp, hard to very hard, CALICHE; strongly cemented; composed primarily of coarse-grained material.
20						GP	Brown, damp, dense, poorly graded fine and coarse GRAVEL with cobbles and small
					0	4 A m	BORING LOG Proposed CVS Pharmacy Store
		<b>V</b> Z	4		×		Proposed CVS Pharmacy Store I-215 and Valle Verde Drive, Henderson, Nevada PROJECT NO. DATE FIGURE
		•				•	<u>301228001</u> 04/2003 <u>A-11</u>

	LES						DATE DRILLED	03/	14/2003	BORING NO.		- B-6	
(t)	SAMPLES	10	(%)	DRY DENSITY (PCF)		NOI	GROUND ELEVA				ET 2		2
DEPTH (feet)	Ť	BLOWS/FOOT	MOISTURE (%)	SITY	SYMBOL	CLASSIFICATION U.S.C.S.	METHOD OF DRI					_ 0, _	
DEPT	Bulk Driven	ROW	OISTI	DEN	SYN	ASSIF U.S	DRIVE WEIGHT				OP	30"	
	<u>D</u>	Ш	ž	DRY		СГ	SAMPLED BY						2
20									ESCRIPTION/IN	TERPRETATION			,
20							boulders; few sand Total depth = $20.0$	feet.					
							Groundwater not en Backfilled on 03/14		during drilling				
25 -	[]												
30 -													
	$\left  \right $												
	$\left  \right $												
35 -													
40											00		
					& I	AAn	ore	BORING LOG Proposed CVS Pharmacy Store					
			9		~				JECT NO.	Valle Verde Drive, H	enderson, Ne	FIGURE	:
		,				,		30	1228001	04/2003		A-12	

	ËS									
	SAMPLES	⊢	()	CF)		N		03/14/2003		
(feet)	∂ 	F00.	RE (%	II X (I	ğ	CATIC	GROUND ELEVATI			OF
DEPTH (feet)	E	BLOWS/FOOT	MOISTURE (%)	ENSI	SYMBOL	CLASSIFICATION U.S.C.S.	METHOD OF DRILL	ING 6" diameter air-rotary	/	
ä	Bulk Driven	BLO	MO	DRY DENSITY (PCF)		CLAS	DRIVE WEIGHT	140 lbs.	DROP	30"
							SAMPLED BYB		BOM REVIEWE	ED BY <u>BDB</u>
0						GP	FILL:			
						GP	trace silt.	, poorly graded fine and	COARSE GRAVEL W	ith cobbles; few sand;
-		50/4"				0	ALLUVIUM: Brown, damp, very d small boulders; few s	lense, poorly graded fin sand: trace silt.	e and coarse GRAV	EL with cobbles and
							Sampler refusal after	4".		
	T									
-										
5-										
	K	50/3"					Sampler refusal after	3".		
					  		Brown, damp, hard, o material.	CALICHE; strongly cer	mented; composed p	rimarily of coarse-grained
					4.4	GP		ense, poorly graded fin	e and coarse GRAV	EL with cobbles and
							boulders; few sand; t	race siit.		
10-		ر 50/2" ر						- 21		
							Sampler refusal after Total depth = $10.1$ fe	et.		
							Backfilled on 03/14/2	countered during drillin 2003.	g.	
	+									
	+									
15-										
	+									
-	+									
.20										
		. //	<b>5</b>						BORING LOC Proposed CVS Pharmacy St	
		<b>V</b> /	Ц		Ý	Λſ	ore	I-215 ar PROJECT NO.	DATE	
		٧				·		301228001	04/2003	A-13

