



NOT TO SCALE



Date: April 2006

Atlantic Richfield
Company

Project: 129684

**Well B/W-5D
Construction Details**

Project Name: Yerington Groundwater Investigation

Well Number: B/W-5

Soil Boring

Monitoring Well

Project Number: 121243.021

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Boring Location: North of mine tailings, along Mason Pass Road		Elevation: 4353.3 feet amsl	East: 319961.5 North: 1559894.8
Drilling Contractor: WDC	Driller: B. Zamow	Date Started: 9/20/05	Date Finished: 9/22/05
Drilling Equipment: Gus Pech GP24-400RS, Diedrich Sonic Head		Total Depth: (feet) 155.0	Water Depth: (feet) 30' / 24.17'
Sampling Method: Core Barrel	Borehole Diameter: 6"	Well Diameter and Material: 2-inch PVC	
Drilling Method: Sonic, utilized 6" casing and a 4.5" core barrel		Screened Interval and Well Depth: 115.6-135.6 ft., bottom at 135.8 ft.	
Well Seal: Bentontite and Cement		Slot Size: 0.020"	Filter Material: #10-20 Silica Sand
Logged By: C. Gardner		Development Method: Swabbed, bailed, pumped	

Depth (feet)	Elevation (feet)	USCS Group Symbol	Description	Sample No.	Graphic Log			Remarks
					Sample	Lithology	Well	
		SC	CLAYEY SAND (0-0.075 feet) Dry, loose, no odor. Primarily medium to fine sand to 2 mm with ~20% silt and clay. The sand is angular to subrounded. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HCl.					<p>Descriptions of drilled cuttings based on ASTM Method D-2488 (the visual-manual procedure), grain-size determinations and nomenclature based on the Unified Soil Classification System. Munsell colors described wet.</p> <p>Horizontal survey data is expressed in the Nevada State Plane system, Nevada West zone, in feet.</p> <p>Sharp contacts indicated by solid lines, gradational contacts indicated by dashed line.</p> <p>All depths are below land surface unless stated otherwise.</p> <p>WELL DESIGN for B/W-5D: Screened Interval: 115.6-135.6 feet. Bottom of sump: 135.8 feet.</p> <p>Cement Grout: 0-97 feet. Bentonite Chips: 97-111.5 feet. Filter Pack: #60 Sand 111.5-112 feet, #10-20 Sand 112-138 feet. Bentonite Chips: 138-151.5 feet Native Fill: 151.5-155 feet</p> <p>Depth to Water Measuring Point is Top of PVC Casing.</p> <p>Top of PVC Elevation: 4,355.75 feet, amsl. PVC Stick-up: 2.5 feet above land surface.</p>
	4350	SC	CLAYEY SAND (0.75-4 feet) Dry, loose, no odor. Primarily medium to fine sand with trace coarse sand to 3 mm and ~20% silt and clay. The sand is angular to subrounded. The fines have medium plasticity and low toughness, are brown, and have a weak to strong reaction to HCl.					
	5	SC	CLAYEY SAND (4-9 feet) Dry, dense, no odor. Primarily medium to fine sand with trace coarse sand to 3 mm and ~40% silt and clay. The sand is angular to subrounded. The fines have medium plasticity and toughness, are brown, and have no reaction to a strong reaction to HCl.					
	4345	SC	CLAYEY SAND (9-10 feet) Dry, dense, no odor. Primarily medium to fine sand to 2 mm with ~30% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and have a					

SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06

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Depth (feet)	Elevation (feet)	USCS Group Symbol	Description	Sample No.	Graphic Log			Remarks
					Sample	Lithology	Well	
		SC	strong reaction to HCl. CLAYEY SAND (10-11.5 feet) Dry, dense, no odor. Primarily medium to fine sand with ~10% coarse sand to 3 mm and ~40% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, and are brown.					
		SC	CLAYEY SAND (11.5-13.5 feet) Dry, dense, no odor. Primarily medium to fine sand to ~0.5 mm with ~25% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and low toughness, are brown, and have a strong reaction to HCl.					
	4340							
		SM	SILTY SAND (13.5-18 feet) Dry, dense, no odor. Primarily medium to fine sand to 2 mm with ~20% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl.					
15								
		SW	WELL-GRADED SAND (18-19 feet) Dry, medium dense, no odor. Primarily medium sand with ~10% fine gravel to 12 mm and ~5% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and do not react to HCl.					
	4335							
		SM	SILTY SAND with GRAVEL (19-23 feet) Dry, dense, no odor. Primarily coarse to medium sand with ~15% fine gravel to 10 mm and ~15% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and have a strong reaction to HCl.					
20								

