









**Amoco Production Company****Kremco #1**

NW ¼ SE ¼ NW ¼ Section 11, T. 4N., R. 2W.  
Davis County, Utah

**Explanation**

Drilled Intervals



Cored Intervals  
Dark areas - recovered core  
Open areas - no core



Silt and mud



Sand



Gravel



Gastropod shells



Shell fragments



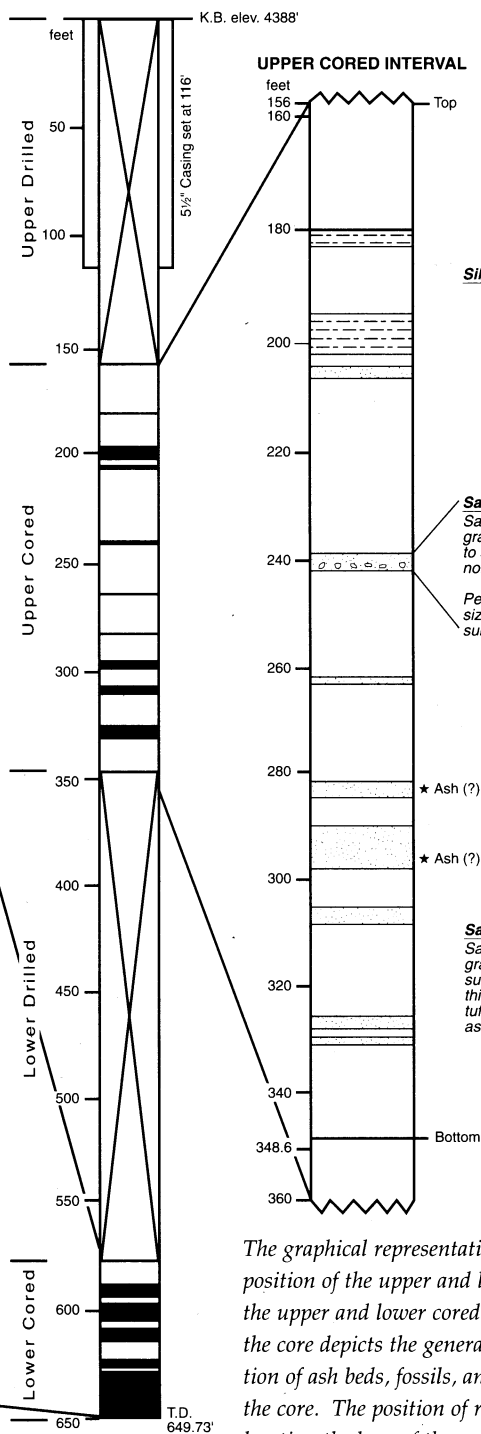
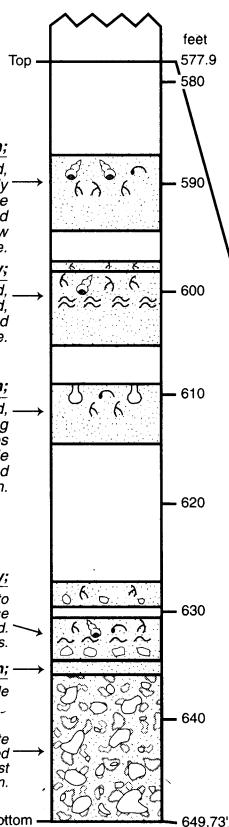
Roots



Burrows



Caliche zone

**LOWER CORED INTERVAL**

The graphical representation of the Kremco #1 well shows position of the upper and lower drilled intervals, as well as the upper and lower cored intervals. The lithologic log of the core depicts the general lithotypes and the relative position of ash beds, fossils, and woody material encountered in the core. The position of recovered core was estimated by locating the base of the core from the bottom of the core barrel and noting the depth of pump pressure changes.

**REFERENCES**

Davis, F.D., 1983, Geologic map of the central Wasatch Front, Utah: Utah Geological and Mineral Survey Map 54-A, scale 1:100,000.

\_\_\_\_\_, 1985, Geologic map of the northern Wasatch Front, Utah: Utah Geological and Mineral Survey Map 53-A,

scale 1:100,000.

Feth, J.H., Barker, D.A., Moore, L.G., Brown, R.J., and Viers, C.E., 1966, Lake Bonneville: Geology and hydrology of the Weber Delta District, including Ogden, Utah: U.S. Geological Survey Professional Paper 518, 76 p.

McCoy, W.D., 1987, Quaternary amino-

stratigraphy of the Bonneville basin, western United States: Geological Society of America Bulletin, v. 98, no. 1, p. 99-112.

Oviatt, C.G., McCoy, W.D., and Reider, R.G., 1987, Evidence for a shallow early or middle Wisconsin lake in the Bonneville basin, Utah: Quaternary Research, v. 27, no. 3, p. 248-262.



Sec. 36

3N 1W

Davis Co.

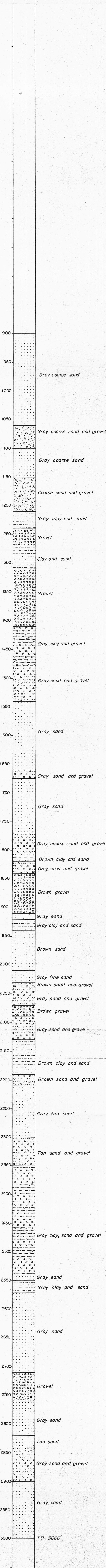
43-011-10469

Top of H.P. well 45

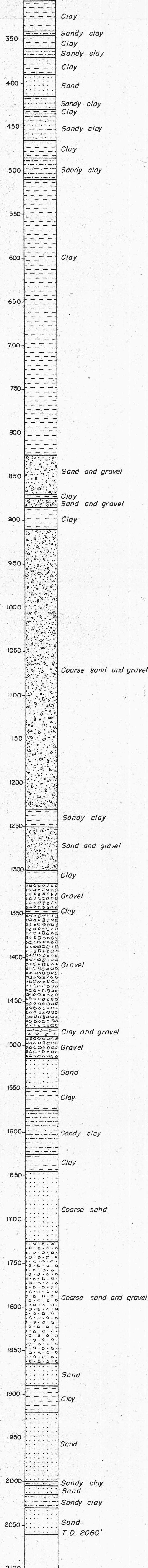
HICKEY OIL COMPANY  
Davis County, Utah

50 0 50  
SCALE OF FEET

WILCOX No. 1  
(B-3-1)26dba



RUSHFORTH No. 1  
~~RUSHFORTH No. 2~~  
(B-3-1)36ddd





Sec. 36

3N 1W

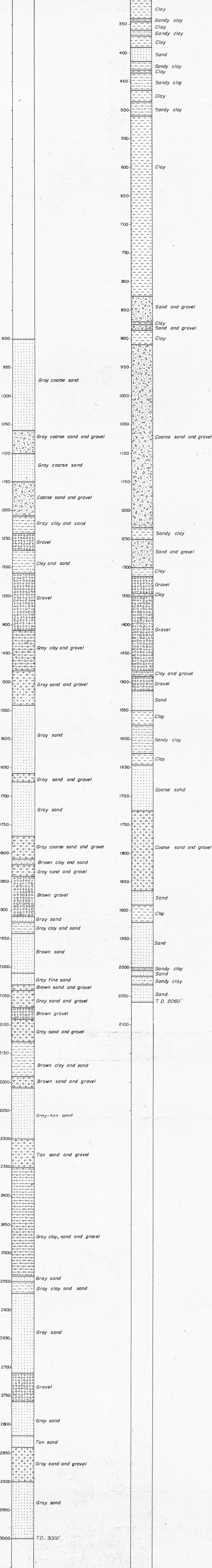
Davis Co.

HICKEY OIL COMPANY  
Davis County, Utah

50 0 50  
SCALE OF FEET

WILCOX No. 1  
(B-3-1)26dba

~~RUSHFORTH No. 1~~  
~~RUSHFORTH No. 2~~  
(B-3-1)36ddd





UPPER CRUSTAL STRUCTURE OF THE SALT LAKE VALLEY  
AND THE WASATCH FAULT FROM  
SEISMIC MODELING

by

William McClellan Bashore, Jr.

A thesis submitted to the faculty of  
The University of Utah  
in partial fulfillment of the requirements for the degree of

Master of Science

in

Geophysics

Department of Geology and Geophysics

The University of Utah

December 1982



## ABSTRACT

Two unreversed refraction profiles were recorded parallel and perpendicular to the Late Cenozoic structures in the Salt Lake Valley using large quarry blast sources. Three-component seismic data, principally P-arrivals, were modeled utilizing an asymptotic ray tracing algorithm [McMechan and Mooney, 1980] for travel-times and synthetic seismograms in laterally inhomogeneous media. Gravity data were also used as an additional constraint to the seismic models. The algorithm was compared against other modeling techniques and resolution tests were designed to enhance confidence levels for fault dip determination. Modeling the line that crosses the Wasatch fault suggests an asymmetrical eastward-deepening basin bounded on the east by a segmented normal fault that flattens in dip with depth. A narrow ( $\approx 3$  km) lateral velocity gradient zone, east of the mapped fault, is necessary to satisfy the arrivals. Average fault dips, to 4 km depth, from 25 to 40 could be fit to the observed data (average station spacing,  $\approx 2$  km). Differing from other models of northern Utah, a high velocity (6.25 km/sec) laterally inhomogeneous layer at 5.1 to 7.0 km depth was necessary to fit arrivals east of the fault. These models are not sufficient to interpret the Wasatch fault as being listric; however, they do suggest that it has a significantly smaller dip with depth than is seen at the surface.



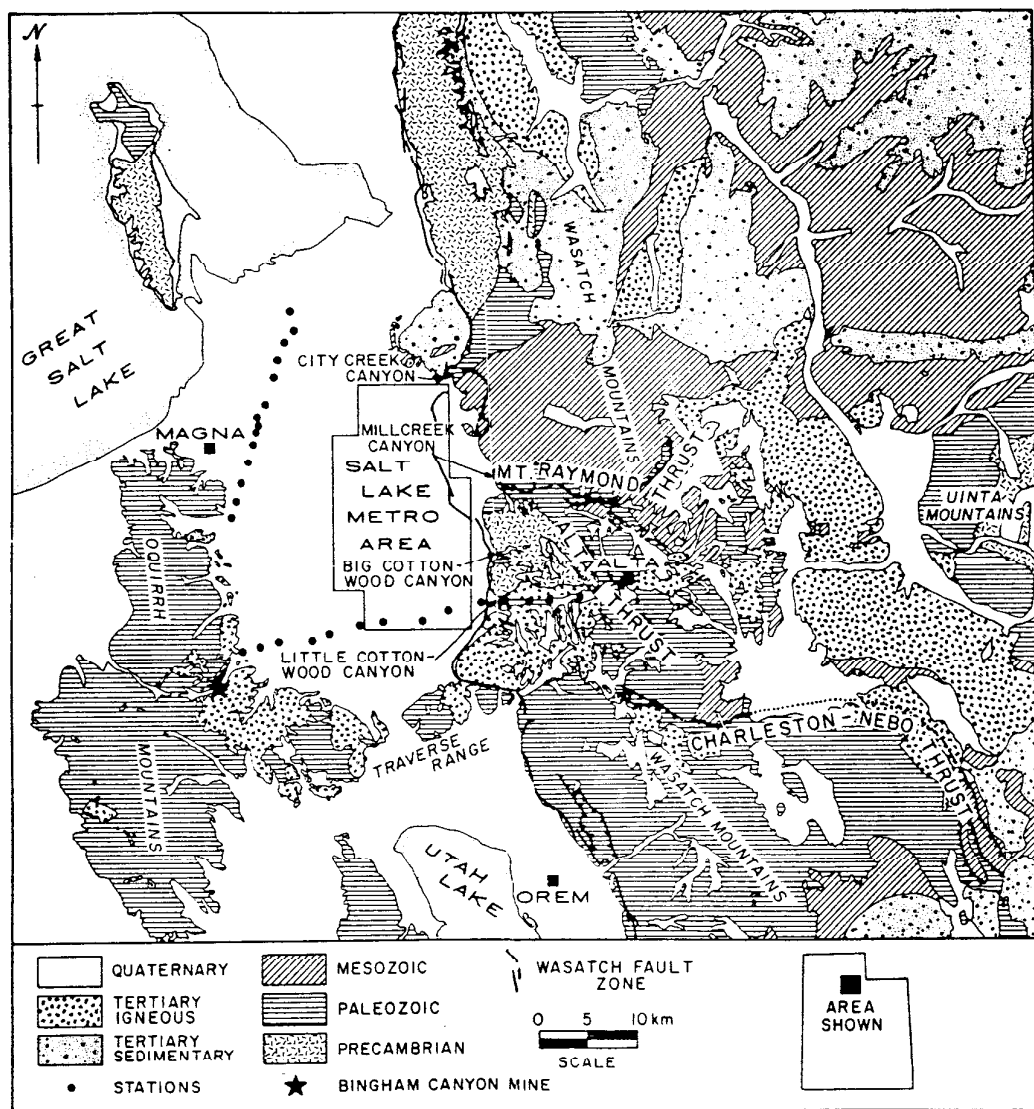


Figure 1. Generalized geology map of study area with station locations of seismic profiles.



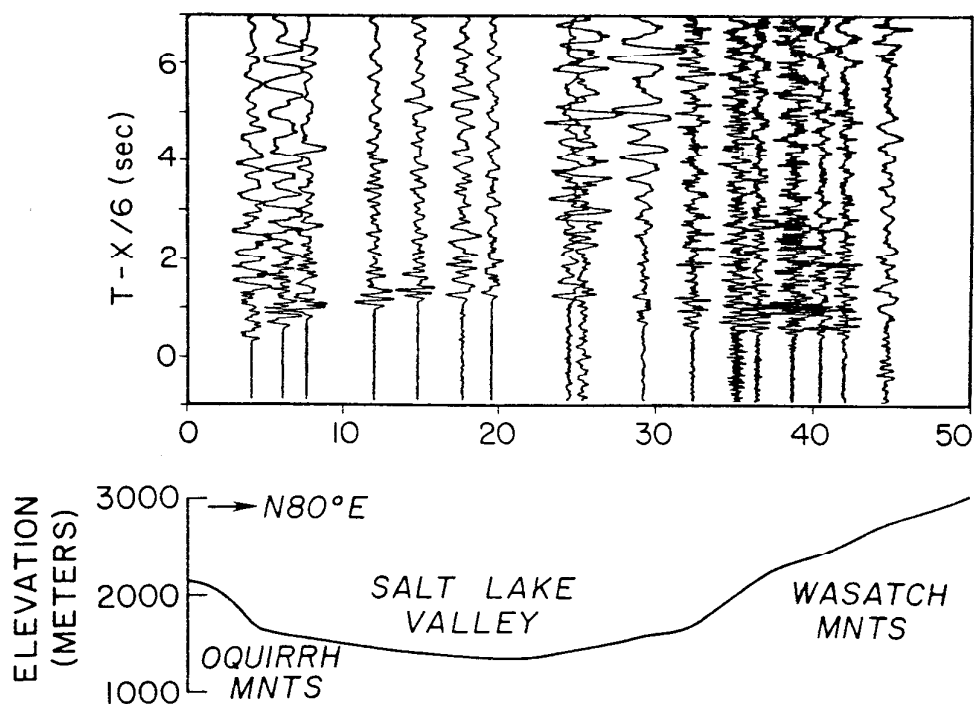
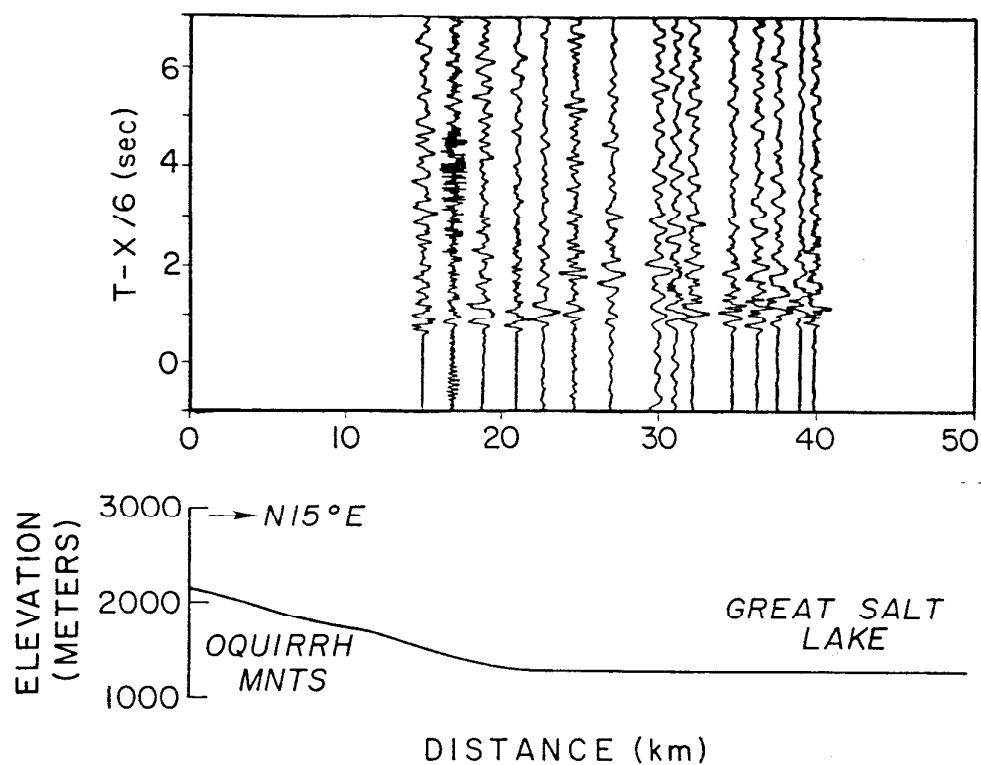


Figure 7. Unfiltered vertical components of the Bingham-North profile (a) and the Bingham-East profile (b).



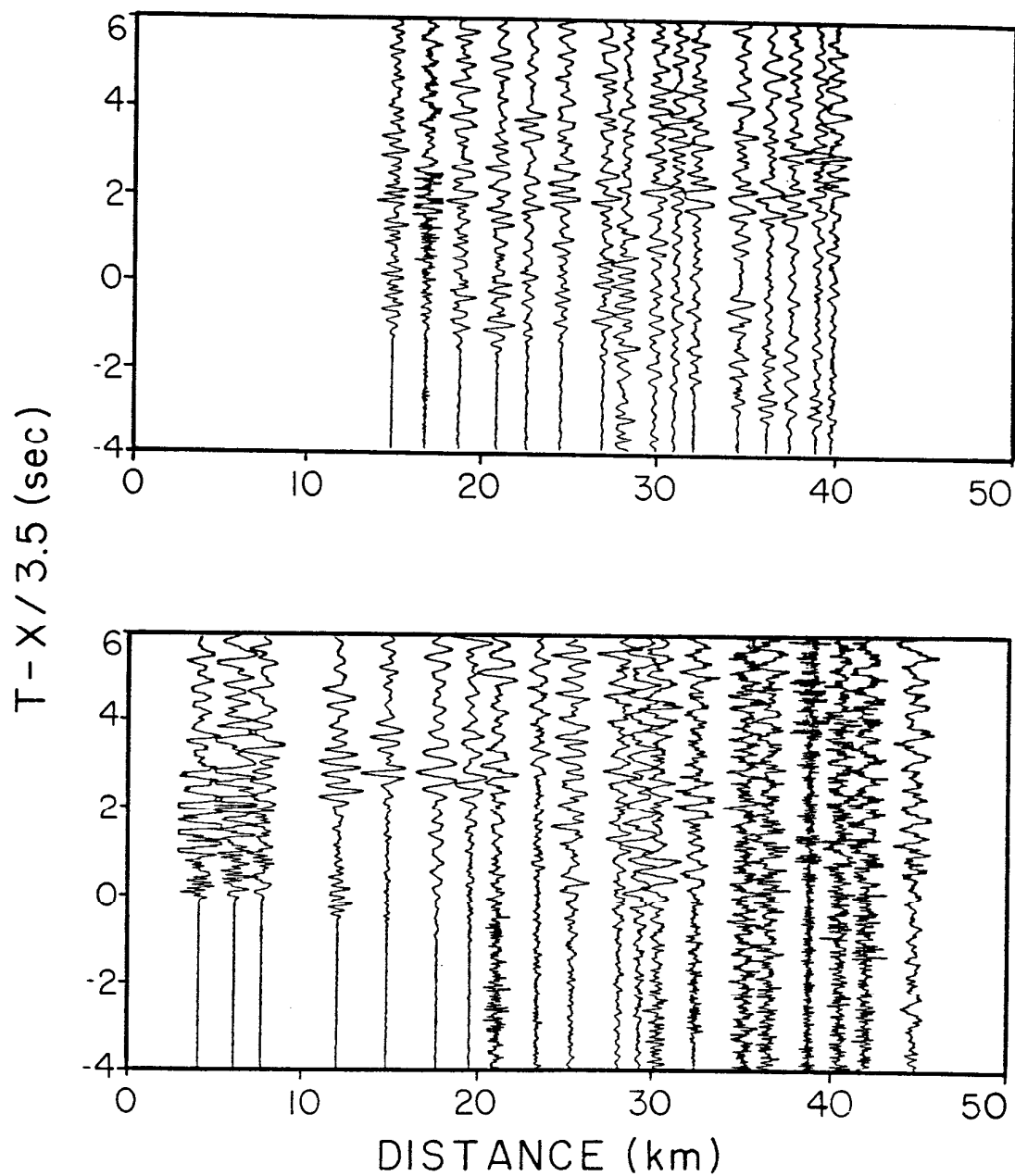


Figure 8. Unfiltered radial components of the Bingham-North profile (a) and the Bingham-East profile (b).

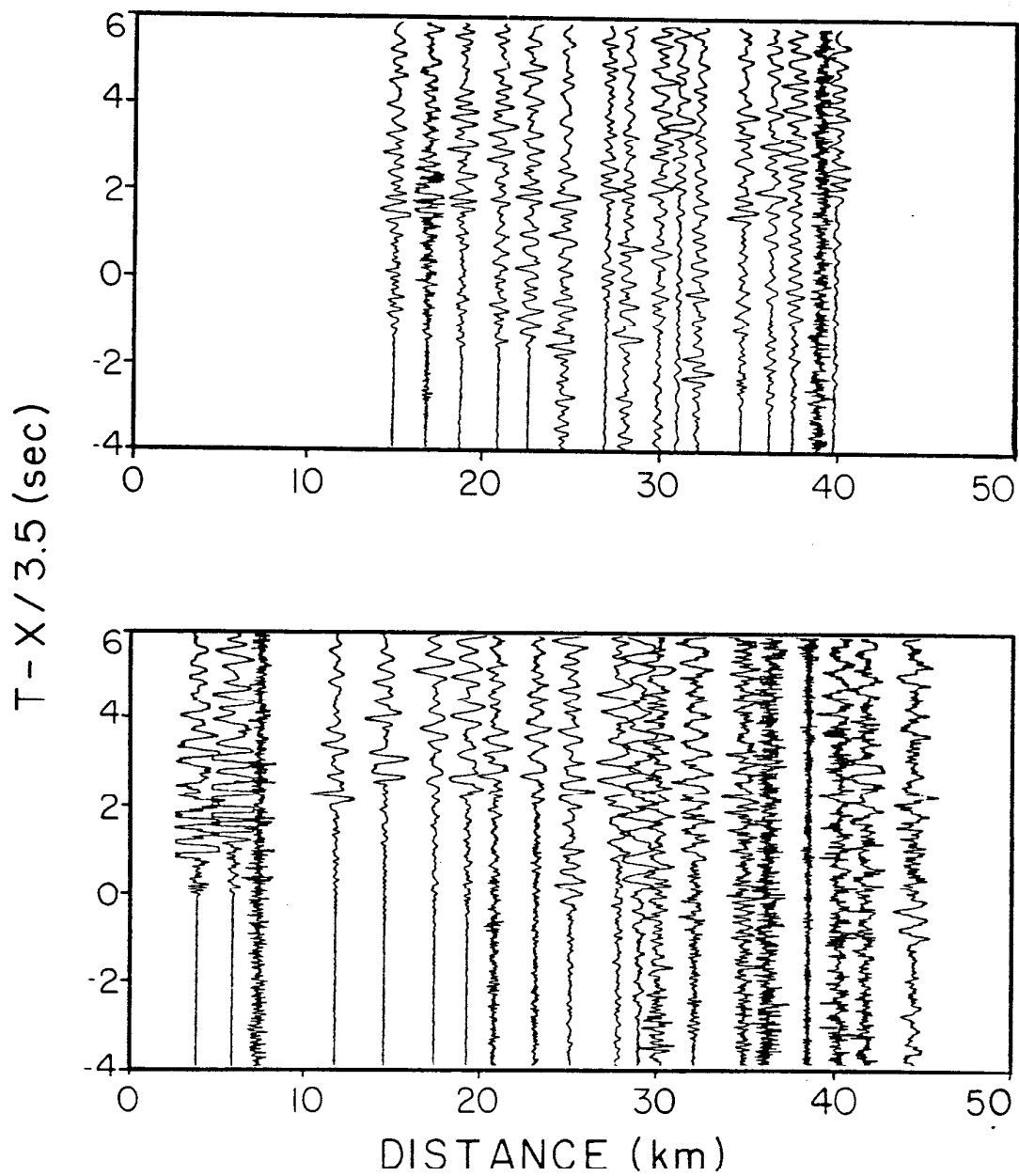


Figure 9. Unfiltered transverse components of the Bingham-North profile (a) and the Bingham-East profile (b).