	S												
	SAMPLES		_	CF)		Z	DATE DRILLED			NG NO		B-8	
(feet)	SA	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	OL	CLASSIFICATION U.S.C.S.	GROUND ELEVATIO	ON Not measured		_ SHEET _	1	_ OF	1
DEPTH (feet)		WS/	STUF	ENS!	SYMBOL	SIFIC J.S.C	METHOD OF DRILL	ING 6" diameter air-	rotary				
B	Bulk	BLG	NOM	RYD		CLAS	DRIVE WEIGHT	140 lbs		DROP _		30"	
Ì							SAMPLED BYB		BY <u>Bom</u> On/Interpr		DBY	BDB	
0	Ħ					GP-GM	<u>FILL</u> : Brown, damp, dense,				h silt	and sand	
	$\left  \right $					GP	ALLUVIUM:						
		_					Brown, damp, dense, trace silt.						
							Brown, damp, hard, C material.	CALICHE; strongl	y cemented;	composed pri	marily	of coarse	e-grained
	$\left  \right $	-											
5-													
		+	<u>+</u>			GP-GM	Brown, damp, very d cobbles, and small bo		d fine and co	arse GRAVE	L witł	n silt, sar	nd, — — —
	$\left  \right $	1											
	$\square$	-											
10 -							Total depth = 10.0 fe Groundwater not enc		illing	_			
	+	-					Backfilled on 03/14/2						
		-											
		1											
15 -	$\left\{ + \right\}$												
		-											
		1											
	$\left  \right $	-											
20													
					R- 1	<b>A</b> An	nro		Proposed	CVS Pharmacy Stor	re		
			4		*	AL	ore	I- PROJECT NO.		rde Drive, Henderse	on, Neva	Ida FIGURE	
		· · ·				٧		301228001		/2003		<u>A-14</u>	

				03/14/2003	BORING NO.	B-9
et) SAMPLES OT	MOISTURE (%) DRY DENSITY (PCF)	NO	GROUND ELEVATIO			1 OF 1
DEPTH (feet) Julk SA riven BLOWS/FOOT	MOISTURE (%)	SYMBOL CLASSIFICATION U.S.C.S.		.ING 6" diameter air-rotary		
DEPTF Bulk Driven BLOWS	DEN	SYM ASSIF U.S.		140 lbs.		30"
	DRY M	CL/				
				LOGGED BY DESCRIPTION/IN		D BYBDB
		GP GP	ALLUVIUM: Brown, damp, very d small boulders; few s		e and coarse GRAVE	EL with cobbles and
				countered during drilling		
	nyo	£ Мп	ore	L-215 on	BORING LOG Proposed CVS Pharmacy Sto d Valle Verde Drive, Henders	ore
▏▝▝	-J-			PROJECT NO.	DATE 04/2003	FIGURE
				301228001		<u>A-15</u>

et) SAMPLES			(F)		7	DATE DRILLED 03/14/2003 BORING NO. B-10	
feet) SAM	001	MOISTURE (%)	DRY DENSITY (PCF)	Ы	CLASSIFICATION U.S.C.S.	GROUND ELEVATION Not measured SHEET 1 OF	
DEPTH (feet)	BLOWS/FOOT	STUR	ENSIT	SYMBOL	SIFIC J.S.C.	METHOD OF DRILLING 6" diameter air-rotary	
DEP Driven	BLO	MOI	RY Di	S	ר כראצ	DRIVE WEIGHT140 lbs. DROP30	,,,,
					_	SAMPLED BY BOM LOGGED BY BOM REVIEWED BY DESCRIPTION/INTERPRETATION	BDB
0					GP	ALLUVIUM: Brown, damp, very dense, poorly graded fine and coarse GRAVEL with cob	bles and
║╴┦┓						boulders; few sand; trace silt.	
	-						
	50/5"					Sampler refusal after 5".	
			L				
					SW-SM	Brown, damp, very dense, well-graded fine to coarse SAND with silt and fin	e gravel.
5-	50/5"	7.2				Sampler refusal after 5".	
║╴┍╇	+			<u> </u>		Brown, damp, hard to very hard, CALICHE; strongly cemented; composed p coarse-grained material.	primarily of
	-					Coalse-granied material.	
	L	<u> </u>				Brown, damp, very dense, poorly graded fine and coarse GRAVEL with cob	bles and
					GP	boulders; few sand; trace silt.	
10				• •		Total depth = 10.0 feet. Groundwater not encountered during drilling.	
	-					Backfilled on 03/14/2003.	
15	-						
	-						
	_						
_20							
				&		BORING LOG Proposed CVS Pharmacy Store L215 pro Valle Varia Drive Mandereen Navada	
	▝▝					Proposed CVS Pharmacy Store I-215 and Valle Verde Drive, Henderson, Nevada PROJECT NO. DATE FIL	GURE
	•				•		A-16

