Log of Boring No. BRC-SB-11-B

BMI Site - Hydrogeologic Characterization

Henderson, Nevada

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

Borehole Total Depth: 287 ft bgs
Borehole Diameter: 8.5 in
Boring Location: Location 11 (Well ID: MCF-11)
Depth to Water (ft. bgs): 24 ft bgs ▽

Sample Type: Split Spoon
Sample Interval Continuous

Logged By: Adam Norris
Date Started: 6/18/04
Date Completed: 6/29/04

Monitoring Well Construction

Type of Surface Seal:	Bentonite Grout	**Screen Slot Size:**	0.010 in
Blank Casing Type/Size:	4" Sch 80 PVC	**Top of Screen (ft. bgs):**	93.5
Screen Type/Size:	4" Sch 80 PVC	**Bottom of Screen (ft. bgs):**	103.5 ft bgs
Transition Sand Type:	N/A	**Type of Sand Pack:**	#10 x 20

Depth Elevation (MSLD)	Sample Type	Sample Interval	Sample Recovery (feet)	Sample Retained for Analysis	PID	Lithology	Soil Description	Well Construction
0	Cont.		1.5/7		0.0		SM: Silty sand with gravel, brown (7.5YR 5/2), dry, subangular to subrounded sand, non plastic silt, subangular to subrounded fine to coarse volcanic gravel (up to 3" long). Approximately 15% gravel, 5% coarse sand, 20% medium sand, 35% fine sand and 25% silt. Collected sample BRC-SB-11-B-0 for chemical analysis.	Locking monument well box with concrete apron and ballards
					0.0			
					0.0		Silty sand with gravel, brown (7.5YR 5/2), dry, subangular to subrounded sand, non plastic silt, subangular to subrounded fine to coarse volcanic gravel (up to 2" long). Approximately 20% gravel, 5% coarse sand, 10% medium sand, 40% fines sand, and 25% silt.	Cement Bentonite Grout
					0.0			
	Cont.		1.5/11.5				Collected sample BRC-SB-11-B-7 for chemical analysis.	
					0.0		Same as above. Approximately 20% gravel, 5% coarse sand, 15% medium sand, 35% fines sand, and 25% silt.	
-10					0.0			4" Blank PVC Riser Pipe
					0.0		Same as above.	
					0.0			
					0.0		Same as above.	
					0.0			
	Cont.		1.5/9.5		0.0		Collected sample BRC-SB-11-B-18.5 for chemical analysis.	
-20					0.0			
					0.0			
					0.0			

Depth Elevation (MSLD)	Sample Type	Sample Interval	Sample Recovery (feet)	Sample Retained for Analysis	PID	Lithology	Soil Description	Well Construction
-30	Cont.		1.5/10		0.0		Collected sample BRC-SB-11-B-27 for chemical analysis.	Cement Bentonite Grout
					0.0			
					0.0			
					0.0		ML: Clayey silt, white (2.5YR 8/1), very moist, nonplastic to low plasticity fines, subangular to subrounded. Approximately 5% fine sand, 75% silt and 20% clay.	
					0.0			
					0.0		Same as above. Apporximately trace fine sand, 75% silt and 25% clay.	4" Blank PVC Riser Pipe
					0.0			
	Cont.		1.5/10		0.0		Clayey silt, yellowish brown (10Y 5/4), moist, non plastic to low plasticity fines, stiff. Approximately 80% silt and 20% clay. Collected sample BRC-SB-11-B-37 for chemical analysis.	
-40					0.0		Clayey silt, brown (10Y 5/3), moist, non plastic to low plasticity fines, very stiff. Approximately 85% silt and 15% clay. Becomes a light olive gray (5Y6/2) at 42 ft bgs.	
					0.0			
					0.0		Silt, pale yellow (2.5Y 6/3), moist, very stiff, non plastic to low plasticity fines. Approximately trace fine sand, 95% silt and 5% clay.	
					0.0			
					0.0		Clayey silt, pale brown (10Y 6/5), moist, non plastic to low plasticity fines, very stiff. Approximately 80% silt and 20% clay.	
-50					0.0		Clayey silt, light brown (7.5Y 6/4), moist, non plastic to low plasticity fines, very stiff. Approximately 85% silt and 15% clay.	
	Grab		-0.5//		0.0		SM: Silty sand, light yellowish brown (10YR 6/4), wet, non plastic silt, subangular to subrounded sand. Approximately 60% fine sand and 40% silt. Collected BRC-SB-11-B-52 grab saturated soil sample.	
					0.0		ML: Silt, light yellowish brown (2.5YR 6/3), very stiff, very moist to moist, non plastic to low plasticity fines. Approximately 95% fine sand and 5% silt.	
					0.0			
					0.0			
	Cont.		1.5/10		0.0		Clayey silt, pale yellow (2.5Y 7/2), moist, stiff to very stiff, non plastic to low plasticity fines. Approximately 85% silt and 15% clay. Collected sample BRC-SB-11-B-57 for chemical analysis.	

