

APPENDIX A



TEST PIT EXCAVATION PROCEDURES

Sampling Procedures Bulk samples and small bag samples of soil materials encountered in test pit excavations are collected for laboratory classification and testing. The samples are obtained typically from the side walls of the excavation when the depth of the excavation is less than 6 feet below the ground surface and from the backhoe bucket when the depth is over 6 feet. The sample bags are sealed and stored to prevent moisture change.

"Undisturbed" samples of fine-grained soils are often obtained with 3" O.D. thin-walled Shelby tubes. Typically, a tube is held vertically while the backhoe steadily pushes the tube into the material to depths of 12 to 18 inches. The surrounding material around the tube is then carefully excavated to retrieve the tube. The ends of the tubes are capped and sealed to prevent moisture change.

Test Pit Records Test pit excavations are directed by qualified geotechnical engineers, geologists or geotechnical engineering technicians who examine the excavated materials and prepare the test pit logs. The soils are visually classified in accordance with the Unified Soil Classification System (ASTM D2487) with appropriate group symbols being shown on the test pit logs.

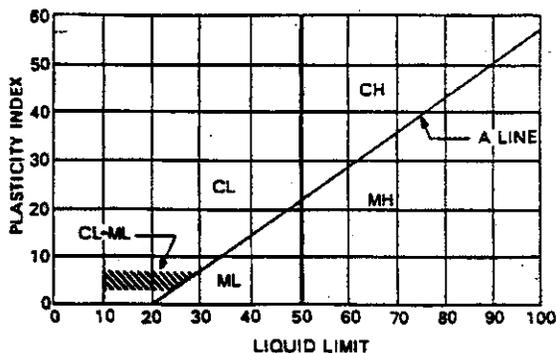
UNIFIED SOIL CLASSIFICATION SYSTEM

Soils are visually classified by the Unified Soil Classification system on the boring logs presented in this report. Grain-size analysis and Atterberg Limits Tests are often performed on selected samples to aid in classification. The classification system is briefly outlined on this chart. For a more detailed description of the system, see "The Unified Soil Classification System" Corp of Engineers, US Army Technical Memorandum No. 3-357 (Revised April 1960) or ASTM Designation: D2487-66T.

MAJOR DIVISIONS		GRAPHIC SYMBOL	GROUP SYMBOL	TYPICAL NAMES
COARSE GRAINED SOILS (Less than 50% passes No. 200 sieve)	GRAVEL (50% or less of coarse fraction passes No. 4 sieve)	CLEAN GRAVELS (Less than 5% passes No. 200 sieve)		GW WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, OR SAND-GRAVEL-COBBLE MIXTURES
		GRAVELS WITH FINES (More than 12% passes No. 200 sieve)		GP POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, OR SAND-GRAVEL-COBBLE MIXTURES
		Limits plot below "A" line & hatched zone on plasticity chart		GM SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
		Limits plot below "A" line & hatched zone on plasticity chart		GC CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
	SANDS (More than 50% of coarse fraction passes No. 4 sieve)	CLEAN SANDS (Less than 5% passes No. 200 sieve)		SW WELL-GRADED SANDS, GRAVELLY SANDS
		SANDS WITH FINES (More than 12% passes No. 200 sieve)		SP POORLY-GRADED SANDS, GRAVELLY SANDS
		Limits plot below "A" line & hatched zone on plasticity chart		SM SILTY SANDS, SAND - SILT MIXTURES
		Limits plot below "A" line & hatched zone on plasticity chart		SC CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS (50% or more passes No. 200 sieve)	SILTS LIMITS PLOT BELOW "A" LINE & HATCHED ZONE ON PLASTICITY CHART	SILTS OF LOW PLASTICITY (Liquid Limit Less Than 50)		ML INORGANIC SILTS, CLAYEY SILTS WITH SLIGHT PLASTICITY
		SILTS OF HIGH PLASTICITY (Liquid Limit More Than 50)		MH INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
	CLAYS LIMITS PLOT BELOW "A" LINE & HATCHED ZONE ON PLASTICITY CHART	CLAYS OF LOW PLASTICITY (Liquid Limit Less Than 50)		CL INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
		CLAYS OF HIGH PLASTICITY (Liquid Limit More Than 50)		CH INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS, SANDY CLAYS OF HIGH PLASTICITY.

Note: Coarse grained soils with between 5% & 12% passing the No. 200 sieve and fine grained soils with limits plotting in the hatched zone on the plasticity chart to have double symbol.

PLASTICITY CHART



DEFINITIONS OF SOIL FRACTIONS

SOIL COMPONENT	PARTICLE SIZE RANGE
Cobbles	Above 3 in.
Gravel	3 in. to No. 4 sieve
Coarse gravel	3 in. to 3/4 in.
Fine gravel	3/4 in. to No. 4 sieve
Sand	No. 4 to No. 200
Coarse	No. 4 to No. 10
Medium	No. 10 to No. 40
Fine	No. 40 to No. 200
Fines (silt or clay)	Below No. 200 sieve

**TERMINOLOGY USED TO DESCRIBE THE RELATIVE DENSITY,
CONSISTENCY OR FIRMNESS OF SOILS**



The terminology used on the boring logs to describe the relative density, consistency or firmness of soils relative to the standard penetration resistance is presented below. The standard penetration resistance (N) in blows per foot is obtained by the ASTM D1586 procedure using 2" O.D., 1 1/8" I.D. samplers.