Shot Information				
Shot	Date	Time (GMT)	Size (lbs)	Location (lat.,long.)
1M	04 Jan 79	21:46:00.00	99,000	41d31.30m,112d08.41m
2M	18 Jan 79	21:36:00.00	126,000	41d31.30m,112d08.50m
4M	19 Jan 79	21:52:53.66	50,500	41d30.92m,112d08.50m
4S	19 Jan 79	21:52:53.66	50,500	41d30.92m,112d08.50m
5S	24 Jan 79	21:49:17.92	63,000	41d30.62m,112d08.69m
6S	29 Jan 79	21:57:19.38	70,000	41d30.56m,112d09.05m
7S	5 Feb 79	21:54:13.50	90,000	41d31.10m,112d08.40m
8S	08 Feb 79	18:04:17.50	110,000	41d30.75m,112d08.91m

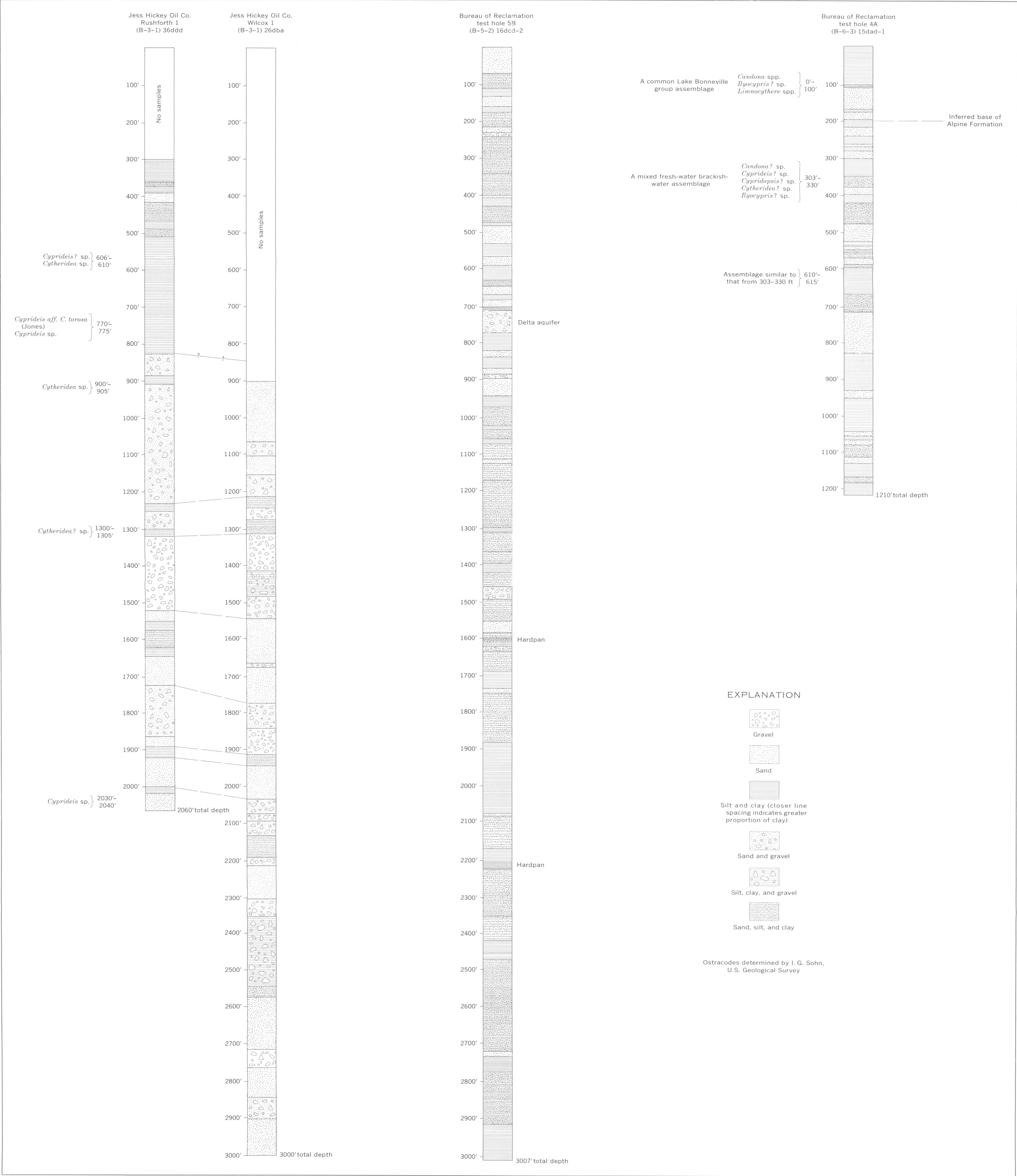
Station Information		
Station	Location (lat.,long.)	Distance (km)
1M1	40d39m22.2s,112d06m19.8s	14.95
1M2	40d40m22.2s,112d05m58.2s	16.86
1M3	40d41m22.8s,112d05m34.8s	18.81
1M4	40d42m29.4s,112d05m04.8s	20.96
1M5	40d43m23.4s,112d04m50.4s	22.66
1M6	40d44m23.4s,112d04m24.6s	24.60
1M7	40d45m38.4s,112d03m58.2s	27.00
1M8	40d46m13.2s,112d03m42.0s	29.13
1M9	40d48m17.4s,112d02m53.4s	32.12
1M10	40d49m37.2s,112d02m34.2s	34.62
1M11	40d50m21.6s,112d01m49.2s	36.21
2M1	40d36m33.6s,112d03m11.4s	12.07
2M2	40d38m17.4s,112d03m10.8s	14.72
2M3	40d39m09.0s,112d04m40.8s	15.23
2M4	40d40m22.2s,112d05m58.2s	16.89
2M5	40d43m58.8s,112d04m34.8s	23.84
2M6	40d47m03.6s,112d02m58.8s	29.92
2M7	40d47m42.0s,112d03m04.2s	31.03
2M8	40d51m05.4s,112d01m54.0s	37.52
2M9	40d51m50.4s,112d01m38.4s	38.95



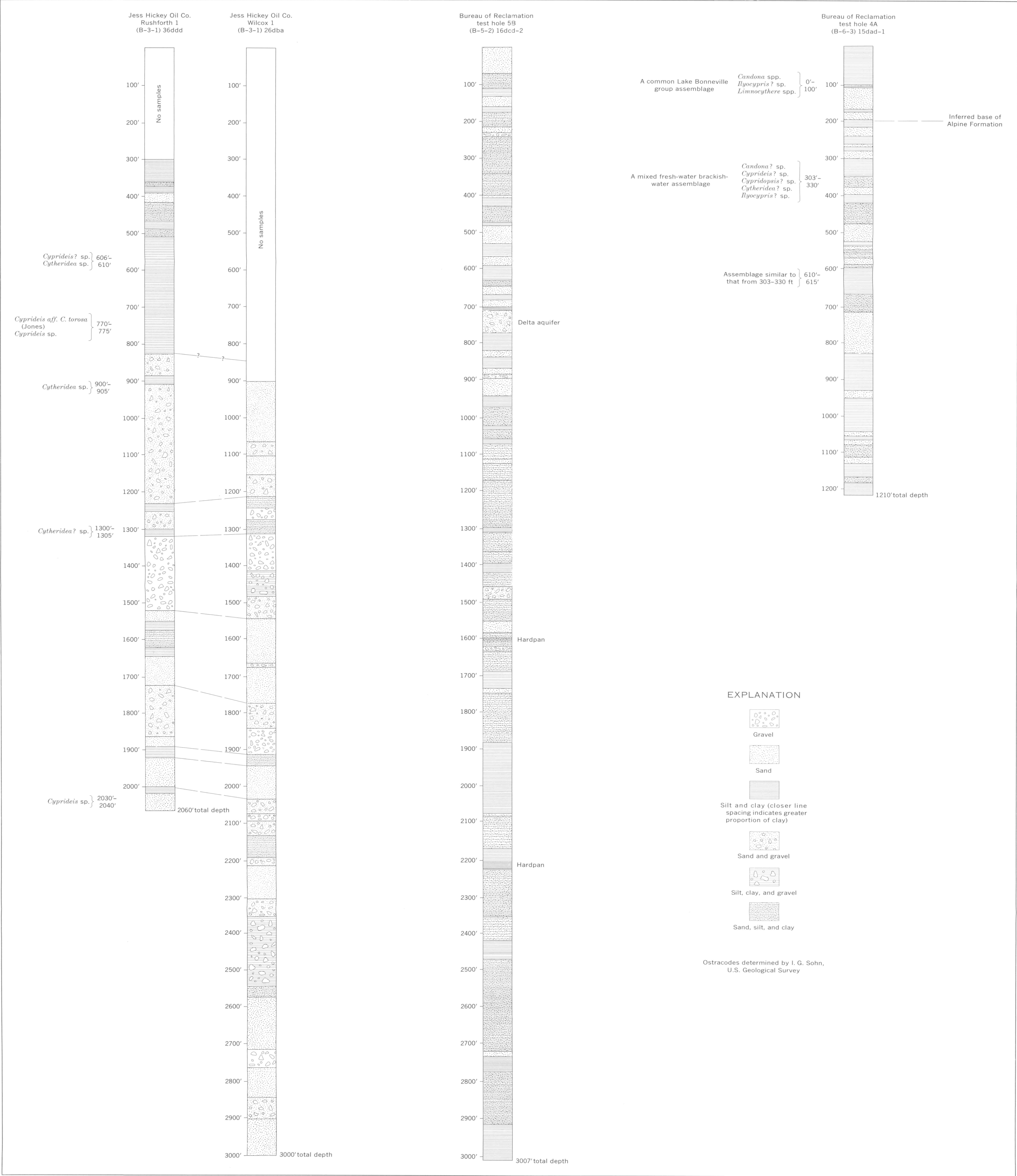
Station Information (continued)		
Station	Location (lat.,long.)	Distance (km)
4M1	40d36m33.6s,112d03m11.4s	12.80
4M2	40d38m17.4s,112d03m10.8s	15.51
4M3	40d47m03.6s,112d02m58.8s	30.81
4M4	40d51m05.4s,112d01m54.0s	38.41
4M5	40d51m50.4s,112d01m38.4s	39.85
4S1	40d31m42.6s,112d05m46.8s	4.08
4S2	40d31m55.8s,112d04m22.2s	6.09
4S3	40d32m04.8s,112d03m17.4s	7.64
5S1	40d32m13.2s,112d00m43.8s	11.93
5S2	40d32m38.4s,111d58m49.8s	14.73
5S3	40d32m50.4s,111d57m37.8s	16.45
5S4	40d33m30.6s,111d54m31.2s	21.02
5S5	40d33m30.6s,111d52m48.0s	23.35
5S6	40d33m27.0s,111d51m28.8s	25.13
5S7	40d33m45.0s,111d50m40.8s	26.36
5S8	40d34m05.4s,111d48m00.6s	30.17
5S9	40d34m18.0s,111d44m31.8s	35.05
5S10	40d34m33.0s,111d40m43.2s	40.41

Station Information (continued)		
Station	Location (lat.,long.)	Distance (km)
6S1	40d33m04.8s,111d57m10.2s	17.59
6S2	40d33m31.2s,111d52m18.0s	24.42
6S3	40d33m51.0s,111d49m43.2s	28.10
6S4	40d33m46.2s,111d48m52.2s	29.24
6S5	40d33m40.2s,111d47m56.4s	30.48
6S6	40d33m19.2s,111d46m31.2s	32.70
6S7	40d34m13.2s,111d42m33.6s	38.13
7S1	40d33m44.4s,111d50m48.0s	25.31
7S2	40d33m46.2s,111d48m52.2s	27.99
7S3	40d33m39.0s,111d48m00.6s	29.16
8S1	40d33m01.2s,111d55m25.2s	19.48
8S2	40d33m46.2s,111d52m52.2s	23.30
8S3	40d33m46.2s,111d50m52.2s	26.05
8S4	40d33m51.0s,111d49m43.8s	27.66
8S5	40d34m19.2s,111d46m31.2s	32.27
8S6	40d34m24.6s,111d43m34.8s	36.38
8S7	40d34m25.8s,111d41m57.0s	38.65
8S8	40d34m32.4s,111d40m42.6s	40.40
8S9	40d34m52.2s,111d39m43.2s	41.89
8S10	40d35m29.4s,111d37m55.2s	44.60





GENERALIZED LOGS OF FOUR DEEP TEST WELLS IN THE WEBER DELTA DISTRICT, UTAH



GENERALIZED LOGS OF FOUR DEEP TEST WELLS IN THE WEBER DELTA DISTRICT, UTAH

□WELL DESCRIPTION

LOCATION: Township: 4N Range: 1W Section: 10 (B-4-1)10bbb  
500 ft. south, 50 ft. east, of NW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Report of water well driller, state of Utah

Well owner: Department of the Interior, Bureau of Reclamation, Ogden.

Well in bedrock. Well Number #11

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-11	Sand
11-47	Clay, sand
47-71	Sand, streaks of clay
71-121	Sand, sandy clay
121-130	Sand
130-151	Sand, sandy clay
151-183	Clay
183-506	Sandy clay & sand
506-511	Sand
511-515	Sand & clay
515-531	Hard rock
531-538	Clay & cobbles
538-539	Cobbles
539-564	Clay, few boulders
564-589	Clay, few rock layers
589-594	Sandy clay, few boulders
594-638	Sandy clay
638-649	Sand
649-690	Clay, streaks of sand
690-710	Sandstone, streaks of clay
710-723	Sandstone
723-751	Clay & boulders
751-772	Sandstone gravel & clay
772-798	Boulders, clay & sandstone
798-811	Boulders, clay & sandstone
811-887	Clay, some gravel
887-902	Rock, streaks of hard clay
902-921	Boulders, streaks of hard clay
921-928	Boulders, streaks of clay
928-944	Rock, streaks of clay
944-948	Clay & gravel, few boulders
948-981	Boulders, clay & gravel
981-1006	Clay & sandy clay
1006-1033	Hard clay, streaks of rock
1033-1038	Boulders, sand & clay
1038-1048	Clay & gravel
1048-1113	Boulders & clay
1113-1128	Sand, boulders & clay
1128-1158	Clay, gravel & sand
1158-1183	Clay, streaks of sand
1183-1205	Hard rock, streaks of sand & gravel



□WELL DESCRIPTION

LOCATION: Township: 7N Range: 3W Section: 31 (B 7-3)31aac  
4300 ft. north, 1130 ft. west, of SE section corner.

COMMENTS: (reference, type of well, agency, etc.)

Report of water well driller, state of Utah

Well owner: Great Salt Lake Mineral Corp., Little Mountain, west of Ogden

Well in bedrock. Well Number #18

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-18	Clay
18-50	Clay
50-205	Clay & silt
205-260	Clay & silt
260-310	Clay, silt, & sand
310-355	Clay
355-414	Clay & silt
414-564	Clay, silt, & sand
564-575	Sand
575-654	Clay
654-678	Sand
678-741	Clay
741-756	Sand
756-772	Clay
772-798	Sand
798-896	Clay
896-915	Clay & hardpan
915-920	Gravel
920-1002	Conglomerate & bedrock

□WELL DESCRIPTION

LOCATION: Township: 6N Range: 3W Section: 6 (B-6-3)06cab  
2979 ft. south, 30030 ft. west, of NE township corner.

COMMENTS: (reference, type of well, agency, etc.)

Murphy, Peter J & Gwynn, J Wallace, 1979, Geothermal investigations at selected thermal systems of the northern Wasatch Front, Weber & Box Elder Counties, Utah; Utah Geological & Mineral Survey Report of Investigations, RI-141, 50p.

Hole identifier: GSLM/GH-A

Well in bedrock. Well Number #23

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-9	Tan sandy clay
9-15	Saturated sandy black clay
15-45	Weathered shale fragments in clay
45-46	Boulders
46-280	Tillite bedrock

□WELL DESCRIPTION

LOCATION: Township: 1S Range: 1W Section: 12 (C-1-1)12bdb-1  
730 ft. north, 1902 ft. east, of SW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Report of water well driller, state of Utah

Well owner: American Foundry & Machine Co., 870 So. 4th West, SLC.

Well in bedrock. Well Number #30

LITHOLOGIC LOG:

DEPTH, ft-	LITHOLOGY
0-20 -	Top soil
20-133 -	Blue clay
133-167 -	Sand
167-203 -	Clay & sand
203-219 -	Sand
219-224 -	Clay
224-270 -	Sandy clay
270-370 -	Blue clay
370-405 -	Clay
405-409 -	Clay & sand
409-414 -	Clay
414-439 -	Sand
439-473 -	Clay & sand
473-485 -	Sand
485-547 -	Clay & sand
547-612 -	Clay
612-616 -	Sandy clay
616-620 -	Sand; water
620-675 -	Clay
675-706 -	Sandy clay
706-738 -	Fine gravel
738-900 -	Blue clay
900-920 -	Fine gravel, water
920-933 -	Sand
933-1130 -	Sand & fine gravel
1130-1161-	Clay
1161-1163-	Sand
1163-1168-	Clay
1168-1170-	Shale



□WELL DESCRIPTION

LOCATION: Township: 4S Range: 1E Section: 25 (D-4-1)25ddd

(note: USGS Open-File Report 82-1023 reports well as (D-4-1)25ddb-1

26070 ft. south, 330 ft. west, of NE section corner.

COMMENTS: (reference, type of well, agency, etc.)

Davis, D A & Cook, K L, 1983, Evaluation of low-temperature geothermal potential in Utah & Goshen Valleys & adjacent areas, Utah, Part I: Gravity Survey; Utah Geological & Mineral Survey Report of Investigation RI-179, 138p.

Also in: Appel, Cynthia L, Clark, David W, Fairbanks, Paul E, 1982, Selected Hydrologic Data for northern Utah Valley, Utah, 1935-82; United States Geological Survey Water Resources Division Open-File Report 82-1023/Utah Department of Natural Resources Division of Water Rights Hydrologic Data Report No. 39, 150p.

Surface Elevation: 4932 ft.

Well in bedrock. Well Number #31

LITHOLOGIC LOG

DEPTH, ft	LITHOLOGY
0-5	Soil
5-22	Gravel, cobbles, & boulders
22-58	Clay, sand, & gravel
58-181	Cobble Gravel
181-244	Sandy clay
244-265	Cemented gravel
265-355	Clay & gravel
355-385	Cemented gravel
385-398	Conglomerate
398-414	Clay & gravel
414-478	Cemented gravel; hard clay
478-551	Hard clay & gravel
551--571	Clay & gravel
571-606	Cemented gravel
606-615	Hard clay; limestone
615-624	Clay & gravel
624-634	Hard clay; layers of limestone
634-636	Clay; soft, tan
636-664	Hard clay; limestone
664-703	Clay; streaks of gravel
703-715	Clay; some gravel
715-865	Hard clay; limestone
865-885	Limestone & quartz
885-935	Hard clay; limestone
935-1032	Limestone & quartz
1032-1040	Hard clay; limestone & quartz
1040-1077	Limestone & quartz

□WELL DESCRIPTION

LOCATION: Township: 2N Range: 1E Section: 28 (A-2-1)28bcb  
980 ft. north, 720 ft. east, of SW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Report of water well driller, state of Utah

Well owner: Bountiful City Corporation

Well in bedrock. Well Number #37

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-37	Clay & cobble gravel
37-42	Clay & cobble gravel; grey-brown water at 42 feet, too little to measure
42-46	Clay & cobble gravel; grey
46-49	Clay & gravel; grey, hard drilling
49-67	Clay & gravel; greenish grey
67-73	Clay & gravel; grey
73-94	Clay & gravel; dark brown, much harder water at 87 ft.
94-101	Conglomerate; green quartzite with quartz, some lime & calcite deposits
101-104	Layers of green quartzite & quartz, some soft grey rock
Note: the quartzite formations are possibly fractured	
104-136	Bedrock; quartz with some grey quartzite
136-144	Bedrock; quartz with some green quartzite, loose water
144-178	Bedrock; quartz with some green quartzite, harder
178-186	Bedrock; green slate with some quartz, loose water, soft
186-212	Bedrock; quartzite & quartz, very hard
212-287	Bedrock; mostly white quartz with some green quartzite with black specks
287-323	Bedrock; white quartz with green quartzite, some rock with black & brown specks in it , fairly soft from 287-304 but getting harder by 304
323-332	Bedrock; green quartzite, hard
332-335	Bedrock; green quartzite, softer
335-336	Bedrock; green quartzite, softer
336-338	Bedrock; green quartzite
338-343	Bedrock; green quartzite with some small pieces of dark black rock, very hard
343-380	Bedrock; green quartzite with white quartz, extremely hard
380-386	Bedrock; green quartzite with white quartz & possible fissures, extremely hard, had to blast the hole to get a new start, 4 days drilling from 380-386
386-420	Bedrock; green quartzite with white quartz & possible fissures, softer
420-447	Bedrock; green quartzite with white quartz & possible fissures, harder
447-449	Bedrock; much softer
449-453	Bedrock; green quartzite; hard, quartz & quartzite, very little cutting, a little softer
453-510	Bedrock; quartz & quartzite, much more green & more cuttings a little harder
510-514	Bedrock; white quartz, very hard (two days to drill four feet), not many cuttings
514-560	Bedrock; mostly green quartzite, some white quartz, a little softer

Note: Water table rises from 137 feet to 100 feet at 531 feet & 100 feet to 97 feet between 531 feet & 536 feet.

Water table stands at 97 feet from surface.

□WELL DESCRIPTION:

LOCATION: Township: 11S Range: 1W Section: 6  
3684 ft. south, 3177ft. west, of NE section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: L.D.S. Welfare, Elberta

Report of water well driller, state of Utah

Well in bedrock. Well Number #54

LITHOLOGIC LOG:

DEPTH,ft	LITHOLOGY
0-35	Clay & sand
35-72	Clay & gravel
72-205	Clay & lava
205-228	Clay & sand
228-283	Clay & lava
283-303	Cemented lava; water
303-438	Clay, boulders, & lava
438-455	Sand & lava
455-466	Clay & lava
466-491	Gravel & lava
491-513	Clay, gravel & lava

WELL DESCRIPTION

LOCATION: Township: 2N Range: 1E Section: 30 (A-2-1)30adb  
1460 ft. south, 1110 ft. west, of NE section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Bureau of Reclamation, Ogden UT

Bountiful test hole #2

Report of water well driller, state of Utah

Well in bedrock. Well Number #55

LITHOLOGIC LOG

DEPTH,ft	LITHOLOGY
0-5	Gravel
5-8	Hard rocks & boulders
8-21	Hard rocks & gravel
21-26	Loose rock & black clay
26-43	Gravel & boulders
43-53	Gravel & streaks of clay
53-66	Hard boulders
66-76	Boulders & gravel
76-95	Clay, boulders, & gravel
95-110	Loose rock, streaks of gravel
110-120	Hard rock, streaks of gravel
120-145	Big gravel, streaks of clay
145-170	Sandy clay & clay
170-185	Sand, little gravel & clay
185-195	Big rock, gravel & clay
195-210	Clay & gravel
210-220	Clay & streaks of small gravel
220-230	Loose rock, streaks of clay
230-241	Hard rocks
241-255	Gravel & sand streaks
255-265	Gravel, sand & clay streaks
265-283	Hard rock
283-308	Sand, clay, & gravel
308-333	Clay & gravel, streaks of rock
333-348	Hard rock, streaks of big gravel
348-350	Hard rock
350-372	Sandy clay & gravel
372-395	Clay & boulders
395-408	Sand (dark)
408-420	Gravel & hard rocks
420-424	Hard rock
424-431	Boulders & gravel
431-451	Boulders & streaks of hard rock
451-456	Clay & streaks of rock
456-481	Hard rock & little streaks of clay
481-501	Clay & layers of rock
501-518	Clay & streaks of sand rock
518-543	Hard sand, gravel, & clay streaks
543-545	Boulders
545-583	Hard sand rock, boulders, & few clay streaks
583-589	Hard rock
589-615	Sandstone & streaks of clay
615-618	Sand & gravel, some clay
618-649	Sand rock, boulders, & few clay streaks
649-681	Sandstone boulders, few layers of sand & clay
681-693	Hard sandstone, streaks of rock
693-709	Sandstone & clay streaks
709-710	Rock
710-714	Boulders, sand rock & clay streaks
714-715	Hard rock
715-721	Boulders, sand rock & a few clay streaks
721-739	Sand rock & streaks of gravel
739-753	Sandstone & streaks of hard rock



754-790	Boulders, sandstone & few clay streaks
790-797	Sandrock, clay & boulders
797-817	Sandstone & boulders
817-822	Clay & small streaks of rock
822-836	Sandstone, boulders, streaks of clay
836-842	Rock & few clay streaks
842-844	Clay
844-846	Boulders & clay streaks
846-848	Sandy clay
848-850	Rock
850-859	Clay & boulders
859-868	Sand, boulders, & clay streaks
868-890	Clay, boulders, gravel, & sand breaks
890-895	Clay & streaks of rock
895-910	Sandstone & boulders
910-915	Clay & streaks of rock
915-918	Hard rock
918-933	Boulders, sand streaks, & clay streaks
933-935	Clay
935-940	Sandstone, boulders, & clay streaks
940-966	Sand rock, clay & sand streaks
966-981	Sandstone, streaks of clay
981-991	Boulders & a little clay
991-996	Boulders, streaks of sand & gravel
996-1005	Hard rock

□WELL DESCRIPTION

LOCATION: Township: 8S Range: 2E Section: 13

COMMENTS: (reference, type of well, agency, etc.)