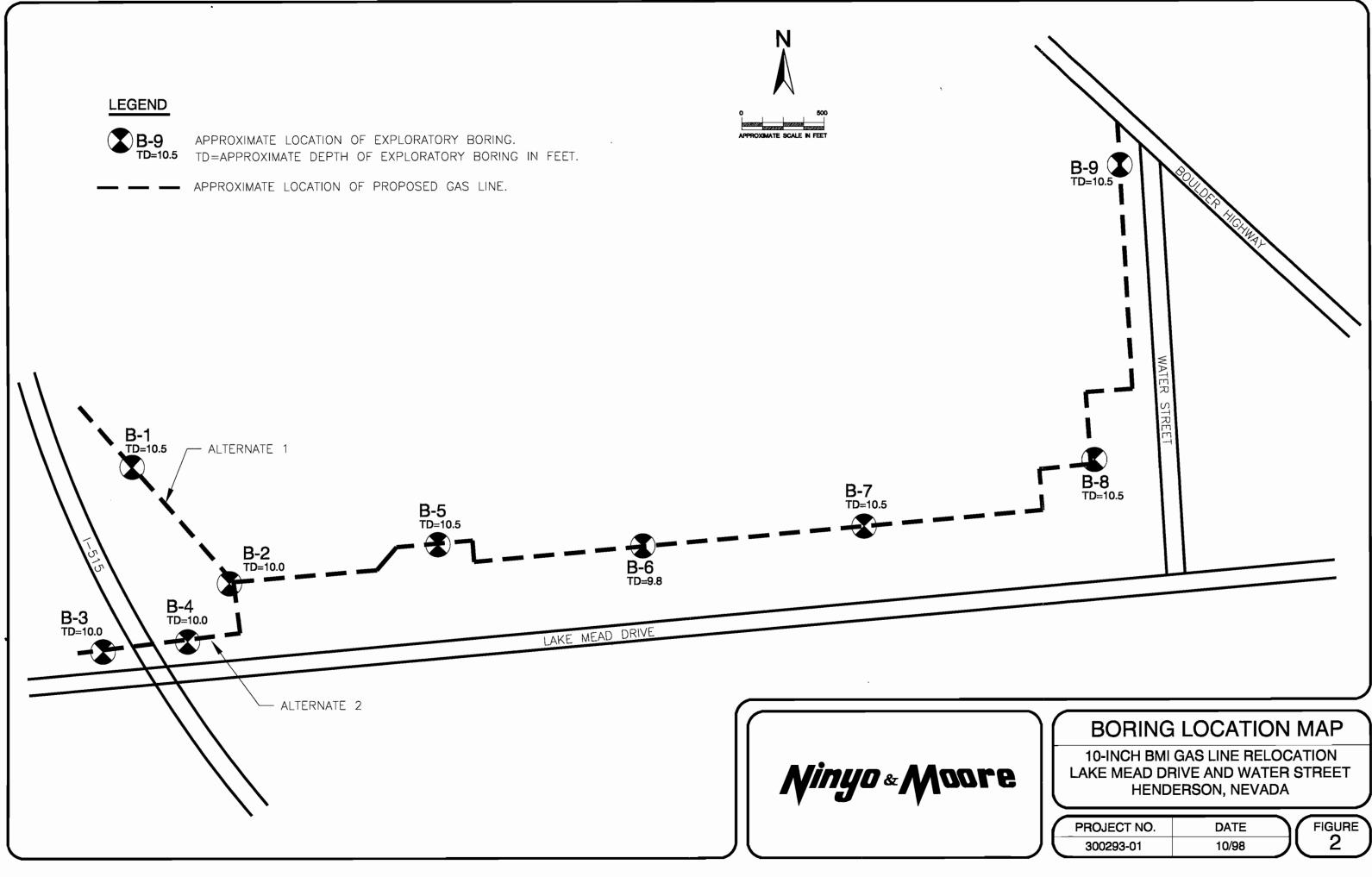
DEPTH (feet)	Bulk SAMPLES	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED       03/14/2003       BORING NO.       B-11         GROUND ELEVATION       Not measured       SHEET       1       OF       1         METHOD OF DRILLING       6" diameter air-rotary       DROP       30"         DRIVE WEIGHT       140 lbs.       DROP       30"         SAMPLED BY       BOM       LOGGED BY       BOM       REVIEWED BY       BDB
5 -		84/11"				GP-GM	FILL:         Brown, damp, medium dense, poorly graded fine and coarse GRAVEL with silt, sand, and cobbles.         ALLUVIUM:         Brown, damp, very dense, poorly graded fine and coarse GRAVEL with cobbles and boulders; few sand; trace silt.         Sampler refusal after 17".         Slightly cemented.         Decrease in cementation.         Sampler refusal after 4".         Total depth = 10.0 feet.         Groundwater not encountered during drilling.         Backfilled on 03/14/2003.
		Vi	ny		Sz	Ma	BORING LOG           Proposed CVS Pharmacy Store           I-215 and Valle Verde Drive, Henderson, Nevada           PROJECT NO.         DATE           FIGURE
		,				,	301228001 04/2003 A-17

