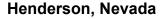
Log of Boring No. BRC-SB-10-B **BMI Site - Hydrogeologic Characterization**



Drilling Method: Rotary Sonic **Drilling Equipment:** Rotary Sonic Drilling Contractor: Prosonic Corporation Driller: Gerald Sealey

Borehole Total Depth: 330 ft bgs **Borehole Diameter:** 8.5 in Boring Location: Location 10 (Well ID: MCF-10B) Depth to Water (ft. bgs): 19 ft bgs ∇

Sample Type: Split spoon

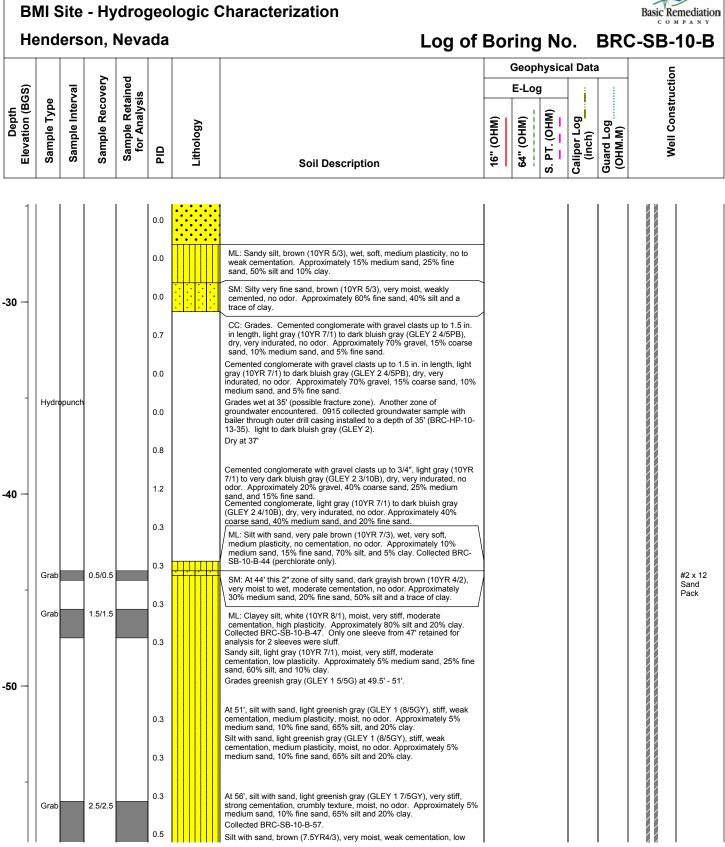
Monitoring Well Construction Sample Interval Varies Screen Slot Size: Type of Surface Seal: Bentonite Grout 0.010 in Logged By: David Bean Blank Casing Type/Size: 4" Sch 80 PVC Top of Screen (ft. bgs): 84 ft bgs Date Started: 6/8/04 Screen Type/Size: 4" Sch 80 PVC Bottom of Screen (ft. bgs): 104 ft bgs **Date Completed:** Transition Sand Type: Type of Sand Pack: #2 x 12 N/A **Geophysical Data** Well Construction Sample Retained for Analysis Sample Recovery Depth Elevation (BGS) E-Log Sample Interval Sample Type Caliper Log (inch) РТ. (ОНМ) Guard Log (OHM.M) 64" (OHM) 16" (OHM) Lithology DID Soil Description *i*

