

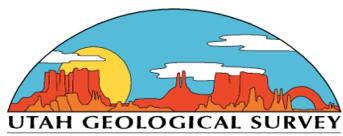
Figure B-1. Cadastral well numbering system. The cadastral well numbering system for wells in this study is based on the Federal Government cadastral land-survey system that divides Utah into four quadrants (A-D) separated by the Salt Lake Base Line and Meridian. The study area is in the southwestern quadrant (C). The wells are numbered with this quadrant letter (C), followed by township and range, all enclosed in parentheses. The next set of characters indicates the section, quarter section, quarter-quarter section, and quarter-quarter-quarter section designated by letters a through d, indicating the northeastern, northwestern, southwestern, and southeastern quadrants, respectively. A number after the hyphen corresponds to an individual well within a quarter-quarter-quarter section. In this example, the well (C-6-2)9adb-1 is the first well in the northwestern quarter of the southeastern quarter of the northeastern quarter of section 9, Township 6 South, Range 2 West, Salt Lake Base Line and Meridian (NW¹/₄SE¹/₄NE¹/₄ section 9, T. 6 S., R. 2 W. SLB&M).

PERFORATIONS CONT:

240 perforations, 465-481
100 perforations, 488-493
210 perforations, 530-544
360 perforations, 550-574
60 perforations, 582 587

Sheet # 2 of 2
of W.D Rept for
Ap 22826 #2
(c-b-2) 17 dec

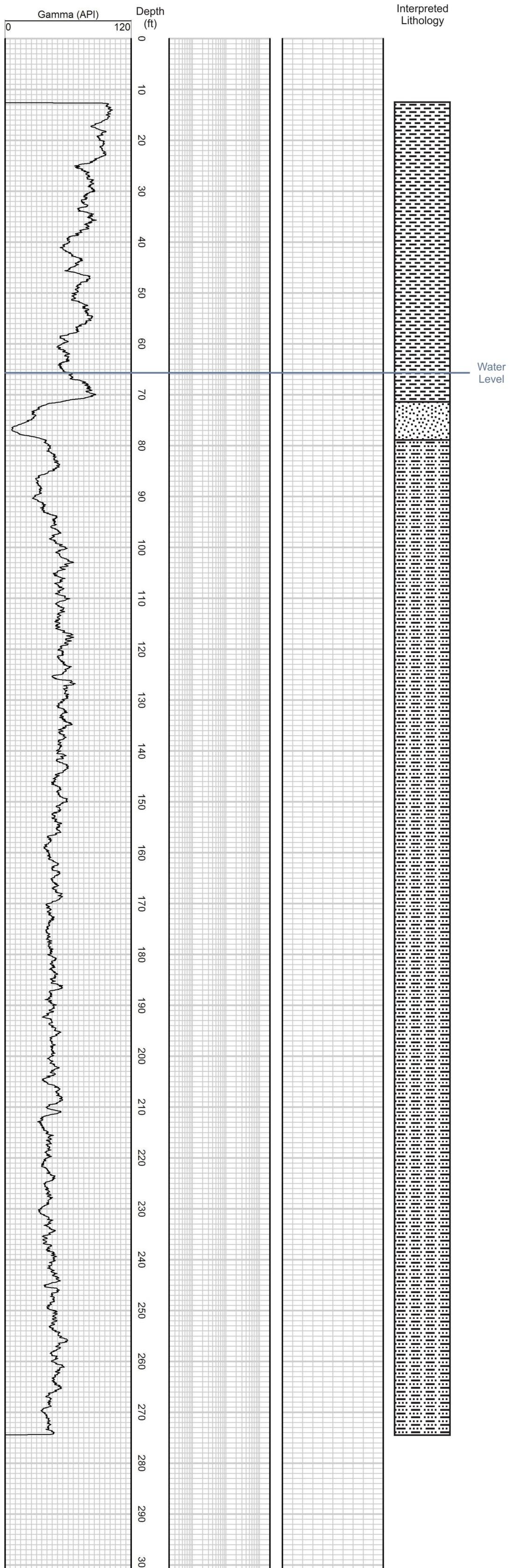


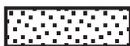


Geophysical Well Log

Gamma and E-logs

DWRi #	0454003M00	WIN	29853	Ground Elevation	4850 ft
Owner	Utah Valley Ranchers			Log Measured from	Ground Level
Driller	Advanced Drilling Incorporated			Drilling Measured from	Ground Level
Location	Cedar Valley			Total Depth	300 ft
County	Utah	State	Utah	Depth to Water	65.8 ft
				Drilling Fluid	Bentonite & Water
Location (DWRi) S 254 ft, E 130 ft from N4 corner, Sec 26, T6S R2W, SLBM UTM: X= 412175 m, Y= 4458646 m, NAD27				Casing	
Location (GPS) S 254 ft, E 130 ft from N4 corner, Sec 26, T6S R2W, SLBM UTM: X= 412169 m, Y= 4458645 m, NAD27				Type	Di.
				Steel	12 in
				PVC	10 in
				Screen	10 in
				From	To
				+2 ft	2.5 ft
				0 ft	80 ft
				80 ft	300 ft
Date	23 August 2005	Time	12:30 PM	Comments	
Geologist	Kevin Thomas			Additional Geophysical Logs	
				None	



 Clay
  Silt & Clay
  Sand

Although this product represents the work of professional scientists, the Utah Department of Natural Resources, Utah Geological Survey makes no warranty, express or implied, regarding its suitability for a particular use. The Utah Department of Natural Resources, Utah Geological Survey, shall not be liable under any circumstances for any direct, indirect, special, incidental, or consequential damages with respect to claims by users of this product.