- 1. Relative Density** Terms for description of relative density of cohesionless, uncemented sands and sand-gravel mixtures.

N	RELATIVE DENSITY
0-4	Very Loose
5-10	Loose
11-30	Medium Dense
31-50	Dense
50+	Very Dense

- 2. Relative Consistency** Terms for description of clays which are saturated or near saturation.

N	RELATIVE CONSISTENCY	REMARKS
0-2	Very soft	Easily penetrated several inches with fist.
3-4	Soft	Easily penetrated several inches with thumb.
5-8	Medium stiff	Can be penetrated several inches with thumb with moderate effort.
9-15	Stiff	Readily indented with thumb, but penetrated only with great effort.
16-30	Very stiff	Readily indented with thumbnail.
30+	Hard	Indented only with difficulty by thumbnail.

- 3. Relative Firmness** Terms for description of partially saturated and/or cemented soils which commonly occur in the Southwest including clays, cemented granular materials, silts and silty and clayey granular soils.

N	RELATIVE DENSITY
0-4	Very Soft
5-8	Soft
9-15	Moderately Firm
16-30	Firm
31-50	Very Firm
50+	Hard

PROJECT Gooseberry Mine
Storey County, Nevada
Potential Cover Soil Source Area



JOB NO. 6-417-000720 DATE 2/2/06

BACKHOE TYPE Cat 325C Trackhoe
 LOCATION N39° 29.178'; W119° 27.545'

SURFACE ELEV. 5284 ft. (topo)
 DATUM Hand Held GPS

GROUNDWATER		
DEPTH	HOUR	DATE
	None	

Depth in Feet	Graphical Log	Sample	Sample Type	Moisture Content Percent of Dry Weight	Unified Soil Classification	GROUNDWATER	
						DEPTH	HOUR
0			G		CH		
1							
2					BEDROCK		
3							
4			G				
5							
6							
7							
8							
9							
10			G		BEDROCK		
11							
12							
13							
14							
15							
16							
17							
18							Stopped trackhoe at 17.5'
19							No groundwater encountered No sidewall caving
20							

SAMPLE TYPE
 B - Undisturbed Block Sample
 D - Disturbed Bulk Sample
 U - 3" O.D. 2.42" I.D. tube sample
 A - Drill Cuttings
 G - Grab sample

LOG OF TEST PIT NO. TP-1

PROJECT Gooseberry Mine
Storey County, Nevada
Potential Cover Soil Source Area



JOB NO. 6-417-000720 DATE 2/2/06

BACKHOE TYPE Cat 325C Trackhoe
 LOCATION N39° 29.165'; W119° 27.648'

GROUNDWATER

DEPTH	HOUR	DATE
	None	

SURFACE ELEV. 5340 ft. (topo)
 DATUM Hand Held GPS

Depth in Feet	Graphical Log	Sample	Sample Type	Moisture Content Percent of Dry Weight	Unified Soil Classification	GROUNDWATER	
						DEPTH	HOUR
0			G		SC		
1			G		BEDROCK		
2							
3							Stopped trackhoe at 2.5'
4							No groundwater encountered No sidewall caving
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

SAMPLE TYPE
 B - Undisturbed Block Sample
 D - Disturbed Bulk Sample
 U - 3" O.D. 2.42" I.D. tube sample
 A - Drill Cuttings
 G - Grab sample

LOG OF TEST PIT NO. TP-2



PROJECT Gooseberry Mine
Storey County, Nevada
Potential Cover Soil Source Area

JOB NO. 6-417-000720 DATE 2/2/06

BACKHOE TYPE Cat 325C Trackhoe
 LOCATION N39° 29.108'; W119° 27.656'

SURFACE ELEV. 5307 ft. (topo)
 DATUM Hand Held GPS

GROUNDWATER

DEPTH	HOUR	DATE
	None	

Depth in Feet	Graphical Log	Sample	Sample Type	Moisture Content Percent of Dry Weight	Unified Soil Classification	REMARKS	SOIL DESCRIPTION
0			G		CH	moist upper 1" "soft" "very stiff"	FAT CLAY with some sand, fine to coarse sand, trace rootlets, medium to high plasticity, dark brown
1					SP-SM	slightly moist "very dense"	SAND WITH SILT AND GRAVEL AND COBBLES , fine to coarse sand, fine and coarse subangular gravel to 3" diameter, subangular cobbles of basalt up to 0.8' in diameter that are estimated to make up to 35% of the total soil mass, cobbles have trace calcium carbonate coatings, strong competency, light brown note: material is very difficult to excavate
2			G				
3							
4							
5							
6							
7			G		SC	slightly moist "very dense"	CLAYEY SAND WITH GRAVEL , fine to coarse sand, subangular to angular friable fine and coarse gravel to 1.7" diameter, trace calcium carbonate coatings, brown
8							
9							
10							Trackhoe refusal at 10' on bedrock
11							No groundwater encountered No sidewall caving
12							
13							
14							
15							
16							
17							
18							
19							
20							