•							
0	Grab	1.5/1.5	0.0	•••••	SW: Open surface at grade.		Locking monument
			0.0		Collected BRC-SB-10-B-0.		well box
			0.0		SW: Well graded sand with gravel and cobbles up to approximately 5" in length. Pale brown (10YR 6/3), dry, loose, no odor. Gravel and cobbles are subrounded. Approximately 35% gravel, 20% coarse sand, 20% medium sand, 20% fine sand, and 5% slit.		with concrete apron and ballards
-			0.0		GP: Grades. Poorly graded gravel with sand and cobbles up to		Cement Bentonite Grout
	Grab	1.5/1.5	0.0		approximately 3" in length . Pale brown (10YR 6/3), dry, loose, no odor, gravels and cobbles are volcanic subrounded. Approximately 60% gravel, 10% coarse sand, 15% medium sand, and 15% fine sand. Collected BRC-SB-10-B-7		
-10 -			0.0		SP: Grades. Poorly graded sand. Dark grayish brown (10YR 4/2), dry, loose, no odor. Approximately 30% coarse sand, 55% medium sand, and 15% fine sand.		4" Blank PVC Riser Pipe
			0.0	· · · · · · ·			
-			0.0		GP: Grades. Poorly graded gravel with sand, brown (10YR 4/3), slightly moist, loose, no odor, gravel is subrounded. Approximately 65% gravel, 10% coarse sand, 20% medium sand, and 5% fine sand.		
	Grab	2.5/2.5	0.0				
			0.0		SP: Grades. Poorly graded sand with gravel, very dark gravish brown (10YR 3/2), moist, loose, no odor. Approximately 20% gravel, 20% coarse sand, 30% medium sand, and 30% fine sand. Collected BRC-SB-10-B-17. Remaining sleeves collected from 16'-17' interval.		
-20	Grab	0.5/0.5	0.0		Poorly graded sand with gravel, dark gravish brown (10YR 4/2), water saturated, loose, no odor. Approximately 20% gravel, 25% coarse sand, 30% medium sand, 20% fine sand, and 5% silt. Collected BRC-SB-10-B-19 (perchlorate only).		
			0.0		Poorly graded sand with gravel, dark gravish brown (10YR 4/2), water saturated, loose, no odor. Gravel is rounded to subrounded. Approximately 45% gravel, 30% coarse sand, 20% medium sand, and 5% fine sand.		
			0.0				