WELL DRILLER'S REPORT

State of Utah
Division of Water Rights

For additional space, use "Additional Well Data Form" and attach

Well Identification

Non-Production Well: 0454004M00

WIN: 30004

Owner

Note any changes

KEITH JONSSON
9250 WEST 8170 NORTH
LEHI, UT 84043

UTM NAD27 meters
N 4459399
E 412149

Contact Person/Engineer: _____

Well Location

Note any changes

N 2000 E 50 from the S4 corner of section 23, Township 6S, Range 2W, SL B&M

N 2186 E 66 from S4 (calculated from GPS)

(C-6-2) 23dbb from GPS

Location Description: (address, proximity to buildings, landmarks, ground elevation, local well #)

Drillers Activity

Start Date: 8/9/04

Completion Date: 9/9/04

Check all that apply: New Repair Deepen Clean Replace Public Nature of Use: _____

If a replacement well, provide location of new well. _____ feet north/south and _____ feet east/west of the existing well.

DEPTH (feet) FROM	TO	BOREHOLE DIAMETER (in)	DRILLING METHOD	DRILLING FLUID
0	400	15"	Mud Rotary	Bentonite, Water

Well Log

DEPTH (feet) FROM	TO	WATER	PERMEABLE High Low	UNCONSOLIDATED						CONSOLIDATED		DESCRIPTION AND REMARKS (e.g., relative %, grain size, sorting, angularity, bedding, grain composition density, plasticity, shape, cementation, consistency, water bearing, odor, fracturing, mineralogy, texture, degree of weathering, hardness, water quality, etc.)
				CLAY	SAND	GRAVEL	COBBLES	BOULDER	OTHER	ROCK TYPE	COLOR	
0	70			x	x							
70	430	x	x	x	x							INTERBEDDED LAYERS

RECEIVED

BW APR 12 2004

WATER RIGHTS

Static Water Level

9/9/04

Date _____ Water Level 68 feet Flowing? Yes No

Method of Water Level Measurement Sonic Sounder If Flowing, Capped Pressure _____ PSI

Point to Which Water Level Measurement was Referenced GL Elevation _____

Height of Water Level reference point above ground surface _____ feet Temperature _____ degrees C F

Construction Information

DEPTH (feet)		CASING			DEPTH (feet)		<input checked="" type="checkbox"/> SCREEN	<input type="checkbox"/> PERFORATIONS	<input type="checkbox"/> OPEN BOTTOM
FROM	TO	CASING TYPE AND MATERIAL/GRADE	WALL THICK (in)	NOMINAL DIAM. (in)	FROM	TO	SCREEN SLOT SIZE OR PERF SIZE (in)	SCREEN DIAM. OR PERF LENGTH (in)	SCREEN TYPE OR NUMBER PERF (per round/interval)
0	120	PVC	SDR17	10"	120	400	.033	10"	PVC
+2	2.5	Steel	.250	12"					

Well Head Configuration: welded 12" slip on flange w/ blind flange Access Port Provided? Yes No
 Casing Joint Type: spline & coupling Perforator Used: _____
 Was a Surface Seal Installed? Yes No Depth of Surface Seal: 30' feet Drive Shoe? Yes No
 Surface Seal Material Placement Method: Poured from surface

DEPTH (feet)		SURFACE SEAL / INTERVAL SEAL / FILTER PACK / PACKER INFORMATION		
FROM	TO	SEAL MATERIAL, FILTER PACK and PACKER TYPE and DESCRIPTION	Quantity of Material Used (if applicable)	GROUT DENSITY (lbs/gal., # bag mix, gal./sack etc.)
0	30	Granular bentonite	36	50# bags
30	400	8-12 Colorado Silica Sand	210 cu-ft.	

Well Development and Well Yield Test Information

DATE	METHOD	YIELD	Units Check One		DRAWDOWN (ft)	TIME PUMPED (hrs & min)
			GPM	CFS		
	<u>Airlift</u>	<u>150 ±</u>	<u>X</u>			<u>18 hr.</u>

Pump (Permanent)
 Pump Description: _____ Horsepower: _____ Pump Intake Depth: _____ feet
 Approximate Maximum Pumping Rate: _____ Well Disinfected upon Completion? Yes No

Comments Description of construction activity, additional materials used, problems encountered, extraordinary Circumstances, abandonment procedures. Use additional well data form for more space.
Well disinfected

Well Driller Statement This well was drilled and constructed under my supervision, according to applicable rules and regulations, and this report is complete and correct to the best of my knowledge and belief.
 Name ADVANCED DRILLING INCORPORATED License No. 451
(Name of Firm, or Corporation - Print or Type)
 Signature Paul B. Billings Date _____
(Print Name of Well Driller)

Construction Information

DEPTH (feet)		CASING			DEPTH (feet)		<input checked="" type="checkbox"/> SCREEN	<input type="checkbox"/> PERFORATIONS	<input type="checkbox"/> OPEN BOTTOM
FROM	TO	CASING TYPE AND MATERIAL/GRADE	WALL THICK (in)	NOMINAL DIAM. (in)	FROM	TO	SCREEN SLOT SIZE OR PERF SIZE (in)	SCREEN DIAM. OR PERF LENGTH (in)	SCREEN TYPE OR NUMBER PERF (per round/interval)
0	120	PVC	SDR17	10"	120	400	.033	10"	PVC
+2	2.5	Steel	.250	12"					

Well Head Configuration: Welded 12" slip on flange w/ blind flange Access Port Provided? Yes No
 Casing Joint Type: spline & coupling Perforator Used: _____
 Was a Surface Seal Installed? Yes No Depth of Surface Seal: 30' feet Drive Shoe? Yes No
 Surface Seal Material Placement Method: Poured from surface

DEPTH (feet)		SURFACE SEAL / INTERVAL SEAL / FILTER PACK / PACKER INFORMATION		
FROM	TO	SEAL MATERIAL, FILTER PACK and PACKER TYPE and DESCRIPTION	Quantity of Material Used (if applicable)	GROUT DENSITY (lbs./gal., # bag mix, gal./sack etc.)
0	30	Granular bentonite	36	50# bags
30	400	8-12 Colorado Silica Sand	210 cu-ft.	