Davis, D A & Cook, K L, 1983, Evaluation of low-temperature geothermal potential in Utah & Goshen Valleys & adjacent areas, Utah, Part I: Gravity Survey; Utah Geological & Mineral Survey Report of Investigation RI-179, 138p.

Well in bedrock

Well Number #56

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-900	Gravel with minor amounts of clay
900-1000	Travertine
1000-2800	Gravel interbedded with sand & clay layers
2800-4100	Alternating layers of clay & sand
4100-6300	Sandstone with minor amounts of conglomerate tuff & clay
6300-6600	Alternating layers of gravel, sand & clay
6600-7300	Sand
7300-9000	Claystone grading into shale
9000-9400	Sandstone with minor amounts of shale
9400-10200	Shale
10200-10700	Sandstone with minor amounts of shale & claystone
10700-11200	Shale with alternating sandstone
11200-12300	Sandstone
12300-12700	Siltstone with minor amounts of shale
12700-13000	Shale alternating with siltstone (Miocene)

□WELL DESCRIPTION

LOCATION: Township: 2S Range: 1E Section: 25

25 ft. north, 40 ft. east, of E 1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Murray City Corp., Murray, Utah

Report of water well driller, state of Utah

Well in bedrock. Well Number #152

LITHOLOGIC LOG:

DEPTH, ft-	LITHOLOGY
0-2 -	Top soil
2-67 -	Sand & boulder gravel
67-74 -	Gravel; dry
74-88 -	Conglomerate
88-250 -	Gravel
250-280 -	Boulder gravel; w/clay streaks
280-327 -	Gravel; loose, w/rock
327-333 -	Clay & sand; brown
333-345 -	Boulder gravel
345-429 -	Boulder gravel; w/clay streaks
429-433 -	Bedrock



□WELL DESCRIPTION

LOCATION: Township: 2S Range: 1E Section: 2

365 ft. south, 40 ft. east, of NW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Salt Lake County Water System, 42 S. 27th. E. SLC, Utah

Report of water well driller, state of Utah

Well in bedrock.

win001498 wr 57-1894 (d-2-1)2bbb-1

Well Number #153

LITHOLOGIC LOG:

DEPTH, ft-	LITHOLOGY
0-2 -	Top soil
2-90 -	Conglomerate
90-97 -	Red conglomerate
97-118 -	Clay
118-167 -	Conglomerate
167-171 -	Clay
171-258 -	Conglomerate
258-298 -	Sand & gravel
298-304 -	Clay
304-310 -	Conglomerate
310-319 -	Gravel
319-353 -	Conglomerate
353-358 -	Gravel; water
358-367 -	Conglomerate
367-374 -	Gravel; water
374-377 -	Clay
377-398 -	Gravel; water
398-400 -	Bedrock

□WELL DESCRIPTION

LOCATION: Township: 8S Range: 1W Section: 19 (C-8-1)19add  
2000 ft. south, 350 ft. west, of NE section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Wayne C. Bateman

Report of water well driller, state of Utah

Well in bedrock. Well Number #165

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
120-132	White limestone
132-168	Blue limestone
168-175	White limestone
175-175	Brown limestone
175-183	Blue limestone
183-184	Sandstone
184-202	Dolomite
202-203	Sandstone
203-267	Dolomite
267-268	Sandstone
268-347	Dolomite
347-400	Hard basalt

□WELL DESCRIPTION

LOCATION: Township: 6N Range: 3W Section: 7 (B-6-3)07cbd  
1320 ft. north, 1200 ft. east, of SW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Basin Land & Livestock, 2761 Pierce, Ogden, Utah

Report of water well driller, state of Utah

Well in bedrock. Well Number #172

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-60	Clay
60-70	Sand
70-145	Clay
145-149	Rock



□WELL DESCRIPTION

LOCATION: Township: 6N Range: 3W Section: 19  
120 ft. south, 1142 ft. west, of NE section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Marquardt Aircraft Corp., Well No. 1

Report of water well driller, state of Utah

Well in bedrock. Well Number #173

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-2	Top soil
2-10	Clay & sand
10-36	Clay
36-37	Gravel; water
37-78	Black clay
78-86	Brown silt
86-112	Grey clay
112-115	Green clay balls; water
115-150	Light-green clay
150-157	Gravel; water
157-186	Dark-gray clay
186-188	Sand
188-197	Clay
197-210	Gravel; water
210-213	Clay
213-219	Gravel; water
219-222	Clay
222-227	Sand, rocks; cubed
227-229	Solid rock

□WELL DESCRIPTION

LOCATION: Township: 4N Range: 1W Section: 1 (B-4-1)01bbd  
740 ft. south, 780 ft. east, of NW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: George Richards, 8102 S. Highway 89, Weber County, Utah

Report of water well driller, state of Utah

Well in bedrock. Well Number #174

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-90	Sand; approx. 2 gpm water
90-120	Sand & small gravel
120-135	Clay, sand, & gravel
135-197	Silt, sand, & gravel; hardpan
197-197	Gravel; water 2 gpm
197-250	Conglomerate; limestone

WELL DESCRIPTION

LOCATION: Township: 4N Range: 1W Section: 24 (B-4-1)24cac  
north, 1100 ft. west, of S 1/4 section corner.

1575 ft.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Keith W Maw, Ogden, Utah

Report of water well driller, state of Utah

Well in bedrock. Well Number #175

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-4	Top soil
4-12	Sand & gravel
12-14	Cobbles
14-53.5	Gravel; soil
53.5-107	Granite; blue, green, gray
107-110	Granite; fractured area
110-117	Black granite; small water gain
117-148	Black granite
148-148.5	Fractured area, no water gain or loss
148.5-163	Soil granite; dark green
163-163.5	Quartzite seam; small water gain (1/2 gpm)
163.5-171	Dark granite
171-177	Quartzite seam
177-200	Greenish granite
200-201.5	Granite; fractured area, yield 3-4 gpm

□WELL DESCRIPTION

LOCATION: Township: 4N Range: 1W Section: 35 (B-4-1)35cdb-1  
970 ft. north, 1436 ft. east, of SW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Kaysville City, #4 well, Utah

Report of water well driller, state of Utah

Well in bedrock. Well Number #176

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-3	Soil
3-13	Clay & sand
13-22	Rock & boulders
22-41	Broken rock; water
41-85	Gravel; water
85-184	Clay & fine gravel; hard & soft streaks
184-192	Gravel
192-210	Sand & gravel
210-238	Gravel
238-260	Bedrock



□WELL DESCRIPTION

LOCATION: Township: 3N Range: 1W Section: 12 (B-3-1)12daa  
130 ft. south, 390 ft. west, of E 1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Ray W Stoddard, Salt Lake City, Utah

Report of water well driller, state of Utah

Well in bedrock. Well Number #177

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-2	Top soil
2-35	Cobble & boulder gravel
35-130	Bedrock; cracked
130-240	Granite
240-335	Granite
335-355	Granite; 15 gpm

□WELL DESCRIPTION

LOCATION: Township: 3N Range: 1E Section: 18 (A-3-1)18cac  
775 ft. south, 1725 ft. east, of W 1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Naylor-Gross, Inc., Farmington, Utah

Report of water well driller, state of Utah

Well in bedrock. Well Number #178

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-23	Soil & boulders
23-48	Clay & boulder gravel
48-76	Sand
76-85	Clay & sand
85-108	Sand & gravel
108-143	Blue clay & sand
143-164	Blue clay & boulders
164-184	Coarse sand
184-207	Blue clay & sand
207-271	Coarse sand
271-384	Sand & gravel
384-385	Bedrock

□WELL DESCRIPTION

LOCATION: Township: 3N Range: 1E Section: 30 (A-3-1)30bbc  
1318 ft. north, 290 ft. west, of NE section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Marchase, Inc., Bountiful, Utah

Report of water well driller, state of Utah

Well in bedrock. Well Number #179

LITHOLOGIC LOG:

DEPTH,ft	LITHOLOGY
0-15	Clay, silt, & cobbles; loose
15-82	Bedrock
82-102	Bedrock; broken, white
102-111	Bedrock; hard, brown
111-114	Bedrock; fractured, gray
114-135	Gray bedrock
135-162	Fractured bedrock
162-187	Tan bedrock
187-203	Gray bedrock
203-221	White bedrock
221-264	Bedrock; white & gray
264-272	Bedrock; fractured, light brown
272-284	Bedrock; fractured, white & gray
284-312	Gray bedrock

□WELL DESCRIPTION

LOCATION: Township: 2N Range: 1E Section: 17 (A-2-1)17cac-2  
1150 ft. south, 1750 ft. east, of W 1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Ralph A Badger, Salt Lake City, Utah

Report of water well driller, state of Utah

Well in bedrock. Well Number #180

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-45	Yellow sand
45-60	Boulders
60-185	Limestone bedrock



□WELL DESCRIPTION

LOCATION: Township: 2N Range: 1E Section: 21 (A-2-1)21cba  
270 ft. south, 1230 ft. east, of W 1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Gilbert G Hatch, Bountiful, Utah

Report of water well driller, state of Utah

Well in bedrock. Well Number #181

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-30	Sand; top soil
30-44	Sand & boulders
44-261	Solid rock

□WELL DESCRIPTION

LOCATION: Township: 7N Range: 2W Section: 11

740 ft. north, 380 ft. east, of S 1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Ray Hansen

Report of water well driller, state of Utah

Well in bedrock. Well Number #182

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-35	Boulders
35-48	Clay & boulders
48-60	Boulders; water
60-100	Layers of lime & quartzite; water

□WELL DESCRIPTION

LOCATION: Township: 7N Range: 2W Section: 24

1036 ft. south, 25 ft. west, of NW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Neil Millicent Matthews

Report of water well driller, state of Utah

Well in bedrock. Well Number #183

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-70	Clay & boulders
70-90	Solid rock

□WELL DESCRIPTION

LOCATION: Township: 7N Range: 1W Section: 17

689 ft. north, 1814 ft. east, of SW 1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Dan Hess

Report of water well driller, state of Utah

Well in bedrock. Well Number #184

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-122	Brown claystone
122-160	Brown shale; water 122-150'

□WELL DESCRIPTION

LOCATION: Township: 7N Range: 1W Section: 21  
1000 ft. north, 250 ft. east, of SW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Ben Lomond Estates

Report of water well driller, state of Utah

Well in bedrock. Well Number #185

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-30	Silt & boulders
30-40	Clay
40-60	Clay, gravel, & boulders
60-90	Clay & gravel
90-100	Clay
100-110	Clay & boulders
110-130	Clay & gravel
130-150	Clay
150-170	Yellow clay
170-180	Blue clay & gravel
180-190	Yellow clay
190-200	Clay, conglomerate, gray shale, & sand
200-210	Clay, gray shale, & quartz
210-230	Bedrock
230-240	Dark gray to black shale
240-250	Bedrock
250-260	Lighter gray shale
260-280	Fractured bedrock
280-300	Limestone, gray
300-320	Limestone, gray; water
320-600	Gray, green limestone; water



□WELL DESCRIPTION

LOCATION: Township: 6N Range: 1W Section: 34 (B-6-1)34acb  
1620 ft. south, 17 ft. east, of N1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Val A. Browning

Report of water well driller, state of Utah

Well in bedrock. Well Number #186

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-1	Soil
1-8	Gr.
8-20	S
20-168	C
168-172	Rock

□WELL DESCRIPTION

LOCATION: Township: 6N Range: 1W Section: 35 (b-6-1)35bcb  
1610 ft. south, 130 ft. east, of NW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Union Pacific Railroad

Report of water well driller, state of Utah

Well in bedrock. Well Number #187

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-86	Clay & boulders
86-110	Red clay
110-123	Blue, sandy clay
123-136	Brown, sandy clay
136-155	Sand & boulders
155-395	Conglomerate
395-415	Gravel
415-416	Clay
416-430	Gravel
430-440	Conglomerate
440-445	Clay & gravel
445-478	Sand & gravel
478-481	Clay
481-508	Gravel
508-520	Shale

□WELL DESCRIPTION

LOCATION: Township: 5N Range: 1W Section: 15  
650 ft. south, 450 ft. east, of N1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Jonathon Edmund Browning Corp.

Report of water well driller, state of Utah

Well in bedrock. Well Number #188

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-2	Clay, dark brown
2-32	Clay, gravel, & boulders
32-160	Clay
160-250	Brown clay
250-270	Brown, sandy clay
270-312	Brown, sandy clay & gravel
312-320	Granite

□WELL DESCRIPTION

LOCATION: Township: 5N Range: 1W Section: 36 (B-5-1)36cac  
850 ft. south, 1880 ft. east, of W1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: R.J.,E.J.,D.J. Smith & W.P. Petty

Report of water well driller, state of Utah

Well in bedrock. Well Number #189

LITHOLOGIC LOG:

DEPTH,ft	LITHOLOGY
0-2	Top soil
2-25	Gravel & cobbles, brown
25-60	Clay, gravel & cobbles, brown
60-165	Bedrock, fractured water at 150'

□WELL DESCRIPTION

LOCATION: Township: 3S Range: 1E Section: 33 (D-3-1)33dca  
1100 ft. north, 1000 ft. east, of S1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: John A. Bernardo

Report of water well driller, state of Utah

Well in bedrock. Well Number #192

LITHOLOGIC LOG:

DEPTH, ft-	LITHOLOGY
0-170 -	Sand & gravel
170-210 -	Bedrock

□WELL DESCRIPTION

LOCATION: Township: 3S Range: 1E Section: 27

1300 ft. north, 1480 ft. east, of SW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Steven A. Pendleton

Report of water well driller, state of Utah

Well in bedrock. Well Number #193

LITHOLOGIC LOG:

DEPTH, ft-		LITHOLOGY
0-25	-	Sand, gravel, cobbles, boulders; top soil removed
25-70	-	Sand, cobbles, boulders
70-74	-	Clay, sand, & cobbles
74-76	-	Sand & gravel
76-80	-	Sand, gravel, & boulders
80-108	-	Clay, gravel, cobbles, & boulders
108-114	-	Boulders
114-116	-	Boulders & bedrock; very hard



□WELL DESCRIPTION

LOCATION: Township: 3S Range: 1E Section: 23 (D-3-1)23bda  
800 ft. north, 100 ft. west, of center of section .

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Egbert & Jaynes

Report of water well driller, state of Utah

Well in bedrock. Well Number #194

LITHOLOGIC LOG:

DEPTH, ft-	LITHOLOGY
0-90 -	Sand, gravel, boulders; loose unconsolidated alluvium
90-110 -	Bedrock; very weathered granite, highly fractured
110-850 -	Granite, decomposed with fracturing & quartzite stringers running horizontal

□WELL DESCRIPTION

LOCATION: Township: 3S Range: 1E Section: 14 (D-3-1)14dbd  
1550 ft. north, 1450ft. west, of SE section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: James G. Davidson

Report of water well driller, state of Utah

Well in bedrock. Well Number #195

LITHOLOGIC LOG:

DEPTH, ft-		LITHOLOGY
0-6	-	Top soil
6-47	-	Clay, gravel, & boulders
47-50	-	Gravel; water
50-70	-	Granite bedrock

□WELL DESCRIPTION

LOCATION: Township: 1N Range: 1W Section: 11 (B-1-1)11abc  
1222 ft. south, 360 ft. east, of N1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Western States Refining Company

Report of water well driller, state of Utah

Well in bedrock. Well Number #197

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-1	Clay
1-25	Sand & clay
25-29	Sand
29-32	Coarse sand
32-55	Blue clay
55-64	Sand
64-140	Sand & clay
140-230	Red sandy clay
230-240	Fine sand & water
240-293	Blue clay
293-305	Fine sand
305-313	White clay
313-319	Sand
319-329	White clay
329-380	Red sandstone
380-400	Conglomerate
400-420	Red clay
420-423	Gravel, water
423-433	Clay
433-472	Conglomerate
472-500	Blue clay
500-505	Hard conglomerate
505-508	Sand
508-511	Very hard
511-521	Conglomerate
521-525	Water, gravel
525-530	Shale

□WELL DESCRIPTION

LOCATION: Township: 1S Range: 2W Section: 19

2627 ft. north, 287 ft. west, of S1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Utah Copper Co.

Report of water well driller, state of Utah

Well in bedrock. Well Number #201

LITHOLOGIC LOG:

DEPTH, ft-	LITHOLOGY
0-4 -	Silt
4-14 -	Sandy clay
14-48 -	Soft blue clay
48-66 -	Soft blue clay & gravel
66-140 -	Blue & yellow clay
140-146 -	Some gravel in clay
146-183 -	Brown clay
183-190 -	Gravel & 3" in clay
190-242 -	Brown clay
242-259 -	Clay & gravel to 2"
259-275 -	Gravel to 5", clay & cement
275-285 -	Brown clay
285-291 -	Gravel, boulders & clay
291-310 -	Cemented gravel & boulders
310-333 -	Quartzite

□WELL DESCRIPTION

LOCATION: Township: 1S Range: 2W Section: 31

275 ft. south, 200 ft. west, of NE section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Karl Jorgenson

Report of water well driller, state of Utah

Well in bedrock. Well Number #202

LITHOLOGIC LOG:

DEPTH, ft-	LITHOLOGY
0-27 -	Clay & gravel
27-68 -	Gravel
68-100 -	Gravel, little water
100-126 -	Sand & gravel
126-157 -	Boulders
157-178 -	Clay
178-215 -	Bedrock

□WELL DESCRIPTION

LOCATION: Township: 2S Range: 2W Section: 27

2800 ft. north, 900 ft. east, of SW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Glen H. Wood

Report of water well driller, state of Utah

Well in bedrock. Well Number #203

LITHOLOGIC LOG:

DEPTH, ft-	LITHOLOGY
0-2 -	Clay, top soil
2-46 -	Gravel, pea-size
46-52 -	Clay
52-78 -	Clay & gravel
78-82 -	boulders
82-105 -	Clay & gravel
105-111 -	Boulders
111-152 -	Clay & gravel, tan
152-171 -	Clay & gravel, darker tan
171-174 -	Clay & boulders
174-181 -	Clay & gravel, mostly gravel
181-236 -	Clay & gravel, gray
236-273 -	Sand & gravel
273-345 -	Shale



□WELL DESCRIPTION

LOCATION: Township: 3S Range: 2W Section: 29

S 50o W 3430 ft from NE section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: United States Smelting Mining & Refining Co.

Report of water well driller, state of Utah

Well in bedrock. Well Number #205

LITHOLOGIC LOG:

DEPTH, ft-	LITHOLOGY
0-12 -	Red clay
12-170 -	Coarse gravel & clay
170-190 -	First indication of water
190-225 -	Heavier clay & some gravel
225-260 -	Fine gravel & clay
260-268 -	Boulders, gravel & heavy clay
268-278 -	Red clay
278-285 -	Gravel & red clay
285-287 -	Red clay
287-300 -	Streaks of gravel & red clay
300-325 -	Hard white rock

□WELL DESCRIPTION

LOCATION: Township: 4S Range: 2W Section: 3 (C-4-2)3cdc  
928 ft. north, 43 ft. west, of S1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Wayne Horsley

Report of water well driller, state of Utah

Well Number #208

LITHOLOGIC LOG:

DEPTH, ft-		LITHOLOGY
0-54	-	Boulders
54-84	-	Basalt
84-113	-	Fractured basalt

□WELL DESCRIPTION

LOCATION: Township: 4S Range: 1E Section: 5

290 ft. north, 1530ft. west, of SE section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Ballard Water & Land Co.

Report of water well driller, state of Utah

Well in bedrock. Well Number #216

LITHOLOGIC LOG:

DEPTH, ft-	LITHOLOGY
0-10 -	Silt, sand, gravel, & cobbles
10-30 -	Sand, gravel, & boulders
30-40 -	Clay & sand; dense, tight
40-50 -	Sand & gravel
50-60 -	Clay & sand
60-120 -	Cemented gravel, conglomerate, & bedrock
120-155 -	Sand, conglomerate, bedrock; some sandstone
155-300 -	Conglomerate
300-335 -	Gravel & bedrock
335-380 -	Quartzite & sandstone
380-443 -	Sandstone with quartzite lens
443-530 -	Hard quartzite & white sandstone
530-620 -	Quartzite
620-660 -	Sandstone with some quartzite
660-980 -	Quartzite

□WELL DESCRIPTION

LOCATION: Township: 4S Range: 2E Section: 10 (C-4-2)10abc  
920 ft. south, 220 ft. east, of N1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Lynn Walk

Report of water well driller, state of Utah

Well in bedrock. Well Number #217

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-2	Silt
2-22	Clay & gravel
22-41	Clay, dense
41-55	Clay, gravel & cobbles
55-60	Ash
60-190	Granite, dolomite - water

□WELL DESCRIPTION

LOCATION: Township: 4S Range: 2E Section: 18 (D-4-2)18bdd  
2028 ft. south, 101 ft. west, of N1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Carl A. Pack

Report of water well driller, state of Utah

Well in bedrock. Well Number #219

LITHOLOGIC LOG:

DEPTH,ft	LITHOLOGY
0-10	Cobbles
10-40	Clay, gravel, & cobbles
40-72	Sand & gravel
72-95	Clay, sand, gravel, & cobbles
95-157	Cemented gravel & cobbles
157-161	Clay & gravel
161-200	Cemented gravel & cobbles
200-220	Sand & gravel; dirty
220-235	Gravel
235-306	Sand & gravel; dirty
306-353	Clay & gravel
353-365	Granite

WELL DESCRIPTION

LOCATION: Township: 5S Range: 2E Section: 21  
350 ft. north, 10 ft. east, of E1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Pleasant Grove City

Report of water well driller, state of Utah

Well in bedrock. Well Number #220

LITHOLOGIC LOG:

DEPTH,ft	LITHOLOGY
0-5	Clay , cobbles, & boulders
5-25	Clay & boulders
25-35	Boulders (granite boulders)
35-85	Clay, gravel, & boulders
85-95	Clay
95-120	Sand, gravel, & boulders
120-130	Clay, gravel, & boulders
130-140	Boulders
140-145	Clay, gravel & boulders
145-160	Boulders (granite boulders)
160-170	Clay, gravel & boulders
170-180	Boulders
180-225	Clay, gravel & boulders
225-235	Gravel, cobbles, & boulders
235-270	Clay, gravel & cobbles
270-275	Boulders
275-285	Clay, gravel, & cobbles
285-350	Clay, gravel, & boulders; water
350-365	Clay & boulders
365-390	Gravel & boulders; water
390-400	Clay & boulders
400-410	Clay, gravel & boulders
410-430	Limestone
430-455	Fractured limestone; water
455-480	Limestone
480-505	Fractured limestone; water
505-525	Limestone
525-530	Fractured limestone; water
530-600	Fractured limestone with clay

WELL DESCRIPTION

LOCATION: Township: 5S Range: 2E Section: 27 (D-5-2)27baa  
608 ft. south, 192 ft. west, of N1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Pleasant Grove City

Report of water well driller, state of Utah

Well in bedrock. Well Number #221

LITHOLOGIC LOG:

DEPTH,ft	LITHOLOGY
0-4	Top soil; sand & gravel
4-12	Silt, sand, gravel, & boulders
12-15	Clay, sand, & gravel
15-33	Clay, sand, gravel, & boulders
33-38	Clay, sand, & gravel
38-70	Clay, sand, gravel, & boulders
70-81	Clay & boulders
81-89	Clay, gravel, & boulders
89-94	Clay, sand, & gravel
94-121	Clay, gravel, & boulders
121-138	Clay, sand, gravel, & boulders
138-143	Boulders
143-198	Gravel & boulders; loose
198-240	Clay, sand, gravel, & boulders
240-255	Gravel & boulders; loose
255-273	Clay
273-280	Gravel & boulders; water
280-296	Clay, gravel, & boulders
296-330	Brown clay & gravel
330-337	Blue clay & gravel
337-348	Clay, gravel, & boulders
348-382	Boulders
382-395	Brown clay, gravel, & boulders
395-405	Blue clay
405-428	Brown clay, gravel, & boulders
428-452	Boulders
452-535	Bedrock, fractured limestone
535-550	Fractured lime, & water
550-574	Lime, not fractured
574-575	Lime & water
575-580	Lime



□WELL DESCRIPTION

LOCATION: Township: 6S Range: 1E Section: 30 (D-6-1)30bcd  
2400 ft. south, 1050 ft. east, of NW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Ireco Chemicals

Report of water well driller, state of Utah

Well in bedrock. Well Number #222

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-5	Clay, silt, & boulders
5-18	Clay, gravel, & boulders
18-32	Boulders, quartzite
32-39	Clay & boulders
39-230	Clay & boulders
230-272	Hard red clay, & sand
272-403	Dark blue shale
403-490	Hard, dark blue shale; water increasing

□WELL DESCRIPTION

LOCATION: Township: 7S Range: 1E Section: 5 (D-7-1)5ccc  
530 ft. north, 40 ft. east, of SW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Intermountain Research

Report of water well driller, state of Utah

Well in bedrock. Well Number #223

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-15	Tan clay
15-233	Blue lime, consolidated

□WELL DESCRIPTION

LOCATION: Township: 8S Range: 1E Section: 10  
3520 ft. north, 565 ft. east, of SW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: South Shore Farms

Report of water well driller, state of Utah

Well in bedrock. Well Number #224

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-4	Top soil
4-40	Clay, cobbles, & boulders
40-60	Sand & gravel
60-108	Clay, sand, gravel
108-115	Sand & gravel
115-152	Clay, sand, gravel, cobbles, & boulders
152-200	Gravel & cobbles
200-275	Bedrock

□WELL DESCRIPTION

LOCATION: Township: 8S Range: 1E Section: 20  
440 ft. south, 2100 ft. west, of NE section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Hi country Fruit Farm

Report of water well driller, state of Utah

Well in bedrock. Well Number #225

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-5	Clay
5-10	Clay & gravel
10-40	Gravel & boulders
40-55	Gravel
55-60	Conglomerate; water
60-80	Clay & silt
80-100	Silt
100-160	Clay & silt
160-180	Other(sic); water
180-200	Other(sic)
200-205	Hard bedrock

□WELL DESCRIPTION

LOCATION: Township: 9S Range: 1E Section: 27 (D-9-1)27aca  
1818 ft. south, 1899ft. west, of NE section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Geneva Steel Company

Report of water well driller, state of Utah

Well in bedrock. Well Number #226

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-10	Clay & gravel fill
10-20	Gravel
20-311	Broken dolomite
311-320	Fine broken dolomite stone (sand)
320-365	Soft broken dolomite

□WELL DESCRIPTION

LOCATION: Township: 9S Range: 1E Section: 23

2200 ft. south, 200 ft. east, of N1/4 section corner.  
COMMENTS: (reference, type of well, agency, etc.)