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Log of Boring: BRC-SB-10-B





3850360 Project No. MWH

Log of Boring: BRC-SB-10-B

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BMI Site - Hydrogeologic Characterization Basic Remediation Henderson, Nevada Log of Boring No. BRC-SB-10-B **Geophysical Data** Well Construction Sample Retained for Analysis Sample Recovery E-Log Elevation (BGS) Sample Interval Sample Type Depth (MHO) Caliper Log (MHO) (MHO) Lithology Guard Log (M.MHO) (inch) РТ. 뎹 .0 . . . Soil Description *i* plasticity, medium stiff, no odor. Approximately 5% medium sand, 10% fine sand, 65% silt and 20% clay SM: Silty sand, brown (7.5YR 4/4), very moist, weak to no 0.7 -60 cementation, no odor. Approximately 60% fine sand, 40% silt and a trace of clay. At 61', 4" zone of silty sand, brown (7.5 YR4/4), wet, weak to no cementation, no odor. Approximately 80% fine sand, 20% silt and a 0.6 trace of clay. ML: Sandy silt (sand is very fine) strong brown (7.5YR 4/6), soft, no plasticity, weak cementation, moist, no odor. Approximately 40% fine sand and 60% silt with a trace of clay. 0.4 Grab 0.5/0.5 SP-SM: Poorly graded sand with silt, dark brown (7.5YR 3/3), wet, no cementation, no odor. Approximately 30% medium sand, 60% fine 0.6 sand, 10% silt with a trace of clay. Collected BRC-SB-10-B-64.5. ML: Sandy silt, brown (7.5YR 5/4), moist, medium stiff, low plasticity, weak cementation, no odor. Approximately 5% medium sand, 25% fine sand, 60% silt and 10% clay 0.3 Sandy silt, brown (7.5YR 5/4), moist, very stiff, low plasticity, moderate cementation, no odor. Approximately 15% medium sand, 25% fine sand, 60% silt and a trace of clay. 0.3 -70 0.3 Cement Backfill Sandy silt, brown (7.5YR 5/4), moist, very stiff, low plasticity, moderate cementation, no odor. Approximately 15% medium sand, 25% fine 0.3 sand, 60% silt and a trace of clay. 0.3 Sandy silt, strong brown (7.5YR 4/6), moist, low plasticity, stiff, weak cementation. Approximately 30% fine sand, 60% silt and 10% clay. Collected BRC-SB-10-B-77. Grab 2.5/2.5 Clayey silt, pinkish white (7.5 YR 8/2), moist, very stiff, low plasticity, 0.2 moderate to strong cementation, no odor. Approximately 75% silt and 25% clay. Bentonite 80' - 80.5, silt with sand, strong brown (7.5YR 4/6), moist, very stiff, low seal plasticity, moderate cementation, no odor. Approximately 20% fine 0.3 sand, 60% silt and 10% clay. -80 ML: 80.5'-81.25', clayey silt, light greenish gray, GLEY 2 (7/5GY). Approximately 25% silt and 75% clay. 0.5/0.5 Grab 0.2 SP: 81.25'-81.5', Poorly graded sand, dark yellowish brown (10YR 4/4), wet, loose, no odor. Approximately 30% medium sand, 70% #2 x 12 fine sand and a trace of silt. Collected BRC-SB-10-B-81.5. Sand Pack ML: 81.5'-87', sandy silt, strong brown, moist, low plasticity medium stiff, weak cementation. Approximately 30% fine sand, 55% silt, and 15% clay. Split spoon sample had moist silt as above. 0.1 At 85', 3" zone as above except pale brown (10YR 6/3). 02 At 86', same 3" zone as 85'. At 87', sandy silt (sand is very fine), brown (7.5YR 5/4), moist, low plasticity, medium stiff, weak cementation, no odor. Approximately 40% 0.2 fine sand, 40% silt and 20% clay. 0.2 -90 4" 0.010 Slot PVC screen

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BRC-SB-10-B

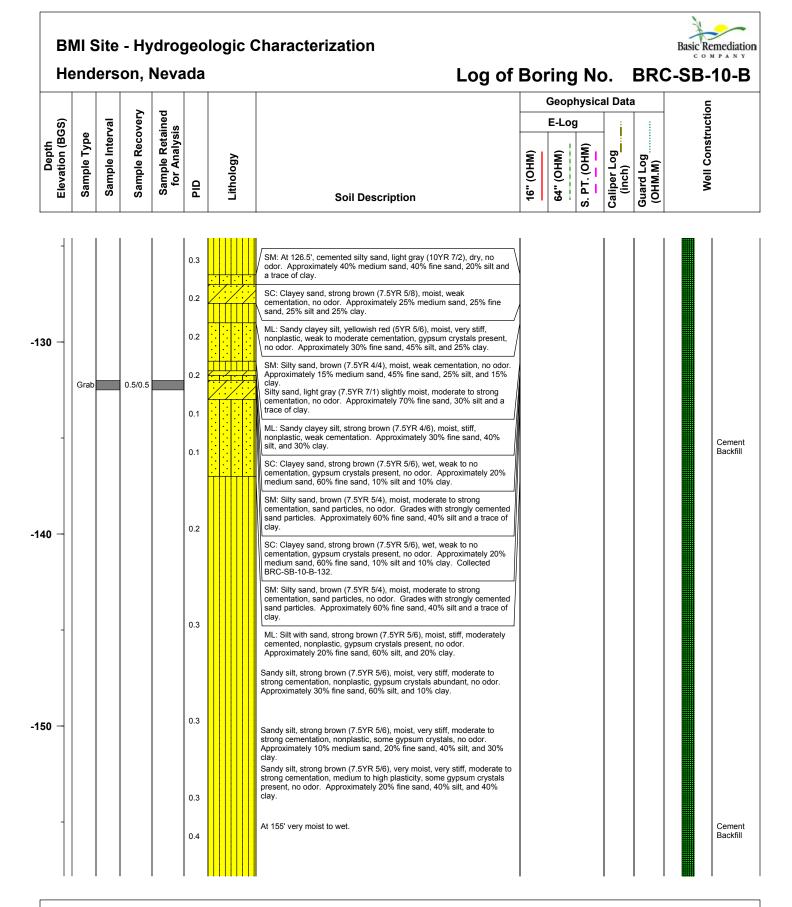
BMI Site - Hydrogeologic Characterization