Well Development and Well Yield Test Information

DATE	METHOD	YIELD	Units Check One		DRAWDOWN (ft)	TIME PUMPED (hrs & min)
			GPM	CFS		
	<u>Air Lift</u>	<u>150 ±</u>	<u>X</u>			<u>18 hr.</u>

Pump (Permanent)

Pump Description: _____ Horsepower: _____ Pump Intake Depth: _____ feet
 Approximate Maximum Pumping Rate: _____ Well Disinfected upon Completion? Yes No

Comments Description of construction activity, additional materials used, problems encountered, extraordinary Circumstances, abandonment procedures. Use additional well data form for more space.
Well disinfected

Well Driller Statement

This well was drilled and constructed under my supervision, according to applicable rules and regulations, and this report is complete and correct to the best of my knowledge and belief.

Name ADVANCED DRILLING INCORPORATED License No. 451
(Person, Firm, or Corporation - Print or Type)
 Signature Paul B. Billings Date _____
(Printed Name of Well Driller)

WELL DRILLER'S REPORT

State of Utah Division of Water Rights

B.S.
1-3-05

For additional space, use "Additional Well Data Form" and attach

Well Identification

Change Application: a28249 (54-1109)

WIN: 30943

Owner Note any changes

City of Eagle Mountain
c/o Gerald H. Kinghorn
111 East Broadway, 11th Floor
Salt Lake City UT 84111

Contact Person/Engineer: JOSEPH SANTOS

Well Location Note any changes

S 2440 W 1565 from the N4 corner of section 30, Township 5S, Range 1W, SL B&M

Location Description: (address, proximity to buildings, landmarks, ground elevation, local well #) PONY EXPRESS WELL

Drillers Activity Start Date: 10-19-04 Completion Date: 12-19-04

Check all that apply: New Repair Deepen Clean Replace Public Nature of Use: _____
If a replacement well, provide location of new well. N/A feet north/south and N/A feet east/west of the existing well.

DEPTH (feet)		BOREHOLE DIAMETER (in)	DRILLING METHOD	DRILLING FLUID
FROM	TO			
0	27	46	CONVENTIONAL MUD	BENTONITE
27	50	38	CONVENTIONAL MUD	BENTONITE
50	180	31	CONVENTIONAL MUD	BENTONITE
180	1220	22	FLOODED REVERSE	POLYMER/BENTONITE

Well Log		WATER	PERMEABLE	UNCONSOLIDATED						CONSOLIDATED		ROCK TYPE	COLOR	DESCRIPTION AND REMARKS (e.g., relative %, grain size, sorting, angularity, bedding, grain composition density, plasticity, shape, cementation, consistency, water bearing, odor, fracturing, mineralogy, texture, degree of weathering, hardness, water quality, etc.)
				CLAY	SAND	GRAVEL	COBBLES	BOULDER	OTHER	High	Low			
DEPTH (feet)	FROM	TO												
														SEE ATTACHED
<div style="border: 2px solid black; padding: 10px; transform: rotate(-2deg); display: inline-block;"> <p style="font-size: 2em; margin: 0;">RECEIVED</p> <p style="font-size: 1.5em; margin: 0;">JAN 03 2005</p> <p style="font-size: 1.2em; margin: 0;">WATER RIGHTS SALT LAKE</p> </div>														

Static Water Level

Date 12-17-04 Water Level 518 feet Flowing? Yes No
 Method of Water Level Measurement WATER SOUNDER If Flowing, Capped Pressure N/A PSI
 Point to Which Water Level Measurement was Referenced GROUND LEVEL Elevation _____
 Height of Water Level reference point above ground surface N/A feet Temperature _____ degrees C F

Construction Information

DEPTH (feet)		CASING			DEPTH (feet)		<input type="checkbox"/> SCREEN	<input type="checkbox"/> PERFORATIONS	<input type="checkbox"/> OPEN BOTTOM
FROM	TO	CASING TYPE AND MATERIAL/GRADE	WALL THICK (in)	NOMINAL DIAM. (in)	FROM	TO	SCREEN SLOT SIZE OR PERF SIZE (in)	SCREEN DIAM. OR PERF LENGTH (in)	SCREEN TYPE OR NUMBER PERF (per round/interval)
0	27	CARBON STEEL	1/2"	40					
0	50	CARBON STEEL	1/2	32					
0	180	CARBON STEEL	3/8	28					
+2	700	CARBON STEEL	3/8	16	700	720	.080	16	STAINLESS WIRE WRAP
720	740	CARBON STEEL	3/8	16	740	780	.080	16	" "

Well Head Configuration: 16" STEEL CAPED CASING Access Port Provided? Yes No
 Casing Joint Type: WELDED Perforator Used: _____
 Was a Surface Seal Installed? Yes No Depth of Surface Seal: 645' feet Drive Shoe? Yes No
 Surface Seal Material Placement Method: NEAT CEMENT

DEPTH (feet)		SURFACE SEAL / INTERVAL SEAL / FILTER PACK / PACKER INFORMATION		
FROM	TO	SEAL MATERIAL, FILTER PACK and PACKER TYPE and DESCRIPTION	Quantity of Material Used (if applicable)	GROUT DENSITY (lbs./gal., # bag mix, gal./sack etc.)
0	635	NEAT CEMENT/PORTLAND TYPE I-II	59- YARDS	16 LBS NEAT CEMENT
635	645	3/8" HOLEPLUG	12-#50 BAGS	
645	1220	6 X 9 SILICA SAND	34-#3000 LBS BAGS	