Depth Elevation (MSLD)	Sample Type	Sample Interval	Sample Recovery (feet)	Sample Retained for Analysis	PID	Lithology	Soil Description	Well Construction
-60					0.0		Same as above.	Cement Bentonite Grout
					0.0		Silt with sand, yellowish brown (10Y 5/4), moist, non plastic to low plasticity fines, very stiff. Approximately 15% fine sand, 85% silt and trace clay.	
					0.0		Clayey silt, light brown (7.5Y 6/4), moist, non plastic to low plasticity fines, very stiff. Approximately 85% silt and 15% clay.	4" Blank PVC Riser Pipe
					0.0		Becomes light olive gray (5Y 6/2).	
-70					0.0		Silt with clay, light olive gray (5Y 6/2), moist, stiff to very stiff, non plastic to low plasticity fines. Approximately 90% silt and 10% clay.	
					0.0		Silt, olive gray (5Y 6/3), moist, stiff, non plastic to low plasticity fines. Approximately trace fine sand, 95% silt and 5% clay.	
					0.0		Same as above. Approximately 5% fine sand, 90% silt and 5% clay.	
	Cont.		1.5/10		0.0		Collected sample BRC-SB-11-B-77 for chemical analysis.	
-80					0.0		Silt, pale yellow (5Y 8/2), moist, stiff, non plastic to low plasticity fines. Approximately 95% silt and 5% clay.	
					0.0			Bentonite seal
					0.0		Silt with clay, pale olive gray (5Y 6/3), moist, stiff to very stiff, non plastic to low plasticity fines. Approximately 90% silt and 10% clay.	
					0.0		Becomes yellowish brown (10YR 5/4).	
					0.0		Silt with clay, pale olive gray (5Y 7/2), moist, stiff to very stiff, non plastic to low plasticity fines. Approximately 90% silt and 10% clay.	#10 x 20 Sand Pack
-90					0.0		Same as above. Approximately 85% silt and 15% clay.	