Well owner: Payson Fruit Growers

Report of water well driller, state of Utah

Well in bedrock. Well Number #227

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-108	Clay & gravel
108-110	Sand
110-122	Sand & gravel
122-169	Conglomerate
169-188	Clay & gravel
188-208	Clay, gravel, & boulders
208-259	Conglomerate
259-371	Sand, gravel, & conglomerate; water at 259'
371-373	Bedrock

□WELL DESCRIPTION

LOCATION: Township: 9S Range: 1E Section: 2

643 ft. north, 50 ft. east, of S1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Ralph & Faye Tomlinson

Report of water well driller, state of Utah

Well in bedrock. Well Number #228

LITHOLOGIC LOG:

DEPTH,ft	LITHOLOGY
0-10	Top soil; clay & silt
10-80	Clay, hardpan, some sandstone ledges
80-100	Hardpan & sandstone; some water at 100'
100-280	Hardpan, clay, & sandstone; water at 240'-280'

□WELL DESCRIPTION

LOCATION: Township: 9S Range: 2E Section: 16 (D-9-2)16dda  
1185 ft. north, 400 ft. west, of SE section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Max E. Dockstader

Report of water well driller, state of Utah

Well in bedrock. Well Number #229

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-15	Clay & gravel
15-140	Boulders
140-176	Sand & gravel
176-227	Conglomerate
227-228	Sandstone



□WELL DESCRIPTION

LOCATION: Township: 9S Range: 2E Section: 22  
990 ft. north, 655 ft. east, of W1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Pice Armstrong

Report of water well driller, state of Utah

Well in bedrock. Well Number #230

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
1-52	Limestone-quartzite boulders
52-92	Limestone-quartzite conglomerate
92-140	Limestone-sandstone conglomerate
140-207	Manning Canyon shale
207-213	Manning Canyon shale, red
213-217	Gray limestone
217-227	Manning Canyon shale, red
227-231	Gray limestone
231-275	Manning Canyon shale
275	Limestone; water

□WELL DESCRIPTION

LOCATION: Township: 9S Range: 2E Section: 22  
1400 ft. south, 500 ft. east, of NW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Melvin D. Jep

Report of water well driller, state of Utah

Well in bedrock. Well Number #231

LITHOLOGIC LOG:

DEPTH,ft	LITHOLOGY
0-50	Sand, gravel, cobbles, & boulders
50-67	Boulders
67-157	Conglomerate
157-190	Bright red sandstone
190-210	Red & gray ribbons, sandstone
210-230	Red sandstone

□WELL DESCRIPTION

LOCATION: Township: 9S Range: 2E Section: 24 (D-9-2)24acb  
1980 ft. south, of N1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: G. Elmer Hanks

Report of water well driller, state of Utah

Well in bedrock. Well Number #232

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-2	Top soil
2-25	Rock & clay mixture
25-38	Lime rock
38-150	Rock & clay mixture
150-180	Lime rock
180-260	Rock & clay mixture
260-300	Lime rock

□WELL DESCRIPTION

LOCATION: Township: 9S Range: 2E Section: 25 (D-9-2)25bbc  
1260 ft. south, 300 ft. east, of NW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Keith Shuler

Report of water well driller, state of Utah

Well in bedrock. Well Number #233

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-2	Silt
2-7	Brown clay & boulders
7-15	Clay & sand
15-18	Clay & boulders
18-41	Clay
41-53	Clay & boulders
53-55	Clay
55-59	Clay & boulders
59-65	Gravel & boulders; water
65-71	Clay & boulders
71-75	Clay
75-87	Clay & boulders
87-104	Fractured bedrock; water
104-145	Solid bedrock
145-225	Fractured bedrock

□WELL DESCRIPTION

LOCATION: Township: 9S Range: 2E Section: 26 (D-9-2)26bcd  
1150 ft. south, 730 ft. west, of N1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Keith Shuler/ Shuler Water Co.  
Report of water well driller, state of Utah

Well in bedrock. Well Number #234

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-5	Top soil
5-35	Clay & hardpan
35-85	Clay & gravel
85-170	Coarse gravel
170-205	Limed conglomerate
205-220	Tan limestone
220-240	Limed conglomerate
240-270	Brown limestone boulders
270-310	Gray limestone
310-330	Brown limestone
330-390	Gray & brown limestone
390-470	Brown limestone
470-490	Gray & brown limestone
490-520	Brown limestone
520-600	Light tan limestone with clay seams

□WELL DESCRIPTION

LOCATION: Township: 9S Range: 2E Section: 29 (D-9-2)29bba  
600 ft. south, 1200 ft. east, of NW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: V.H. Allen Corp

Report of water well driller, state of Utah

Well in bedrock. Well Number #235

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-2	Gravel, top soil
2-30	Tan clay & gravel
30-48	Boulders
48-154	Red & tan clay
154-250	Gray sandstone with layers around shale water

□WELL DESCRIPTION

LOCATION: Township: 9S Range: 3E Section: 30  
1000 ft. south, 1700 ft. east, of W1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Parley M. Meeley/ Surveying Associates

Report of water well driller, state of Utah

Well in bedrock. Well Number #236

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-195	Cobbles & boulders
195-205	Cobbles, with a little water
205-285	Clay, cobbles, & boulders
285-400	Limestone

□WELL DESCRIPTION

LOCATION: Township: 9S Range: 3E Section: 18 (D-9-3)18ccb  
1000 ft. north, 375 ft. east, of SW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Albert L. Bylund

Report of water well driller, state of Utah

Well in bedrock. Well Number #237

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-8	Clay
8-40	Sand, gravel, & boulders
40-80	Fractured lime
80-160	Clay & fractured lime
160-200	Clay, gravel, & fractured lime
200-250	Fractured lime
250-300	Clay & fractured lime
300-360	Fractured lime;
360-362	Fractured lime; little water
363-400	Fractured lime
400-420	Other(sic); water



□WELL DESCRIPTION

LOCATION: Township: 10S Range: 1E Section: 2 (D-10-1)2bba  
307 ft. south, 694 ft. east, of NW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Genola Town

Report of water well driller, state of Utah

Well in bedrock. Well Number #238

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
302-342	Sand & gravel, 3/8" diameter
342-368	Gravel & cobbles, 3" diameter
368-384	Conglomerate
384-408	Gravel & conglomerate
408-485	Clay, sand, & gravel
485-502	Clay & gravel
502-506	Conglomerate
506-527	Clay & conglomerate
527-554	Limestone

□WELL DESCRIPTION

LOCATION: Township: 10S Range: 1E Section: 11 (D-10-1)11bdb

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Claude A. Rowley

Report of water well driller, state of Utah

Well in bedrock. Well Number #239

LITHOLOGIC LOG:

DEPTH,ft	LITHOLOGY
0-5	Top soil, gravel
5-8	Tan clay
8-42	Gravel
42-56	Blue clay & sand
56-80	Hardpan
80-142	Tan clay & gravel
142-157	Sand & gravel
157-168	Red clay
168-214	Clay & gravel
214-226	Red clay
226-238	Clay & gravel
238-242	Tan clay
242-268	Clay & gravel
268-300	Clay, gravel, & boulders
300-332	Boulders & conglomerate
332-425	Clay, sand, & gravel; water
425-458	Sand & boulders
458-470	Clay & boulders
470-500	Gray sandstone

□WELL DESCRIPTION

LOCATION: Township: 10S Range: 1E Section: 16 (D-10-1)16adc  
20 ft. north, 660 ft. west, of E1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: J.B. Ranch Inc.

Report of water well driller, state of Utah

Well in bedrock. Well Number #240

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-150	Clay, silt, & boulders
150-660	Limestone

□WELL DESCRIPTION

LOCATION: Township: 10S Range: 1E Section: 4 (D-10-1)4ddc  
200 ft. north, 1100ft. west, of SE section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: J.B. Ranch Inc.

Report of water well driller, state of Utah

Well in bedrock. Well Number #242

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-120	Silt & boulders
120-380	Gray shale with limestone
380-400	Fractured shale; water

□WELL DESCRIPTION

LOCATION: Township: 10S Range: 1E Section: 30  
1200 ft. south, 1600 ft. east, of NW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Scott Lunceford

Report of water well driller, state of Utah

Well in bedrock. Well Number #243

LITHOLOGIC LOG:

DEPTH,ft	LITHOLOGY
0-1	Top soil
1-74	Clay, cobbles, & boulders
74-77	Boulders
77-136	Clay, gravel, & cobbles
136-177	Brown sandy clay
177-224	Clay & gravel
224-242	Clay, cobbles, & boulders
242-289	Gravel
289-307	Gravel & boulders; water
307-326	Cemented gravel
326-351	Loose gravel (caving)
351-370	Clay & gravel
370-403	Sand & gravel, cemented - limestone
403-424	Gray clay & gravel
424-433	Red clay & sand
433-444	Cemented sand & gravel
444-467	Red clay, sand, & gravel
467-499	Gray clay & gravel
499-574	Brown & gray clay & gravel
574-600	Clay & blue, hard shale

□WELL DESCRIPTION

LOCATION: Township: 11S Range: 1E Section: 21  
300 ft. south, 330 ft. west, of NE section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: William R. Jensen

Report of water well driller, state of Utah

Well in bedrock. Well Number #244

LITHOLOGIC LOG:

DEPTH,ft	LITHOLOGY
0-400	Sand, gravel, cobbles, & boulders
400-500	Layers of limestone & cemented gravels
500-525	Fractured limestone; water seams

□WELL DESCRIPTION

LOCATION: Township: 11S Range: 1E Section: 33  
2000 ft. south, 1450 ft. east, of NW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Ed Brown

Report of water well driller, state of Utah

Well in bedrock. Well Number #245

LITHOLOGIC LOG:

DEPTH,ft	LITHOLOGY
0-112	Hard, sandy clay & sand
112-118	Lava & gravel
118-149	Hard clay
149-250	Hard rock gravel & clay
250-262	Hard rock; water

□WELL DESCRIPTION

LOCATION: Township: 1S Range: 1E Section: 26

125 ft. south, 180 ft. east, from NW corner of SW 1/4 of SE 1/4

COMMENTS: (reference, type of well, agency, etc.)

Well owner: County Water system Inc.

Report of water well driller, state of Utah

Well in bedrock. Well Number #246

LITHOLOGIC LOG:

DEPTH, ft-	LITHOLOGY
0-5 -	Top soil
5-60 -	Red clay
60-75 -	Blue clay
75-140 -	Red clay
140-198 -	Gravel, semi-dry
198-210 -	Conglomerate
210-238 -	Gravel, dry
238-260 -	Bedrock

□WELL DESCRIPTION

LOCATION: Township: 1S Range: 1E Section: 36 (D-1-1)36bac  
1140 ft. south, 1335 ft. east, of NW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: County Water Supply

Report of water well driller, state of Utah

Well in bedrock. Well Number #248

LITHOLOGIC LOG:

DEPTH, ft-	LITHOLOGY
0-10 -	Top soil
10-28 -	Clay
28-38 -	Boulders
38-100 -	Boulders & clay
100-105 -	Clay & gravel
105-136 -	Gravel, water
136-165 -	Clay & gravel
165-185 -	Shale & gravel
185-230 -	Red shale
330-250 -	Gray shale
250-290 -	Red shale



□WELL DESCRIPTION

LOCATION: Township: 4S Range: 1W Section: 13 (C-4-1)13ccc  
600 ft. north, 400 ft. east, of SW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Evan W. Hansen

Murphy, Peter J & Gwynn, J Wallace, 1979, Geothermal Investigations at Crystal Hot Springs, Salt Lake County, Utah; Utah Geological & Mineral Survey Report of Investigation 139, 64p.

Report of water well driller, state of Utah

Well in bedrock. Well Number #251

LITHOLOGIC LOG:

DEPTH,ft-	LITHOLOGY
0-3 -	Silt
3-99 -	Silt, sand, & gravel
99-148 -	Conglomerate
148-195 -	Clay, sand, & gravel
195-226 -	Sandy clay
226-230 -	Gravel; water
230-249 -	Sand & gravel; water
249-290 -	Fractured quartzite; water

□WELL DESCRIPTION

LOCATION: Township: 4S Range: 1W Section: 14

1350 ft. south, 500 ft. west, of NE section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Evan Hansen

Report of water well driller, state of Utah

Well in bedrock. Well Number #252

LITHOLOGIC LOG:

DEPTH, ft-	LITHOLOGY
0-17 -	Road base
17-82 -	Sand, pea gravel
82-86 -	Sandy clay
86-110 -	Clay & gravel
110-123 -	Sand & gravel; dry
123-145 -	Dirty sand; dry
145-180 -	Clay & gravel
180-220 -	Gravel; water
220-233 -	Coarse sand
233-250 -	Bedrock

□WELL DESCRIPTION

LOCATION: Township: 4S Range: 1W Section: 15

260 ft. east, of W1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: W. Steve Barlow

Report of water well driller, state of Utah

Well in bedrock. Well Number #253

LITHOLOGIC LOG:

DEPTH, ft-	LITHOLOGY
0-2 -	Top soil
2-27 -	Cobbles
27-151 -	Sand, gravel & boulders
151-170 -	Sand & gravel
170-174 -	Clay
174-300 -	Sand & gravel
300-358 -	Sand, gravel, & boulders; water
358-361 -	Bedrock

□WELL DESCRIPTION

LOCATION: Township: 7S Range: 1W Section: 13 (C-7-1)13abc  
2200 ft. south, 1300 ft. west, of NE section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Gerad Neilson

Report of water well driller, state of Utah

Well in bedrock. Well Number #258

LITHOLOGIC LOG:

DEPTH,ft	LITHOLOGY
0-15	Clay, silt, sand, & boulders
15-65	Brown clay & gravel
65-103	White & brown clay
103-151	White limestone
151-231	Blue limestone
231-292	Black carbonized shale
292-303	Gravel; water
303-452	Black carbonized shale

□WELL DESCRIPTION

LOCATION: Township: 8S Range: 1W Section: 29 (C-8-1)29bdc  
2250 ft. south, 1810 ft. east, of NW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: James B. Fitzgerald

Report of water well driller, state of Utah

Well in bedrock. Well Number #259

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-7	White clay
7-240	Clay, sand, & gravel
240-320	Brown sticky clay, & gravel
320-343	Lava
343-359	Red clay, & gravel
359-447	Limestone
447-500	Lime & shale

□WELL DESCRIPTION

LOCATION: Township: 8S Range: 1W Section: 20 (C-8-1)20cdb  
850 ft. north, 1810 ft. east, of SW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: James B. Fitzgerald

Report of water well driller, state of Utah

Well in bedrock. Well Number #260

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-4	Hard clay
4-202	Clay, sand, & gravel
202-206	Hard clay
206-207	Gravel; water
207-220	Limestone
220-227	Clay, sand, & gravel
227-288	Limestone
288-312	Broken black & white limestone
312-345	Limestone & shale

□WELL DESCRIPTION

LOCATION: Township: 4S Range: 1W Section: 12 (C-4-1)12bcd

COMMENTS: (reference, type of well, agency, etc.)

Murphy, Peter J & Gwynn, J Wallace, 1979, Geothermal Investigations at Crystal Hot Springs, Salt Lake County, Utah; Utah Geological & Mineral Survey Report of Investigation 139, 64p.

Surface Elevation: 4472 ft.

Well in bedrock. Well Number #261

LITHOLOGIC LOG:

DEPTH, ft-	LITHOLOGY
0-18 -	Gray clay
18-90 -	Quartzite sand & gravel
90-237 -	Quartzite; fractured, light gray

□WELL DESCRIPTION

LOCATION: Township: 4S Range: 1W Section: (C-4-1)12bcc

COMMENTS: (reference, type of well, agency, etc.)

Murphy, Peter J & Gwynn, J Wallace, 1979, Geothermal Investigations at Crystal Hot Springs, Salt Lake County, Utah; Utah Geological & Mineral Survey Report of Investigation 139, 64p.

Surface Elevation: 4465 ft.

Well in bedrock. Well Number #262

LITHOLOGIC LOG:

DEPTH, ft-		LITHOLOGY
0-55	-	Clay; tan, minor fine gravel
55-62	-	Blue clay; stiff
62-86	-	Sand & quartzite gravel
86-200	-	Fractured, light gray, quartzite



□WELL DESCRIPTION

LOCATION: Township: 4S Range: 1W Section: 12 (C-4-1)12bbd-2

COMMENTS: (reference, type of well, agency, etc.)

Murhpy, Peter J & Gwynn, J Wallace, 1979, Geothermal Investigations at Crystal Hot Springs, Salt Lake County, Utah; Utah Geological & Mineral Survey Report of Investigation 139, 64p.

Surface Elevation: 4460 ft.

Well in bedrock. Well Number #263

LITHOLOGIC LOG:

DEPTH, ft-	LITHOLOGY
0-64 -	Dark gray clay
63-65 -	Dark brown clay with sand
65-71 -	Tan, green, & gray, clay with sand
71-86 -	Tan, gray, sandy clay
86-218 -	Gray clay, sand, & gravel
218-220 -	Coarse gravel
220-240 -	Sand & gravel; intermittent red clay
240-262 -	Sand & gravel; some clay
262-280 -	Fractured, dark gray, quartzite

□WELL DESCRIPTION

LOCATION: Township: 4S Range: 1W Section: 2 (C-4-1)02ddb

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Utah State Board of Corrections

Murhpy, Peter J & Gwynn, J Wallace, 1979, Geothermal Investigations at Crystal Hot Springs, Salt Lake County, Utah; Utah Geological & Mineral Survey Report of Investigation 139, 64p., Prison Farm well No. 1.

Surface Elevation: 4460 ft.

Well in bedrock. Well Number #264

LITHOLOGIC LOG:

DEPTH,ft-	LITHOLOGY
0-3 -	Top soil
3-82 -	Blue clay
82-119 -	Hardpan; sand
119-200 -	Conglomerate
200-205 -	Gray clay
205-248 -	Conglomerate & gravel
248-309 -	Conglomerate
309-340 -	Gravel; a little water
340-397 -	Sand & gravel
397-427 -	Sand & gravel
427-463 -	Clay & gravel
463-503 -	Gumbo clay
503-552 -	Sticky clay
552-582 -	Clay & sand
582-603 -	Sticky clay
603-665 -	Clay & gravel
665-707 -	Sticky clay
707-722 -	Clay & gravel
722-825 -	Bedrock

□WELL DESCRIPTION

LOCATION: Township: 4S Range: 1W Section: 13 (C-4-1)13bab

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Loran D Dixon

Murphy, Peter J & Gwynn, J Wallace, 1979, Geothermal Investigations at Crystal Hot Springs, Salt Lake County, Utah; Utah Geological & Mineral Survey Report of Investigation 139, 64p.

Well in bedrock. Well Number #266

LITHOLOGIC LOG:

DEPTH, ft-	LITHOLOGY
0-3 -	Silt & sand
3-9 -	Gravel
9-11 -	Clay
11-30 -	Gravel
30-38 -	Cobble gravel
38-109 -	Fractured quartzite
109-117 -	Gravel, water
117-140 -	Solid rock

□WELL DESCRIPTION

LOCATION: Township: 1N Range: 1W Section: 14 (B-1-1)14dcb

COMMENTS: (reference, type of well, agency, etc.)

Murphy, Peter & Gwynn, J Wallace, 1979, Geothermal investigation of the Warm Springs Fault geothermal system, Salt Lake County, Utah; Utah Geological & Mineral Survey Report of Investigation RI-140, 24p.

Surface Elevation: 4275 ft.

Well in bedrock. Well Number #267

LITHOLOGIC LOG:

DEPTH,ft	LITHOLOGY
0-12	Dry silt; loess(?), tan, red, & yellow
12-15	Sand & gravel with yellow silt
15-30	Gray clay; occasional minor gravel
30-75	Medium to fine, angular, dolomite gravel; with varying percentages of clay & sand
75-133	Weathered & fractured dolomite
133-240	Fractured dolomite
240-253	Fractured (less than above) dolomite

□WELL DESCRIPTION

LOCATION: Township: 3S Range: 1W Section: 01 (C-3-1)01cbb

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Utah Roses

Energy Services, Inc., Idaho Falls, Idaho, 1980, Drilling summary, Utah Roses, Inc., Sandy, Utah

Well in bedrock. Well Number #268

LITHOLOGIC LOG:

DEPTH,ft -	LITHOLOGY
0-500 -	Sand and gravel
500-1200 -	Clay and fine sandstone
1200-1500-	Brown clay and fine sandstone
1500-1900-	Clay, quartzite, and limestone
1900-2200-	Dark-brown clay and sandstone
2200-2900-	Sandstone
2900-3050-	Some fractures
3050-3700-	Sandstone
3700-4500-	Red sand, sandstone, and quartzite
4500-4700-	Possible fractures
4700-4998-	Sandstone

□WELL DESCRIPTION

LOCATION: Township: 5S Range: 1W Section: 22 (C-5-1)22cdb-1

COMMENTS: (reference, type of well, agency, etc.)

Appel, Cynthia L, Clark, David W, Fairbanks, Paul E, 1982, Selected hydrologic data for northern Utah Valley, Utah, 1935-82; United States Geological Survey Open File Report 82-1023 & Utah Department of Natural Resources Division of Water Rights Utah Hydrologic-Data Report No. 39, 150p.

Surface Elevation: 4637.5 ft.

Well in bedrock. Well Number #269

LITHOLOGIC LOG:

DEPTH,ft	LITHOLOGY
0-13	Clay
13-16	Clay, sand, cobble & boulder gravel
16-25	Clay, sand, & cobble gravel
25-26	Boulders
26-30	Clay, sand, & gravel
30-33	Clay & sand
33-35	Clay, sand, & cobble gravel
35-42	Sand & cobble gravel
42-106	Clay, sand, & cobble gravel
106-200	Limestone; small clay layers

□WELL DESCRIPTION

LOCATION: Township: 4S Range: 1E Section: 26 (D-4-1)26aac-1

COMMENTS: (reference, type of well, agency, etc.)

Appel, Cynthia L, Clark, David W, Fairbanks, Paul E, 1982, Selected hydrologic data for northern Utah Valley, Utah, 1935-82; United States Geological Survey Open File Report 82-1023 & Utah Department of Natural Resources Division of Water Rights Utah Hydrologic-Data Report No. 39, 150p.

Surface Elevation: 4923 ft.

Well in bedrock. Well Number #270

LITHOLOGIC LOG:

DEPTH,ft	LITHOLOGY
0-2	Soil
2-65	Clay & gravel
65-102	Sand & gravel
102-194	Clay & sand
194-276	Clay & gravel
276-320	Clay & sand; water
320-382	Clay, silt, & sand
382-430	Clay & sand
430-452	Sand & gravel
452-463	Clay, sand, & gravel
463-605	Conglomerate
605-615	Granite

□WELL DESCRIPTION

LOCATION: Township: 4S Range: 1E Section: 36 (D-4-1)36adc-1

COMMENTS: (reference, type of well, agency, etc.)

Appel, Cynthia L, Clark, David W, Fairbanks, Paul E, 1982, Selected hydrologic data for northern Utah Valley, Utah, 1935-82; United States Geological Survey Open File Report 82-1023 & Utah Department of Natural Resources Division of Water Rights Utah Hydrologic-Data Report No. 39, 150p.

Surface Elevation: 4935 ft.

Well in bedrock. Well Number #271

LITHOLOGIC LOG:

DEPTH,ft	LITHOLOGY
0-1	Soil
1-55	Cobble & boulder gravel
55-57	Sandy clay
57-100	Cobble gravel
100-143	Cobble & boulder gravel
143-190	Cobble gravel
190-239	Clay, sand, & gravel
239-351	Clay & cobble gravel
351-360	Cobble gravel; water
360-380	Clay & gravel; water
380-386	Clay & small gravel
386-403	Gravel; layers of clay
403-405	Gravel
405-409	Clay & gravel
409-531	Cemented gravel
531-534	Hard clay; sand & fine gravel
534-552	Cemented gravel
552-566	Limestone; streaks of clay
566-577	Cemented gravel; limestone, hard clay



□WELL DESCRIPTION

LOCATION: Township: 4S Range: 2E Section: 19 (D-4-2)19ccb-1

COMMENTS: (reference, type of well, agency, etc.)