Well Development and Well Yield Test Information

DATE	METHOD	YIELD	Units Check One		DRAWDOWN (ft)	TIME PUMPED (hrs & min)
			GPM	CFS		
12/16 & 17/04	PUMP TEST	3800	X		139'	24 HRS

Pump (Permanent)

Pump Description: _____ Horsepower: _____ Pump Intake Depth: _____ feet
 Approximate Maximum Pumping Rate: _____ Well Disinfected upon Completion? Yes No

Comments

Description of construction activity, additional materials used, problems encountered, extraordinary Circumstances, abandonment procedures. Use additional well data form for more space.

Well Driller Statement

This well was drilled and constructed under my supervision, according to applicable rules and regulations, and this report is complete and correct to the best of my knowledge and belief.

Name LANG EXPLORATORY DRILLING INC

License No. 568

Signature _____

Alan Lang
(Licensed Well Driller)

Date 12-29-04

ATTACHMENT A

**LITHOLOGIC LOG FOR
EAGLE MOUNTAIN CITY PONY EXPRESS WELL
Drilled Sampled by: Lang Exploratory Drilling
Lithologic Descriptions by: Kleinfelder, Inc.**

Depth		Thickness	Lithologic Description	Comments
from	to			
0	5	5	Sand, light brown, moist, loose, sub-round to sub-angular sand grains. Some organics. USCS = SW	
5	10	5	Sand as above. USCS = SW	
10	15	5	Sand as above. USCS = SW	
15	20	5	Sand as above. No organics. USCS = SW	
20	25	5	Clayey gravel, light brown, moist, loose, sub-round to sub-angular gravel. USCS = GC	
25	30	5	Clayey gravel as above. USCS = GC	
30	35	5	Silty limestone, light brown, fine grained, slightly weathered, hard.	
35	40	5	Silty Limestone as above.	
40	45	5	Silty Limestone as above.	
45	50	5	Silty Limestone as above.	
50	55	5	Silty limestone as above.	47-55 feet lost circulation.
55	60	5	No samples.	
60	65	5	No samples.	
65	70	5	No samples.	
70	75	5	No samples.	
75	80	5	No samples.	
80	85	5	No samples.	
85	90	5	No samples.	
90	95	5	No samples.	
95	100	5	No samples.	
100	105	5	No samples.	
105	110	5	No samples.	
110	115	5	No samples.	
115	120	5	No samples.	
120	125	5	No samples.	
125	130	5	No samples.	
130	135	5	No samples.	
135	140	5	No samples.	
140	145	5	No samples.	
145	150	5	No samples.	
150	155	5	No samples.	
155	160	5	No samples.	
160	165	5	No samples.	160-200 feet hole caving.
165	170	5	No samples.	
170	175	5	No samples.	
175	180	5	No samples.	
180	185	5	No samples.	

ATTACHMENT A

**LITHOLOGIC LOG FOR
EAGLE MOUNTAIN CITY PONY EXPRESS WELL
Drilled Sampled by: Lang Exploratory Drilling
Lithologic Descriptions by: Kleinfelder, Inc.**

Depth		Thickness	Lithologic Description	Comments
from	to			
185	190	5	No samples.	
190	195	5	No samples.	
195	200	5	No samples.	
200	205	5	Silty limestone, olive gray, slightly weathered, hard, large cuttings, some rounded fracture surfaces.	
205	210	5	No samples.	
210	215	5	No samples.	
215	220	5	No samples.	
220	225	5	Silty limestone, fine grained, olive brown to green gray, finer, angular cuttings.	220-240 feet fractured.
225	230	5	Silty Limestone as above.	
230	235	5	Silty limestone as above. Increase in cutting size. Rounded surfaces on some cuttings.	
235	240	5	Silty limestone, light brown, hard, fine grained, chips of fine white silt, rounded fracture surfaces.	235-240 feet smoother drilling.
240	245	5	Silty Limestone as above.	241-247 feet fractured.
245	250	5	No samples.	
250	255	5	No samples.	
255	260	5	No samples.	
260	265	5	No samples.	263-265 feet void.
265	270	5	No samples.	
270	275	5	No samples.	
275	280	5	No samples.	
280	285	5	No samples.	280-300 feet fractured.
285	290	5	No samples.	
290	295	5	No samples.	
295	300	5	Interbedded light brown silty limestone and moderate-dark gray limestone. Hard, fine grained, rounded fracture surfaces, some calcite and oxidation on fracture surfaces.	
300	305	5	Limestone, platy, light brown, hard, fine grained, 1/2-3/4 inch cuttings. Some rounded fracture surfaces.	
305	310	5	Limestone as above.	
310	315	5	Limestone as above. White silt on fracture surfaces.	310-330 feet fractured.
315	320	5	Limestone as above.	
320	325	5	Limestone as above.	
325	330	5	Limestone as above.	
330	335	5	Limestone, gray, hard, platy, <1/2-inch cuttings. Calcareous silt on fracture surfaces.	
335	340	5	Limestone as above.	