	Henderson, Nevada							Log of	Bo	ring	g No	о.	BRC	S-SB-	-10-В
									Geophysical Data			ı	Ę	5	
	3S)		val	very	lined					E-Lo	g			itoti	
	Depth Elevation (BGS)	Sample Type	Sample Interval	Sample Recovery	Sample Retained for Analysis	DID	Lithology	Soil Description	16" (OHM)	64" (OHM)	S. PT. (OHM)	Caliper Log (inch)	Guard Log (OHM.M)	Well Construction	
						0.1		91.5' grades as above except less sand. Approximately 20% fine sand, 60% silt, and 20% clay.							
- -100 —	-					0.1		Sandy silt, brown (7.5YR 5/3), moist, low plasticity, no to weak cementation, soft, no odor. Approximately 30% fine sand, 55% silt, and 15% clay. Collected BRC-SB-10-B-97.							
		Grab Grab		2.0/2.0 0.5/0.5		0.2		SP-SM: Top of 97'-107' sample run contained poorly graded sand with slit, strong brown (7.5'YR 5/6), water saturated, loose, no odor. Approximately 90% sand, 10% silt and a trace of clay. Collected BRC-SB-10-B-98.							
	00 -					0.5		ML: Sandy silt, brown (7.5YR5/4), moist, medium stiff, low plasticity, weak cementation , no odor. Approximately 40% fine sand, 50% silt, 10% clay. SP-SM: At 99.5', 3" zone of poorly graded sand with silt, strong brown (7.5YR 5/4), moist, loose, no odor. Approximately 90% fine sand,							
	-					0.2		10% silt with a trace of clay. ML: Sandy silt, brown (7.5YR 5/4) moist, medium stiff, low plasticity, weak cementation, no odor. Approximately 40% fine sand, 50% silt and 10% clay. Approximately 40% fine sand, 50% silt and 10% clay. Sandy silt, brown (7.5YR 5/4), moist, stiff, low plasticity, no to weak							Threaded PVC Well ชื่อลละ คิย Backfill
						0.2		cementation, medium stiff, no odor. Approximately 40% fine sand, 50% silt, and 10% clay. Sandy silt, brown (7.5YR 5/3), moist, stiff, low plasticity, no to weak cementation, abundant gypsum crystals up to 2.5° in length, no odor.							
-1	10 —							Sandy silt, brown (7.5YR 5/3), moist, stiff, low plasticity, no to weak cementation, abundant gypsum crystals up to 2.5" in length, no odor. Approximately 40% fine sand, 50% silt, and 10% clay.							
-120 -	_					0.4		Sandy silt, brown (7.5YR 4/4), moist, medium stiff, low plasticity, no to weak cementation, no odor. Approximately 10% medium sand, 25% fine sand, 30% silt, and 15% clay. Silt with sand, brown (7.5YR 5/4), very stiff, medium plasticity, weak to moderately cemented, moist, no odor, Approximately 20% fine sand, 60% silt, and 20% clay.							
	20 -					0.2		SM: Thin - 2" thick silty sand lense, brown (7.5YR4/4) moist, weak cementation, no odor. Approximately 30% medium sand, 30% fine sand, 30% silt and 10% clay. ML: Brown (7.5YR 4/4), moist, weak cementation, no odor.							
						0.1		 120.75-121. Silt with sand, yellowish red (5YR 4/6), moist, medium plasticity, weakly cemented, very stiff. Approximately 15% fine sand, 70% silt and 15% clay. Sandy silt, very dark gravish brown, 10YR 3/2, very stiff, nonplastic, weak cemenation, moist, no odor. Approximately 15% medium sand, 25% fine sand, 45% silt, and 15% clay. 							