Appel, Cynthia L, Clark, David W, Fairbanks, Paul E, 1982, Selected hydrologic data for northern Utah Valley, Utah, 1935-82; United States Geological Survey Open File Report 82-1023 & Utah Department of Natural Resources Division of Water Rights Utah Hydrologic-Data Report No. 39, 150p.

Surface Elevation: 4955 ft.

Well in bedrock. Well Number #273

LITHOLOGIC LOG:

DEPTH,ft	LITHOLOGY
0-10	Soil
10-19	Clay & gravel; brown
19-35	Coarse sand
35-79	Sand & coarse gravel
79-105	Clay, sand, & gravel; brown
105-167	Sand and coarse gravel
167-300	Clay, sand, & gravel; brown
300-335	Conglomerate
335-360	Conglomerate; sandy
360-444	Conglomerate
444-467	Clay & gravel; brown
467-490	Conglomerate
490-501	Cemented sand & gravel
501-623	Conglomerate
623-650	Granite

□WELL DESCRIPTION

LOCATION: Township: 4S Range: 2E Section: 31 (D-4-2)31abd-1

COMMENTS: (reference, type of well, agency, etc.)

Appel, Cynthia L, Clark, David W, Fairbanks, Paul E, 1982, Selected hydrologic data for northern Utah Valley, Utah, 1935-82; United States Geological Survey Open File Report 82-1023 & Utah Department of Natural Resources Division of Water Rights Utah Hydrologic-Data Report No. 39, 150p.

Surface Elevation: 4980 ft.

Well in bedrock. Well Number #274

LITHOLOGIC LOG:

DEPTH,ft	LITHOLOGY
0-14	Cobble gravel
14-34	Large boulders
34-42	Boulders
42-65	Clay & cobble gravel
65-70	Large gravel
70-75	Clay & cobbles
75-78	Cobbles & boulders; some water
78-84	Gravel; some water
84-92	Cobble gravel
92-96	Cobble gravel; large
96-100	Boulders
100-116	Cobble gravel
116-128	Gravel; streaks of clay
128-140	Cobble gravel
140-173	Clay & gravel
173-183	Conglomerate
183-187	Clay & gravel
187-200	Conglomerate
200-212	Clay & gravel
212-220	Conglomerate
220-230	Gravel; streaks of clay
230-236	Conglomerate
236-254	Gravel; streaks of clay
254-272	Clay, cobbles, & lime
272-280	Limestone
280-292	Clay & gravel
292-300	Clay & cobble gravel
300-303	Clay & cobble gravel; some water
303-308	Limestone
308-356	Conglomerate
356-366	Clay & gravel
366-382	Clay & cobble gravel
382-387	Gravel; packed sand
387-392	Conglomerate; some water
392-442	Conglomerate
442-448	Conglomerate; streaks of limestone
448-463	Gravel; streaks of water (sic)
463-501	Limestone

□WELL DESCRIPTION

LOCATION: Township: 6S Range: 2E Section: 12 (D-6-2)12bdb-1

COMMENTS: (reference, type of well, agency, etc.)

Appel, Cynthia L, Clark, David W, Fairbanks, Paul E, 1982, Selected hydrologic data for northern Utah Valley, Utah, 1935-82; United States Geological Survey Open File Report 82-1023 & Utah Department of Natural Resources Division of Water Rights Utah Hydrologic-Data Report No. 39, 150p.

Surface Elevation: 4853ft.

Well in bedrock. Well Number #276

LITHOLOGIC LOG:

DEPTH,ft	LITHOLOGY
0-2	Soil
2-8	Cemented sand; boulder gravel
8-27	Sand & boulder gravel
27-52	Cemented sand; gravel
52-78	Sand & gravel
78-90	Sandy, brown, clay; gravel
90-118	Sand & gravel
118-129	Sandy, brown, clay
129-178	Sand & gravel
178-204	Clay; sandy, yellow
204-310	Sand & gravel
310-539	Clay & gravel to 16 inches
539-640	Sandy, brown, clay; gravel to 10 inches
640-710	Clay & gravel; sandy, brown
710-885	Clay, gravel, & conglomerate
885-923	Clay & gravel; granite.

□WELL DESCRIPTION

LOCATION: Township: 1S Range: 1E Section: 07 (D-1-1)07bba

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Clover Leaf/Harris Dairy

Taylor, G H & Leggette, R M, 1949, Ground Water in the Jordan Valley, Utah;

United States Geological Survey Water Supply Paper 1029, 356p.

Well in bedrock. Well Number #284

LITHOLOGIC LOG:

DEPTH, ft-	LITHOLOGY
0-10 -	Fill
10-16 -	Loam & soil sediments
16-17 -	Gravel; w/soil mixture
17-25 -	Clay; black, sticky
25-35 -	Black clay
35-50 -	Yellow clay
50-60 -	Black clay
60-75 -	Brown clay
75-95 -	Light-green clay
95-108 -	Brown clay
108-110 -	Gravel
110-145 -	Green clay; some marsh gas
145-149 -	Gravel
149-185 -	Brown clay
185-195 -	Fine gravel; embedded in Yellow clay
195-248 -	Brown clay
248-295 -	Green clay; very sticky
295-300 -	Brown clay
300-360 -	Clay; very dark blue, marsh gas & pungent odor
360-370 -	Brown clay; impervious, tough
370-372 -	Gravel; water-bearing
372-375 -	Sand; water-bearing
375-385 -	Light-brown clay
385-417 -	Clay, sand, & gravel; alternating beds
417-443 -	Red clay; cemented, some sand
443-480 -	Clay; bluish-green, gumbo
480-490 -	Sand & gravel
490-512 -	Light-gray clay
512-535 -	Green clay
535-545 -	Sand; water-bearing
545-572 -	Dark blue clay
572-590 -	Red sand; cemented
590-632 -	Red clay; sticky
632-639 -	Fine sand
639-642 -	Clay & sand; thin strata
642-658 -	Clay & sand; strata, w/about 2 feet of gravel, 40 minute bailing test = 1200 gals, water drew down but showed "con- siderable strength"
658-670 -	Brown clay; sticky
670-675 -	Sand; medium coarse
675-685 -	Light-brown clay; sticky
685-723 -	Gray clay; sticky
723-741 -	Sand & gravel; water-bearing
741-750 -	Brown shale; impervious



Name: Lee  
Owner: Utah State Board of Corrections  
Location: (C-4-1)2ddb

Driller's Log:

0-3	top soil
3-82	blue clay
82-119	hard pan and sand
119-200	conglomerate
200-205	gray clay
205-248	conglomerate and gravel
248-309	conglomerate
309-340	gravel and a little water
340-397	sand and gravel
397-427	sand and gravel
427-463	gravel and clay
463-503	gumbo clay
503-552	sticky clay
552-582	sand and clay
582-603	sticky clay
603-665	gravel and clay
665-707	sticky clay
707-722	clay and gravel
722-825	bedrock

Name:	Hall
Owner:	Donald W. Hall
Location:	(C-4-1)11dad
Driller's Log:	
0-76	clay (top soil)
76-127	sandy clay
127-138	sand and gravel (heaved in hole)
138-140	coarse gravel
140-157	clay and gravel
157-174	brown sandy clay
174-182	white rock
182-196	blue shale
196-215	clay and gravel
215-236	gray sandstone
236-262	black sandstone
262-271	bedrock - hard gray
271-290	clay and sand

Name:	None
Owner:	Loran D. Dixon
Location:	(C-4-1)13bab
Driller's Log:	
0-3	silt and sand
3-9	gravel
9-11	clay
11-30	gravel
30-38	cobbles
38-109	fractured quartzite
109-117	gravel and water
117-121	solid rock
121-140	open hole



Name:	None
Owner:	Evan W. Hanson
Location:	(C-4-1)13ccc
Driller's Log:	
0-3	silt
3-99	silt, sand, and gravel
99-148	conglomerate
148-195	clay sand and gravel
195-226	sandy clay
226-236	gravel with water
236-241	sand and gravel
241-249	fractured quartzite and water
250-290	solid rock

**Table 4.—Drillers' logs of selected wells**

[See text for explanation of numbering system for hydrologic-data sites. Altitude (Alt.) is land surface altitude. Surveyed altitudes given in feet and decimal fractions; altitudes interpolated from U.S. Geological Survey topographic maps given in full feet.]

**Thickness:** Thickness of unit in feet.

**Depth:** Depth to bottom of unit, in feet, below land surface. Total depth of log may be greater than the depth of well given in tables 1 and 3 because the drilled depth may have been greater than the depth of the completed well.

Material	Thickness	Depth	Material	Thickness	Depth	Material	Thickness	Depth
<b>(C-4-1)26aad-1.</b> Log by J. S. Lee and Sons. Alt. 4,632.			<b>(C-5-1)15aac-1—Continued.</b>			<b>(D-4-1)13acb-1.</b> Log by J. S. Lee and Sons. Alt. 5,190.		
Clay and gravel . . . . .	8	8	Sand, gravel, and conglomerate. . . . .	45	170	Soil . . . . .	4	4
Gravel, dry . . . . .	30	38	Clay, tan . . . . .	6	176	Clay and gravel . . . . .	6	10
Clay, brown . . . . .	14	52	Clay, sand, gravel, and conglomerate. . . . .	51	227	Boulders . . . . .	25	35
Gravel, dry . . . . .	112	164	Clay, tan . . . . .	7	234	Conglomerate . . . . .	120	155
Clay, blue . . . . .	31	195	Clay, gravel, and conglomerate, tan . . . . .	22	256	Gravel . . . . .	1	156
Gravel; water . . . . .	19	214	<b>(C-5-1)22cdb-1.</b> Log by Paul B. Billings. Alt. 4,637.5.			Conglomerate . . . . .	59	215
Clay, black . . . . .	5	219	Clay . . . . .	13	13	Gravel . . . . .	1	216
Gravel, cemented . . . . .	3	222	Clay, sand, gravel, cobbles, and boulders . . . . .	3	16	Conglomerate . . . . .	219	435
Gravel; water . . . . .	29	251	Clay, sand, gravel, and cobbles . . . . .	9	25	Clay, sandy with rock . . . . .	20	455
Clay and gravel . . . . .	12	263	Boulders . . . . .	1	26	Clay, gravel, and boulders . . . . .	160	615
Conglomerate . . . . .	6	269	Clay, sand, and gravel. . . . .	4	30	<b>(D-4-1)25ddb-1.</b> Log by Cecil M. Stephenson. Alt. 4,932.		
Clay, sticky . . . . .	5	274	Clay and sand . . . . .	3	33	Soil . . . . .	5	5
Clay and gravel . . . . .	5	279	Clay, sand, gravel, and cobbles . . . . .	2	35	Gravel, cobbles, and boulders . . . . .	17	22
Clay, brown . . . . .	63	342	Sand, gravel, and cobbles. . . . .	7	42	Clay, sand, and gravel. . . . .	36	58
Clay, green . . . . .	18	360	Clay, sand, gravel, and cobbles . . . . .	64	106	Gravel, cobbles . . . . .	123	181
Clay and gravel . . . . .	16	376	Limestone; small clay layers . . . . .	94	200	Clay, sandy . . . . .	63	244
Clay, brown . . . . .	4	380	<b>(C-5-1)24dbc-1.</b> Log by Eldon Comer. Alt. 4,492.			Gravel, cemented . . . . .	21	265
Clay, gray . . . . .	36	416	Soil . . . . .	3	3	Clay and gravel . . . . .	90	355
Clay, brown . . . . .	20	436	Clay, blue . . . . .	62	65	Gravel, cemented . . . . .	30	385
Clay and gravel . . . . .	89	525	Sand . . . . .	2	67	Conglomerate . . . . .	13	398
Clay and sand, in layers; water . . . . .	15	540	Sand and gravel, dirty; water . . . . .	14	81	Clay and gravel . . . . .	16	414
<b>(C-5-1)11cab-1.</b> Log by Paul Comer. Alt. 4,627.			Clay, tan . . . . .	37	118	Gravel, cemented; hard clay . . . . .	64	478
Soil . . . . .	2	2	Gravel, fine; water . . . . .	7	125	Clay, hard; gravel . . . . .	73	551
Clay, tan . . . . .	20	22	Clay, tan . . . . .	26	151	Clay and gravel . . . . .	20	571
Clay, sand, and gravel, tan. . . . .	21	43	Gravel, dirty; water . . . . .	9	160	Gravel, cemented . . . . .	35	606
Clay, tan . . . . .	44	87	Clay, tan . . . . .	13	173	Clay, hard; limestone . . . . .	9	615
Clay, gravel, and conglomerate, tan . . . . .	37	124	Clay, sand, and gravel, tan. . . . .	8	181	Clay and gravel . . . . .	9	624
Sand, gravel, and conglomerate, tan . . . . .	45	169	Clay, tan . . . . .	16	197	Clay, hard; layers of limestone. . . . .	10	634
Clay, tan . . . . .	4	173	Clay and gravel, dirty; water . . . . .	25	222	Clay, soft, tan . . . . .	2	636
Clay, sand, gravel, and conglomerate, tan . . . . .	28	201	Clay, tan . . . . .	15	237	Clay, hard; limestone . . . . .	28	664
<b>(C-5-1)15aac-1.</b> Log by Paul Comer. Alt. 4,630.9.			Clay, sand, and gravel, conglomerate. . . . .	133	370	Clay; streaks of gravel . . . . .	39	703
Soil . . . . .	3	3	Clay. . . . .	30	400	Clay; some gravel . . . . .	12	715
Clay, tan . . . . .	22	25				Clay, hard; limestone . . . . .	150	865
Clay, sand, and gravel, tan . . . . .	16	41				Limestone and quartz . . . . .	20	885
Clay, tan . . . . .	51	92				Clay, hard; limestone . . . . .	50	935
Clay, gravel, and conglomerate. . . . .	27	119				Limestone and quartz . . . . .	97	1,032
Clay, tan . . . . .	6	125				Clay, hard; limestone, quartz. . . . .	8	1,040
						Limestone and quartz . . . . .	37	1,077

Table 3.--Drillers' logs of selected wells - Continued

Material	Thickness	Depth	Material	Thickness	Depth	Material	Thickness	Depth
SOUTHERN UTAH VALLEY - Continued								
(D-9-3)5bbd-1. Log by Eldon Comer. Alt. 4,685 ft.			(D-10-1)1acd-2 - Continued			(D-10-1)11bbd-1. Log by Eldon Comer. Alt. 5,020 ft.		
Topsoil	3	3	Clay, yellow	8	11	Soil	5	5
Gravel and cobbles	12	15	Clay and gravel	4	15	Clay, tan	3	8
Sand and gravel	18	33	Gravel	38	53	Gravel	34	42
Clay, blue, and sand	227	260	Boulders	25	78	Clay, blue, and sand	14	56
Clay, gravel, and hardpan	30	290	Gravel	20	98	Hardpan	24	80
Sand, gravel, and cobbles; water	50	340	Clay and gravel	38	136	Clay, tan, and gravel	62	142
Clay, tan	8	348	Gravel	24	160	Sand and gravel	15	157
Clay and gravel, cemented	4	352	Clay and boulders	8	168	Clay, red	11	168
Clay, yellow	49	401	Sand and gravel	7	175	Clay and gravel	46	214
Clay, blue	32	433	Gravel	18	193	Clay, red	12	222
Clay, yellow, and sand	64	497	Clay and gravel	7	200	Clay and gravel	12	238
Clay and gravel, mixed	3	500	Gravel	23	223	Clay, tan	4	242
Sand, gravel, and cobbles	12	512	Clay and gravel	258	481	Clay and gravel	26	268
Sand, gravel, and cobbles, good	77	589	Gravel and boulders	50	531	Clay, gravel, and boulders	32	300
Clay, tan	31	620	Gravel	24	555	Boulders and conglomerate	32	332
(D-10-1)1acd-2. Log by D. V. Robinson. Alt. 4,920 ft.			Clay and gravel	4	559	Clay, sand, and gravel; water	93	425
Topsoil	3	3	Gravel	30	589	Sand and boulders	33	458
			Conglomerate	17	606	Clay and boulders	12	470
			Clay and gravel	6	612	Sand rock, gray	30	500
			Conglomerate	65	677			
GOSHEN VALLEY								
(C-8-1)16cbb-1. Log by J. T. Woodhouse and Sons. Alt. 4,545 ft.			(C-10-1)4cbb-1 - Continued			(C-10-1)29cdd-1 - Continued		
Topsoil	3	3	Sand, coarse, small gravel, some pyrite	38	797	Sand and gravel; water	2	698
Clay, white	2	5	Clay, sandy	5	802	Clay, tan	30	728
Clay, brown	20	25	Sand, coarse, and small gravel	27	829	Sand and gravel; water	3	731
Clay, white	25	50	Sand	1	830	Clay and gravel, mixed	29	760
Clay, brown, rocks	8	58	Clay and some gravel	40	870	Sand and gravel; water	2	762
Sand, fine; water	2	60	Clay breaks, sand, and gravel	18	888	Clay, brown	8	770
Clay, brown, and rock	60	120	Clay, hard, red	32	920	Clay, sand, and gravel streaks; water	9	779
Clay, light red, tough	80	200	Gravel, sand, and clay	5	925	Clay and gravel streaks; water	23	802
Clay, white	35	235	Clay, hard, and little gravel	69	994	Sand and gravel, good	13	815
Clay, brown, and rock	65	300	Rock, red and black, streaks of sand and gravel	37	1,031	Clay and gravel streaks	47	862
Sandstone, solid rock	45	345	Clay, hard, red and green	10	1,041			
Shale, white, red and gray with intervening solid limestone ribs	47	392	Clay and sandy clay	20	1,061	(C-10-1)33cbb-1. Log by Scott Stephenson. Alt. 4,680 ft.		
(C-9-1)4ddc-1. Log by D. V. Robinson. Alt. 4,570 ft.			Clay, sticky	15	1,076	Surface	40	46
Clay, yellow	33	33	Clay, hard, and some gravel	66	1,142	Clay, gray	80	120
Clay and sand	47	80	Clay streaks, sandy clay and small gravel	26	1,168	Clay, brown	25	145
Gravel; water at 86 feet	10	90	Clay, hard	3	1,171	Gravel; surface water at 145 ft.	15	160
Sand	22	112	Clay, sandy	6	1,177	Clay, silt, and sand	10	170
Clay and sand	78	190	Clay, hard	7	1,184	Clay and gravel	10	180
Clay and gravel	35	225	Clay, sandy	3	1,187	Gravel, good	17	197
Clay, red	10	235	Gravel, thin layers of hard rock	13	1,200	Clay and gravel	15	212
Clay and gravel	5	240	Shale, hard, red, some green shale	18	1,218	Gravel	98	310
Gravel	5	245				Clay	3	313
Clay and gravel	110	355	(C-10-1)29cdd-1. Log by C. M. Stephenson to 574 ft. and by Eldon Comer 575 to 862 ft.			Clay and gravel in layers	53	366
Hardpan	5	360	Alt. 4,680 ft.			Clay, silt, and gravel	94	460
Clay and gravel	120	480	Topsoil	35	35	Clay	35	495
Clay and sand	12	492	Clay, gray	5	40	Clay and gravel in layers, cemented	9	504
Clay, yellow, and gravel	78	570	Gravel, small	25	65	Clay, brown, and small gravel	14	518
Clay, sand, and gravel	15	585	Sand, silt	15	80	Clay, gray, and small gravel	14	532
Clay and gravel	23	608	Clay, gray	5	85	Gravel, good	8	540
Sand and gravel	82	690	Silt, sand, and gravel	25	110	Clay, brown	18	558
(C-10-1)4cbb-1. Log by Lane Texas Co. Alt. 4,680 ft.			Clay, brown	10	120	Clay and gravel, good	7	566
Clay, sandy	23	23	Clay, gravel	52	172	Clay	2	567
Clay, hard, sandy, and gravel	39	62	Sand, small gravel; water	13	185			
Gravel, sand, and clay	28	90	Gravel, big	3	188	(C-11-1)6bbd-1. Log by Eldon Comer. Alt. 4,780 ft.		
Gravel, large	24	114	Clay, brown, gravel streaks	12	200	Clay, sand, and gravel	23	23
Gravel and sand	30	144	Volcanic material, streaks of conglomerate and clay	50	250	Gravel and boulders	19	42
Boulders, hard, and gravel	22	166	Volcanic streaks of sand and clay	50	300	Clay, tan	6	48
Gravel and sand	88	254	Sand, gravel	15	315	Clay, gravel, and boulders	17	65
Gravel and clay breaks	30	284	Volcanic gravel, streaks of clay and sand	46	361	Clay and gravel, dirty	188	253
Clay, hard, and gravel	10	294	Gravel, large, good	4	365	Sand and gravel, dirty	25	278
Shale and hard gravel	8	302	Volcanic material, streaks of clay, hardpan, and conglomerate	95	460	Sand, gravel, and cobbles; water	26	304
Shale, hard	8	310	Conglomerate	15	475	Clay, sand, and gravel, layered	20	324
Shale, sandy, and gravel	30	340	Clay, streaks, gravel, large	42	517	Sand, gravel, and cobbles; water	62	386
Sand, hard, and gravel	25	365	Clay, streaks, conglomerate	28	545	Sand, gravel, and clay, tan, streaks	36	422
Gravel, fine, and sand breaks	44	409	Volcanic material	21	566	Sand and gravel; water	78	500
Gravel and sand breaks	10	419	Clay streaks, volcanic material	8	574	Clay, tan, sticky	7	507
Gravel, hard, and few sand breaks	32	451	Not logged	1	575	Clay and gravel streaks	26	533
Gravel, fine, with hard layers, few sand breaks	78	529	Clay, sand, and gravel	20	595	Sand and gravel; water	8	541
Shale, hard, sandy, and pyrite	50	579	Sand and gravel; water	7	602	Clay, tan, sticky	15	556
Gravel, fine, and sand	106	685	Clay and gravel, mixed	44	646	Clay, sand, and gravel streaks	35	775
Clay, sand, and gravel	23	708	Clay, sand, and gravel streaks; water	39	685			
Sand, coarse, and small gravel	49	757	Clay, tan	11	696			
Clay	2	759						

□WELL DESCRIPTION

LOCATION: Township: 1S Range: 1W Section: 12 (C-1-1)12bdb-1  
730 ft. north, 1902 ft. east, of SW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Report of water well driller, state of Utah

Well owner: American Foundry & Machine Co., 870 So. 4th West, SLC.

Well in bedrock. Well Number #30

LITHOLOGIC LOG:

DEPTH, ft-	LITHOLOGY
0-20 -	Top soil
20-133 -	Blue clay
133-167 -	Sand
167-203 -	Clay & sand
203-219 -	Sand
219-224 -	Clay
224-270 -	Sandy clay
270-370 -	Blue clay
370-405 -	Clay
405-409 -	Clay & sand
409-414 -	Clay
414-439 -	Sand
439-473 -	Clay & sand
473-485 -	Sand
485-547 -	Clay & sand
547-612 -	Clay
612-616 -	Sandy clay
616-620 -	Sand; water
620-675 -	Clay
675-706 -	Sandy clay
706-738 -	Fine gravel
738-900 -	Blue clay
900-920 -	Fine gravel, water
920-933 -	Sand
933-1130 -	Sand & fine gravel
1130-1161-	Clay
1161-1163-	Sand
1163-1168-	Clay
1168-1170-	Shale

□WELL DESCRIPTION

LOCATION: Township: 2S Range: 1E Section: 25

25 ft. north, 40 ft. east, of E 1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Murray City Corp., Murray, Utah

Report of water well driller, state of Utah

Well in bedrock. Well Number #152

LITHOLOGIC LOG:

DEPTH, ft-	LITHOLOGY
0-2 -	Top soil
2-67 -	Sand & boulder gravel
67-74 -	Gravel; dry
74-88 -	Conglomerate
88-250 -	Gravel
250-280 -	Boulder gravel; w/clay streaks
280-327 -	Gravel; loose, w/rock
327-333 -	Clay & sand; brown
333-345 -	Boulder gravel
345-429 -	Boulder gravel; w/clay streaks
429-433 -	Bedrock

□WELL DESCRIPTION

LOCATION: Township: 2S Range: 1E Section: 2

365 ft. south, 40 ft. east, of NW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Salt Lake County Water System, 42 S. 27th. E. SLC, Utah

Report of water well driller, state of Utah

Well in bedrock. Well Number #153

LITHOLOGIC LOG:

DEPTH, ft-	LITHOLOGY
0-2 -	Top soil
2-90 -	Conglomerate
90-97 -	Red conglomerate
97-118 -	Clay
118-167 -	Conglomerate
167-171 -	Clay
171-258 -	Conglomerate
258-298 -	Sand & gravel
298-304 -	Clay
304-310 -	Conglomerate
310-319 -	Gravel
319-353 -	Conglomerate
353-358 -	Gravel; water
358-367 -	Conglomerate
367-374 -	Gravel; water
374-377 -	Clay
377-398 -	Gravel; water
398-400 -	Bedrock

□WELL DESCRIPTION

LOCATION: Township: 3S Range: 1E Section: 33 (D-3-1)33dca  
1100 ft. north, 1000 ft. east, of S1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: John A. Bernardo

Report of water well driller, state of Utah

Well in bedrock. Well Number #192

LITHOLOGIC LOG:

DEPTH, ft-	LITHOLOGY
0-170 -	Sand & gravel
170-210 -	Bedrock

□WELL DESCRIPTION

LOCATION: Township: 3S Range: 1E Section: 27

1300 ft. north, 1480 ft. east, of SW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Steven A. Pendleton

Report of water well driller, state of Utah

Well in bedrock. Well Number #193

LITHOLOGIC LOG:

DEPTH, ft-		LITHOLOGY
0-25	-	Sand, gravel, cobbles, boulders; top soil removed
25-70	-	Sand, cobbles, boulders
70-74	-	Clay, sand, & cobbles
74-76	-	Sand & gravel
76-80	-	Sand, gravel, & boulders
80-108	-	Clay, gravel, cobbles, & boulders
108-114	-	Boulders
114-116	-	Boulders & bedrock; very hard



□WELL DESCRIPTION

LOCATION: Township: 3S Range: 1E Section: 23 (D-3-1)23bda  
800 ft. north, 100 ft. west, of center of section .