LES	<u> </u>		DATE DRILLED	03/14/2003	BORING NO.	B-12
et) SAMPLES OT (%)	PCF	LION		ON Not measured		1OF1
DEPTH (feet) julk SA iven SA iven MONS/FOOT MOISTURE (%	DENSITY ( SYMBOL	IFICA S.C.S.	METHOD OF DRILLI	NG 6" diameter air-rotary		
DEPTH (feet) Bulk SAN Driven SAN BLOWS/FOOT MOISTURE (%)	DRY DENSITY (PCF) SYMBOL	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	140 lbs.	DROP	30"
	DR	0	SAMPLED BYBO		BOM REVIEWE	D BY BDB
		GW-GM	and small boulders.		nd coarse GRAVEL	with silt, sand, cobbles,
			Total depth = 10.0 fe Groundwater not enc Backfilled on 03/14/2	ountered during drilling	g.	
Niny	0&	Ma	ore	I-215 ar PROJECT NO.	BORING LOC Proposed CVS Pharmacy St ad Valle Verde Drive, Hender DATE	tore
		V		301228001	04/2003	

## **APPENDIX I**

I-215 East of I-515 North





DEPTH (feet)	Bulk SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED       09/08/98       BORING NO.       B-1         GROUND ELEVATION       Not Measured       SHEET       1       OF       1         METHOD OF DRILLING       6" Diameter Air-Rotary       DROP       30"         DRIVE WEIGHT       320 lbs.       DROP       30"         SAMPLED BY       BOM       LOGGED BY       BOM       REVIEWED BY       BDB         DESCRIPTION/INTERPRETATION       DROP       30"       30"
0		56				SW-SM	ALLUVIUM: Dark brown, dry, dense to very dense, well-graded fine to coarse SAND with silt and gravel; a few cobbles and small boulders; some gravel slightly encrusted with gypsum. Slightly cemented layer approximately 1.5 feet thick. Sampler refusal after 12".
5 -		52	7.4	112.4		SP-SM	Dark brown, damp, very dense, poorly graded fine to coarse SAND with silt and gravel; a few cobbles. Sampler refusal after 12".
10 -		44	6.8	124.3		GP/SP	Dark brown, damp, dense, poorly graded fine to coarse GRAVEL with sand to SAND with gravel; trace silt.
							Total Depth = 10.5 feet. No caving. No groundwater encountered. Backfilled on 09/08/98.
15 -							
20 -							
			ng	0	£		BORING LOG           10-Inch BMI Gas Line Relocation           Lake Mead Drive and Water Street, Henderson, Nevada           PROJECT NO.         DATE           300293-01         10/98

DEPTH (feet)	Bulk SAMPLES	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED GROUND ELEVATION METHOD OF DRILLIN DRIVE WEIGHT SAMPLED BYBO	N <u>Not Measured</u> NG <u>6" Diameter Air-Ro</u> 320 lbs.	SHEET DROP REVIEWE	OF 
0						GP-GM	FILL: Brown, dry, medium	dense, poorly graded	fine to coarse GRA	VEL with silt
5 -		32 50/5"	3.4	115.7		GP-GM	Brown, dry, medium and sand; a few cobb <u>ALLUVIUM</u> : Brown, dry, medium with silt and sand; a Sampler refusal after Moderately hard, mo Slightly cemented; in Total Depth = 10.0	dense to dense, poorl few cobbles. 5"; slightly cemented oderately cemented gra	y graded fine to coa	rse GRAVEL
20 -										
					ىھ		nne		ORING LO	
			5	υ			_oore	Lake Mead Dri PROJECT NO.	ve and Water Street, H DATE	enderson, Nevada FIGURE
								300293-01	10/98	A-2