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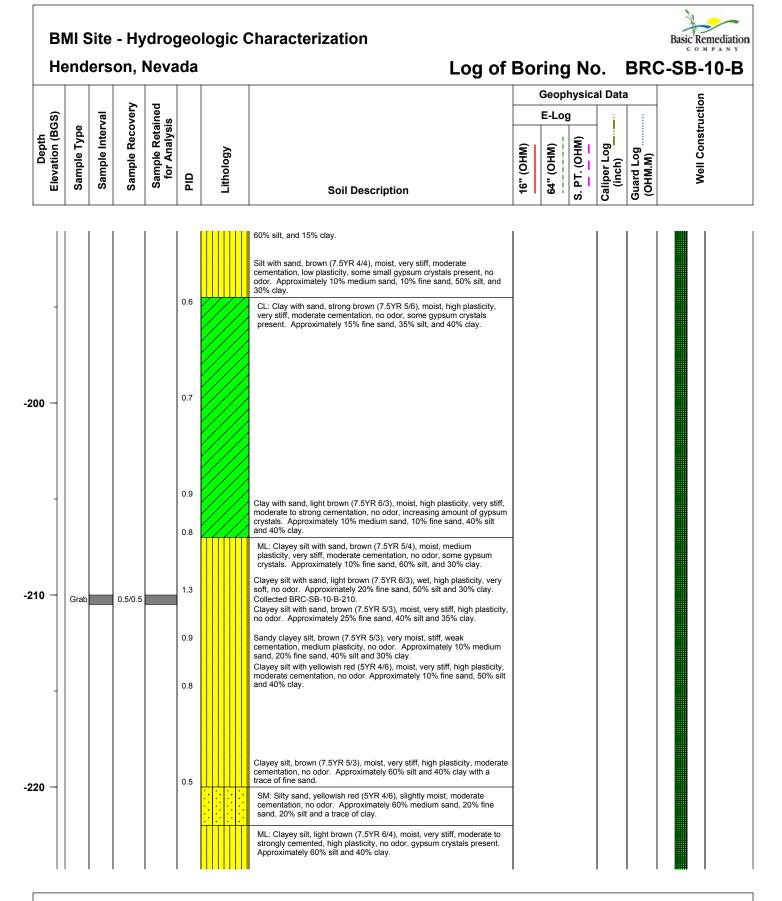
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	BI	BMI Site - Hydrogeologic Characterization									Basic Remediation		
	He	end	ers	on,	Neva	ida		Log of Boring No. BRC-SB-10-B					
	s)		(ery						al Data				
	Depth Elevation (BGS)	Type	Sample Interval	Sample Recovery	Sample Retained for Analysis		~			5 5	Well Construction		
	De levatic	Sample Type	ample	ample	ample for A	DID	Lithology		16" (OHM) 64" (OHM) S. PT. (OHM	Caliper Log (inch) - Guard Log (OHM.M)	Well C		
	ш	S	0 0	S	0	•	בי	Soil Description	64	Gual (O			
-10	60 —					0.2		Silt with sand, brown (7.5YR 4/4), moist, very stiff, low plasticity, weak cementation, some small gypsum crystals. Approximately 20% fine sand, 55% silt, and 25% clay.					
						0.3		At 164.25', this 1" lense of sandy silt, light gray (7.5YR 7/1), moist, very stiff, moderate cementation, no odor. Approximately 10% medium sand, 20% fine sand, 55% silt, and 15% clay. Clayey silt, brown (7.5YR 4/4), moist, very stiff, moderate cementation, low plasticity, no odor. Approximately 60% silt, 40% clay and a trace of fine sand. Clayey silt, brown (7.5YR 5/3), moist, very stiff, weak cementation, medium plasticity, no odor, small gypsum crystals present. Approximately 80% silt and 20% clay.					
-1	70 —					0.6		Grades. Sandy silt, strong brown (7.5YR 5/6), moist, moderate cementation, nonplastic, very stiff, no odor, some gypsum crystals. Approximately 30% fine sand, 70% silt with a trace of clay. 174-174.5' increased sand content and strongly cemented, moist.					
						0.4		CL: Sandy clay, brown (7.5YR 4/4), moist, medium plasticity, stiff, moderate cementation, no odor, with some gypsum crystals. Approximately 40% fine sand, 30% silt, and 30% clay.	N				
-18	30 —					0.4		 Silty sand, yellowish red (5YR 4/6), moist, weak cementation, no odor. Approximately 10% medium sand, 50% fine sand, 30% silt, and 10% clay. At 180', grades strong brown (7.5YR 4/6). ML: Sandy silt, yellowish red (5YR 4/6), moist, very stiff, moderate to strongly cemented, medium plasticity, no odor. Approximately 10% medium sand, 25% silt and 35% clay. 	-				
	_					0.5		Grades. Sandy silt, brown (7.5YR 4/3), sand is very fine, moist, stiff, weak cementation, low plasticity, no odor. Approximately 30% fine sand, 60% silt, and 10% clay.			Cement Backfill		
-1	90 -					0.6		Grades. Silt with sand, brown (7.5YR 4/4), moist, very stiff, low plasticity, weak to moderate cementation, no odor, some small gypsum crystals present. Approximately 10% medium sand, 15% fine sand,					