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Egbert & Jaynes

Report of water well driller, state of Utah

Well in bedrock. Well Number #194

LITHOLOGIC LOG:

DEPTH, ft-	LITHOLOGY
0-90 -	Sand, gravel, boulders; loose unconsolidated alluvium
90-110 -	Bedrock; very weathered granite, highly fractured
110-850 -	Granite, decomposed with fracturing & quartzite stringers running horizontal

□WELL DESCRIPTION

LOCATION: Township: 3S Range: 1E Section: 14 (D-3-1)14dbd  
1550 ft. north, 1450ft. west, of SE section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: James G. Davidson

Report of water well driller, state of Utah

Well in bedrock. Well Number #195

LITHOLOGIC LOG:

DEPTH, ft-		LITHOLOGY
0-6	-	Top soil
6-47	-	Clay, gravel, & boulders
47-50	-	Gravel; water
50-70	-	Granite bedrock

□WELL DESCRIPTION

LOCATION: Township: 1N Range: 1W Section: 11 (B-1-1)11abc  
1222 ft. south, 360 ft. east, of N1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Western States Refining Company

Report of water well driller, state of Utah

Well in bedrock. Well Number #197

LITHOLOGIC LOG:

DEPTH, ft-	LITHOLOGY
0-1 -	Clay
1-25 -	Sand & clay
25-29 -	Sand
29-32 -	Coarse sand
32-55 -	Blue clay
55-64 -	Sand
64-140 -	Sand & clay
140-230 -	Red sandy clay
230-240 -	Fine sand & water
240-293 -	Blue clay
293-305 -	Fine sand
305-313 -	White clay
313-319 -	Sand
319-329 -	White clay
329-380 -	Red sandstone
380-400 -	Conglomerate
400-420 -	Red clay
420-423 -	Gravel, water
423-433 -	Clay
433-472 -	Conglomerate
472-500 -	Blue clay
500-505 -	Hard conglomerate
505-508 -	Sand
508-511 -	Very hard
511-521 -	Conglomerate
521-525 -	Water, gravel
525-530 -	Shale

□WELL DESCRIPTION

LOCATION: Township: 1S Range: 2W Section: 19

2627 ft. north, 287 ft. west, of S1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Utah Copper Co.

Report of water well driller, state of Utah

Well in bedrock. Well Number #201

LITHOLOGIC LOG:

DEPTH, ft-	LITHOLOGY
0-4 -	Silt
4-14 -	Sandy clay
14-48 -	Soft blue clay
48-66 -	Soft blue clay & gravel
66-140 -	Blue & yellow clay
140-146 -	Some gravel in clay
146-183 -	Brown clay
183-190 -	Gravel & 3" in clay
190-242 -	Brown clay
242-259 -	Clay & gravel to 2"
259-275 -	Gravel to 5", clay & cement
275-285 -	Brown clay
285-291 -	Gravel, boulders & clay
291-310 -	Cemented gravel & boulders
310-333 -	Quartzite

□WELL DESCRIPTION

LOCATION: Township: 1S Range: 2W Section: 31

275 ft. south, 200 ft. west, of NE section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Karl Jorgenson

Report of water well driller, state of Utah

Well in bedrock. Well Number #202

LITHOLOGIC LOG:

DEPTH, ft-	LITHOLOGY
0-27 -	Clay & gravel
27-68 -	Gravel
68-100 -	Gravel, little water
100-126 -	Sand & gravel
126-157 -	Boulders
157-178 -	Clay
178-215 -	Bedrock

□WELL DESCRIPTION

LOCATION: Township: 2S Range: 2W Section: 27

2800 ft. north, 900 ft. east, of SW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Glen H. Wood

Report of water well driller, state of Utah

Well in bedrock. Well Number #203

LITHOLOGIC LOG:

DEPTH, ft-	LITHOLOGY
0-2 -	Clay, top soil
2-46 -	Gravel, pea-size
46-52 -	Clay
52-78 -	Clay & gravel
78-82 -	boulders
82-105 -	Clay & gravel
105-111 -	Boulders
111-152 -	Clay & gravel, tan
152-171 -	Clay & gravel, darker tan
171-174 -	Clay & boulders
174-181 -	Clay & gravel, mostly gravel
181-236 -	Clay & gravel, gray
236-273 -	Sand & gravel
273-345 -	Shale

□WELL DESCRIPTION

LOCATION: Township: 3S Range: 2W Section: 29

S 50o W 3430 ft from NE section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: United States Smelting Mining & Refining Co.

Report of water well driller, state of Utah

Well in bedrock. Well Number #205

LITHOLOGIC LOG:

DEPTH, ft-	LITHOLOGY
0-12 -	Red clay
12-170 -	Coarse gravel & clay
170-190 -	First indication of water
190-225 -	Heavier clay & some gravel
225-260 -	Fine gravel & clay
260-268 -	Boulders, gravel & heavy clay
268-278 -	Red clay
278-285 -	Gravel & red clay
285-287 -	Red clay
287-300 -	Streaks of gravel & red clay
300-325 -	Hard white rock

□WELL DESCRIPTION

LOCATION: Township: 4S Range: 2W Section: 3 (C-4-2)3cdc  
928 ft. north, 43 ft. west, of S1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Wayne Horsley

Report of water well driller, state of Utah

Well Number #208

LITHOLOGIC LOG:

DEPTH, ft-		LITHOLOGY
0-54	-	Boulders
54-84	-	Basalt
84-113	-	Fractured basalt



□WELL DESCRIPTION

LOCATION: Township: 4S Range: 1E Section: 5

290 ft. north, 1530ft. west, of SE section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Ballard Water & Land Co.

Report of water well driller, state of Utah

Well in bedrock. Well Number #216

LITHOLOGIC LOG:

DEPTH, ft-	LITHOLOGY
0-10 -	Silt, sand, gravel, & cobbles
10-30 -	Sand, gravel, & boulders
30-40 -	Clay & sand; dense, tight
40-50 -	Sand & gravel
50-60 -	Clay & sand
60-120 -	Cemented gravel, conglomerate, & bedrock
120-155 -	Sand, conglomerate, bedrock; some sandstone
155-300 -	Conglomerate
300-335 -	Gravel & bedrock
335-380 -	Quartzite & sandstone
380-443 -	Sandstone with quartzite lens
443-530 -	Hard quartzite & white sandstone
530-620 -	Quartzite
620-660 -	Sandstone with some quartzite
660-980 -	Quartzite

□WELL DESCRIPTION

LOCATION: Township: 1S Range: 1E Section: 26

125 ft. south, 180 ft. east, from NW corner of SW 1/4 of SE 1/4

COMMENTS: (reference, type of well, agency, etc.)

Well owner: County Water system Inc.

Report of water well driller, state of Utah

Well in bedrock. Well Number #246

LITHOLOGIC LOG:

DEPTH, ft-	LITHOLOGY
0-5 -	Top soil
5-60 -	Red clay
60-75 -	Blue clay
75-140 -	Red clay
140-198 -	Gravel, semi-dry
198-210 -	Conglomerate
210-238 -	Gravel, dry
238-260 -	Bedrock

□WELL DESCRIPTION

LOCATION: Township: 1S Range: 1E Section: 36 (D-1-1)36bac  
1140 ft. south, 1335 ft. east, of NW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: County Water Supply

Report of water well driller, state of Utah

Well in bedrock. Well Number #248

LITHOLOGIC LOG:

DEPTH, ft-	LITHOLOGY
0-10 -	Top soil
10-28 -	Clay
28-38 -	Boulders
38-100 -	Boulders & clay
100-105 -	Clay & gravel
105-136 -	Gravel, water
136-165 -	Clay & gravel
165-185 -	Shale & gravel
185-230 -	Red shale
330-250 -	Gray shale
250-290 -	Red shale

□WELL DESCRIPTION

LOCATION: Township: 4S Range: 1W Section: 13 (C-4-1)13ccc  
600 ft. north, 400 ft. east, of SW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Evan W. Hansen

Murphy, Peter J & Gwynn, J Wallace, 1979, Geothermal Investigations at Crystal Hot Springs, Salt Lake County, Utah; Utah Geological & Mineral Survey Report of Investigation 139, 64p.

Report of water well driller, state of Utah

Well in bedrock. Well Number #251

LITHOLOGIC LOG:

DEPTH,ft-	LITHOLOGY
0-3 -	Silt
3-99 -	Silt, sand, & gravel
99-148 -	Conglomerate
148-195 -	Clay, sand, & gravel
195-226 -	Sandy clay
226-230 -	Gravel; water
230-249 -	Sand & gravel; water
249-290 -	Fractured quartzite; water

□WELL DESCRIPTION

LOCATION: Township: 4S Range: 1W Section: 14

1350 ft. south, 500 ft. west, of NE section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Evan Hansen

Report of water well driller, state of Utah

Well in bedrock. Well Number #252

LITHOLOGIC LOG:

DEPTH, ft-	LITHOLOGY
0-17 -	Road base
17-82 -	Sand, pea gravel
82-86 -	Sandy clay
86-110 -	Clay & gravel
110-123 -	Sand & gravel; dry
123-145 -	Dirty sand; dry
145-180 -	Clay & gravel
180-220 -	Gravel; water
220-233 -	Coarse sand
233-250 -	Bedrock

□WELL DESCRIPTION

LOCATION: Township: 4S Range: 1W Section: 15

260 ft. east, of W1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: W. Steve Barlow

Report of water well driller, state of Utah

Well in bedrock. Well Number #253

LITHOLOGIC LOG:

DEPTH, ft-	LITHOLOGY
0-2 -	Top soil
2-27 -	Cobbles
27-151 -	Sand, gravel & boulders
151-170 -	Sand & gravel
170-174 -	Clay
174-300 -	Sand & gravel
300-358 -	Sand, gravel, & boulders; water
358-361 -	Bedrock

□WELL DESCRIPTION

LOCATION: Township: 4S Range: 1W Section: 12 (C-4-1)12bcd

COMMENTS: (reference, type of well, agency, etc.)

Murphy, Peter J & Gwynn, J Wallace, 1979, Geothermal Investigations at Crystal Hot Springs, Salt Lake County, Utah; Utah Geological & Mineral Survey Report of Investigation 139, 64p.

Surface Elevation: 4472 ft.

Well in bedrock. Well Number #261

LITHOLOGIC LOG:

DEPTH, ft-	LITHOLOGY
0-18 -	Gray clay
18-90 -	Quartzite sand & gravel
90-237 -	Quartzite; fractured, light gray

□WELL DESCRIPTION

LOCATION: Township: 4S Range: 1W Section: (C-4-1)12bcc

COMMENTS: (reference, type of well, agency, etc.)

Murphy, Peter J & Gwynn, J Wallace, 1979, Geothermal Investigations at Crystal Hot Springs, Salt Lake County, Utah; Utah Geological & Mineral Survey Report of Investigation 139, 64p.

Surface Elevation: 4465 ft.

Well in bedrock. Well Number #262

LITHOLOGIC LOG:

DEPTH, ft-		LITHOLOGY
0-55	-	Clay; tan, minor fine gravel
55-62	-	Blue clay; stiff
62-86	-	Sand & quartzite gravel
86-200	-	Fractured, light gray, quartzite



□WELL DESCRIPTION

LOCATION: Township: 4S Range: 1W Section: 12 (C-4-1)12bbd-2

COMMENTS: (reference, type of well, agency, etc.)

Murhpy, Peter J & Gwynn, J Wallace, 1979, Geothermal Investigations at Crystal Hot Springs, Salt Lake County, Utah; Utah Geological & Mineral Survey Report of Investigation 139, 64p.

Surface Elevation: 4460 ft.

Well in bedrock. Well Number #263

LITHOLOGIC LOG:

DEPTH, ft-	LITHOLOGY
0-64 -	Dark gray clay
63-65 -	Dark brown clay with sand
65-71 -	Tan, green, & gray, clay with sand
71-86 -	Tan, gray, sandy clay
86-218 -	Gray clay, sand, & gravel
218-220 -	Coarse gravel
220-240 -	Sand & gravel; intermittent red clay
240-262 -	Sand & gravel; some clay
262-280 -	Fractured, dark gray, quartzite

□WELL DESCRIPTION

LOCATION: Township: 4S Range: 1W Section: 2 (C-4-1)02ddb

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Utah State Board of Corrections

Murhpy, Peter J & Gwynn, J Wallace, 1979, Geothermal Investigations at Crystal Hot Springs, Salt Lake County, Utah; Utah Geological & Mineral Survey Report of Investigation 139, 64p., Prison Farm well No. 1.

Surface Elevation: 4460 ft.

Well in bedrock. Well Number #264

LITHOLOGIC LOG:

DEPTH,ft-	LITHOLOGY
0-3 -	Top soil
3-82 -	Blue clay
82-119 -	Hardpan; sand
119-200 -	Conglomerate
200-205 -	Gray clay
205-248 -	Conglomerate & gravel
248-309 -	Conglomerate
309-340 -	Gravel; a little water
340-397 -	Sand & gravel
397-427 -	Sand & gravel
427-463 -	Clay & gravel
463-503 -	Gumbo clay
503-552 -	Sticky clay
552-582 -	Clay & sand
582-603 -	Sticky clay
603-665 -	Clay & gravel
665-707 -	Sticky clay
707-722 -	Clay & gravel
722-825 -	Bedrock

□WELL DESCRIPTION

LOCATION: Township: 4S Range: 1W Section: 13 (C-4-1)13bab

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Loran D Dixon

Murhpy, Peter J & Gwynn, J Wallace, 1979, Geothermal Investigations at Crystal Hot Springs, Salt Lake County, Utah; Utah Geological & Mineral Survey Report of Investigation 139, 64p.

Well in bedrock. Well Number #266

LITHOLOGIC LOG:

DEPTH, ft-	LITHOLOGY
0-3 -	Silt & sand
3-9 -	Gravel
9-11 -	Clay
11-30 -	Gravel
30-38 -	Cobble gravel
38-109 -	Fractured quartzite
109-117 -	Gravel, water
117-140 -	Solid rock

□WELL DESCRIPTION

LOCATION: Township: 3S Range: 1W Section: 01 (C-3-1)01cbb

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Utah Roses

Energy Services, Inc., Idaho Falls, Idaho, 1980, Drilling summary, Utah Roses, Inc., Sandy, Utah

Well in bedrock. Well Number #268

LITHOLOGIC LOG:

DEPTH,ft -	LITHOLOGY
0-500 -	Sand and gravel
500-1200 -	Clay and fine sandstone
1200-1500-	Brown clay and fine sandstone
1500-1900-	Clay, quartzite, and limestone
1900-2200-	Dark-brown clay and sandstone
2200-2900-	Sandstone
2900-3050-	Some fractures
3050-3700-	Sandstone
3700-4500-	Red sand, sandstone, and quartzite
4500-4700-	Possible fractures
4700-4998-	Sandstone

□WELL DESCRIPTION

LOCATION: Township: 1S Range: 1E Section: 07 (D-1-1)07bba

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Clover Leaf/Harris Dairy

Taylor, G H & Leggette, R M, 1949, Ground Water in the Jordan Valley, Utah;

United States Geological Survey Water Supply Paper 1029, 356p.

Well in bedrock. Well Number #284

LITHOLOGIC LOG:

DEPTH, ft-	LITHOLOGY
0-10 -	Fill
10-16 -	Loam & soil sediments
16-17 -	Gravel; w/soil mixture
17-25 -	Clay; black, sticky
25-35 -	Black clay
35-50 -	Yellow clay
50-60 -	Black clay
60-75 -	Brown clay
75-95 -	Light-green clay
95-108 -	Brown clay
108-110 -	Gravel
110-145 -	Green clay; some marsh gas
145-149 -	Gravel
149-185 -	Brown clay
185-195 -	Fine gravel; embedded in Yellow clay
195-248 -	Brown clay
248-295 -	Green clay; very sticky
295-300 -	Brown clay
300-360 -	Clay; very dark blue, marsh gas & pungent odor
360-370 -	Brown clay; impervious, tough
370-372 -	Gravel; water-bearing
372-375 -	Sand; water-bearing
375-385 -	Light-brown clay
385-417 -	Clay, sand, & gravel; alternating beds
417-443 -	Red clay; cemented, some sand
443-480 -	Clay; bluish-green, gumbo
480-490 -	Sand & gravel
490-512 -	Light-gray clay
512-535 -	Green clay
535-545 -	Sand; water-bearing
545-572 -	Dark blue clay
572-590 -	Red sand; cemented
590-632 -	Red clay; sticky
632-639 -	Fine sand
639-642 -	Clay & sand; thin strata
642-658 -	Clay & sand; strata, w/about 2 feet of gravel, 40 minute bailing test = 1200 gals, water drew down but showed "con- siderable strength"
658-670 -	Brown clay; sticky
670-675 -	Sand; medium coarse
675-685 -	Light-brown clay; sticky
685-723 -	Gray clay; sticky
723-741 -	Sand & gravel; water-bearing
741-750 -	Brown shale; impervious

□WELL DESCRIPTION

LOCATION: Township: 4N Range: 1W Section: 10 (B-4-1)10bbb  
500 ft. south, 50 ft. east, of NW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Report of water well driller, state of Utah

Well owner: Department of the Interior, Bureau of Reclamation, Ogden.

Well in bedrock. Well Number #11

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-11	Sand
11-47	Clay, sand
47-71	Sand, streaks of clay
71-121	Sand, sandy clay
121-130	Sand
130-151	Sand, sandy clay
151-183	Clay
183-506	Sandy clay & sand
506-511	Sand
511-515	Sand & clay
515-531	Hard rock
531-538	Clay & cobbles
538-539	Cobbles
539-564	Clay, few boulders
564-589	Clay, few rock layers
589-594	Sandy clay, few boulders
594-638	Sandy clay
638-649	Sand
649-690	Clay, streaks of sand
690-710	Sandstone, streaks of clay
710-723	Sandstone
723-751	Clay & boulders
751-772	Sandstone gravel & clay
772-798	Boulders, clay & sandstone
798-811	Boulders, clay & sandstone
811-887	Clay, some gravel
887-902	Rock, streaks of hard clay
902-921	Boulders, streaks of hard clay
921-928	Boulders, streaks of clay
928-944	Rock, streaks of clay
944-948	Clay & gravel, few boulders
948-981	Boulders, clay & gravel
981-1006	Clay & sandy clay
1006-1033	Hard clay, streaks of rock
1033-1038	Boulders, sand & clay
1038-1048	Clay & gravel
1048-1113	Boulders & clay
1113-1128	Sand, boulders & clay
1128-1158	Clay, gravel & sand
1158-1183	Clay, streaks of sand
1183-1205	Hard rock, streaks of sand & gravel

□WELL DESCRIPTION

LOCATION: Township: 7N Range: 3W Section: 31 (B 7-3)31aac  
4300 ft. north, 1130 ft. west, of SE section corner.

COMMENTS: (reference, type of well, agency, etc.)

Report of water well driller, state of Utah

Well owner: Great Salt Lake Mineral Corp., Little Mountain, west of Ogden

Well in bedrock. Well Number #18

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-18	Clay
18-50	Clay
50-205	Clay & silt
205-260	Clay & silt
260-310	Clay, silt, & sand
310-355	Clay
355-414	Clay & silt
414-564	Clay, silt, & sand
564-575	Sand
575-654	Clay
654-678	Sand
678-741	Clay
741-756	Sand
756-772	Clay
772-798	Sand
798-896	Clay
896-915	Clay & hardpan
915-920	Gravel
920-1002	Conglomerate & bedrock

□WELL DESCRIPTION

LOCATION: Township: 6N Range: 3W Section: 6 (B-6-3)06cab  
2979 ft. south, 30030 ft. west, of NE township corner.

COMMENTS: (reference, type of well, agency, etc.)

Murphy, Peter J & Gwynn, J Wallace, 1979, Geothermal investigations at selected thermal systems of the northern Wasatch Front, Weber & Box Elder Counties, Utah; Utah Geological & Mineral Survey Report of Investigations, RI-141, 50p.

Hole identifier: GSLM/GH-A

Well in bedrock. Well Number #23

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-9	Tan sandy clay
9-15	Saturated sandy black clay
15-45	Weathered shale fragments in clay
45-46	Boulders
46-280	Tillite bedrock



□WELL DESCRIPTION

LOCATION: Township: 4S Range: 1E Section: 25 (D-4-1)25ddd

(note: USGS Open-File Report 82-1023 reports well as (D-4-1)25ddb-1

26070 ft. south, 330 ft. west, of NE section corner.

COMMENTS: (reference, type of well, agency, etc.)

Davis, D A & Cook, K L, 1983, Evaluation of low-temperature geothermal potential in Utah & Goshen Valleys & adjacent areas, Utah, Part I: Gravity Survey; Utah Geological & Mineral Survey Report of Investigation RI-179, 138p.

Also in: Appel, Cynthia L, Clark, David W, Fairbanks, Paul E, 1982, Selected Hydrologic Data for northern Utah Valley, Utah, 1935-82; United States Geological Survey Water Resources Division Open-File Report 82-1023/Utah Department of Natural Resources Division of Water Rights Hydrologic Data Report No. 39, 150p.

Surface Elevation: 4932 ft.

Well in bedrock. Well Number #31

LITHOLOGIC LOG

DEPTH, ft	LITHOLOGY
0-5	Soil
5-22	Gravel, cobbles, & boulders
22-58	Clay, sand, & gravel
58-181	Cobble Gravel
181-244	Sandy clay
244-265	Cemented gravel
265-355	Clay & gravel
355-385	Cemented gravel
385-398	Conglomerate
398-414	Clay & gravel
414-478	Cemented gravel; hard clay
478-551	Hard clay & gravel
551--571	Clay & gravel
571-606	Cemented gravel
606-615	Hard clay; limestone
615-624	Clay & gravel
624-634	Hard clay; layers of limestone
634-636	Clay; soft, tan
636-664	Hard clay; limestone
664-703	Clay; streaks of gravel
703-715	Clay; some gravel
715-865	Hard clay; limestone
865-885	Limestone & quartz
885-935	Hard clay; limestone
935-1032	Limestone & quartz
1032-1040	Hard clay; limestone & quartz
1040-1077	Limestone & quartz

WELL DESCRIPTION

LOCATION: Township: 2N Range: 1E Section: 28 (A-2-1)28bcb  
980 ft. north, 720 ft. east, of SW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Report of water well driller, state of Utah

Well owner: Bountiful City Corporation

Well in bedrock. Well Number #37

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-37	Clay & cobble gravel
37-42	Clay & cobble gravel; grey-brown water at 42 feet, too little to measure
42-46	Clay & cobble gravel; grey
46-49	Clay & gravel; grey, hard drilling
49-67	Clay & gravel; greenish grey
67-73	Clay & gravel; grey
73-94	Clay & gravel; dark brown, much harder water at 87 ft.
94-101	Conglomerate; green quartzite with quartz, some lime & calcite deposits
101-104	Layers of green quartzite & quartz, some soft grey rock
Note: the quartzite formations are possibly fractured	
104-136	Bedrock; quartz with some grey quartzite
136-144	Bedrock; quartz with some green quartzite, loose water
144-178	Bedrock; quartz with some green quartzite, harder
178-186	Bedrock; green slate with some quartz, loose water, soft
186-212	Bedrock; quartzite & quartz, very hard
212-287	Bedrock; mostly white quartz with some green quartzite with black specks
287-323	Bedrock; white quartz with green quartzite, some rock with black & brown specks in it , fairly soft from 287-304 but getting harder by 304
323-332	Bedrock; green quartzite, hard
332-335	Bedrock; green quartzite, softer
335-336	Bedrock; green quartzite, softer
336-338	Bedrock; green quartzite
338-343	Bedrock; green quartzite with some small pieces of dark black rock, very hard
343-380	Bedrock; green quartzite with white quartz, extremely hard
380-386	Bedrock; green quartzite with white quartz & possible fissures, extremely hard, had to blast the hole to get a new start, 4 days drilling from 380-386
386-420	Bedrock; green quartzite with white quartz & possible fissures, softer
420-447	Bedrock; green quartzite with white quartz & possible fissures, harder
447-449	Bedrock; much softer
449-453	Bedrock; green quartzite; hard, quartz & quartzite, very little cutting, a little softer
453-510	Bedrock; quartz & quartzite, much more green & more cuttings a little harder
510-514	Bedrock; white quartz, very hard (two days to drill four feet), not many cuttings
514-560	Bedrock; mostly green quartzite, some white quartz, a little softer

Note: Water table rises from 137 feet to 100 feet at 531 feet & 100 feet to 97 feet between 531 feet & 536 feet.