ATTACHMENT A

**LITHOLOGIC LOG FOR
EAGLE MOUNTAIN CITY PONY EXPRESS WELL
Drilled Sampled by: Lang Exploratory Drilling
Lithologic Descriptions by: Kleinfelder, Inc.**

Depth		Thickness	Lithologic Description	Comments
from	to			
340	345	5	Limestone, light brown, <1/4-inch cuttings.	
345	350	5	Limestone as above.	
350	355	5	Limestone as above. Increase in cutting size to 1/2-3/4-inch. Some rounded fracture surfaces.	
355	360	5	Limestone as above.	
360	365	5	Limestone as above.	
365	370	5	Limestone as above.	
370	375	5	Limestone as above. Decrease in cutting size to <1/4-inch. Interbedded gray limestone.	370-390 feet fractured.
375	380	5	Limestone, dark gray, hard, contains some yellow-orange silty clay.	
380	385	5	Limestone with silty clay as above.	381-390 feet fractured.
385	390	5	Limestone, light brown, hard, angular to sub-angular cuttings 1/2-3/4-inch.	
390	395	5	Limestone as above.	390-410 feet fractured.
395	400	5	Limestone as above. Decrease in chip size.	
400	405	5	Limestone as above. Grading to gray limestone.	
405	410	5	Limestone as above.	
410	415	5	Limestone as above.	
415	420	5	Limestone as above.	
420	425	5	Limestone as above. Decrease in cutting size.	Estimated approximate water level.
425	430	5	Limestone as above.	
430	435	5	Limestone as above.	430-450 feet fractured, caving.
435	440	5	Limestone, dark gray, hard, cuttings <1/2-inch. Trace light brown calcareous siltstone.	
440	445	5	Limestone as above. Decrease in siltstone.	
445	450	5	Limestone as above.	
450	455	5	Limestone as above.	
455	460	5	Limestone, light gray, hard, cuttings <1/4-inch.	
460	465	5	Limestone as above.	
465	470	5	Limestone as above. Increase in light brown limestone.	
470	475	5	Limestone as above.	470-478 feet fractured.
475	480	5	Limestone as above.	
480	485	5	Limestone as above.	
485	490	5	Limestone as above.	
490	495	5	Limestone, light gray, hard, cuttings <1/4-inch.	
495	500	5	Limestone as above.	
500	505	5	Limestone as above. Increase in light brown limestone.	Fractured at 500 feet.
505	510	5	Limestone as above.	
510	515	5	Limestone as above.	510-570 feet caving.

ATTACHMENT A

**LITHOLOGIC LOG FOR
EAGLE MOUNTAIN CITY PONY EXPRESS WELL
Drilled Sampled by: Lang Exploratory Drilling
Lithologic Descriptions by: Kleinfelder, Inc.**

Depth		Thickness	Lithologic Description	Comments
from	to			
515	520	5	Limestone as above.	
520	525	5	Limestone as above.	
525	530	5	Limestone as above.	
530	535	5	Limestone as above.	
535	540	5	Limestone as above.	
540	545	5	Limestone as above.	
545	550	5	Limestone as above.	
550	555	5	Limestone, light gray, hard, cuttings <1/4-inch. Cuttings in matrix of light gray fat clay.	
555	560	5	Limestone, dark gray, hard, fine cuttings, trace calcareous siltstone.	
560	565	5	Limestone, light brown, hard, fine cuttings.	
565	570	5	Limestone as above.	
570	575	5	Limestone as above. Increase in cutting size. Rounded fracture surfaces. Some calcite on fracture surfaces.	
575	580	5	Silty limestone, light brown, hard, fine cuttings.	
580	585	5	Silty Limestone as above.	
585	590	5	Silty Limestone as above.	
590	595	5	Limestone, dark gray-black, moderately hard. Cuttings ~1/4-inch.	590-630 some caving.
595	600	5	Limestone as above.	
600	605	5	Limestone as above. Decrease in cutting size. Abundant calcite.	
605	610	5	Limestone as above. Some calcareous siltstone.	
610	615	5	Limestone as above. No siltstone.	
615	620	5	Limestone as above.	
620	625	5	Limestone, light brown, hard, some calcite.	
625	630	5	Limestone as above.	
630	635	5	Limestone as above.	Driller indicated 630-650 some clay.
635	640	5	Silty limestone as above. Increase in cutting size. Rounded fracture surfaces.	
640	645	5	Limestone, light brown, hard, increase in cutting size to 1/2-inch.	
645	650	5	Limestone as above.	
650	655	5	Limestone as above.	
655	660	5	Limestone as above.	
660	665	5	Limestone, dark gray, hard, cuttings in matrix of gray clay.	
665	670	5	Limestone, light brown, hard. Increase in cutting size to 1/4-3/4-inch. Some rounded fracture surfaces.	
670	675	5	Limestone as above.	
675	680	5	Limestone as above.	

ATTACHMENT A

**LITHOLOGIC LOG FOR
EAGLE MOUNTAIN CITY PONY EXPRESS WELL
Drilled Sampled by: Lang Exploratory Drilling
Lithologic Descriptions by: Kleinfelder, Inc.**