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BMI Site - Hydrogeologic Characterization Basic Remediation Henderson, Nevada Log of Boring No. BRC-SB-10-B **Geophysical Data** Well Construction Sample Retained for Analysis Sample Recovery E-Log Elevation (BGS) Sample Interval Sample Type Depth (MHO) Caliper Log (MHO) (MHO) Guard Log Lithology (M.MHO) (inch) Е. 뎹 <u>"9</u> . . . Soil Description *i* 0.9 Cement Backfill 0.6 -230 Clayey silt, light brown (7.5YR 6/4), moist, medium plasticity, stiff, weak cementation, no odor. Approximately 10% fine sand, 60% silt, and 30% clay. Sandy silt, strong brown (7.5YR 5/6), moist, hard, moderate 0.7 cementation, nonplastic, no odor. Approximately 20% medium sand, 20% fine sand, 40% silt and 20% clay. 0.0 Clayey silt, brown (7.5YR 5/3), moist, very stiff, moderate cemented, -240 high plasticity, no odor. Approximately 10% fine sand, 60% silt and 30% clay. At 244', sandy silt (approximately 3" zone), brown (7.5YR 5/4), wet, soft, medium plasticity, no odor. Approximately 15% medium sand, 15% fine sand, 40% silt, and 20% clay. Sandy silt, brown (7.5YR 5/3), dry, hard, moderate cementation, no odor. Approximately 15% medium sand, 20% fine sand, 65% silt and a trace of clay. 0.0 SC: Clayey sand, mottled light brown (7.5YR 6/4), and dark bluish gray (GLEY 2 4/10B), wet, soft, no odor. Approximately 15% medium sand, 45% fine sand, 20% silt and 20% clay. Collected BRC-SB-10-B-246.5. 0.5/0.5 0.0 Grab ML: Sandy silt, brown (7.5YR 5/3), moist, hard, strong cementation, some white gypsum crystals present, no odor. Approximately 10% medium sand, 25% fine sand, 35% silt and 30% clay. 0.4 At 249', grades dry. -250 Cement Backfill Sandy silt, brown (7.5YR 5/3), dry, hard, strong cementation, some white gypsum crystals present, no odor SM: Silty sand, yellowish red (5YR 4/6), dry, moderate cementation, no odor, sand is mostly comprised of small gypsum crystals. 0.0 Approximately 50% medium sand, 30% fine sand, and 20% silt. ML: Sandy silt, strong brown (7.5YR 5/6), slightly moist, very stiff, 0.0 moderate cementation. Approximately 40% fine sand, 45% silt, and 15% clay Sandy silt, yellowish red (5YR 4/6), slightly moist, hard, moderate to