Water table stands at 97 feet from surface.

□WELL DESCRIPTION:

LOCATION: Township: 11S Range: 1W Section: 6  
3684 ft. south, 3177ft. west, of NE section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: L.D.S. Welfare, Elberta

Report of water well driller, state of Utah

Well in bedrock. Well Number #54

LITHOLOGIC LOG:

DEPTH,ft	LITHOLOGY
0-35	Clay & sand
35-72	Clay & gravel
72-205	Clay & lava
205-228	Clay & sand
228-283	Clay & lava
283-303	Cemented lava; water
303-438	Clay, boulders, & lava
438-455	Sand & lava
455-466	Clay & lava
466-491	Gravel & lava
491-513	Clay, gravel & lava

WELL DESCRIPTION

LOCATION: Township: 2N Range: 1E Section: 30 (A-2-1)30adb  
1460 ft. south, 1110 ft. west, of NE section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Bureau of Reclamation, Ogden UT

Bountiful test hole #2

Report of water well driller, state of Utah

Well in bedrock. Well Number #55

LITHOLOGIC LOG

DEPTH,ft	LITHOLOGY
0-5	Gravel
5-8	Hard rocks & boulders
8-21	Hard rocks & gravel
21-26	Loose rock & black clay
26-43	Gravel & boulders
43-53	Gravel & streaks of clay
53-66	Hard boulders
66-76	Boulders & gravel
76-95	Clay, boulders, & gravel
95-110	Loose rock, streaks of gravel
110-120	Hard rock, streaks of gravel
120-145	Big gravel, streaks of clay
145-170	Sandy clay & clay
170-185	Sand, little gravel & clay
185-195	Big rock, gravel & clay
195-210	Clay & gravel
210-220	Clay & streaks of small gravel
220-230	Loose rock, streaks of clay
230-241	Hard rocks
241-255	Gravel & sand streaks
255-265	Gravel, sand & clay streaks
265-283	Hard rock
283-308	Sand, clay, & gravel
308-333	Clay & gravel, streaks of rock
333-348	Hard rock, streaks of big gravel
348-350	Hard rock
350-372	Sandy clay & gravel
372-395	Clay & boulders
395-408	Sand (dark)
408-420	Gravel & hard rocks
420-424	Hard rock
424-431	Boulders & gravel
431-451	Boulders & streaks of hard rock
451-456	Clay & streaks of rock
456-481	Hard rock & little streaks of clay
481-501	Clay & layers of rock
501-518	Clay & streaks of sand rock
518-543	Hard sand, gravel, & clay streaks
543-545	Boulders
545-583	Hard sand rock, boulders, & few clay streaks
583-589	Hard rock
589-615	Sandstone & streaks of clay
615-618	Sand & gravel, some clay
618-649	Sand rock, boulders, & few clay streaks
649-681	Sandstone boulders, few layers of sand & clay
681-693	Hard sandstone, streaks of rock
693-709	Sandstone & clay streaks
709-710	Rock
710-714	Boulders, sand rock & clay streaks
714-715	Hard rock
715-721	Boulders, sand rock & a few clay streaks
721-739	Sand rock & streaks of gravel
739-753	Sandstone & streaks of hard rock

754-790	Boulders, sandstone & few clay streaks
790-797	Sandrock, clay & boulders
797-817	Sandstone & boulders
817-822	Clay & small streaks of rock
822-836	Sandstone, boulders, streaks of clay
836-842	Rock & few clay streaks
842-844	Clay
844-846	Boulders & clay streaks
846-848	Sandy clay
848-850	Rock
850-859	Clay & boulders
859-868	Sand, boulders, & clay streaks
868-890	Clay, boulders, gravel, & sand breaks
890-895	Clay & streaks of rock
895-910	Sandstone & boulders
910-915	Clay & streaks of rock
915-918	Hard rock
918-933	Boulders, sand streaks, & clay streaks
933-935	Clay
935-940	Sandstone, boulders, & clay streaks
940-966	Sand rock, clay & sand streaks
966-981	Sandstone, streaks of clay
981-991	Boulders & a little clay
991-996	Boulders, streaks of sand & gravel
996-1005	Hard rock

□WELL DESCRIPTION

LOCATION: Township: 8S Range: 2E Section: 13

COMMENTS: (reference, type of well, agency, etc.)

Davis, D A & Cook, K L, 1983, Evaluation of low-temperature geothermal potential in Utah & Goshen Valleys & adjacent areas, Utah, Part I: Gravity Survey; Utah Geological & Mineral Survey Report of Investigation RI-179, 138p.

Well in bedrock

Well Number #56

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-900	Gravel with minor amounts of clay
900-1000	Travertine
1000-2800	Gravel interbedded with sand & clay layers
2800-4100	Alternating layers of clay & sand
4100-6300	Sandstone with minor amounts of conglomerate tuff & clay
6300-6600	Alternating layers of gravel, sand & clay
6600-7300	Sand
7300-9000	Claystone grading into shale
9000-9400	Sandstone with minor amounts of shale
9400-10200	Shale
10200-10700	Sandstone with minor amounts of shale & claystone
10700-11200	Shale with alternating sandstone
11200-12300	Sandstone
12300-12700	Siltstone with minor amounts of shale
12700-13000	Shale alternating with siltstone (Miocene)

□WELL DESCRIPTION

LOCATION: Township: 8S Range: 1W Section: 19 (C-8-1)19add  
2000 ft. south, 350 ft. west, of NE section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Wayne C. Bateman

Report of water well driller, state of Utah

Well in bedrock. Well Number #165

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
120-132	White limestone
132-168	Blue limestone
168-175	White limestone
175-175	Brown limestone
175-183	Blue limestone
183-184	Sandstone
184-202	Dolomite
202-203	Sandstone
203-267	Dolomite
267-268	Sandstone
268-347	Dolomite
347-400	Hard basalt

□WELL DESCRIPTION

LOCATION: Township: 6N Range: 3W Section: 7 (B-6-3)07cbd  
1320 ft. north, 1200 ft. east, of SW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Basin Land & Livestock, 2761 Pierce, Ogden, Utah

Report of water well driller, state of Utah

Well in bedrock. Well Number #172

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-60	Clay
60-70	Sand
70-145	Clay
145-149	Rock



□WELL DESCRIPTION

LOCATION: Township: 6N Range: 3W Section: 19  
120 ft. south, 1142 ft. west, of NE section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Marquardt Aircraft Corp., Well No. 1

Report of water well driller, state of Utah

Well in bedrock. Well Number #173

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-2	Top soil
2-10	Clay & sand
10-36	Clay
36-37	Gravel; water
37-78	Black clay
78-86	Brown silt
86-112	Grey clay
112-115	Green clay balls; water
115-150	Light-green clay
150-157	Gravel; water
157-186	Dark-gray clay
186-188	Sand
188-197	Clay
197-210	Gravel; water
210-213	Clay
213-219	Gravel; water
219-222	Clay
222-227	Sand, rocks; cubed
227-229	Solid rock

□WELL DESCRIPTION

LOCATION: Township: 4N Range: 1W Section: 1 (B-4-1)01bbd  
740 ft. south, 780 ft. east, of NW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: George Richards, 8102 S. Highway 89, Weber County, Utah

Report of water well driller, state of Utah

Well in bedrock. Well Number #174

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-90	Sand; approx. 2 gpm water
90-120	Sand & small gravel
120-135	Clay, sand, & gravel
135-197	Silt, sand, & gravel; hardpan
197-197	Gravel; water 2 gpm
197-250	Conglomerate; limestone

WELL DESCRIPTION

LOCATION: Township: 4N Range: 1W Section: 24 (B-4-1)24cac  
north, 1100 ft. west, of S 1/4 section corner.

1575 ft.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Keith W Maw, Ogden, Utah

Report of water well driller, state of Utah

Well in bedrock. Well Number #175

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-4	Top soil
4-12	Sand & gravel
12-14	Cobbles
14-53.5	Gravel; soil
53.5-107	Granite; blue, green, gray
107-110	Granite; fractured area
110-117	Black granite; small water gain
117-148	Black granite
148-148.5	Fractured area, no water gain or loss
148.5-163	Soil granite; dark green
163-163.5	Quartzite seam; small water gain (1/2 gpm)
163.5-171	Dark granite
171-177	Quartzite seam
177-200	Greenish granite
200-201.5	Granite; fractured area, yield 3-4 gpm

□WELL DESCRIPTION

LOCATION: Township: 4N Range: 1W Section: 35 (B-4-1)35cdb-1  
970 ft. north, 1436 ft. east, of SW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Kaysville City, #4 well, Utah

Report of water well driller, state of Utah

Well in bedrock. Well Number #176

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-3	Soil
3-13	Clay & sand
13-22	Rock & boulders
22-41	Broken rock; water
41-85	Gravel; water
85-184	Clay & fine gravel; hard & soft streaks
184-192	Gravel
192-210	Sand & gravel
210-238	Gravel
238-260	Bedrock

□WELL DESCRIPTION

LOCATION: Township: 3N Range: 1W Section: 12 (B-3-1)12daa  
130 ft. south, 390 ft. west, of E 1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Ray W Stoddard, Salt Lake City, Utah

Report of water well driller, state of Utah

Well in bedrock. Well Number #177

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-2	Top soil
2-35	Cobble & boulder gravel
35-130	Bedrock; cracked
130-240	Granite
240-335	Granite
335-355	Granite; 15 gpm

□WELL DESCRIPTION

LOCATION: Township: 3N Range: 1E Section: 18 (A-3-1)18cac  
775 ft. south, 1725 ft. east, of W 1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Naylor-Gross, Inc., Farmington, Utah

Report of water well driller, state of Utah

Well in bedrock. Well Number #178

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-23	Soil & boulders
23-48	Clay & boulder gravel
48-76	Sand
76-85	Clay & sand
85-108	Sand & gravel
108-143	Blue clay & sand
143-164	Blue clay & boulders
164-184	Coarse sand
184-207	Blue clay & sand
207-271	Coarse sand
271-384	Sand & gravel
384-385	Bedrock

□WELL DESCRIPTION

LOCATION: Township: 3N Range: 1E Section: 30 (A-3-1)30bbc  
1318 ft. north, 290 ft. west, of NE section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Marchase, Inc., Bountiful, Utah

Report of water well driller, state of Utah

Well in bedrock. Well Number #179

LITHOLOGIC LOG:

DEPTH,ft	LITHOLOGY
0-15	Clay, silt, & cobbles; loose
15-82	Bedrock
82-102	Bedrock; broken, white
102-111	Bedrock; hard, brown
111-114	Bedrock; fractured, gray
114-135	Gray bedrock
135-162	Fractured bedrock
162-187	Tan bedrock
187-203	Gray bedrock
203-221	White bedrock
221-264	Bedrock; white & gray
264-272	Bedrock; fractured, light brown
272-284	Bedrock; fractured, white & gray
284-312	Gray bedrock

□WELL DESCRIPTION

LOCATION: Township: 2N Range: 1E Section: 17 (A-2-1)17cac-2  
1150 ft. south, 1750 ft. east, of W 1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Ralph A Badger, Salt Lake City, Utah

Report of water well driller, state of Utah

Well in bedrock. Well Number #180

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-45	Yellow sand
45-60	Boulders
60-185	Limestone bedrock



□WELL DESCRIPTION

LOCATION: Township: 2N Range: 1E Section: 21 (A-2-1)21cba  
270 ft. south, 1230 ft. east, of W 1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Gilbert G Hatch, Bountiful, Utah

Report of water well driller, state of Utah

Well in bedrock. Well Number #181

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-30	Sand; top soil
30-44	Sand & boulders
44-261	Solid rock

□WELL DESCRIPTION

LOCATION: Township: 7N Range: 2W Section: 11

740 ft. north, 380 ft. east, of S 1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Ray Hansen

Report of water well driller, state of Utah

Well in bedrock. Well Number #182

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-35	Boulders
35-48	Clay & boulders
48-60	Boulders; water
60-100	Layers of lime & quartzite; water

□WELL DESCRIPTION

LOCATION: Township: 7N Range: 2W Section: 24

1036 ft. south, 25 ft. west, of NW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Neil Millicent Matthews

Report of water well driller, state of Utah

Well in bedrock. Well Number #183

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-70	Clay & boulders
70-90	Solid rock

□WELL DESCRIPTION

LOCATION: Township: 7N Range: 1W Section: 17

689 ft. north, 1814 ft. east, of SW 1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Dan Hess

Report of water well driller, state of Utah

Well in bedrock. Well Number #184

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-122	Brown claystone
122-160	Brown shale; water 122-150'

□WELL DESCRIPTION

LOCATION: Township: 7N Range: 1W Section: 21  
1000 ft. north, 250 ft. east, of SW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Ben Lomond Estates

Report of water well driller, state of Utah

Well in bedrock. Well Number #185

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-30	Silt & boulders
30-40	Clay
40-60	Clay, gravel, & boulders
60-90	Clay & gravel
90-100	Clay
100-110	Clay & boulders
110-130	Clay & gravel
130-150	Clay
150-170	Yellow clay
170-180	Blue clay & gravel
180-190	Yellow clay
190-200	Clay, conglomerate, gray shale, & sand
200-210	Clay, gray shale, & quartz
210-230	Bedrock
230-240	Dark gray to black shale
240-250	Bedrock
250-260	Lighter gray shale
260-280	Fractured bedrock
280-300	Limestone, gray
300-320	Limestone, gray; water
320-600	Gray, green limestone; water

□WELL DESCRIPTION

LOCATION: Township: 6N Range: 1W Section: 34 (B-6-1)34acb  
1620 ft. south, 17 ft. east, of N1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Val A. Browning

Report of water well driller, state of Utah

Well in bedrock. Well Number #186

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-1	Soil
1-8	Gr.
8-20	S
20-168	C
168-172	Rock

□WELL DESCRIPTION

LOCATION: Township: 6N Range: 1W Section: 35 (b-6-1)35bcb  
1610 ft. south, 130 ft. east, of NW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Union Pacific Railroad

Report of water well driller, state of Utah

Well in bedrock. Well Number #187

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-86	Clay & boulders
86-110	Red clay
110-123	Blue, sandy clay
123-136	Brown, sandy clay
136-155	Sand & boulders
155-395	Conglomerate
395-415	Gravel
415-416	Clay
416-430	Gravel
430-440	Conglomerate
440-445	Clay & gravel
445-478	Sand & gravel
478-481	Clay
481-508	Gravel
508-520	Shale

□WELL DESCRIPTION

LOCATION: Township: 5N Range: 1W Section: 15

650 ft. south, 450 ft. east, of N1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Jonathon Edmund Browning Corp.

Report of water well driller, state of Utah

Well in bedrock. Well Number #188

LITHOLOGIC LOG:

DEPTH,ft	LITHOLOGY
0-2	Clay, dark brown
2-32	Clay, gravel, & boulders
32-160	Clay
160-250	Brown clay
250-270	Brown, sandy clay
270-312	Brown, sandy clay & gravel
312-320	Granite



□WELL DESCRIPTION

LOCATION: Township: 5N Range: 1W Section: 36 (B-5-1)36cac  
850 ft. south, 1880 ft. east, of W1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: R.J.,E.J.,D.J. Smith & W.P. Petty

Report of water well driller, state of Utah

Well in bedrock. Well Number #189

LITHOLOGIC LOG:

DEPTH,ft	LITHOLOGY
0-2	Top soil
2-25	Gravel & cobbles, brown
25-60	Clay, gravel & cobbles, brown
60-165	Bedrock, fractured water at 150'

□WELL DESCRIPTION

LOCATION: Township: 1N Range: 1W Section: 11 (B-1-1)11abc  
1222 ft. south, 360 ft. east, of N1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Western States Refining Company

Report of water well driller, state of Utah

Well in bedrock. Well Number #197

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-1	Clay
1-25	Sand & clay
25-29	Sand
29-32	Coarse sand
32-55	Blue clay
55-64	Sand
64-140	Sand & clay
140-230	Red sandy clay
230-240	Fine sand & water
240-293	Blue clay
293-305	Fine sand
305-313	White clay
313-319	Sand
319-329	White clay
329-380	Red sandstone
380-400	Conglomerate
400-420	Red clay
420-423	Gravel, water
423-433	Clay
433-472	Conglomerate
472-500	Blue clay
500-505	Hard conglomerate
505-508	Sand
508-511	Very hard
511-521	Conglomerate
521-525	Water, gravel
525-530	Shale

□WELL DESCRIPTION

LOCATION: Township: 4S Range: 2E Section: 10 (C-4-2)10abc  
920 ft. south, 220 ft. east, of N1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Lynn Walk

Report of water well driller, state of Utah

Well in bedrock. Well Number #217

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-2	Silt
2-22	Clay & gravel
22-41	Clay, dense
41-55	Clay, gravel & cobbles
55-60	Ash
60-190	Granite, dolomite - water

□WELL DESCRIPTION

LOCATION: Township: 4S Range: 2E Section: 18 (D-4-2)18bdd  
2028 ft. south, 101 ft. west, of N1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Carl A. Pack

Report of water well driller, state of Utah

Well in bedrock. Well Number #219

LITHOLOGIC LOG:

DEPTH,ft	LITHOLOGY
0-10	Cobbles
10-40	Clay, gravel, & cobbles
40-72	Sand & gravel
72-95	Clay, sand, gravel, & cobbles
95-157	Cemented gravel & cobbles
157-161	Clay & gravel
161-200	Cemented gravel & cobbles
200-220	Sand & gravel; dirty
220-235	Gravel
235-306	Sand & gravel; dirty
306-353	Clay & gravel
353-365	Granite

WELL DESCRIPTION

LOCATION: Township: 5S Range: 2E Section: 21  
350 ft. north, 10 ft. east, of E1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Pleasant Grove City

Report of water well driller, state of Utah

Well in bedrock. Well Number #220

LITHOLOGIC LOG:

DEPTH,ft	LITHOLOGY
0-5	Clay , cobbles, & boulders
5-25	Clay & boulders
25-35	Boulders (granite boulders)
35-85	Clay, gravel, & boulders
85-95	Clay
95-120	Sand, gravel, & boulders
120-130	Clay, gravel, & boulders
130-140	Boulders
140-145	Clay, gravel & boulders
145-160	Boulders (granite boulders)
160-170	Clay, gravel & boulders
170-180	Boulders
180-225	Clay, gravel & boulders
225-235	Gravel, cobbles, & boulders
235-270	Clay, gravel & cobbles
270-275	Boulders
275-285	Clay, gravel, & cobbles
285-350	Clay, gravel, & boulders; water
350-365	Clay & boulders
365-390	Gravel & boulders; water
390-400	Clay & boulders
400-410	Clay, gravel & boulders
410-430	Limestone
430-455	Fractured limestone; water
455-480	Limestone
480-505	Fractured limestone; water
505-525	Limestone
525-530	Fractured limestone; water
530-600	Fractured limestone with clay

WELL DESCRIPTION

LOCATION: Township: 5S Range: 2E Section: 27 (D-5-2)27baa  
608 ft. south, 192 ft. west, of N1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Pleasant Grove City

Report of water well driller, state of Utah

Well in bedrock. Well Number #221

LITHOLOGIC LOG:

DEPTH,ft	LITHOLOGY
0-4	Top soil; sand & gravel
4-12	Silt, sand, gravel, & boulders
12-15	Clay, sand, & gravel
15-33	Clay, sand, gravel, & boulders
33-38	Clay, sand, & gravel
38-70	Clay, sand, gravel, & boulders
70-81	Clay & boulders
81-89	Clay, gravel, & boulders
89-94	Clay, sand, & gravel
94-121	Clay, gravel, & boulders
121-138	Clay, sand, gravel, & boulders
138-143	Boulders
143-198	Gravel & boulders; loose
198-240	Clay, sand, gravel, & boulders
240-255	Gravel & boulders; loose
255-273	Clay
273-280	Gravel & boulders; water
280-296	Clay, gravel, & boulders
296-330	Brown clay & gravel
330-337	Blue clay & gravel
337-348	Clay, gravel, & boulders
348-382	Boulders
382-395	Brown clay, gravel, & boulders
395-405	Blue clay
405-428	Brown clay, gravel, & boulders
428-452	Boulders
452-535	Bedrock, fractured limestone
535-550	Fractured lime, & water
550-574	Lime, not fractured
574-575	Lime & water
575-580	Lime

□WELL DESCRIPTION

LOCATION: Township: 6S Range: 1E Section: 30 (D-6-1)30bcd  
2400 ft. south, 1050 ft. east, of NW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Ireco Chemicals

Report of water well driller, state of Utah

Well in bedrock. Well Number #222

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-5	Clay, silt, & boulders
5-18	Clay, gravel, & boulders
18-32	Boulders, quartzite
32-39	Clay & boulders
39-230	Clay & boulders
230-272	Hard red clay, & sand
272-403	Dark blue shale
403-490	Hard, dark blue shale; water increasing

□WELL DESCRIPTION

LOCATION: Township: 7S Range: 1E Section: 5 (D-7-1)5ccc  
530 ft. north, 40 ft. east, of SW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Intermountain Research

Report of water well driller, state of Utah

Well in bedrock. Well Number #223

LITHOLOGIC LOG:

DEPTH,ft	LITHOLOGY
0-15	Tan clay
15-233	Blue lime, consolidated



□WELL DESCRIPTION

LOCATION: Township: 8S Range: 1E Section: 10  
3520 ft. north, 565 ft. east, of SW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: South Shore Farms

Report of water well driller, state of Utah

Well in bedrock. Well Number #224

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-4	Top soil
4-40	Clay, cobbles, & boulders
40-60	Sand & gravel
60-108	Clay, sand, gravel
108-115	Sand & gravel
115-152	Clay, sand, gravel, cobbles, & boulders
152-200	Gravel & cobbles
200-275	Bedrock

□WELL DESCRIPTION

LOCATION: Township: 8S Range: 1E Section: 20  
440 ft. south, 2100 ft. west, of NE section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Hi country Fruit Farm

Report of water well driller, state of Utah

Well in bedrock. Well Number #225

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-5	Clay
5-10	Clay & gravel
10-40	Gravel & boulders
40-55	Gravel
55-60	Conglomerate; water
60-80	Clay & silt
80-100	Silt
100-160	Clay & silt
160-180	Other(sic); water
180-200	Other(sic)
200-205	Hard bedrock

□WELL DESCRIPTION

LOCATION: Township: 9S Range: 1E Section: 27 (D-9-1)27aca  
1818 ft. south, 1899ft. west, of NE section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Geneva Steel Company

Report of water well driller, state of Utah

Well in bedrock. Well Number #226

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-10	Clay & gravel fill
10-20	Gravel
20-311	Broken dolomite
311-320	Fine broken dolomite stone (sand)
320-365	Soft broken dolomite

□WELL DESCRIPTION

LOCATION: Township: 9S Range: 1E Section: 23

2200 ft. south, 200 ft. east, of N1/4 section corner.  
COMMENTS: (reference, type of well, agency, etc.)