Depth		Thickness	Lithologic Description	Comments
from	to			
680	685	5	Limestone, gray, hard, some calcite, some white clayey silt.	
685	690	5	Limestone with clayey silt as above.	
690	695	5	Limestone with clayey silt as above. Decrease in cutting size.	Driller indicated 690-710 some clay.
695	700	5	Silty limestone, light brown, hard, abundant light brown clayey silt.	
700	705	5	Silty Limestone as above. Increase in gray limestone.	
705	710	5	Silty Limestone as above.	
710	715	5	Limestone, light brown, hard, increase in cutting size to 1/4-3/4-inch.	
715	720	5	Limestone as above.	
720	725	5	Limestone as above. Abundant weathered fracture surfaces. Some yellow clayey silt.	
725	730	5	Shaley limestone, black, platy, abundant black fat clay in cuttings.	Driller indicated 725-740 some clay.
730	735	5	Shaley limestone with clay as above.	
735	740	5	Limestone, light gray-brown, hard, rounded fracture surfaces, calcite veins.	
740	745	5	Limestone as above.	
745	750	5	Limestone as above.	
750	755	5	Limestone as above.	
755	760	5	Limestone as above. Increase in dark gray limestone.	
760	765	5	Limestone as above.	
765	770	5	Limestone as above.	
770	775	5	Limestone as above.	
775	780	5	Limestone as above.	
780	785	5	Limestone as above.	
785	790	5	Limestone as above.	Driller indicated 785-790 some clay.
790	795	5	Limestone as above.	
795	800	5	Limestone as above.	
800	805	5	Limestone as above.	Driller indicated 800-810 some clay.
805	810	5	Limestone as above.	
810	815	5	Limestone as above.	
815	820	5	Limestone, dark gray-black, hard, rounded, weathered fracture surfaces with oxidation.	
820	825	5	Shaley limestone, black, hard, abundant black clay.	
825	830	5	Shaley limestone with clay as above.	Driller indicated 823-830 black clay.
830	835	5	Shaley limestone with clay as above.	
835	840	5	Limestone, dark gray, hard, fracture surfaces with abundant oxidation.	Driller indicated 835 some clay.
840	845	5	Limestone as above.	

ATTACHMENT A

**LITHOLOGIC LOG FOR
EAGLE MOUNTAIN CITY PONY EXPRESS WELL
Drilled Sampled by: Lang Exploratory Drilling
Lithologic Descriptions by: Kleinfelder, Inc.**

Depth		Thickness	Lithologic Description	Comments
from	to			
845	850	5	Limestone, olive gray, hard, some calcite.	
850	855	5	Limestone as above.	
855	860	5	Limestone as above.	
860	865	5	Limestone as above.	
865	870	5	Limestone as above.	
870	875	5	Shaley limestone, black, platy, abundant black clay.	
875	880	5	Shaley limestone with clay as above.	
880	885	5	Shaley limestone with clay as above.	
885	890	5	Limestone, dark gray, hard, rounded fracture surfaces, some oxidation on fracture surfaces.	
890	895	5	Limestone as above.	
895	900	5	Limestone as above.	
900	905	5	Limestone as above.	
905	910	5	Limestone, light brown, hard, some light brown clay.	
910	915	5	Limestone with clay as above.	
915	920	5	Shaley limestone, dark gray, platy, abundant dark gray clay.	Driller indicated 916-926 some clay.
920	925	5	Limestone, dark gray, hard, some calcite.	
925	930	5	Limestone as above.	
930	935	5	Limestone as above.	
935	940	5	Limestone as above.	
940	945	5	Limestone as above. Some light brown limestone.	
945	950	5	Limestone as above.	
950	955	5	Limestone as above.	
955	960	5	Limestone as above.	
960	965	5	Limestone as above.	
965	970	5	Limestone as above.	
970	975	5	Limestone, dark gray-black, hard, increase in calcite veins.	
975	980	5	Limestone as above.	
980	985	5	Limestone as above.	
985	990	5	Limestone as above.	
990	995	5	No Sample.	
995	1000	5	No Sample.	
1000	1005	5	Limestone, gray, hard, calcite and oxidation on fracture surfaces.	
1005	1010	5	Limestone as above. Minor clay.	
1010	1015	5	Limestone as above. No clay.	
1015	1020	5	Limestone as above. No clay.	
1020	1025	5	Limestone as above. Increase in clay. Abundant calcite veins.	
1025	1030	5	Limestone as above. No clay.	

ATTACHMENT A

**LITHOLOGIC LOG FOR
EAGLE MOUNTAIN CITY PONY EXPRESS WELL
Drilled Sampled by: Lang Exploratory Drilling
Lithologic Descriptions by: Kleinfelder, Inc.**

Depth		Thickness	Lithologic Description	Comments
from	to			
1030	1035	5	Limestone as above. Increase in light gray - white clay.	
1035	1040	5	Limestone as above. Minor clay.	
1040	1045	5	Limestone as above with minor clay.	
1045	1050	5	Limestone as above with minor clay.	
1050	1055	5	Limestone as above with minor clay.	
1055	1060	5	Limestone as above with minor clay.	
1060	1065	5	Limestone as above with minor clay.	
1065	1070	5	Limestone as above with significant increase in light gray clay.	
1070	1075	5	Limestone as above with significant increase in light gray clay.	
1075	1080	5	Limestone as above with significant increase in light gray clay.	
1080	1085	5	Limestone, black, moderately hard. Large amount of clay.	
1085	1090	5	Limestone as above.	
1090	1095	5	Limestone, gray, hard. Large amount of light gray clay.	
1095	1100	5	Limestone, gray, hard. Trace of light gray clay.	
1100	1105	5	Limestone, dark gray, hard. Occasional calcite veins.	
1105	1110	5	Limestone as above. Trace clay.	
1110	1115	5	Limestone as above. No clay.	
1115	1120	5	Limestone, light gray, hard. Occasional calcite veins.	
1120	1125	5	Limestone as above.	
1125	1130	5	Limestone, dark gray, hard, platy.	
1130	1135	5	Limestone as above.	
1135	1140	5	Limestone as above.	
1140	1145	5	Limestone as above.	
1145	1150	5	Limestone as above.	
1150	1155	5	Limestone as above.	
1155	1160	5	Limestone as above.	
1160	1165	5	Limestone as above. Increase to ~40% clay.	
1165	1170	5	Limestone as above. No clay.	
1170	1175	5	Limestone, light gray, hard. Interbedded with calcareous sandstone, light brown, hard.	
1175	1180	5	Limestone, gray, hard, some calcite and oxidation on fracture surfaces.	
1180	1185	5	Limestone as above.	
1185	1190	5	Limestone as above. Increase to >50% light gray clay.	
1190	1195	5	Limestone, dark gray, hard. Decrease to ~20% black clay.	