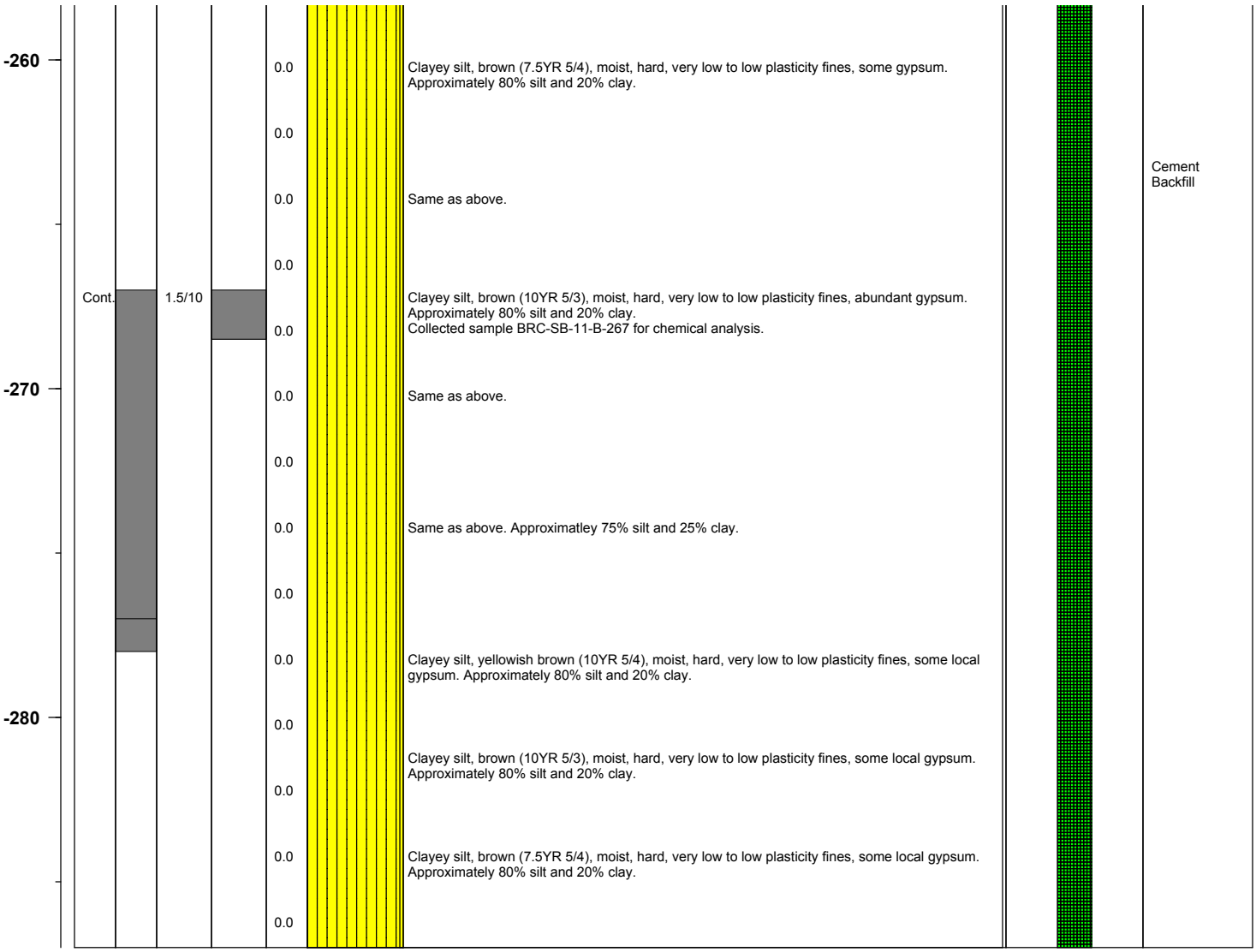
Depth Elevation (MSLD)	Sample Type	Sample Interval	Sample Recovery (feet)	Sample Retained for Analysis	PID	Lithology	Soil Description	Well Construction
					0.0		Same as above.	
					0.0			
					0.0		CL: Silty clay, greenish gray (10YR 5/4), moist, stiff, very low to low plasticity fines. Approximately 30% silt and 70% clay.	
					0.0		ML: Clayey silt, greenish gray (10YR 5/4), moist, stiff, very low to low plasticity fines. Approximately 30% silt and 70% clay.	4" 0.010 Slot PVC screen
-100					0.0		Sandy silt, greenish gray (10Y 5/4), wet, stiff, non plastic to low plasticity fines, subangular to subrounded sand. Approximately 80% silt and 20% clay.	
	Grab		-0.5/?		0.0		Collected BRC-SB-11-B-101.5 grab saturated soil sample.	
					0.0		Silt with clay, greenish gray (10Y 6/1), wet, stiff, non plastic to low plasticity fines. Approximately 20% fine sand, 75% silt and 5% clay.	Threaded PVC Well Base Cap
					0.0		Same as above. Approximately 90% silt and 10% clay.	
					0.0			Cement Backfill
					0.0		Clayey silt, greenish gray (10Y 6/1), moist, very stiff to hard, non plastic to low plasticity fines, some local gypsum. Approximately 80% silt and 20% clay.	
-110					0.0		Same as above. Approximately 75% silt and 25% clay.	
					0.0			
					0.0		Same as above, greenish gray (5GY 5/1). Approximately 80% silt and 20% clay.	
					0.0		Same as above.	
					0.0			
-120					0.0		Same as above. Approximately 85% silt and 15% clay.	
					0.0			
					0.0		Same as above. Approximately 80% silt and 20% clay.	