- SAMPLE TYPE
 B - Undisturbed Block Sample
 D - Disturbed Bulk Sample
 U - 3" O.D. 2.42" I.D. tube sample
 A - Drill Cuttings
 G - Grab sample

LOG OF TEST PIT NO. TP-3



PROJECT Gooseberry Mine
Storey County, Nevada
Potential Cover Soil Source Area

JOB NO. 6-417-000720 DATE 2/2/06

BACKHOE TYPE Cat 325C Trackhoe
 LOCATION N39° 29.096'; W119° 27.604'

SURFACE ELEV. 5297 ft. (topo)
 DATUM Hand Held GPS

GROUNDWATER

DEPTH	HOUR	DATE
	None	

Depth in Feet	Graphical Log	Sample	Sample Type	Moisture Content Percent of Dry Weight	Unified Soil Classification	GROUNDWATER			
						DEPTH	HOUR		
0			G		ML/CH			moist "firm to stiff"	INTERBEDDED SILT WITH SAND AND GRAVEL AND FAT CLAY WITH SAND , fine to coarse sand, fine and coarse gravel, trace cobbles to 1.0' diameter in bottom of unit, trace roots and rootlets, nonplastic to high plasticity, dark brown
1					SC-SM			moist "dense"	SILTY CLAYEY SAND WITH GRAVEL , fine to coarse sand, subangular to angular fine gravel, low plasticity, brown
2			G						
3									
4			G		SP-GM/ SP-SM			moist "very dense"	GRAVEL WITH SILT AND SAND/SAND WITH SILT AND GRAVEL , fine to coarse sand, subangular fine and coarse gravel to 3" diameter, trace cobbles to 5" diameter, trace calcium carbonate cement, nonplastic, brown
5									
6									
7									
8					BEDROCK				VOLCANIC BEDROCK , consists of coarse-grained rhyodacite with some basalt porphyry, material has strong competency and has closely spaced fractures, material is very difficult to excavate, gray to dark gray
9									
10									Trackhoe refusal at 10'
11									No groundwater encountered No sidewall caving
12									
13									
14									
15									
16									
17									
18									
19									
20									

SAMPLE TYPE
 B - Undisturbed Block Sample
 D - Disturbed Bulk Sample
 U - 3" O.D. 2.42" I.D. tube sample
 A - Drill Cuttings
 G - Grab sample

LOG OF TEST PIT NO. TP-4

PROJECT Gooseberry Mine
Storey County, Nevada
Potential Cover Soil Source Area



JOB NO. 6-417-000720 DATE 2/3/06

BACKHOE TYPE Cat 325C Trackhoe
 LOCATION N39° 29.189'; W119° 27.464'

GROUNDWATER		
DEPTH	HOUR	DATE
	None	

SURFACE ELEV. 5255 ft. (topo)
 DATUM Hand Held GPS

Depth In Feet	Graphical Log	Sample Type	Moisture Content Percent of Dry Weight	Unified Soil Classification	REMARKS		SOIL DESCRIPTION	
0				CH	moist		FAT CLAY WITH SAND , fine and medium sand, moderate rootlets in upper 0.6', high plasticity, dark brown	
1					upper 2" "soft" "stiff"			
2		G		CP-CM	moist		GRAVEL WITH SILT AND SAND , fine to coarse sand, fine subangular gravel to 1.0" diameter, nonplastic, brown	
3					"dense"		note: material easy to excavate	
4		G		GM	slightly moist		SILTY FINE GRAVEL WITH SAND , fine to coarse sand, subangular to subrounded fine gravel to 1.0" diameter, nonplastic, light brown	
5					"dense"			
6		G						
7								
8								
9								
10		G					note: material is easy to excavate. Material becomes partially cemented greater than 6' with weak calcium carbonate cement that is friable, with trace subrounded cobbles to 6" greater than 7.0'. Some highly weathered tuff gravel greater than 14' that is friable with low plasticity. Material grades to coarse gravel greater than 15', with cobbles up to 1.0' diameter that make up to an estimated 25% of the total soil mass.	
11								
12								
13								
14								
15		G			"very dense"			
16								
17							Stopped trackhoe at 17.0'	
18							No groundwater encountered No sidewall caving	
19								
20								

SAMPLE TYPE
 B - Undisturbed Block Sample
 D - Disturbed Bulk Sample
 U - 3" O.D. 2.42" I.D. tube sample
 A - Drill Cuttings
 G - Grab sample

LOG OF TEST PIT NO. TP-5

PROJECT Gooseberry Mine
Storey County, Nevada
Potential Cover Soil Source Area



JOB NO. 6-417-000720 DATE 2/2/06

BACKHOE TYPE Cat 325C Trackhoe
 LOCATION N39° 29.122'; W119° 27.518'