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Depth (feet)	Elevation (feet)	USCS Group Symbol	Description	Sample No.	Graphic Log			Remarks
					Sample	Lithology	Well	
23-25	4330	SC	CLAYEY SAND (23-23.5 feet) Moist, dense, no odor.					
		SM	Primarily medium to fine sand to 2 mm with ~30% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, and are grayish brown.					
25-26			SILTY SAND (23.5-26 feet) Dry, dense, no odor.					
			Primarily medium to fine sand with ~5% fine gravel to 8 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and have a strong reaction to HCl.					
26-30		CL	SANDY LEAN CLAY (26-30 feet) Dry to moist, stiff, no odor.					
			Primarily silt and clay with ~40% medium to fine sand to 2 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and have a strong reaction to HCl.					
30-30.5	4325	SW-SM	WELL-GRADED SAND with SILT (30-30.5 feet) Saturated, medium dense, no odor.					
		SC	Primarily medium to fine sand with ~5% fine gravel to 8 mm and ~10% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are nonplastic, are brown, and have a strong reaction to HCl.					
30.5-34.75			CLAYEY SAND (30.5-34.75 feet) Moist to dry, dense, no odor.					
			Primarily medium to fine sand with trace fine gravel to 10 mm and ~35% silt and clay. The sand and gravel are subangular to subrounded. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HCl.					
34.75-35.5	4320	SW-SM	WELL-GRADED SAND with SILT (34.75-35.5 feet) Saturated, medium dense, no odor.					
		SC	Primarily medium to fine sand with ~10% coarse sand to 3 mm and ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and have a strong reaction to HCl.					
35.5-36.75			CLAYEY SAND (35.5-36.75 feet)					

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Depth (feet)	Elevation (feet)	USCS Group Symbol	Description	Sample No.	Graphic Log			Remarks
					Sample	Lithology	Well	
	4315	SM	Moist, medium dense, no odor. Primarily medium to fine sand to 1 mm with ~45% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HCl. SILTY SAND with GRAVEL (36.75-39 feet)					
		SM	Moist to saturated, medium dense, no odor. Primarily medium to fine sand with ~15% fine gravel to 12 mm and ~20% silt and clay. The sand is subangular to subrounded, the gravel is angular to subrounded. The fines are nonplastic, are brown, and have a strong reaction to HCl.					
	40	SM	SILTY SAND with GRAVEL (39-40 feet) Saturated, medium dense, no odor. Primarily coarse to medium sand with ~15% fine gravel to 10 mm and ~15% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, and are brown.					
		SM	SILTY SAND (40-40.5 feet) Moist, medium dense, no odor.					
		SM	Primarily medium to fine sand with trace fine gravel to 8 mm and ~25% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines have low plasticity and toughness, are brown, and have a strong reaction to HCl. SILTY SAND with GRAVEL (40.5-43 feet)					
		SM	Saturated, medium dense, no odor. Primarily coarse to medium sand with ~15% fine gravel to 10 mm and ~15% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, and are brown.					
	4310	SM	SILTY SAND (43-43.25 feet)					
		SW-SM	Moist, medium dense, no odor. Primarily medium to fine sand with trace fine gravel to 8 mm and ~25% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines have low plasticity and toughness, are brown, and have a strong reaction to HCl. WELL-GRADED SAND with SILT and GRAVEL (43.25-45.25 feet)					
		SW-SM	Saturated, medium dense, no odor. Primarily medium to fine sand with ~15% gravel to 20 mm and ~10% silt and clay. The sand is subangular to subrounded, the gravel is subangular. The fines are nonplastic, are brown, and do not react to HCl.					
	45	CL	SANDY LEAN CLAY (45.25-53 feet) Dry to moist, stiff, no odor. Primarily silt and clay with ~50% medium to fine sand and trace coarse sand to 3 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are yellowish brown (10YR 5/4), and have a strong reaction to HCl.					
	4305							

B/W-5 @ 40 - 45 Ft.