Log of Boring: BRC-SB-10-B

BMI Site - Hydrogeologic Characterization Basic Remediation Henderson, Nevada Log of Boring No. BRC-SB-10-B **Geophysical Data** Well Construction Sample Retained for Analysis Sample Recovery E-Log Elevation (BGS) Sample Interval Sample Type Depth (MHO) Caliper Log (MHO) (MHO) Guard Log Lithology (M.MHO) (inch) Е. 뎹 <u>"9</u> . . . Soil Description *i* strong cementation, no odor. Approximately 10% medium sand, 25% fine sand, 45% silt, and 20% clay. 0.0 -260 Silt with sand, yellowish red (5YR 4/6), moist, very stiff, moderate to strong cementation, no odor. Approximately 10% medium sand, 15% fine sand, 55% silt, and 20% clay 0.1 Silt with sand, yellowish red (5YR 4/6), slightly moist, hard, strong cementation, no odor. Approximately 5% medium sand, 10% fine sand, 75% silt and 10% clay. 267'-268', clayey silt, brown (7.5YR 5/3), moist, very stiff, moderate cementation, no odor. Approximately 80% silt, 20% clay, and a trace of fine sand. CL: Sandy silty clay, yellowish red (5YR 4/6), moist, moderate cementation, high plasticity, very stiff, no odor. Approximately 10% medium sand, 20% fine sand, 35% silt and 35% clay. 0.4 -270 ML: Sandy clayey silt, brown (7.5YR 4/4), moist, moderate to strong cementation, high plasticity, very stiff, no odor. Approximately 10% medium sand, 20% fine sand, 40% silt, and 30% clay. 0.0 0.4 Sandy clayey silt, yellowish red (5YR 4/6), slightly moist, moderate to strong cementation, very stiff, no odor. Approximately 10% medium sand, 20% fine sand, 40% silt and 30% clay. -280 Cement Clayey silt, brown (7.5YR 5/3), moist, very stiff, moderate to strong cementation, no odor. Approximately 80% silt and 20% clay. Backfill 0.3 At 282.25', this 1" zone of silt with sand, light brown (7.5YR 6/4), slightly moist, hard, moderate to strong cementation, no odor. Approximately 10% medium sand, 15% fine sand, 55% silt and 20% clay. SM: Silty sand, yellowish red (5YR 4/6), dry, strong cementation, no odor, sand is mostly small gypsum crystals. Approximately 30% medium sand, 30% fine sand, 20% silt, and 20% clay. 0.2 0.4 ML: Sandy silt, gray (5YR 6/2), moist, nonplastic, soft, weak cementation. Approximately 40% fine sand, 50% silt, and 10% clay. Silt with sand, brown (7.5YR 5/3), moist, very stiff, strong cementation. -290 Approximately 10% medium sand, 10% fine sand, 60% silt, and 20% clay