SURFACE ELEV. 5268 ft. (topo)
 DATUM Hand Held GPS

GROUNDWATER

DEPTH	HOUR	DATE
	None	

Depth in Feet	Graphical Log	Sample	Sample Type	Moisture Content Percent of Dry Weight	Unified Soil Classification	REMARKS		
						REMARKS	SOIL DESCRIPTION	
0			G		CH	moist "stiff"	SANDY FAT CLAY , fine and medium sand, trace roots and rootlets to 1/4" diameter, high plasticity, dark brown	
1								
2					SM	moist "very dense"	SILTY SAND WITH GRAVEL AND COBBLES , fine to coarse sand, subangular fine and coarse gravel to 1.5" diameter, trace cobbles to 6" diameter, subangular cobbles and boulders up to 3' diameter from 4.0' to 8.0' that make up to an estimated 45% of the total soil mass, with trace calcium carbonate cement, nonplastic, brown note: material is difficult to excavate from 2.0 to 4.0' and is easier to excavate greater than 4.0'	
3								
4								
5								
6			G			"dense"		
7								
8								
9								
10								
11								
12					BEDROCK		BASALT VOLCANIC BEDROCK (or very large boulders and cobbles), strong competency, very difficult to excavate, basalt, gray	
13							Trackhoe refusal at 13.0'	
14							No groundwater encountered No sidewall caving	
15								
16								
17								
18								
19								
20								

SAMPLE TYPE
 B - Undisturbed Block Sample
 D - Disturbed Bulk Sample
 U - 3" O.D. 2.42" I.D. tube sample
 A - Drill Cuttings
 G - Grab sample

LOG OF TEST PIT NO. TP-6

PROJECT Gooseberry Mine
Storey County, Nevada
Potential Cover Soil Source Area



JOB NO. 6-417-000720 DATE 2/3/06

BACKHOE TYPE Cat 325C Trackhoe
 LOCATION N39° 29.167'; W119° 27.479'

GROUNDWATER		
DEPTH	HOUR	DATE
	None	

SURFACE ELEV. 5258 ft. (topo)
 DATUM Hand Held GPS

Depth In Feet	Graphical Log	Sample Type	Moisture Content Percent of Dry Weight	Unified Soil Classification	REMARKS		SOIL DESCRIPTION	
0		G		CH	moist upper 2" "soft" "stiff"	FAT CLAY WITH SAND , major roots (topsoil) to 1/4" diameter, fine and medium sand, dark brown to brown		
1								
2				SC	moist "stiff"	CLAYEY SAND , fine to medium sand, medium plasticity, dark brown to brown		
3								
4		D		SM	slightly moist "very dense"	SILTY SAND WITH GRAVEL AND COBBLES , fine to coarse sand, subangular fine and coarse gravel, subrounded to subangular cobbles to 0.6' diameter that make up to 20% of the total soil mass, nonplastic, light brown note: material is moderately difficult to excavate.		
5								
6		G		GM	slightly moist "very dense"	SILTY GRAVEL WITH SAND AND COBBLES , fine to coarse sand, fine and coarse gravel to 3" diameter, subangular cobbles up to 0.6' in diameter that make up to an estimated 30% of the total soil mass, nonplastic, brown note: grades from fine gravel in upper 3.0' to coarse gravel at depth with trace subangular boulders to 2' in diameter greater than 10'		
7								
8								
9								
10		G						
11								
12								
13				BEDROCK		VOLCANIC BEDROCK or abundant volcanic boulders note: very difficult to excavate		
14						Trackhoe refusal at 14.0'		
15						No groundwater encountered No sidewall caving		
16								
17								
18								
19								
20								

SAMPLE TYPE
 B - Undisturbed Block Sample
 D - Disturbed Bulk Sample
 U - 3" O.D. 2.42" I.D. tube sample
 A - Drill Cuttings
 G - Grab sample

LOG OF TEST PIT NO. TP-7

PROJECT Gooseberry Mine
Storey County, Nevada
Potential Cover Soil Source Area



JOB NO. 6-417-000720 DATE 2/3/06

BACKHOE TYPE Cat 325C Trackhoe
 LOCATION N39° 29.194'; W119° 27.504'

GROUNDWATER

DEPTH	HOUR	DATE
	None	

SURFACE ELEV. 5274 ft. (topo)
 DATUM Hand Held GPS

Depth in Feet	Graphical Log	Sample Type	Moisture Content Percent of Dry Weight	Unified Soil Classification	REMARKS		SOIL DESCRIPTION	
0		G		SC-SM	moist		SILTY CLAYEY SAND WITH GRAVEL , major roots (topsoil) to 3", fine to coarse sand, subrounded to subangular fine and coarse gravel to 2-1/2" diameter, moderate roots, rootlets, nonplastic to medium plasticity, brown	
1				GP-GM	upper 1" "loose" "medium dense"		GRAVEL WITH SILT AND SAND AND SOME COBBLES , fine to coarse sand, fine and coarse subrounded to subangular gravel, subrounded cobbles to 8" diameter that make up to an estimated 30% of the total soil mass, nonplastic, brown	
2					slightly moist		note: material from 0.9 to 3.0' has moderate calcium carbonate cement and is very difficult to excavate. Calcium carbonate coatings to cobbles and boulders (no cement) greater than 3.0'. Cobbles and boulders to 2.5' diameter that make up to an estimated 40% of the total soil mass greater than 3.0' below the surface, making the material very difficult and time consuming to excavate	
3		G			"very dense"			
4								
5								
6								
7								
8								
9						Stopped trackhoe at 8.5'		
10						No groundwater encountered		
11						No sidewall caving		
12								
13								
14								
15								
16								
17								
18								
19								
20								