ATTACHMENT A

LITHOLOGIC LOG FOR
EAGLE MOUNTAIN CITY PONY EXPRESS WELL
Drilled Sampled by: Lang Exploratory Drilling
Lithologic Descriptions by: Kleinfelder, Inc.

Depth		Thickness	Lithologic Description	Comments
from	to			
1195	1200	5	Limestone, dark gray, hard, trace clay.	
1200	1205	5	Limestone as above. No clay.	
1205	1210	5	Limestone as above. Trace clay.	
1210	1215	5	Limestone as above. Increase to ~10% clay.	
1215	1220	5	Limestone, gray, hard. No clay.	
1220	1225	5	Limestone as above.	

USCS-Unified Soil Classification System

GC-Clayey gravels, poorly-graded gravel-sand-clay mixtures

SW-Well-graded sands, gravelly sands, little or no fines

WELL DRILLER'S REPORT

State of Utah Division of Water Rights

For additional space, use "Additional Well Data Form" and attach

Well Identification

CHANGE APPLICATION: a23093(54-1030)

RECEIVED

FEB 25 2000

Owner *Note any changes*

Ranches LC, The
9155 North Cedar Pass Road #B
Eagle Mountain, UT 84043
Contact Person/Engineer: Todd Jarvis

WATER RIGHTS
SALT LAKE

Well Location *Note any changes*

COUNTY: Utah
NORTH 250 feet EAST 200 feet from the SW Corner of
SECTION 16, TOWNSHIP 5S, RANGE 1W, SLB&M.

Location Description: (address, proximity to buildings, landmarks, ground elevation, local well #) WW-3B-P

Town of Eagle Mountain

Drillers Activity

Start Date: 11-01-99

Completion Date: 2-4-00

Check all that apply:

New Repair Deepen Abandon Replace Public Nature of Use:

DEPTH (feet) FROM TO		BOREHOLE DIAMETER (in)	DRILLING METHOD	DRILLING FLUID
0	75	38	Rotary	Water and Bentonite
75	1020	19	Reverse Circulation	Water and Bentonite

Well Log	W A T E R	P E R M E A B L E	UNCONSOLIDATED							CONSOLIDATED		ROCK TYPE	COLOR	DESCRIPTIONS AND REMARKS (include comments on water quality if known.)
			C L A Y	S I L T	S A N D	G R A V E L	C O B B L E S	B O U L D E R	O T H E R					
DEPTH (feet) FROM TO		high low												
														SEE ATTACHMENT

Static Water Level

Date 11-20-99 Water Level 426 feet Flowing? Yes No

Method of Water Level Measurement Water Sounder If Flowing, Capped Pressure N/A PSI

Point to Which Water Level Measurement was Referenced Ground Level

Height of Water Level reference point above ground surface N/A feet Temperature cool °C °F

Well Log

Construction Information

DEPTH (feet)		CASING			DEPTH (feet)		SCREEN <input type="checkbox"/>	PERFORATIONS <input type="checkbox"/>	
FROM	TO	CASING TYPE AND MATERIAL/GRADE	WALL THICK (in)	NOMINAL DIAM. (in)	FROM	TO	SLOT SIZE OR PERF SIZE (in)	SCREEN DIAM. OR PERF LENGTH (in)	SCREEN TYPE OR NUMBER PERF (per round/interval)
0	75	Steel	.375	30					
+ 1	510	Steel	.375	14	510	810	.080	14	Louvered
810	820	Steel	.375	14	820	860	.080	14	Louvered
860	900	Steel	.375	14	900	940	.080	14	Louvered
940	980	Steel	.375	14					

Well Head Configuration: Locking cap Access Port Provided? Yes No

Casing Joint Type: WELDED Perforator Used: N/A

DEPTH (feet)		FILTER PACK / GROUT / PACKER / ABANDONMENT MATERIAL		
FROM	TO	ANNULAR MATERIAL, ABANDONMENT MATERIAL and/or PACKER DESCRIPTION	Quantity of Material Used (if applicable)	GROUT DENSITY (lbs./gal., # bag mix, gal./sack etc.)
0	378	Portland Cement	41 cu. yards	16 lb/ gal.
378	380	Hole Plug	6 Bags	
380	980	Gravel Pack (1/8" x 1/4")	28 Super Sacks	
980	1020	Portland Cement	83 Bags	16 lb/ gal.

Well Development / Pump or Bail Tests

Date	Method	Yield	Units Check One		DRAWDOWN (ft)	TIME PUMPED (hrs & min)
			GPM	CFS		
11-29-99	Pumping	820	X		10.21	47 hrs. 2 min.
1-31-00	Pumping	2200	X		42.74	52 hrs. 30 min.

Pump (Permanent)

Pump Description: N/A Horsepower: _____ Pump Intake Depth: _____ feet

Approximate maximum pumping rate: _____ Well disinfected upon completion? Yes No

Comments: Description of construction activity, additional materials used, problems encountered, extraordinary circumstances, abandonment / procedures. Use additional well data form for more space.

Well Driller Statement

This well was drilled or abandoned under my supervision, according to applicable rules and regulations, and this report is complete and correct to the best of my knowledge and belief.