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Depth (feet)	Elevation (feet)	USCS Group Symbol	Description	Sample No.	Graphic Log			Remarks
					Sample	Lithology	Well	
50								
	4300	SM	<p>SILTY SAND with GRAVEL (53-54.5 feet) Saturated, medium dense, no odor. Primarily coarse to medium sand with ~20% fine gravel to 15 mm and ~15% silt and clay. The sand is angular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and have a weak to strong reaction to HCl.</p>					
		SM	<p>SILTY SAND (54.5-55 feet) Dry to moist, dense, no odor. Primarily medium to fine sand with trace coarse sand to ~5 mm and ~20% silt and clay. The sand is angular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and do not react to HCl.</p>					
55		SM	<p>SILTY SAND with GRAVEL (55-57 feet) Saturated, loose, no odor. Primarily coarse sand with ~30% medium to fine sand, ~15% fine gravel to 10 mm, and ~15% silt and clay. The sand and gravel are angular. The fines are nonplastic, are brown, and do not react to HCl.</p>					
		SM	<p>SILTY SAND (57-60 feet) Moist, medium dense, no odor. Primarily coarse sand with ~30% medium to fine sand, ~10% coarse sand to ~5 mm, and ~20% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and have a strong reaction to HCl in spots.</p>					
	4295							
60		SC	<p>CLAYEY SAND (60-62.5 feet) Moist, medium dense, no odor. Primarily medium to fine sand with trace coarse sand to ~5 mm and ~35% silt and clay. The sand and gravel are subangular to subrounded. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HCl.</p>					

B/W-5 @ 60 - 65 Ft.

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Depth (feet)	Elevation (feet)	USCS Group Symbol	Description	Sample No.	Graphic Log			Remarks
					Sample	Lithology	Well	
62.5	4290	SM	SILTY SAND with GRAVEL (62.5-65 feet) Saturated, medium dense, no odor. Primarily coarse to medium sand with ~25% fine sand, ~20% fine gravel to 15 mm, and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and do not react to HCl.					
65		SM	SILTY SAND (65-68.5 feet) Moist, dense, no odor. Primarily medium to fine sand with ~10% fine gravel to 15 mm and ~20% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and have a weak to strong reaction to HCl with the reaction increasing toward the bottom of the interval.					
68.5	4285	SM	SILTY SAND with GRAVEL (68.5-76 feet) Dry to moist, dense, no odor. Primarily coarse to medium sand with ~15% fine gravel to 12 mm and ~20% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and have a weak to strong reaction to HCl.					
70								
75	4280							

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Depth (feet)	Elevation (feet)	USCS Group Symbol	Description	Sample No.	Graphic Log			Remarks
					Sample	Lithology	Well	
	4275	SM	SILTY SAND (76-78.75 feet) Saturated, dense, no odor. Primarily medium to fine sand with trace coarse sand to 3 mm and ~30% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and have a weak reaction to HCl.					
		SM	SILTY SAND (78.75-79.5 feet) Moist, dense, no odor. Primarily coarse to medium sand with ~20% fine sand, ~5% fine gravel to 8 mm, and ~40% silt and clay. The sand and gravel are angular to subangular. The fines have low plasticity, are brown, and have a weak to strong reaction to HCl.					
80		CL	SANDY LEAN CLAY (79.5-82.75 feet) Moist, hard, no odor. Primarily silt and clay with ~50% medium to fine sand and trace coarse sand to 3 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and have no reaction to a weak reaction to HCl.					
	4270	SW-SM	WELL-GRADED SAND with SILT (82.75-84.25 feet) Saturated, dense, no odor. Primarily medium to fine sand to 2 mm with ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl.					
		CL	SANDY LEAN CLAY (84.25-84.5 feet) Saturated, hard, no odor.					
85		SW	WELL-GRADED SAND with SILT and GRAVEL (84.5-86 feet) Saturated, loose, no odor. Primarily coarse to medium sand with ~25% fine gravel to 15 mm and ~10% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and do not react to HCl.					
		SM	SILTY SAND with GRAVEL (86-88.5 feet) Moist to saturated, medium dense, no odor. Primarily medium to fine sand with ~25% coarse sand, ~15% fine gravel to 15 mm, and ~30% silt and clay. The sand and gravel are angular to subangular. The fines have low plasticity, are brown, and have a weak to strong reaction to HCl.					
	4265							

B/W-5 @ 82 - 87 Ft.