- SAMPLE TYPE
 B - Undisturbed Block Sample
 D - Disturbed Bulk Sample
 U - 3" O.D. 2.42" I.D. tube sample
 A - Drill Cuttings
 G - Grab sample

LOG OF TEST PIT NO. TP-8

PROJECT Gooseberry Mine
Storey County, Nevada
Potential Cover Soil Source Area



JOB NO. 6-417-000720 DATE 2/3/06

BACKHOE TYPE Cat 325C Trackhoe
 LOCATION N39° 29.208'; W119° 27.426'

SURFACE ELEV. 5243 ft. (topo)
 DATUM Hand Held GPS

GROUNDWATER

DEPTH	HOUR	DATE
	None	

Depth in Feet	Graphical Log	Sample	Sample Type	Moisture Content Percent of Dry Weight	Unified Soil Classification	REMARKS	SOIL DESCRIPTION
0					SC	moist "loose"	CLAYEY SAND , major roots (topsoil) to 1/4" diameter, fine to coarse sand, low plasticity, dark brown
1			G		SM	moist "very dense"	SILTY SAND WITH GRAVEL, COBBLES AND BOULDERS , fine to coarse sand, subrounded to subangular fine and coarse gravel, subrounded cobbles and boulders to 4' diameter that make up to an estimated 60% of the total soil mass, nonplastic, dark brown note: material is very difficult to excavate
2							
3							
4							
5							
6							
7							
8						Stopped trackhoe at 7.5'	
9						No groundwater encountered No sidewall caving	
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

SAMPLE TYPE
 B - Undisturbed Block Sample
 D - Disturbed Bulk Sample
 U - 3" O.D. 2.42" I.D. tube sample
 A - Drill Cuttings
 G - Grab sample

LOG OF TEST PIT NO. TP-9

PROJECT Gooseberry Mine
Storey County, Nevada
Potential Cover Soil Source Area



JOB NO. 6-417-000720 DATE 2/3/06

BACKHOE TYPE Cat 325C Trackhoe
 LOCATION N39° 29.136'; W119° 27.576'

GROUNDWATER		
DEPTH	HOUR	DATE
▽	None	
▼		

SURFACE ELEV. 5281 ft. (topo)
 DATUM Hand Held GPS

Depth in Feet	Graphical Log	Sample Type	Moisture Content Percent of Dry Weight	Unified Soil Classification	REMARKS	SOIL DESCRIPTION
0		G		CH	moist upper 2" "loose" "stiff"	SANDY FAT CLAY , fine and medium sand, moderate roots and rootlets (topsoil) down to 0.6', high plasticity, dark brown
1						
2		G		GP-GM	slightly moist "very dense"	GRAVEL WITH SILT AND SAND AND COBBLES , fine to coarse sand, fine and coarse subangular to subrounded gravel to 3" diameter, subrounded to subangular cobbles to 0.8' diameter that make up to an estimated 20 to 30% of the total soil mass, nonplastic, light brown
3						
4						
5		D				note: material is very difficult to excavate
6						
7						note: trace boulders to 3.5' diameter at 7'
8		G		SM	slightly moist "very dense"	SILTY SAND WITH GRAVEL , fine to coarse sand, fine and coarse subangular gravel to 2" diameter, possible slightly to moderately weathered basaltic andesite bedrock?, nonplastic, light purple brown note: material is very difficult and time consuming to excavate
9						
10						
11						Stopped trackhoe at 11.0'
12						No groundwater encountered No sidewall caving
13						
14						
15						
16						
17						
18						
19						
20						

SAMPLE TYPE
 B - Undisturbed Block Sample
 D - Disturbed Bulk Sample
 U - 3" O.D. 2.42" I.D. tube sample
 A - Drill Cuttings
 G - Grab sample

LOG OF TEST PIT NO. TP-10



PROJECT Gooseberry Mine
Storey County, Nevada
Potential Cover Soil Source Area

JOB NO. 6-417-000720 DATE 2/3/06

BACKHOE TYPE Cat 325C Trackhoe
 LOCATION N39° 29.065'; W119° 27.669'
 SURFACE ELEV. 5312 ft. (topo)
 DATUM Hand Held GPS

GROUNDWATER		
DEPTH	HOUR	DATE
▽	None	
▼		

Depth in Feet	Graphical Log	Sample	Sample Type	Moisture Content Percent of Dry Weight	Unified Soil Classification	REMARKS	SOIL DESCRIPTION
0			G		SM	moist upper 2" "loose" "medium dense"	SILTY SAND , fine and medium sand, subrounded fine gravel to 3/4" diameter, trace roots and rootlets to 1/4" diameter to 1.0', nonplastic, dark brown
1							
2							
3			G			slightly moist "dense"	note: grades with coarse sand greater than 4.0', subrounded to subangular fine gravel to 1" diameter, easy to excavate down to 6.0', light brown
4							
5							
6			G			slightly moist "very dense"	note: with cobbles greater than 6.0', subrounded cobbles up to 1.0' diameter that make up to an estimated 10% of the total soil mass, material is very difficult to excavate greater than 6.0', brown
7							
8							
9							
10						BEDROCK	BASALTIC ANDESITE PORPHYRY BEDROCK , very strong competency, slightly weathered, dark gray
11							Trackhoe refusal at 10.0'
12							No groundwater encountered No sidewall caving
13							
14							
15							
16							
17							
18							
19							
20							