DEPTH (feet) Bulk SAMPLES Driven SAMPLES BLOWS/FOOT MOISTURE (%)	DRY DENSITY (PCF) SYMBOL CLASSIFICATION U.S.C.S.	DATE DRILLED       09/14/98       BORING NO.       B-3         GROUND ELEVATION       Not Measured       SHEET       1       OF       1         METHOD OF DRILLING       6" Diameter Air-Rotary       DROP       30"         DRIVE WEIGHT       320 lbs.       DROP       30"         SAMPLED BY       BOM       LOGGED BY       BOM       REVIEWED BY       BDB         DESCRIPTION/INTERPRETATION       DESCRIPTION/INTERPRETATION       DESCRIPTION/INTERPRETATION
	GP-GM	FILL:         Light brown, dry, medium dense to dense, poorly graded fine to coarse         GRAVEL with silt and sand; a few cobbles.         Medium dense.
	GP-GM	ALLUVIUM: Light brown, dry, dense, poorly graded fine to coarse GRAVEL with silt and sand. Sampler refusal after 6". Total Depth = 10.0 feet. No caving. No groundwater encountered. Backfilled on 09/14/98.
	<i>10 &amp; M</i>	Boring Log         10-Inch BMI Gas Line Relocation         Lake Mead Drive and Water Street, Henderson, Nevada         PROJECT NO.       DATE         PROJECT NO.       DATE         300293-01       10/98

DEPTH (feet) Bulk SAMPLES Driven BLOWS/FOOT	MOISTURE (%) DRY DENSITY (PCF)	CLASSIFICATION U.S.C.S.	DATE DRILLED       09/14/98       BORING NO.       B-4         GROUND ELEVATION       Not Measured       SHEET       1       OF       1         METHOD OF DRILLING       6" Diameter Air-Rotary       DROP       30"         DRIVE WEIGHT       320 lbs.       DROP       30"         SAMPLED BY       BOM       LOGGED BY       BOM       REVIEWED BY       BDB         DESCRIPTION/INTERPRETATION       DROP       30"       30"
0 37 5 38/6"		GP-GM SW-SM	FILL: Light brown, dry, medium dense to dense, poorly graded fine to coarse GRAVEL with silt and sand; a few pieces of asphalt.
			Total Depth = 10.0 feet. No caving. No groundwater encountered. Backfilled on 09/14/98.
	nyoe		Borng Log         10-Inch BMI Gas Line Relocation         Lake Mead Drive and Water Street, Henderson, Nevada         PROJECT NO.       DATE         300293-01       10/98

O DEPTH (feet)	Bulk SAMPLES	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED       09/08/98       BORING NO.       B-5         GROUND ELEVATION       Not Measured       SHEET       1       OF       1         METHOD OF DRILLING       6" Diameter Air-Rotary       DROP       30"       30"         DRIVE WEIGHT       320 lbs.       DROP       30"       SAMPLED BY       BOM       LOGGED BY       BOM       REVIEWED BY       BDB         FILL:         Dark brown, damp, dense, poorly graded fine to coarse SAND with gravel;
	X	20	8.2			SW-SM	trace silt. <u>ALLUVIUM</u> : Dark brown, damp, medium dense, well-graded fine to coarse SAND with silt and gravel.
		39/10"	8.5	107.4		GP-GM SM	Dark brown, damp, dense to very dense, poorly graded fine to coarse GRAVEL with silt and sand. Sampler refusal after 16". Light brown, damp, dense, silty fine to coarse SAND; few gravel.
10		37	7.6	110.2			Total Depth = 10.5 feet. No caving. No groundwater encountered. Backfilled on 09/08/98.
15							
							BORING LOG
		Vi	Ŋ	0	æ		DORING LOG           10-Inch BMI Gas Line Relocation           Lake Mead Drive and Water Street, Henderson, Nevada           PROJECT NO.         DATE           300293-01         10/98

DEPTH (feet)	SAMPLES	BLOWS/FOOT	MOISTURE (%)	DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	GROUND ELEVATION METHOD OF DRILLI	09/14/98 DN <u>Not Measured</u> ING <u>6" Diameter Air-R</u>	SHEET	OF
DEP'	Bulk Driven	BLOV	MOIS	DRY DEI	SΥ	CLASS		320 lbs. OM LOGGED BY		
0						GP-GM	<u>FILL</u> : Light brown, dry, n GRAVEL with silt a	nedium dense to dense and sand; a few pieces	, poorly graded fine	to coarse
5		22 30/2"	7.4	98.4		GP-GM	silt and sand.	nedium dense, poorly g	-	e GRAVEL with
-		30/4"	5.6	109.1			Sampler refusal afte			
10 -							Total Depth = 9.8 No caving. No groundwater end Backfilled on 09/14			
20 -										
			) <b>78</b> //		ىھ		Inro		ORING L	
			9				ore_		DATE 10/98	