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Depth (feet)	Elevation (feet)	USCS Group Symbol	Description	Sample No.	Graphic Log			Remarks
					Sample	Lithology	Well	
90		SC	CLAYEY SAND (88.5-90.5 feet) Moist, medium dense, no odor. Primarily medium to fine sand with trace coarse sand to ~5 mm and ~30% silt and clay. The sand and gravel are subangular to subrounded. The fines have medium plasticity and toughness, are brown, and have no reaction to a strong reaction to HCl.					
		SM	SILTY SAND with GRAVEL (90.5-92 feet) Dry to moist, dense, no odor. Primarily coarse to medium sand with ~20% fine gravel to 15 mm and ~15% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and do not react to HCl.					
		SM	SILTY SAND (92-93 feet) Moist to saturated, medium dense, no odor. Primarily medium to fine sand with ~10% fine gravel to 10 mm and ~20% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and do not react to HCl.					
	4260	SW-SM	WELL-GRADED SAND with SILT and GRAVEL (93-94 feet) Saturated, medium dense, no odor. Primarily coarse to medium sand with ~20% fine gravel to 15 mm and ~10% silt and clay. The sand is angular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and have no reaction to a weak reaction to HCl.					
		SM	SILTY SAND (94-94.5 feet) Moist to saturated, medium dense, no odor. Primarily medium to fine sand with ~10% fine gravel to 10 mm and ~20% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and do not react to HCl.					
95		SM	SILTY SAND (94.5-95.5 feet) Moist to saturated, medium dense, no odor. Primarily medium to fine sand with ~5% fine gravel to 15 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and do not react to HCl.					
		SW-SM	SILTY SAND (94.5-95.5 feet) Moist to saturated, medium dense, no odor. Primarily medium to fine sand with ~5% coarse sand to ~5 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and do not react to HCl.					
	4255	SM	WELL-GRADED SAND with SILT (97-97.5 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with ~5% coarse sand to ~5 mm and ~10% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and do not react to HCl.					
		CL	SILTY SAND (97.5-99 feet) Moist to saturated, medium dense, no odor. Primarily medium to fine sand with ~5% coarse sand to ~5 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and do not react to HCl.					
100			SANDY LEAN CLAY (99-103 feet) Moist, stiff, no odor. Primarily silt and clay with ~40% medium to fine sand to 1 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and have a strong reaction to HCl.					

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Depth (feet)	Elevation (feet)	USCS Group Symbol	Description	Sample No.	Graphic Log			Remarks
					Sample	Lithology	Well	
4250		SM	SILTY SAND (103-105 feet) Moist, dense, no odor. Primarily medium to fine sand to ~0.5 mm with ~15% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and do not react to HCl.					
105		SM	SILTY SAND (105-107.5 feet) Moist, dense, no odor. Primarily medium to fine sand with ~10% fine gravel to 8 mm and ~30% silt and clay. The sand and gravel are angular to subangular. The fines have low plasticity and toughness, are brown, and have a strong reaction to HCl.					
4245		SW ML	WELL-GRADED SAND with SILT and GRAVEL (107.5-107.7 feet) Saturated, medium dense, no odor. Primarily coarse to medium sand with ~20% fine gravel to 15 mm and ~10% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and have a strong reaction to HCl. SANDY SILT (107.7-110 feet) Dry to moist, stiff, no odor. Primarily silt and clay with ~30% medium to fine sand and ~10% fine gravel to 15 mm. The sand is angular to subangular. The fines have low plasticity, are brown, and have a strong reaction to HCl.					
110		CL	LEAN CLAY with SAND (110-113.5 feet) Dry to moist, hard, no odor. Primarily silt and clay with ~20% medium to fine sand to 1 mm. The sand is subangular to subrounded. The fines have medium plasticity, are brown, and have a weak to strong reaction to HCl.					
4240		SM ML	SILTY SAND (113.5-114 feet) Moist, dense, no odor. Primarily coarse to medium sand with ~20% fine sand, ~5% coarse sand to ~5 mm, and ~45% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and do not react to HCl.					