SAMPLE TYPE
 B - Undisturbed Block Sample
 D - Disturbed Bulk Sample
 U - 3" O.D. 2.42" I.D. tube sample
 A - Drill Cuttings
 G - Grab sample

LOG OF TEST PIT NO. TP-11

PROJECT Gooseberry Mine
Storey County, Nevada
Potential Cover Soil Source Area



JOB NO. 6-417-000720 DATE 2/3/06

BACKHOE TYPE Cat 325C Trackhoe
 LOCATION N39° 29.050'; W119° 27.544'

GROUNDWATER		
DEPTH	HOUR	DATE
▽	None	
▼		

SURFACE ELEV. 5289 ft. (topo)
 DATUM Hand Held GPS

Depth in Feet	Graphical Log	Sample Type	Moisture Content Percent of Dry Weight	Unified Soil Classification	REMARKS	SOIL DESCRIPTION
0		D		SM	moist upper 3" "loose" "medium dense"	SILTY SAND , fine to coarse sand, subangular to subrounded fine and coarse gravel to 2" diameter, trace competent cobbles to 1' diameter, nonplastic, brown
1						
2						
3						
4					moist "very dense"	note: material is easy to excavate to 4.0' and becomes moderately difficult greater than 4.0' with presence of cobbles that make up to an estimated 25 to 50% of the total soil mass, trace rootlets down to 1.5'
5		G				
6						
7						note: grades with COBBLES AND BOULDERS up to 3' in diameter that make up to an estimated 50% of the total soil mass, material is very difficult to excavate
8						
9						Stopped trackhoe at 9.0'
10						No groundwater encountered No sidewall caving
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

SAMPLE TYPE
 B - Undisturbed Block Sample
 D - Disturbed Bulk Sample
 U - 3" O.D. 2.42" I.D. tube sample
 A - Drill Cuttings
 G - Grab sample

LOG OF TEST PIT NO. TP-12

PROJECT Gooseberry Mine
Storey County, Nevada
Potential Cover Soil Source Area



JOB NO. 6-417-000720 DATE 2/3/06

BACKHOE TYPE Cat 325C Trackhoe
 LOCATION N39° 29.029'; W119° 27.492'

GROUNDWATER		
DEPTH	HOUR	DATE
	None	

SURFACE ELEV. 5314 ft. (topo)
 DATUM Hand Held GPS

Depth in Feet	Graphical Log	Sample	Sample Type	Moisture Content Percent of Dry Weight	Unified Soil Classification	REMARKS	SOIL DESCRIPTION
0			G		GC	moist upper 2" "loose" "medium dense"	CLAYEY GRAVEL WITH SAND , fine to coarse sand, fine gravel to 3/4" diameter, trace roots and rootlets to 1/8" diameter, medium plasticity, dark brown
1			G		GP	moist "dense"	GRAVEL WITH SAND , fine to coarse sand, subangular to subrounded fine gravel to 3/4" diameter, trace cobbles to 1.0' diameter, nonplastic, dark brown
2							
3							
4						"very dense"	note: material is light brown greater than 3.5' with moderately less moisture note: material is very difficult to excavate greater than 4.0'
5							note: grades to cobbles up to 1.0' diameter greater than 5.0' that make up to an estimated 20% of the total soil mass
6							
7							Trackhoe refusal at 6.5' on bedrock (?)
8							No groundwater encountered No sidewall caving note: trace cobbles to 1.0' diameter on surface
9							
10							
11							
12							
13							
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15							
16							
17							
18							
19							
20							

SAMPLE TYPE
 B - Undisturbed Block Sample
 D - Disturbed Bulk Sample
 U - 3" O.D. 2.42" I.D. tube sample
 A - Drill Cuttings
 G - Grab sample

LOG OF TEST PIT NO. TP-13



PROJECT Gooseberry Mine
Storey County, Nevada
Potential Cover Soil Source Area

JOB NO. 6-417-000720 DATE 2/3/06

BACKHOE TYPE Cat 325C Trackhoe
 LOCATION N39° 29.080'; W119° 27.480'

SURFACE ELEV. 5281 ft. (topo)
 DATUM Hand Held GPS

GROUNDWATER

DEPTH	HOUR	DATE
	None	

Depth in Feet	Graphical Log	Sample	Sample Type	Moisture Content Percent of Dry Weight	Unified Soil Classification	GROUNDWATER	
						DEPTH	HOUR
0					CH		
1					BEDROCK		
2							
3							
4							
5							
6							
7							
8							
9							
10							
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20							

REMARKS	SOIL DESCRIPTION
moist "stiff"	FAT CLAY WITH GRAVEL, SAND AND COBBLES , fine to coarse sand, fine and coarse gravel, subrounded cobbles to 1.0' diameter that make up to 20% of the total soil mass, high plasticity, dark brown
moist "stiff"	BASALTIC ANDESITE PORPHYRY BEDROCK , very strong competency, very difficult to excavate, dark gray
	Stopped trackhoe at 2.0'
	No groundwater encountered No sidewall caving