DEPTH (feet) Bulk SAMPLES Driven BLOWS/FOOT	MOISTURE (%) DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	GROUND ELEVATION METHOD OF DRILL DRIVE WEIGHT	09/08/98 DN Not Measured ING <u>6" Diameter Air-Ro</u> 320 lbs. OM LOGGED BY	Dtary DROP BOM REVIEWE	1OF1
	8.1 110. 7.4 114.		SP/GP SM	SAND with gravel ALLUVIUM:	medium dense to dens to fine to coarse GRAV dense to very dense, f	EL with sand; trace	silt.
	8.1 103.	5		Total Depth = 10.5 No caving. No groundwater en Backfilled on 09/08	countered.		
	nyo	æ	M	ore	10-I	ORING LC nch BMI Gas Line Relo ve and Water Street, He DATE 10/98	cation

DEPTH (feet) Bulk SAMPLES Driven BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED       09/08/98       BORING NO.       B-8         GROUND ELEVATION       Not Measured       SHEET       1       OF       1         METHOD OF DRILLING       6" Diameter Air-Rotary       DROP       30"         DRIVE WEIGHT       320 lbs.       DROP       30"         SAMPLED BY       BOM       LOGGED BY       BOM       REVIEWED BY       BDB
0				SM	DESCRIPTION/INTERPRETATION           FILL:           Dark brown, down, medium darges to denos, siltu fine to course SAND, form
				SP-SM	Dark brown, damp, medium dense to dense, silty fine to coarse SAND; few gravel.
					Dark brown, damp, medium dense to dense, poorly graded fine to coarse SAND with silt and gravel; slightly gypsiferous.
30	8.5	118.6			
5					Dense to very dense.
55	9.8	104.5			
		112.4			
10 50	7.7	113.4			
					Total Depth = $10.5$ feet. No caving. No groundwater encountered.
					Backfilled on 09/08/98.
15					
	·				BORING LOG
	74		8L	M	10-Inch BMI Gas Line Relocation Lake Mead Drive and Water Street, Henderson, Nevada
				<b>-</b>	PROJECT NO.         DATE         FIGURE           300293-01         10/98         A-8

DEPTH (feet) Bulk SAMPLES	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED       09/08/98       BORING NO.       B-9         GROUND ELEVATION       Not Measured       SHEET       1       OF       1         METHOD OF DRILLING       6" Diameter Air-Rotary       DROP       30"         DRIVE WEIGHT       320 lbs.       DROP       30"         SAMPLED BY       BOM       LOGGED BY       BOM       REVIEWED BY       BDB         DESCRIPTION/INTERPRETATION       DROP       30"       30"
0					SW-SM	
	30/3"				SW-SM	Dark brown, damp, medium dense to dense, well-graded fine to coarse SAND with silt and gravel; a few cobbles and small boulders. Sampler refusal on small boulder at 3'.
	29	6.3	102.5		SM	Approximate 3" thick layer of fine to coarse gravel with sand. Dark brown, damp, medium dense to dense, silty fine to coarse SAND; few gravel and cobbles; gravel slightly to moderately encrusted with gypsum.
10	47	5.3	114.5			Total Depth = $10.5$ feet.
15						No caving. No groundwater encountered. Backfilled on 09/08/98.
20						
				er .		<b>BORING LOG</b> 10-Inch BMI Gas Line Relocation Lake Mead Drive and Water Street, Henderson, Nevada PROJECT NO
		3				Lake Mead Drive and Water Street, Henderson, Nevada           PROJECT NO.         DATE         FIGURE           300293-01         10/98         A-9