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Depth (feet)	Elevation (feet)	USCS Group Symbol	Description	Sample No.	Graphic Log			Remarks
					Sample	Lithology	Well	
115		SM	SANDY SILT (114-114.5 feet) Dry to moist, stiff, no odor. Primarily silt and clay with ~30% medium to fine sand and ~10% fine gravel to 15 mm. The sand is angular to subangular. The fines have low plasticity, are brown, and have a strong reaction to HCl.					
		CL	SILTY SAND (114.5-115.5 feet) Moist, dense, no odor. Primarily medium to fine sand with ~30% coarse sand, ~10% coarse sand to ~5 mm, and ~20% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and do not react to HCl.					
		SW-SM	SANDY LEAN CLAY (115.5-117 feet) Dry to moist, firm, no odor. Primarily silt and clay with ~30% fine sand (<0.5 mm). The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and have a strong reaction to HCl.					
4235		SM	WELL-GRADED SAND with SILT (117-118 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with ~5% coarse sand to ~4 mm and ~10% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and have a weak reaction to HCl.					
			SILTY SAND (118-119.5 feet) Moist, dense, no odor.					
		SW	Primarily medium to fine sand with ~5% coarse sand to ~5 mm and ~15% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and have a weak reaction to HCl.					
120			WELL-GRADED SAND (119.5-122.5 feet) Saturated, medium dense, no odor. Primarily medium sand with ~5% coarse sand to ~4 mm and ~5% silt and clay. The sand is subangular to subrounded. The fines are nonplastic, are brown, and have a strong reaction to HCl.					
		SM	SILTY SAND (122.5-125 feet) Dry to moist, dense, no odor. Primarily coarse to medium sand with ~15% fine sand, ~10% coarse sand to ~5 mm, and ~30% silt and clay. The sand is and gravel are angular to subangular. The fines are nonplastic, are brown, and do not react to HCl.					
4230								
		SM	SILTY SAND (125-129.5 feet) Saturated, medium dense, no odor. Primarily medium to fine sand with ~5% gravel to 20 mm and ~15% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and do not react to HCl.					
125								

B/W-5 @ 117 - 122 Ft.

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Depth (feet)	Elevation (feet)	USCS Group Symbol	Description	Sample No.	Graphic Log			Remarks
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4225								
130		SM	SILTY SAND with GRAVEL (129.5-133 feet) Dry to moist, dense, no odor. Primarily coarse to medium sand with ~20% gravel to 20 mm and ~20% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and have a strong reaction to HCl.					
4220		SM	SILTY SAND with GRAVEL (133-136.75 feet) Dry to moist, dense, no odor. Primarily medium to fine sand with ~15% coarse sand, ~15% fine gravel to 12 mm, and ~20% silt and clay. The sand and gravel are angular to subangular. The fines have low plasticity and toughness, are brown, and have a strong reaction to HCl.					
135		CL	SANDY LEAN CLAY (136.75-137.5 feet) Moist, stiff, no odor. Primarily silt and clay with ~35% medium to fine sand and ~10% gravel to 25 mm. The sand and gravel are subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and have a strong reaction to HCl.					
4215		CL	SANDY LEAN CLAY (137.5-139.5 feet) Dry, hard, no odor. Primarily silt and clay with ~45% medium to fine sand and ~5% gravel to 20 mm. The sand and gravel are angular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and have a strong reaction to HCl.					
140		SM	SILTY SAND with GRAVEL (139.5-143 feet) Dry to moist, dense, no odor. Primarily medium to fine sand with ~15% gravel to 20 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and do not react to HCl.					