SAMPLE TYPE
 B - Undisturbed Block Sample
 D - Disturbed Bulk Sample
 U - 3" O.D. 2.42" I.D. tube sample
 A - Drill Cuttings
 G - Grab sample

LOG OF TEST PIT NO. TP-14

PROJECT Gooseberry Mine
Storey County, Nevada
Potential Cover Soil Source Area



JOB NO. 6-417-000720 DATE 2/3/06

BACKHOE TYPE Cat 325C Trackhoe
 LOCATION N39° 29.059'; W119° 27.475'

SURFACE ELEV. 5288 ft. (topo)
 DATUM Hand Held GPS

GROUNDWATER

DEPTH	HOUR	DATE
	None	

Depth in Feet	Graphical Log	Sample	Sample Type	Moisture Content Percent of Dry Weight	Unified Soil Classification	REMARKS	SOIL DESCRIPTION
0			G		CH	moist "stiff"	FAT CLAY with some sand, fine to medium sand, trace rootlets, high plasticity, dark brown
1			G		GP GM/ SM	moist "very dense"	GRAVEL WITH SILT AND SAND AND COBBLES/SILTY SAND WITH GRAVEL AND COBBLES , fine to coarse sand, subangular fine and coarse gravel to 2.5', cobbles 1.0' diameter that make up to an estimated 20% of the total soil mass, moderate calcium carbonate coatings on gravel and cobbles, nonplastic, light brown note: material is moderately difficult to excavate
2							
3							
4							
5							
6							
7			G				
8						Stopped trackhoe at 8.0'	
9						No groundwater encountered No sidewall caving	
10							
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12							
13							
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16							
17							
18							
19							
20							

SAMPLE TYPE
 B - Undisturbed Block Sample
 D - Disturbed Bulk Sample
 U - 3" O.D. 2.42" I.D. tube sample
 A - Drill Cuttings
 G - Grab sample

LOG OF TEST PIT NO. TP-15

PROJECT Gooseberry Mine
Storey County, Nevada
Potential Cover Soil Source Area



JOB NO. 6-417-000720 DATE 2/3/06

BACKHOE TYPE Cat 325C Trackhoe
 LOCATION N39° 29.030'; W119° 27.447'

SURFACE ELEV. 5379 ft. (topo)
 DATUM Hand Held GPS

GROUNDWATER		
DEPTH	HOUR	DATE
	None	

Depth in Feet	Graphical Log	Sample	Sample Type	Moisture Content Percent of Dry Weight	Unified Soil Classification	REMARKS	SOIL DESCRIPTION
0			G		CH	moist "very stiff"	SANDY FAT CLAY , fine to coarse sand, trace fine gravel to 1" diameter, high plasticity, dark brown
1							
2			G		GM/SM	moist "medium dense"	SILTY GRAVEL WITH SAND AND COBBLES/SILTY SAND WITH GRAVEL & COBBLES , fine to coarse sand, subrounded to subangular fine and coarse gravel to 2-1/2" diameter, subrounded cobbles to 1.0' diameter greater than 4.0' that make up to an estimated 40% of the total soil mass, trace boulders to 2.5' diameter, moderate calcium carbonate coatings on cobbles and boulders, nonplastic, brown note: material is very difficult to excavate greater than 4.0'
3							
4						moist "very dense"	
5							
6							
7							
8							
9							Stopped trackhoe at 9.0'
10							No groundwater encountered No sidewall caving
11							
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19							
20							

SAMPLE TYPE
 B - Undisturbed Block Sample
 D - Disturbed Bulk Sample
 U - 3" O.D. 2.42" I.D. tube sample
 A - Drill Cuttings
 G - Grab sample

LOG OF TEST PIT NO. TP-16

PROJECT Gooseberry Mine
Storey County, Nevada
Potential Cover Soil Source Area



JOB NO. 6-417-000720 DATE 2/3/06

BACKHOE TYPE Cat 325C Trackhoe
 LOCATION N39° 29.014'; W119° 27.528'
 SURFACE ELEV. 5266 ft. (topo)
 DATUM Hand Held GPS

GROUNDWATER		
DEPTH	HOUR	DATE
	None	

Depth in Feet	Graphical Log	Sample	Sample Type	Moisture Content Percent of Dry Weight	Unified Soil Classification	REMARKS	SOIL DESCRIPTION
0			G		SC-SM	moist "medium dense"	SILTY, CLAYEY SAND WITH GRAVEL , fine to coarse sand, fine to coarse gravel, with subrounded cobbles to 1.0' diameter that make up to an estimated 10% of the total soil mass, dark brown
1							
2							
3							
4			G		SM	moist "very dense"	SILTY SAND WITH GRAVEL AND COBBLES , fine to coarse sand, subrounded fine and coarse gravel to 2.6" diameter, subrounded cobbles to 1.0' diameter that make up to an estimated 40% of the total soil mass, moderate calcium carbonate coatings on cobbles, nonplastic, light brown
5							
6							
7							note: cobble content decreases greater than 7.0' to an estimated 10% of the total soil mass
8							note: material is very difficult to excavate greater than 7.0'
9							Stopped backhoe at 9.0'
10							No groundwater encountered No sidewall caving
11							
12							
13							
14							
15							
16							
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19							
20							