Depth Elevation (MSLD)	Sample Type	Sample Interval	Sample Recovery (feet)	Sample Retained for Analysis	PID	Lithology	Soil Description	Well Construction
-130					0.0		Same as above. Approximately 75% silt and 25% clay.	
					0.0		Same as above. Approximately 80% silt and 20% clay.	
					0.0		Clayey silt, brown (7.5Y 5/2), moist, hard, very low to low plasticity fines, some local gypsum. Approximately 75% silt and 25% clay.	
					0.0			
					0.0		Clayey silt, greenish gray (5GY 5/1), moist, hard, non plastic to low plasticity fines, trace local gypsum. Approximately 80% silt and 20% clay.	
-140					0.0		Clayey silt, greenish gray (10YR 5/1), moist, hard, non plastic to low plasticity fines, trace local gypsum. Approximately 80% silt and 20% clay.	
					0.0		Becomes greenish brown (10YR 5/2) at 142 ft bgs.	
					0.0		GYPSUM: Gypsum at 143 ft to 143.5 ft bgs.	
					0.0		ML: Clayey silt, brown (10YR 5/3), moist, hard, non plastic to low plasticity fines, some local gypsum. Approximately 80% silt and 20% clay.	
					0.0		Clayey silt, brown (7.5Y 5/3), moist, hard, vert low to low plasticity fines, some local gypsum. Approximately 80% silt and 20% clay.	
-150					0.0		Same as above. Approximately 85% silt and 15% clay.	
					0.0		Same as above. Approximately 80% silt and 20% clay.	
					0.0		Same as above. Approximately 80% silt and 20% clay.	
					0.0			Cement Backfill

Depth Elevation (MSLD)	Sample Type	Sample Interval	Sample Recovery (feet)	Sample Retained for Analysis	PID	Lithology	Soil Description	Well Construction
-160					0.0		Clayey silt, grayish brown (10YR 5/2), moist, hard, non plastic to low plasticity fines, trace local gypsum. Approximately 80% silt and 20% clay.	
					0.0		Silt, brown (10YR 5/2), moist, very stiff, non plastic to low plasticity fines, trace local gypsum, subangular to subrounded sand. Approximately 80% silt and 20% clay.	
					0.0			Cement Backfill
	Cont.		1.5/10		0.0		Clayey silt, brown (10YR 5/3), moist, very stiff, non plastic to low plasticity fines. Approximately trace medium sand, 10% fine sand, 85% silt and 5% clay. Collected sample BRC-SB-11-B-167 for chemical analysis.	
-170					0.0		Same as above. Approximately 5% fine sand, 80% silt and 15% clay.	
					0.0			
					0.0		Clayey silt, yellowish brown (10YR 5/4), moist, very stiff to hard, non plastic to low plasticity fines. Approximately 80% silt and 20% clay.	
					0.0			
					0.0		Same as above, greenish gray (10Y 6/1). Approximately 80% silt and 20% clay.	
-180					0.0			
					0.0		Clayey silt, brown (10YR 5/3), moist, very stiff, non plastic to low plasticity fines, trace local gypsum. Approximately 80% silt and 20% clay.	
					0.0		Silt with clay, brown (10YR 5/3), moist, hard, non plastic to low plasticity fines, some local gypsum. Approximately 90% silt and 10% clay.	
					0.0			
					0.0		Clayey silt, brown (7.5YR 5/3), moist, hard, very low to low plasticity fines, some local gypsum. Approximately 75% silt and 25% clay.	
-190					0.0		Same as above. Approximately 80% silt and 20% clay.	