## **Atlas Chemical Testing Laboratories**

2120 Western Avenue, Suite C-6 • Las Vegas, Nevada 89102 (702) 383-1199 • Fax (702) 383-4983

CHEMICAL PHYSICAL FORENSIC

.1

member of AMERICAN SOCIETY FOR TESTING MATERIALS

ACT LAB NO: 8525(a) **PROJECT NO:** 300293-01 **ANALYZED BY:** 

DATE: September 27, 1998

**P.O.:** 

WATER SOLUBLE SALT ANALYSIS IN SOIL

1:5 (soil:water) Aqueous Extraction

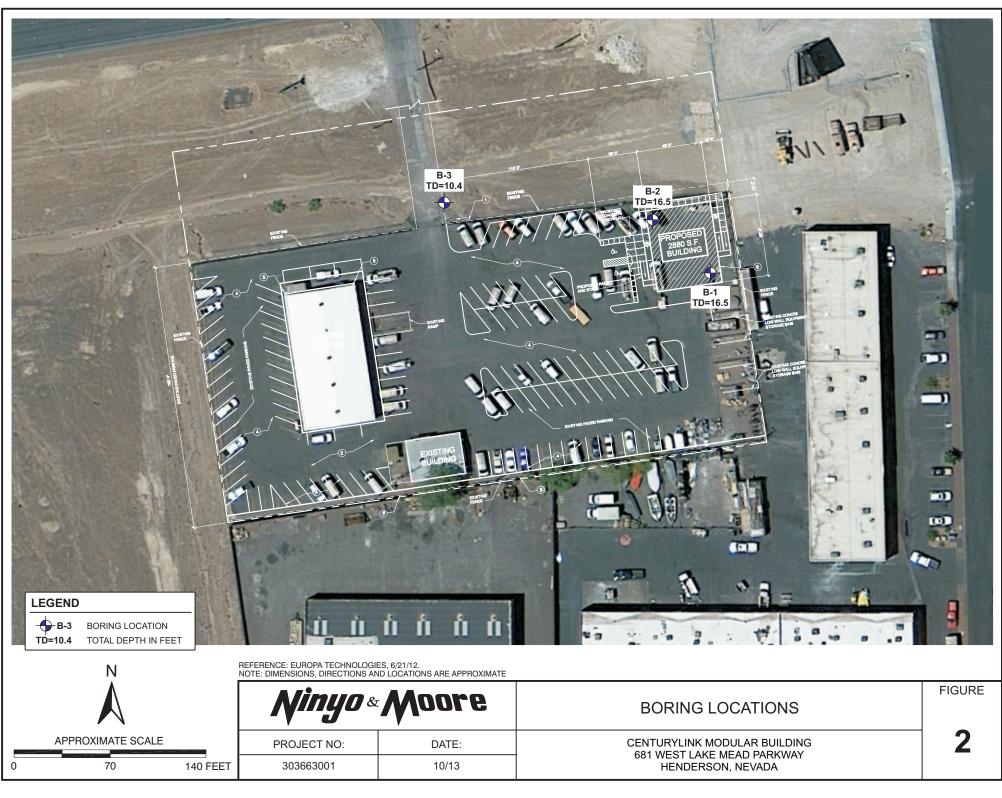
AWWA 3500-Na D., ASTM D 516

Sample No.	Location	Depth (Feet)	Sodium (Percent)	Water Soluble Sulfate (SO₄) (Percent)	Total Available Water Soluble Sodium Sulfate(Na₂SO₄) (Percent)
	B-5 B-9	2-6 0-4	0.07 0.07	0.02	0.03 0.06

Notes: The results for each constituent denote the percentage of that analyte, at a 1:5 (soil:water) extraction ratio, which is present in the soil. Sodium was determined by flame photometry, sulfate turbidimetrically, and sodium sulfate by calculation.

## **APPENDIX J**

I-215 East of I-515 - South



[	S		[	l	1		
	SAMPLES			Ĺ.		-	DATE DRILLED         9/26/13         BORING NO.         B-1
(eet	SAN	001	E (%)	Y (PC	2	ATION.	GROUND ELEVATION Not Measured SHEET1_ OF1
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	SIFIC,	METHOD OF DRILLING CME 75 hollow-stem auger drill rig
DEF	Bulk Driven	BLO	MOIS	SY DE	0	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT 140 lbs. (auto trip hammer) DROP 30"
				E E			SAMPLED BY LOGGED BY REVIEWED BY
0							ASPHALT CONCRETE:
						GP-GM	Unit is approximately 4-1/2 to 5 inches thick.
-						SM	FILL MATERIAL: Brown, damp, dense, poorly graded GRAVEL with silt and sand (base material); unit is
							approximately 8 inches thick.
		6/6"					<u>NATIVE SOIL</u> : Brown, damp, medium dense, silty SAND; trace gravel.
-		11/6" 13/6"	6.9	105.1			
-							
5-							
		6/6"				SP-SM	Brown, damp, medium dense, poorly graded SAND with gravel
-		12/6" 15/6"	8.6	101.2			
-							
-							
-							
10 -		20/6"					
-		16/6" 20/6"	5.8	108.5			
		20/0					
-							
-							Very dense, with cobbles.
_							
15 -							
		20/6" 34/6"	5.2	110.7			
-		37/6"					
_							Total depth = 16.5 feet. Groundwater not encountered during drilling.
							Backfilled and patched on 9/26/13.
-	$\left  - \right  = \left  \right $						NOTE:
							Groundwater, though not encountered at the time of drilling, may rise to a higher level due
-							to seasonal variations in precipitation and several other factors as discussed in the report.
_20_					<u> </u>		
		. //			_		BORING LOG CENTURYLINK MODULAR BUILDING
		<b>\</b> []		¶U <	۶۲	MU	681 WEST LAKE MEAD PARKWAY, HENDERSON, NEVADA
	-	V		1	_	V -	PROJECT NO. DATE FIGURE