SAMPLE TYPE
 B - Undisturbed Block Sample
 D - Disturbed Bulk Sample
 U - 3" O.D. 2.42" I.D. tube sample
 A - Drill Cuttings
 G - Grab sample

LOG OF TEST PIT NO. TP-17

PROJECT Gooseberry Mine
Storey County, Nevada
Potential Cover Soil Source Area



JOB NO. 6-417-000720 DATE 2/3/06

BACKHOE TYPE Cat 325C Trackhoe
 LOCATION N39° 28.950'; W119° 27.506'

GROUNDWATER		
DEPTH	HOUR	DATE
▽	None	
▼		

SURFACE ELEV. 5279 ft. (topo)
 DATUM Hand Held GPS

Depth in Feet	Graphical Log	Sample Type	Moisture Content Percent of Dry Weight	Unified Soil Classification	REMARKS	SOIL DESCRIPTION
0		G		SC	moist "medium dense"	CLAYEY SAND , fine to coarse sand, trace subangular fine gravel to 1/2" diameter, trace cobbles and boulders to 3.0' diameter, trace rootlets to 0.5', high plasticity, dark brown
1						
2						
3		G		ML-CL	moist "very stiff to hard"	SANDY SILTY CLAY , fine and medium sand, low plasticity, brown
4						
5						
6				BEDROCK		VOLCANIC BEDROCK , very difficult to excavate, dark gray
7					Stopped trackhoe at 6.0'	
8					No groundwater encountered No sidewall caving	
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19						
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SAMPLE TYPE
 B - Undisturbed Block Sample
 D - Disturbed Bulk Sample
 U - 3" O.D. 2.42" I.D. tube sample
 A - Drill Cuttings
 G - Grab sample

LOG OF TEST PIT NO. TP-18

PROJECT Gooseberry Mine
Storey County, Nevada
Potential Cover Soil Source Area



JOB NO. 6-417-000720 DATE 2/3/06

BACKHOE TYPE Cat 325C Trackhoe
 LOCATION N39° 28.913'; W119° 27.489'

SURFACE ELEV. 5289 ft. (topo)
 DATUM Hand Held GPS

GROUNDWATER

DEPTH	HOUR	DATE
	None	

Depth in Feet	Graphical Log	Sample Type	Moisture Content Percent of Dry Weight	Unified Soil Classification	REMARKS		SOIL DESCRIPTION	
0				CH	moist "firm"	FAT CLAY WITH SAND, fine to coarse sand, trace rootlets, high plasticity, dark brown		
1				GM-GC	moist "dense"	SILTY, CLAYEY GRAVEL WITH COBBLES, fine to coarse sand, subangular gravel to 3" diameter, subrounded cobbles to 5" diameter that make up to 10% of the total soil mass, nonplastic to medium plasticity, dark brown		
2				BEDROCK		BASALTIC ANDESITE BEDROCK, very difficult to excavate, very strong competency, dark gray		
3						Stopped trackhoe at 2.2'		
4						No groundwater encountered No sidewall caving		
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- SAMPLE TYPE
 B - Undisturbed Block Sample
 D - Disturbed Bulk Sample
 U - 3" O.D. 2.42" I.D. tube sample
 A - Drill Cuttings
 G - Grab sample

LOG OF TEST PIT NO. TP-19

PROJECT Gooseberry Mine
Storey County, Nevada
Potential Cover Soil Source Area



JOB NO. 6-417-000720 DATE 2/3/06

BACKHOE TYPE Cat 325C Trackhoe
 LOCATION N39° 29.931'; W119° 27.528'

GROUNDWATER		
DEPTH	HOUR	DATE
	None	

SURFACE ELEV. 5287 ft. (topo)
 DATUM Hand Held GPS

Depth in Feet	Graphical Log	Sample	Sample Type	Moisture Content Percent of Dry Weight	Unified Soil Classification	REMARKS		SOIL DESCRIPTION	
0			G		CH	moist upper 3" "soft" "very stiff"	FAT CLAY WITH SAND , fine to coarse sand, fine and coarse gravel to 2" diameter, trace subrounded cobbles to 1.0' diameter, trace rootlets to 0.5', high plasticity, dark brown		
2			G		GP-GM	slightly moist "very dense"	GRAVEL WITH SILT AND SAND AND COBBLES , fine to coarse sand, subangular to subrounded fine to coarse gravel to 3" diameter, subrounded cobbles and boulders to 3.0' diameter that make up to an estimated 25% of the total soil mass, nonplastic, light brown note: material is very difficult to excavate		
4						BEDROCK	BASALTIC ANDESITE PORPHYRY BEDROCK , strong to very strong competency, closely spaced fractures, moderately to slightly weathered, strong calcium carbonate coatings, dark gray		
5							Trackhoe refusal at 3.8'		
6							No groundwater encountered No sidewall caving		
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20									

SAMPLE TYPE
 B - Undisturbed Block Sample
 D - Disturbed Bulk Sample
 U - 3" O.D. 2.42" I.D. tube sample
 A - Drill Cuttings
 G - Grab sample

LOG OF TEST PIT NO. TP-20