Depth Elevation (MSLD)	Sample Type	Sample Interval	Sample Recovery (feet)	Sample Retained for Analysis	PID	Lithology	Soil Description	Well Construction
					0.0		Same as above.	
	Grab		-0.5/?		0.0		Wet at 194.5 ft to 196.5 ft bgs. Sandy silt, light brownish gray (10YR 6/1), wet, non plastic silt, subangular to subrounded sand. Approximately 30% fine sand and 70% silt. Collected BRC-SB-11-B-195 grab saturated soil sample.	
					0.0		Clayey silt, greenish gray (10YR 6/1), moist, hard, non plastic to low plasticity fines. Approximately 80% silt and 20% clay.	Cement Backfill
-200					0.0		Clayey silt, brown (10YR 5/3), moist, hard, very low to low plasticity fines, trace local gypsum. Approximately 70% silt and 30% clay.	
					0.0		Same as above. Approximately 75% silt and 25% clay.	
					0.0		Silt with clay, brown (10YR 5/3), moist, hard, non plastic to low plasticity fines, some local gypsum. Approximately 90% silt and 10% clay.	
-210					0.0		Clayey silt, brown (7.5YR 5/3), moist, hard, very low to low plasticity fines, some local gypsum. Approximately 80% silt and 20% clay.	
					0.0		Silt with clay, brown (10YR 5/3), moist, hard, non plastic to low plasticity fines, some local gypsum. Approximately 90% silt and 10% clay.	
					0.0		Clayey silt, brown (7.5YR 5/3), moist, hard, very low to low plasticity fines, some local gypsum. Approximately 80% silt and 20% clay.	
					0.0		Same as above.	
					0.0		Clayey silt, brown (10YR 5/3), moist, hard, very low to low plasticity fines, trace local gypsum. Approximately 80% silt and 20% clay.	
-220					0.0		Same as above.	
					0.0			
					0.0		Same as above.	

Depth Elevation (MSLD)	Sample Type	Sample Interval	Sample Recovery (feet)	Sample Retained for Analysis	PID	Lithology	Soil Description	Well Construction
-230	Grab		-0.5/?		0.0		Same as above.	Cement Backfill
					0.0		Same as above.	
					0.0		Clayey silt, light brown (7.5YR 6/3), moist, hard, very low to low plasticity fines, some local gypsum. Approximately 80% silt and 20% clay.	
					0.0		Silt with sand, light greenish gray (10Y 8/1), wet, non plastic silt. Approximately 20% fine sand and 80% silt. Collected BRC-SB-11-B-234 grab saturated soil sample.	
					0.0		Clayey silt, brown (7.5YR 4/3), moist, hard, very low to low plasticity fines, some local gypsum. Approximately 80% silt and 20% clay.	
-240					0.0		Same as above.	
					0.0		Same as above. Approximatley 75% silt and 25% clay.	
					0.0			
					0.0		Clayey silt, brown (10YR 4/3), moist, hard, very low to low plasticity fines, some local gypsum. Approximately 80% silt and 20% clay.	
					0.0		Clayey silt, brown (10YR 5/3), moist, hard, very low to low plasticity fines, abundant gypsum. Approximately 80% silt and 20% clay.	
-250					0.0		Same as above, some gypsum.	Cement Backfill
					0.0		Same as above.	
					0.0		Same as above.	


Depth Elevation (MSLD)
Sample Type
Sample Interval
Sample Recovery (feet)
Sample Retained for Analysis
PID
Lithology
Soil Description
Well Construction
-260
-270
-280
Cont.
1.5/10
0.0
Clayey silt, brown (7.5YR 5/4), moist, hard, very low to low plasticity fines, some gypsum. Approximately 80% silt and 20% clay.
Same as above.
Clayey silt, brown (10YR 5/3), moist, hard, very low to low plasticity fines, abundant gypsum. Approximately 80% silt and 20% clay.
Collected sample BRC-SB-11-B-267 for chemical analysis.
Same as above.
Same as above. Approximatley 75% silt and 25% clay.
Clayey silt, yellowish brown (10YR 5/4), moist, hard, very low to low plasticity fines, some local gypsum. Approximately 80% silt and 20% clay.
Clayey silt, brown (10YR 5/3), moist, hard, very low to low plasticity fines, some local gypsum. Approximately 80% silt and 20% clay.
Clayey silt, brown (7.5YR 5/4), moist, hard, very low to low plasticity fines, some local gypsum. Approximately 80% silt and 20% clay.
Cement
Backfill