Name Lang Exploratory Drilling
(Person, Firm, or Corporation - Print or Type)

License No. 568

Signature [Signature]
(Licensed Well Driller)

Date 2-23-2000

Town of Eagle Mountain
Exploration Well No. 3
Sample Interval: 10 feet
Lithologic Log
Hugh Klein, Montgomery Watson

<u>Interval (feet)</u>	<u>Description (lithologies are given in decreasing order of abundance)</u>
From 0 – 100' are logs from the test hole	
0 – 40	Unconsolidated gravel consisting predominantly of limestone and calcareous sandstone
40– 55	Soft, maroon-pink claystone, dark gray limestone, and light yellow, calcareous sandstone
55 – 80	Maroon-pink, calcareous siltstone, dark gray limestone, and white, vein calcite
80 – 85	Very dark gray limestone, brown-yellow, clayey siltstone, white calcite and light maroon, calcareous siltstone
85 - 90	As above with abundant pink clay
90 – 100	Light pink to red-pink clay and dark gray limestone
100 – 130	Pale yellowish to moderate yellowish brown, calcareous siltstone (limestone and silty limestone observed from 100 – 125 in test hole and clay/claystone observed from 125 – 130 in test hole)
130 – 140	As above but pale yellowish brown (silty limestone with minor clay observed in test hole)
140 – 170	Dark yellowish brown, calcareous siltstone with some sand (silty limestone and clay observed from 140 – 160 and 165 – 170 observed in test hole)
170 – 180	As above but moderate yellowish to dark yellowish brown (limestone observed in test hole)
180 – 200	As above but moderate brown (limestone observed in test hole)
200 – 230	Moderate brown, calcareous siltstone with some sand and dark gray limestone (only limestone observed in test hole; lower natural gamma ray count starting at ~220 corresponding to more limestone)
230 – 270	Moderate brown, calcareous siltstone with dark gray limestone and sand (only limestone observed in test hole)
270 – 290	As above but moderate reddish brown, calcareous siltstone (only limestone observed in test hole)
290 – 300	Dark gray limestone and moderate reddish brown siltstone, siltstone has some sand (no siltstone observed in test hole)
300 – 310	Moderate yellowish brown, calcareous siltstone (limestone observed in test hole)
310 – 340	As above but moderate reddish brown (limestone observed in test hole)
340 – 350	Brownish gray limestone (higher natural gamma ray count starting at ~340 corresponding to the change from limestone and siltstone to shale)
350 – 440	Grayish black, calcareous shale (from 350 – 365 limestone observed in test hole and from 365 – 380 limestone and calcareous siltstone observed in test hole; natural gamma ray log transitions to lower counts from ~410 – 440 corresponding to the change from shale to limestone)

Detailed Lithologic Log of the Town of Eagle Mountain Exploration Well No. 3

Interval (feet)	Description (lithologies are given in decreasing order of abundance)
440 – 450	Grayish black limestone with grayish black calcareous shale (no shale observed in test hole)
450 – 510	Grayish black limestone with veins of calcite (from 490 quartzite observed in test hole)
510 – 520	Medium dark gray quartzite with veins of calcite and iron oxide stains (from 510 - 515 observed chert in test hole)
520 – 530	As above but iron oxide stains are tan (chert with some limestone observed in test hole)
530 – 540	Medium light gray to medium gray quartzite with rust colored iron oxide stains (chert with some limestone observed in test hole)
540 – 550	Medium dark to dark gray quartzite with calcite veinlets (chert with some limestone observed in test hole)
550 – 560	Medium dark gray siltstone with quartzite, some light tan to rust colored iron oxide stains (chert with some limestone observed in test hole)
560 – 570	Dark gray to grayish black quartzite with some rust colored iron oxide staining (limestone observed in test hole)
570 – 580	Dark gray to grayish limestone
580 – 590	As above but olive black to greenish black
590 – 640	Dark gray to grayish black limestone with calcite veins and reddish orange iron oxide stains
640 – 650	As above but more massive
650 – 660	Black limestone with calcite veins and reddish orange iron oxide stains
660 – 680	Dark gray to grayish black massive limestone with calcite veins and reddish orange iron oxide stains
690 – 710	Grayish black limestone with calcite veinlets and yellowish iron oxide stains
710 – 720	Grayish black limestone with fractures filled with calcite and yellowish iron oxide stains
720 – 760	Grayish black limestone with fractures filled with calcite. Calcite veinlets and red iron oxide stains (chert with some limestone observed in test hole)
760 – 770	Grayish black limestone with grayish orange pink clay. Fractures of calcite and red iron oxide stains
770 – 810	Grayish black limestone with calcite filled fractures and calcite veinlets. Tannish orange iron oxide stains
810 – 820	Medium dark gray, massive limestone with calcite veins and reddish brown iron oxide stains (clay noted by driller at ~813 substantiated by higher natural gamma ray log deflection at this point)
820 – 830	Grayish black limestone with a moderate red orange clay and veins of calcite (no clay observed in test hole; higher natural gamma ray log deflection at ~823)

Detailed Lithologic Log of the Town of Eagle Mountain Exploration Well No. 3

<u>Interval (feet)</u>	<u>Description (lithologies are given in decreasing order of abundance)</u>
830 – 850	Grayish black limestone with calcite veins and reddish brown iron oxide stains
850 – 860	Grayish black limestone with a very pale orange clay. Limestone has some calcite veins and reddish brown iron oxide stains (no clay observed in test hole)
860 – 870	Dark gray limestone with fractures filled with calcite and some reddish brown iron oxide stains
870 – 880	Dark gray limestone with a very pale orange clay. Limestone has fractures filled with calcite and reddish brown iron oxide stains (no clay observed in test hole)
880 – 890	Dark gray limestone with fractures filled with calcite and some reddish brown iron oxide stains
890 – 900	Dark gray limestone with a very pale orange clay. Limestone has fractures filled with calcite and reddish brown iron oxide stains
900 – 1020	Dark gray to grayish black limestone with fractures filled with calcite and reddish brown iron oxide stains (carbonaceous limestone observed in test hole)

End of hole – 1020 feet