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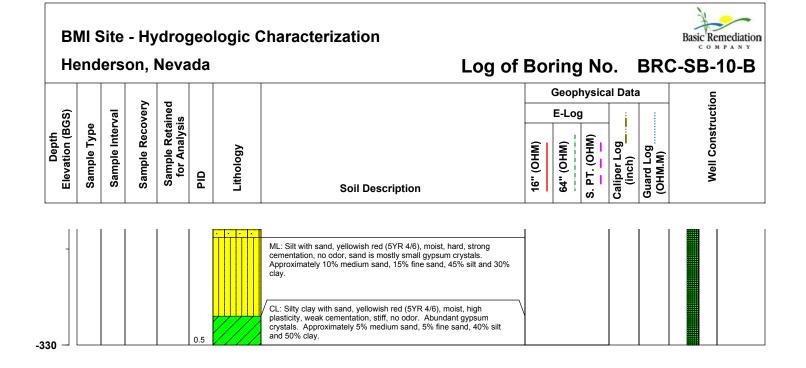
BMI Site - Hydrogeologic Characterization Basic Remediation Henderson, Nevada Log of Boring No. BRC-SB-10-B **Geophysical Data** Well Construction Sample Retained for Analysis Sample Recovery E-Log Elevation (BGS) Sample Interval Sample Type Depth (MHO) Caliper Log (inch) -(MHO) (MHO) Guard Log Lithology (M.MHO) РТ. 뎹 <u>"9</u> . . . Soil Description *i* 0.3 Silt with sand, brown (7.5YR 5/3), moist, very stiff, moderate to strongly cemented, no odor. Approximately 10% medium sand, 15% fine sand, 60% silt and 15% clay. 0.1 Silt with sand, yellowish red (5YR 4/6), moist, very stiff, moderate to strong cementation, no odor. Approximately 10% medium sand, 10% fine sand, 65% silt, and 15% clay. 04 Clayey silt, reddish gray (5YR 5/2), moist, very stiff, moderate to strong cementation, no odor. Approximately 70% silt and 30% clay with a trace of fine sand. Silt with sand as above. 0.3 -300 SM: At 301.5', thin 1" zone of silty sand, brown (7.5YR 5/2), moderate cementation, slightly moist, no odor. Approximately 10% medium sand, 50% fine sand, 40% silt with a trace of clay. ML: Sandy silt, reddish brown (5YR 4/4), moist, stiff, moderate cementation, no odor. Approximately 10% medium sand, 20% fine sand, 50% silt, and 20% clay. CL: Clay with sand, yellowish red (5YR 4/6), moist, very stiff 0.2 moderate to strong cementation, no odor. Approximately 20% fine sand, 35% silt, and 45% clay. ML: Silt with sand, brown (7.5YR 5/3), moist, stiff, moderate cementation, no odor. Abundant gypsum crystals. Approximately 25% fine sand, 55% silt and 20% clay. -310 SC: Clayey sand, strong brown (7.5YR 5/6), slightly moist, strong cementation, no odor, abundant gypsum crystals. Approximately 15% medium sand, 45% fine sand, 15% silt, and 25% clay. Cement Backfill ML: Silt with sand, yellowish red (5YR 4/6), moist, moderate cementation, hard, no odor, abundant gypsum crystals Approximately 15% fine sand, 45% silt, and 40% clay. 0.0 Sandy silt, yellowish red (5YR 4/6), very moist (almost wet), soft, medium plasticity, no odor, some gypsum crystals. Approximately 15% medium sand, 15% fine sand, 40% silt, and 30% clay. 0.0 Grab 0.5/0.5 Collected BRC-SB-10-B-316.5 CL: Clay with sand, yellowish brown (5YR 4/6), moist, very stiff, high plasticity, moderate cementation, no odor, some gypsum crystals Approximately 10% fine sand, 40% silt and 50% clay. 0.4 -320 ML: Silt with sand, yellowish brown (5YR 4/6), slightly moist, moderate cemenation, very stiff, no odor. Approximately; 10% fine sand, 60% silt and 30% clay. 0.2 SM: At 324', thin 4" zone of silty sand, white (7.5YR 8/1), to strong brown (7.5YR 5/6), dry, strong cementation, no odor. Approximately 20% medium sand, 40% fine sand, 30% silt and 10% clay.

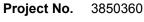


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MWH

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