303663001

10/13

A-1

	SAMPLES			Ð			DATE DRILLED 9/26/13 BORING NO. B-2	
eet)	SAN	DOT	(%)	Y (PC	-	VTION	GROUND ELEVATION Not Measured SHEET 1 OF	1
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	NSIT	SYMBOL	S.C.S	METHOD OF DRILLING CME 75 hollow-stem auger drill rig	
DEP	Bulk Driven	BLO	MOIS	DRY DENSITY (PCF)	S	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT 140 lbs. (auto trip hammer) DROP 30'	H
				DR		0	SAMPLED BY <u>SLM</u> LOGGED BY <u>SLM</u> REVIEWED BY <u>DESCRIPTION/INTERPRETATION</u>	
0		····					ASPHALT CONCRETE:	
-						GP-GM SP-SM	FILL MATERIAL:	(hear
-						0. 0	Dark brown, damp, medium dense, poorly graded GRAVEL with silt and sand material) unit is approximately 6 inches thick.	(base
		5/6" 9/6"	7.3	104.4			NATIVE SOIL: Dark brown, damp, medium dense, poorly graded SAND with silt and gravel.	
-		10/6"	1.5	104.4				
-								
5 -								
5		5/6" 10/6"	8.4	101.4				
-		9/6"	0,4	101.4				
-								
-								
10 -								
		12/6" 26/6"	6.5	104.2				
		40/6"						
_								
-								
15 -		13/6"						
-		20/6" 38/6"	4.7	111.9				
							Total depth = $16.5$ feet.	
-							Groundwater not encountered during drilling. Backfilled and patched on 9/26/13.	
+	+						NOTE:	
-							Groundwater, though not encountered at the time of drilling, may rise to a high to seasonal variations in precipitation and several other factors as discussed in t	
20								*
			<b>7</b> 9 //				BORING LOG CENTURYLINK MODULAR BUILDING	
		<b>V</b>	Ц		Ý	ΛI	CENTURYLINK MODULAR BUILDING 681 WEST LAKE MEAD PARKWAY, HENDERSON, NEVAD. PROJECT NO. DATE FIGU	
		<b>V</b>				V	303663001 10/13 A-	

		ဂ္ပါ						
		SAMPLES		~	CF)		z	DATE DRILLED 9/26/13 BORING NO. B-3
(feet)		AS	BLOWS/FOOT	MOISTURE (%)	IY (Pi	ы Б	CLASSIFICATION U.S.C.S.	GROUND ELEVATION Not Measured SHEET OF
DEPTH (feet)			WS/F	STUF	ENSI	SYMBOL	SIFIC J.S.C	METHOD OF DRILLING CME 75 hollow-stem auger drill rig
DE	Bulk	Driven	BLC	MOI	DRY DENSITY (PCF)	0,	CLAS	DRIVE WEIGHT 140 lbs. (auto trip hammer) DROP 30"
								SAMPLED BY <u>SLM</u> LOGGED BY <u>SLM</u> REVIEWED BY <u>DESCRIPTION/INTERPRETATION</u>
0							SP-SM	NATIVE SOIL: Brown, damp, loose, poorly graded SAND with silt and gravel.
	-	+						Medium dense.
			8/6" 12/6"	8.8	103.1			
			15/6"					
	-	$\left  - \right $						
5 -	_							
			10/6" 18/6"	8.9	106.8			
	-		20/6"					
		+						
	1							
10 -		X	50/5"					Very dense.
								Total depth = 10.4 feet. Groundwater not encountered during drilling.
								Backfilled on 9/26/13.
								NOTE: Groundwater, though not encountered at the time of drilling, may rise to a higher level due
	-							to seasonal variations in precipitation and several other factors as discussed in the report.
	_							
1.5								
15 ~								
		$\left  \right $						
	_							
	+	$\left  \right $						
				m		е .		BORING LOG           CENTURYLINK MODULAR BUILDING           681 WEST LAKE MEAD PARKWAY, HENDERSON, NEVADA           PROJECT NO.         DATE           FIGURE
				3		~		
							•	303663001 10/13 A-3



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