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					Sample	Lithology	Well	
4210		CL	SANDY LEAN CLAY (143-143.75 feet) Moist, stiff, no odor. Primarily silt and clay with ~40% sand and ~10% fine gravel to 15 mm. The sand and gravel are angular to subangular.					
		SM	The fines have medium plasticity and toughness, are grayish brown (10YR 5/2), and have a strong reaction to HCl.					
		SM	SILTY SAND (143.75-144.25 feet) Moist, medium dense, no odor. Primarily medium to fine sand with ~20% coarse sand, ~10% fine gravel to 10 mm and ~40% silt and clay. The sand and gravel are angular to subangular. The fines have low plasticity, are brown, and have a weak reaction to HCl.					
145		ML	SILTY SAND (144.25-145.5 feet) Dry to moist, medium dense, no odor. Primarily medium to fine sand with ~20% coarse sand, ~10% fine gravel to 8 mm, and ~30% silt and clay. The sand and gravel are subangular to subrounded. The fines have low plasticity, are brown, and have a weak reaction to HCl.					
		SM	SANDY SILT (145.5-146 feet) Dry, dense, no odor. Primarily silt and clay with ~30% medium to fine sand, ~20% coarse sand to ~5 mm. The sand is subangular to subrounded. The fines are nonplastic, are brown, and have a weak reaction to HCl.					
		ML	SANDY SILT (145.5-146 feet) Dry, dense, no odor. Primarily silt and clay with ~30% medium to fine sand, ~20% coarse sand to ~5 mm. The sand is subangular to subrounded. The fines are nonplastic, are brown, and have a weak reaction to HCl.					
		SM	SANDY SILT (145.5-146 feet) Dry, dense, no odor. Primarily silt and clay with ~30% medium to fine sand, ~20% coarse sand to ~5 mm. The sand is subangular to subrounded. The fines are nonplastic, are brown, and have a weak reaction to HCl.					
		CL	SILTY SAND (146-146.5 feet) Dry to moist, dense, no odor. Primarily medium to fine sand with ~10% fine gravel to 10 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and have a strong reaction to HCl.					
4205		ML	SANDY SILT (146.5-147 feet) Dry, dense, no odor. Primarily silt and clay with ~30% medium to fine sand, ~20% coarse sand to ~5 mm. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and have a weak reaction to HCl.					
		CL	SANDY SILT (146.5-147 feet) Dry, dense, no odor. Primarily silt and clay with ~30% medium to fine sand, ~20% coarse sand to ~5 mm. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and have a weak reaction to HCl.					
		SM	SILTY SAND (147-147.5 feet) Dry to moist, dense, no odor. Primarily medium to fine sand with ~10% fine gravel to 10 mm and ~15% silt and clay. The sand and gravel are angular to subangular. The fines are nonplastic, are brown, and have a strong reaction to HCl.					
150		CL	SANDY LEAN CLAY (147.5-148 feet) Moist, stiff, no odor. Primarily silt and clay with ~45% medium to fine sand and ~5% gravel to 20 mm. The sand is subangular to subrounded, gravel is angular to subangular. The fines have medium plasticity and toughness, are brown (10YR 5/4), and have a strong reaction to HCl.					
		SM	SANDY SILT (148-148.5 feet) Dry, dense, no odor. Primarily silt and clay with ~30% medium to fine sand, ~15% coarse sand to ~5 mm. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and have a weak reaction to HCl.					
4200		SC	SANDY LEAN CLAY (148.5-149.5 feet) Dry to moist, hard, no odor. Primarily silt and clay with ~50% medium to fine sand and					

SONIC METHOD LOG YERINGTON.GPJ BRN&CALD.GDT 1/31/06

Project Name: Yerington Groundwater Investigation

Well Number: B/W-5

Soil Boring

Monitoring Well

Project Number: 121243.021

Sheet 13 of 13

Depth (feet)	Elevation (feet)	USCS Group Symbol	Description	Sample No.	Graphic Log			Remarks
					Sample	Lithology	Well	
155	4195	SM	trace coarse sand to 3 mm. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and have a strong reaction to HCl.					
		SC	SILTY SAND (149.5-150.25 feet) Moist, dense, no odor. Primarily medium to fine sand with ~5% fine gravel to 12 mm and ~15% silt and clay. The sand and gravel are subangular to subrounded. The fines are nonplastic, are brown, and have a strong reaction to HCl.					
			SANDY LEAN CLAY (150.25-152.5 feet) Dry to moist, hard, no odor. Primarily silt and clay with ~50% medium to fine sand and trace coarse sand to 4 mm. The sand is angular to subrounded. The fines have medium plasticity and toughness, are brown (10YR 5/3), and have a strong reaction to HCl.					
			SILTY SAND (152.5-153 feet) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~5% fine gravel to 10 mm and ~15% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and have a strong reaction to HCl.					
			CLAYEY SAND (153-153.75 feet) Dry, very dense, no odor. Primarily medium to fine sand to 2 mm with ~35% silt and clay. The sand is subangular to subrounded. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HCl.					
			SILTY SAND (153.75-154.25 feet) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~5% fine gravel to 10 mm and ~15% silt and clay. The sand is subangular to subrounded, the gravel is angular to subangular. The fines are nonplastic, are brown, and have a strong reaction to HCl.					
			CLAYEY SAND (154.25-155 feet) Dry to moist, very dense, no odor. Primarily medium to fine sand with ~5% fine gravel to 8 mm with ~30% silt and clay. The sand and gravel are subangular to subrounded. The fines have medium plasticity and toughness, are brown, and have a strong reaction to HCl.					