Well owner: Payson Fruit Growers

Report of water well driller, state of Utah

Well in bedrock. Well Number #227

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-108	Clay & gravel
108-110	Sand
110-122	Sand & gravel
122-169	Conglomerate
169-188	Clay & gravel
188-208	Clay, gravel, & boulders
208-259	Conglomerate
259-371	Sand, gravel, & conglomerate; water at 259'
371-373	Bedrock

□WELL DESCRIPTION

LOCATION: Township: 9S Range: 1E Section: 2

643 ft. north, 50 ft. east, of S1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Ralph & Faye Tomlinson

Report of water well driller, state of Utah

Well in bedrock. Well Number #228

LITHOLOGIC LOG:

DEPTH,ft	LITHOLOGY
0-10	Top soil; clay & silt
10-80	Clay, hardpan, some sandstone ledges
80-100	Hardpan & sandstone; some water at 100'
100-280	Hardpan, clay, & sandstone; water at 240'-280'

□WELL DESCRIPTION

LOCATION: Township: 9S Range: 2E Section: 16 (D-9-2)16dda  
1185 ft. north, 400 ft. west, of SE section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Max E. Dockstader

Report of water well driller, state of Utah

Well in bedrock. Well Number #229

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-15	Clay & gravel
15-140	Boulders
140-176	Sand & gravel
176-227	Conglomerate
227-228	Sandstone

□WELL DESCRIPTION

LOCATION: Township: 9S Range: 2E Section: 22  
990 ft. north, 655 ft. east, of W1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Pice Armstrong

Report of water well driller, state of Utah

Well in bedrock. Well Number #230

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
1-52	Limestone-quartzite boulders
52-92	Limestone-quartzite conglomerate
92-140	Limestone-sandstone conglomerate
140-207	Manning Canyon shale
207-213	Manning Canyon shale, red
213-217	Gray limestone
217-227	Manning Canyon shale, red
227-231	Gray limestone
231-275	Manning Canyon shale
275	Limestone; water

□WELL DESCRIPTION

LOCATION: Township: 9S Range: 2E Section: 22  
1400 ft. south, 500 ft. east, of NW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Melvin D. Jep

Report of water well driller, state of Utah

Well in bedrock. Well Number #231

LITHOLOGIC LOG:

DEPTH,ft	LITHOLOGY
0-50	Sand, gravel, cobbles, & boulders
50-67	Boulders
67-157	Conglomerate
157-190	Bright red sandstone
190-210	Red & gray ribbons, sandstone
210-230	Red sandstone



□WELL DESCRIPTION

LOCATION: Township: 9S Range: 2E Section: 24 (D-9-2)24acb  
1980 ft. south, of N1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: G. Elmer Hanks

Report of water well driller, state of Utah

Well in bedrock. Well Number #232

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-2	Top soil
2-25	Rock & clay mixture
25-38	Lime rock
38-150	Rock & clay mixture
150-180	Lime rock
180-260	Rock & clay mixture
260-300	Lime rock

□WELL DESCRIPTION

LOCATION: Township: 9S Range: 2E Section: 25 (D-9-2)25bbc  
1260 ft. south, 300 ft. east, of NW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Keith Shuler

Report of water well driller, state of Utah

Well in bedrock. Well Number #233

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-2	Silt
2-7	Brown clay & boulders
7-15	Clay & sand
15-18	Clay & boulders
18-41	Clay
41-53	Clay & boulders
53-55	Clay
55-59	Clay & boulders
59-65	Gravel & boulders; water
65-71	Clay & boulders
71-75	Clay
75-87	Clay & boulders
87-104	Fractured bedrock; water
104-145	Solid bedrock
145-225	Fractured bedrock

□WELL DESCRIPTION

LOCATION: Township: 9S Range: 2E Section: 26 (D-9-2)26bcd  
1150 ft. south, 730 ft. west, of N1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Keith Shuler/ Shuler Water Co.  
Report of water well driller, state of Utah

Well in bedrock. Well Number #234

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-5	Top soil
5-35	Clay & hardpan
35-85	Clay & gravel
85-170	Coarse gravel
170-205	Limed conglomerate
205-220	Tan limestone
220-240	Limed conglomerate
240-270	Brown limestone boulders
270-310	Gray limestone
310-330	Brown limestone
330-390	Gray & brown limestone
390-470	Brown limestone
470-490	Gray & brown limestone
490-520	Brown limestone
520-600	Light tan limestone with clay seams

□WELL DESCRIPTION

LOCATION: Township: 9S Range: 2E Section: 29 (D-9-2)29bba  
600 ft. south, 1200 ft. east, of NW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: V.H. Allen Corp

Report of water well driller, state of Utah

Well in bedrock. Well Number #235

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-2	Gravel, top soil
2-30	Tan clay & gravel
30-48	Boulders
48-154	Red & tan clay
154-250	Gray sandstone with layers around shale water

□WELL DESCRIPTION

LOCATION: Township: 9S Range: 3E Section: 30  
1000 ft. south, 1700 ft. east, of W1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Parley M. Meeley/ Surveying Associates

Report of water well driller, state of Utah

Well in bedrock. Well Number #236

LITHOLOGIC LOG:

DEPTH,ft	LITHOLOGY
0-195	Cobbles & boulders
195-205	Cobbles, with a little water
205-285	Clay, cobbles, & boulders
285-400	Limestone

□WELL DESCRIPTION

LOCATION: Township: 9S Range: 3E Section: 18 (D-9-3)18ccb  
1000 ft. north, 375 ft. east, of SW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Albert L. Bylund

Report of water well driller, state of Utah

Well in bedrock. Well Number #237

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-8	Clay
8-40	Sand, gravel, & boulders
40-80	Fractured lime
80-160	Clay & fractured lime
160-200	Clay, gravel, & fractured lime
200-250	Fractured lime
250-300	Clay & fractured lime
300-360	Fractured lime;
360-362	Fractured lime; little water
363-400	Fractured lime
400-420	Other(sic); water

□WELL DESCRIPTION

LOCATION: Township: 10S Range: 1E Section: 2 (D-10-1)2bba  
307 ft. south, 694 ft. east, of NW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Genola Town

Report of water well driller, state of Utah

Well in bedrock. Well Number #238

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
302-342	Sand & gravel, 3/8" diameter
342-368	Gravel & cobbles, 3" diameter
368-384	Conglomerate
384-408	Gravel & conglomerate
408-485	Clay, sand, & gravel
485-502	Clay & gravel
502-506	Conglomerate
506-527	Clay & conglomerate
527-554	Limestone

□WELL DESCRIPTION

LOCATION: Township: 10S Range: 1E Section: 11 (D-10-1)11bdb

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Claude A. Rowley

Report of water well driller, state of Utah

Well in bedrock. Well Number #239

LITHOLOGIC LOG:

DEPTH,ft	LITHOLOGY
0-5	Top soil, gravel
5-8	Tan clay
8-42	Gravel
42-56	Blue clay & sand
56-80	Hardpan
80-142	Tan clay & gravel
142-157	Sand & gravel
157-168	Red clay
168-214	Clay & gravel
214-226	Red clay
226-238	Clay & gravel
238-242	Tan clay
242-268	Clay & gravel
268-300	Clay, gravel, & boulders
300-332	Boulders & conglomerate
332-425	Clay, sand, & gravel; water
425-458	Sand & boulders
458-470	Clay & boulders
470-500	Gray sandstone



□WELL DESCRIPTION

LOCATION: Township: 10S Range: 1E Section: 16 (D-10-1)16adc  
20 ft. north, 660 ft. west, of E1/4 section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: J.B. Ranch Inc.

Report of water well driller, state of Utah

Well in bedrock. Well Number #240

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-150	Clay, silt, & boulders
150-660	Limestone

□WELL DESCRIPTION

LOCATION: Township: 10S Range: 1E Section: 4 (D-10-1)4ddc  
200 ft. north, 1100ft. west, of SE section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: J.B. Ranch Inc.

Report of water well driller, state of Utah

Well in bedrock. Well Number #242

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-120	Silt & boulders
120-380	Gray shale with limestone
380-400	Fractured shale; water

□WELL DESCRIPTION

LOCATION: Township: 10S Range: 1E Section: 30  
1200 ft. south, 1600 ft. east, of NW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Scott Lunceford

Report of water well driller, state of Utah

Well in bedrock. Well Number #243

LITHOLOGIC LOG:

DEPTH,ft	LITHOLOGY
0-1	Top soil
1-74	Clay, cobbles, & boulders
74-77	Boulders
77-136	Clay, gravel, & cobbles
136-177	Brown sandy clay
177-224	Clay & gravel
224-242	Clay, cobbles, & boulders
242-289	Gravel
289-307	Gravel & boulders; water
307-326	Cemented gravel
326-351	Loose gravel (caving)
351-370	Clay & gravel
370-403	Sand & gravel, cemented - limestone
403-424	Gray clay & gravel
424-433	Red clay & sand
433-444	Cemented sand & gravel
444-467	Red clay, sand, & gravel
467-499	Gray clay & gravel
499-574	Brown & gray clay & gravel
574-600	Clay & blue, hard shale

□WELL DESCRIPTION

LOCATION: Township: 11S Range: 1E Section: 21  
300 ft. south, 330 ft. west, of NE section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: William R. Jensen

Report of water well driller, state of Utah

Well in bedrock. Well Number #244

LITHOLOGIC LOG:

DEPTH,ft	LITHOLOGY
0-400	Sand, gravel, cobbles, & boulders
400-500	Layers of limestone & cemented gravels
500-525	Fractured limestone; water seams

□WELL DESCRIPTION

LOCATION: Township: 11S Range: 1E Section: 33  
2000 ft. south, 1450 ft. east, of NW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Ed Brown

Report of water well driller, state of Utah

Well in bedrock. Well Number #245

LITHOLOGIC LOG:

DEPTH,ft	LITHOLOGY
0-112	Hard, sandy clay & sand
112-118	Lava & gravel
118-149	Hard clay
149-250	Hard rock gravel & clay
250-262	Hard rock; water

□WELL DESCRIPTION

LOCATION: Township: 7S Range: 1W Section: 13 (C-7-1)13abc  
2200 ft. south, 1300 ft. west, of NE section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: Gerad Neilson

Report of water well driller, state of Utah

Well in bedrock. Well Number #258

LITHOLOGIC LOG:

DEPTH,ft	LITHOLOGY
0-15	Clay, silt, sand, & boulders
15-65	Brown clay & gravel
65-103	White & brown clay
103-151	White limestone
151-231	Blue limestone
231-292	Black carbonized shale
292-303	Gravel; water
303-452	Black carbonized shale

□WELL DESCRIPTION

LOCATION: Township: 8S Range: 1W Section: 29 (C-8-1)29bdc  
2250 ft. south, 1810 ft. east, of NW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: James B. Fitzgerald

Report of water well driller, state of Utah

Well in bedrock. Well Number #259

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-7	White clay
7-240	Clay, sand, & gravel
240-320	Brown sticky clay, & gravel
320-343	Lava
343-359	Red clay, & gravel
359-447	Limestone
447-500	Lime & shale

□WELL DESCRIPTION

LOCATION: Township: 8S Range: 1W Section: 20 (C-8-1)20cdb  
850 ft. north, 1810 ft. east, of SW section corner.

COMMENTS: (reference, type of well, agency, etc.)

Well owner: James B. Fitzgerald

Report of water well driller, state of Utah

Well in bedrock. Well Number #260

LITHOLOGIC LOG:

DEPTH, ft	LITHOLOGY
0-4	Hard clay
4-202	Clay, sand, & gravel
202-206	Hard clay
206-207	Gravel; water
207-220	Limestone
220-227	Clay, sand, & gravel
227-288	Limestone
288-312	Broken black & white limestone
312-345	Limestone & shale

□WELL DESCRIPTION

LOCATION: Township: 1N Range: 1W Section: 14 (B-1-1)14dcb

COMMENTS: (reference, type of well, agency, etc.)

Murphy, Peter & Gwynn, J Wallace, 1979, Geothermal investigation of the Warm Springs Fault geothermal system, Salt Lake County, Utah; Utah Geological & Mineral Survey Report of Investigation RI-140, 24p.

Surface Elevation: 4275 ft.

Well in bedrock. Well Number #267

LITHOLOGIC LOG:

DEPTH,ft	LITHOLOGY
0-12	Dry silt; loess(?), tan, red, & yellow
12-15	Sand & gravel with yellow silt
15-30	Gray clay; occasional minor gravel
30-75	Medium to fine, angular, dolomite gravel; with varying percentages of clay & sand
75-133	Weathered & fractured dolomite
133-240	Fractured dolomite
240-253	Fractured (less than above) dolomite



□WELL DESCRIPTION

LOCATION: Township: 5S Range: 1W Section: 22 (C-5-1)22cdb-1

COMMENTS: (reference, type of well, agency, etc.)

Appel, Cynthia L, Clark, David W, Fairbanks, Paul E, 1982, Selected hydrologic data for northern Utah Valley, Utah, 1935-82; United States Geological Survey Open File Report 82-1023 & Utah Department of Natural Resources Division of Water Rights Utah Hydrologic-Data Report No. 39, 150p.

Surface Elevation: 4637.5 ft.

Well in bedrock. Well Number #269

LITHOLOGIC LOG:

DEPTH,ft	LITHOLOGY
0-13	Clay
13-16	Clay, sand, cobble & boulder gravel
16-25	Clay, sand, & cobble gravel
25-26	Boulders
26-30	Clay, sand, & gravel
30-33	Clay & sand
33-35	Clay, sand, & cobble gravel
35-42	Sand & cobble gravel
42-106	Clay, sand, & cobble gravel
106-200	Limestone; small clay layers

□WELL DESCRIPTION

LOCATION: Township: 4S Range: 1E Section: 26 (D-4-1)26aac-1

COMMENTS: (reference, type of well, agency, etc.)

Appel, Cynthia L, Clark, David W, Fairbanks, Paul E, 1982, Selected hydrologic data for northern Utah Valley, Utah, 1935-82; United States Geological Survey Open File Report 82-1023 & Utah Department of Natural Resources Division of Water Rights Utah Hydrologic-Data Report No. 39, 150p.

Surface Elevation: 4923 ft.

Well in bedrock. Well Number #270

LITHOLOGIC LOG:

DEPTH,ft	LITHOLOGY
0-2	Soil
2-65	Clay & gravel
65-102	Sand & gravel
102-194	Clay & sand
194-276	Clay & gravel
276-320	Clay & sand; water
320-382	Clay, silt, & sand
382-430	Clay & sand
430-452	Sand & gravel
452-463	Clay, sand, & gravel
463-605	Conglomerate
605-615	Granite

□WELL DESCRIPTION

LOCATION: Township: 4S Range: 1E Section: 36 (D-4-1)36adc-1

COMMENTS: (reference, type of well, agency, etc.)

Appel, Cynthia L, Clark, David W, Fairbanks, Paul E, 1982, Selected hydrologic data for northern Utah Valley, Utah, 1935-82; United States Geological Survey Open File Report 82-1023 & Utah Department of Natural Resources Division of Water Rights Utah Hydrologic-Data Report No. 39, 150p.

Surface Elevation: 4935 ft.

Well in bedrock. Well Number #271

LITHOLOGIC LOG:

DEPTH,ft	LITHOLOGY
0-1	Soil
1-55	Cobble & boulder gravel
55-57	Sandy clay
57-100	Cobble gravel
100-143	Cobble & boulder gravel
143-190	Cobble gravel
190-239	Clay, sand, & gravel
239-351	Clay & cobble gravel
351-360	Cobble gravel; water
360-380	Clay & gravel; water
380-386	Clay & small gravel
386-403	Gravel; layers of clay
403-405	Gravel
405-409	Clay & gravel
409-531	Cemented gravel
531-534	Hard clay; sand & fine gravel
534-552	Cemented gravel
552-566	Limestone; streaks of clay
566-577	Cemented gravel; limestone, hard clay

□WELL DESCRIPTION

LOCATION: Township: 4S Range: 2E Section: 19 (D-4-2)19ccb-1

COMMENTS: (reference, type of well, agency, etc.)

Appel, Cynthia L, Clark, David W, Fairbanks, Paul E, 1982, Selected hydrologic data for northern Utah Valley, Utah, 1935-82; United States Geological Survey Open File Report 82-1023 & Utah Department of Natural Resources Division of Water Rights Utah Hydrologic-Data Report No. 39, 150p.

Surface Elevation: 4955 ft.

Well in bedrock. Well Number #273

LITHOLOGIC LOG:

DEPTH,ft	LITHOLOGY
0-10	Soil
10-19	Clay & gravel; brown
19-35	Coarse sand
35-79	Sand & coarse gravel
79-105	Clay, sand, & gravel; brown
105-167	Sand and coarse gravel
167-300	Clay, sand, & gravel; brown
300-335	Conglomerate
335-360	Conglomerate; sandy
360-444	Conglomerate
444-467	Clay & gravel; brown
467-490	Conglomerate
490-501	Cemented sand & gravel
501-623	Conglomerate
623-650	Granite

□WELL DESCRIPTION

LOCATION: Township: 4S Range: 2E Section: 31 (D-4-2)31abd-1

COMMENTS: (reference, type of well, agency, etc.)

Appel, Cynthia L, Clark, David W, Fairbanks, Paul E, 1982, Selected hydrologic data for northern Utah Valley, Utah, 1935-82; United States Geological Survey Open File Report 82-1023 & Utah Department of Natural Resources Division of Water Rights Utah Hydrologic-Data Report No. 39, 150p.

Surface Elevation: 4980 ft.

Well in bedrock. Well Number #274

LITHOLOGIC LOG:

DEPTH,ft	LITHOLOGY
0-14	Cobble gravel
14-34	Large boulders
34-42	Boulders
42-65	Clay & cobble gravel
65-70	Large gravel
70-75	Clay & cobbles
75-78	Cobbles & boulders; some water
78-84	Gravel; some water
84-92	Cobble gravel
92-96	Cobble gravel; large
96-100	Boulders
100-116	Cobble gravel
116-128	Gravel; streaks of clay
128-140	Cobble gravel
140-173	Clay & gravel
173-183	Conglomerate
183-187	Clay & gravel
187-200	Conglomerate
200-212	Clay & gravel
212-220	Conglomerate
220-230	Gravel; streaks of clay
230-236	Conglomerate
236-254	Gravel; streaks of clay
254-272	Clay, cobbles, & lime
272-280	Limestone
280-292	Clay & gravel
292-300	Clay & cobble gravel
300-303	Clay & cobble gravel; some water
303-308	Limestone
308-356	Conglomerate
356-366	Clay & gravel
366-382	Clay & cobble gravel
382-387	Gravel; packed sand
387-392	Conglomerate; some water
392-442	Conglomerate
442-448	Conglomerate; streaks of limestone
448-463	Gravel; streaks of water (sic)
463-501	Limestone

□WELL DESCRIPTION

LOCATION: Township: 6S Range: 2E Section: 12 (D-6-2)12bdb-1

COMMENTS: (reference, type of well, agency, etc.)

Appel, Cynthia L, Clark, David W, Fairbanks, Paul E, 1982, Selected hydrologic data for northern Utah Valley, Utah, 1935-82; United States Geological Survey Open File Report 82-1023 & Utah Department of Natural Resources Division of Water Rights Utah Hydrologic-Data Report No. 39, 150p.

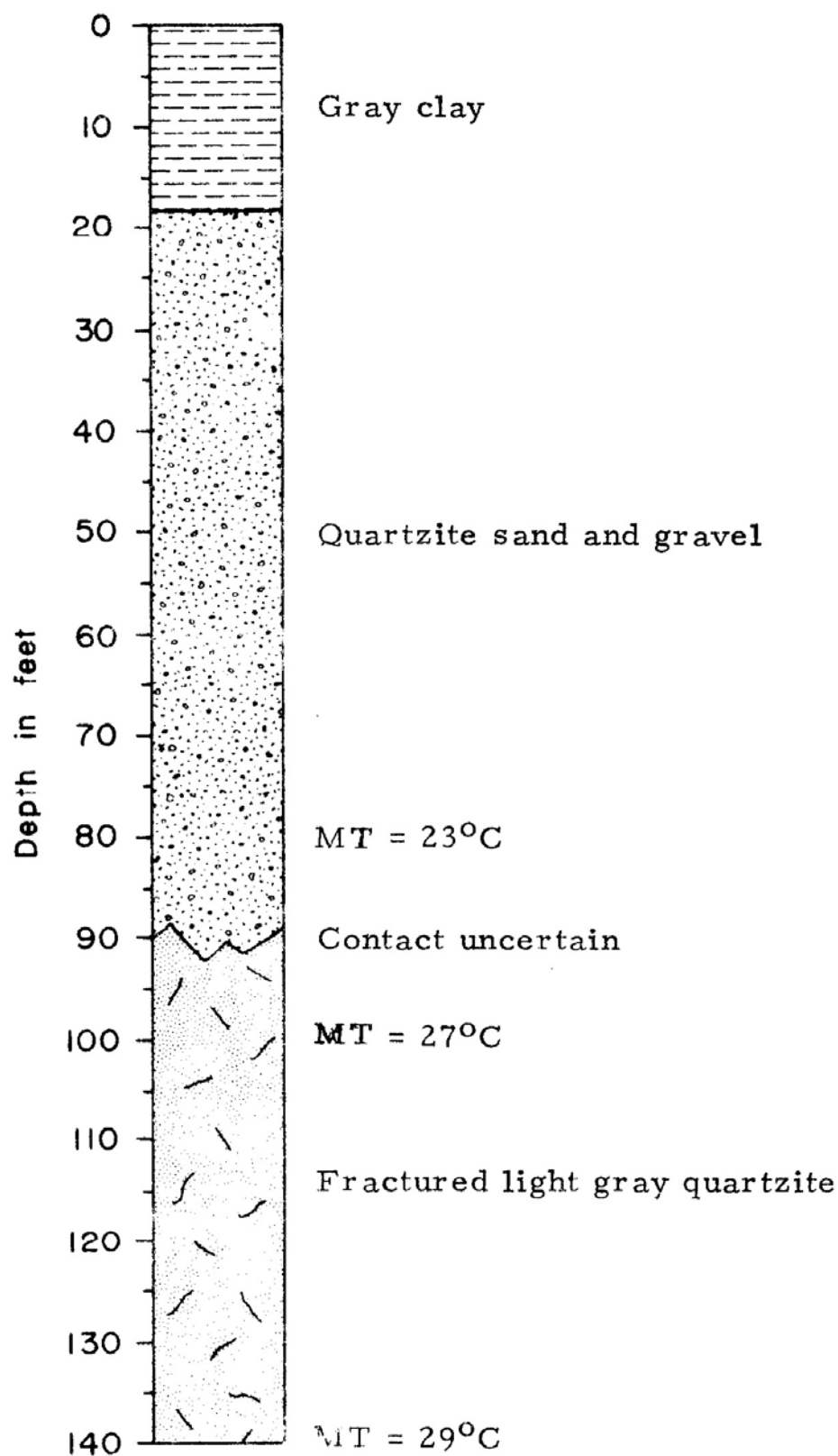
Surface Elevation: 4853ft.

Well in bedrock. Well Number #276

LITHOLOGIC LOG:

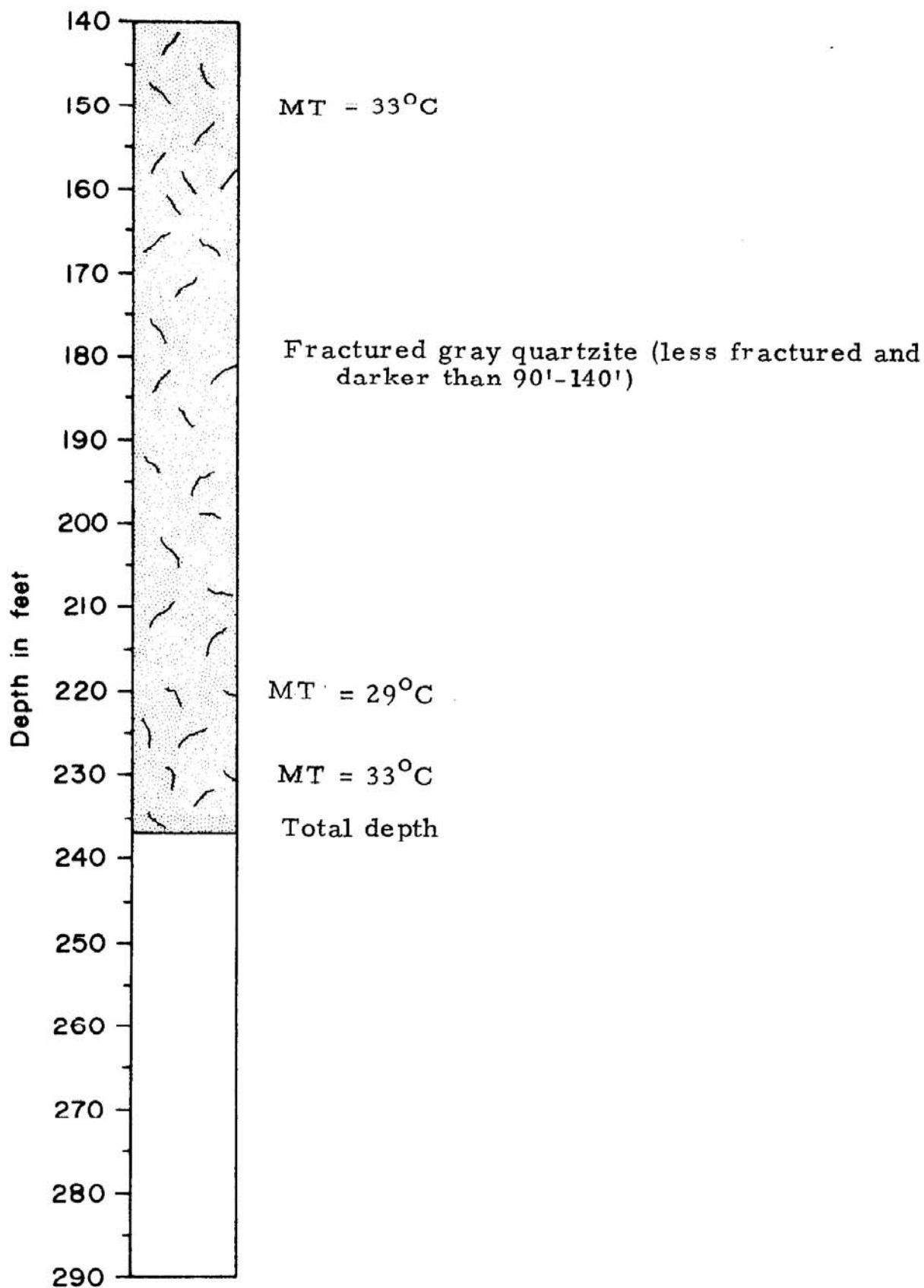
DEPTH,ft	LITHOLOGY
0-2	Soil
2-8	Cemented sand; boulder gravel
8-27	Sand & boulder gravel
27-52	Cemented sand; gravel
52-78	Sand & gravel
78-90	Sandy, brown, clay; gravel
90-118	Sand & gravel
118-129	Sandy, brown, clay
129-178	Sand & gravel
178-204	Clay; sandy, yellow
204-310	Sand & gravel
310-539	Clay & gravel to 16 inches
539-640	Sandy, brown, clay; gravel to 10 inches
640-710	Clay & gravel; sandy, brown
710-885	Clay, gravel, & conglomerate
885-923	Clay & gravel; granite.

## Temperature Gradient Hole Log

Hole C/GH - D Location (C - 4 - 1) 12 bcdSurface Elevation 4472' Comp. Date 3 - 1 - 78 T. D. 237'Comments

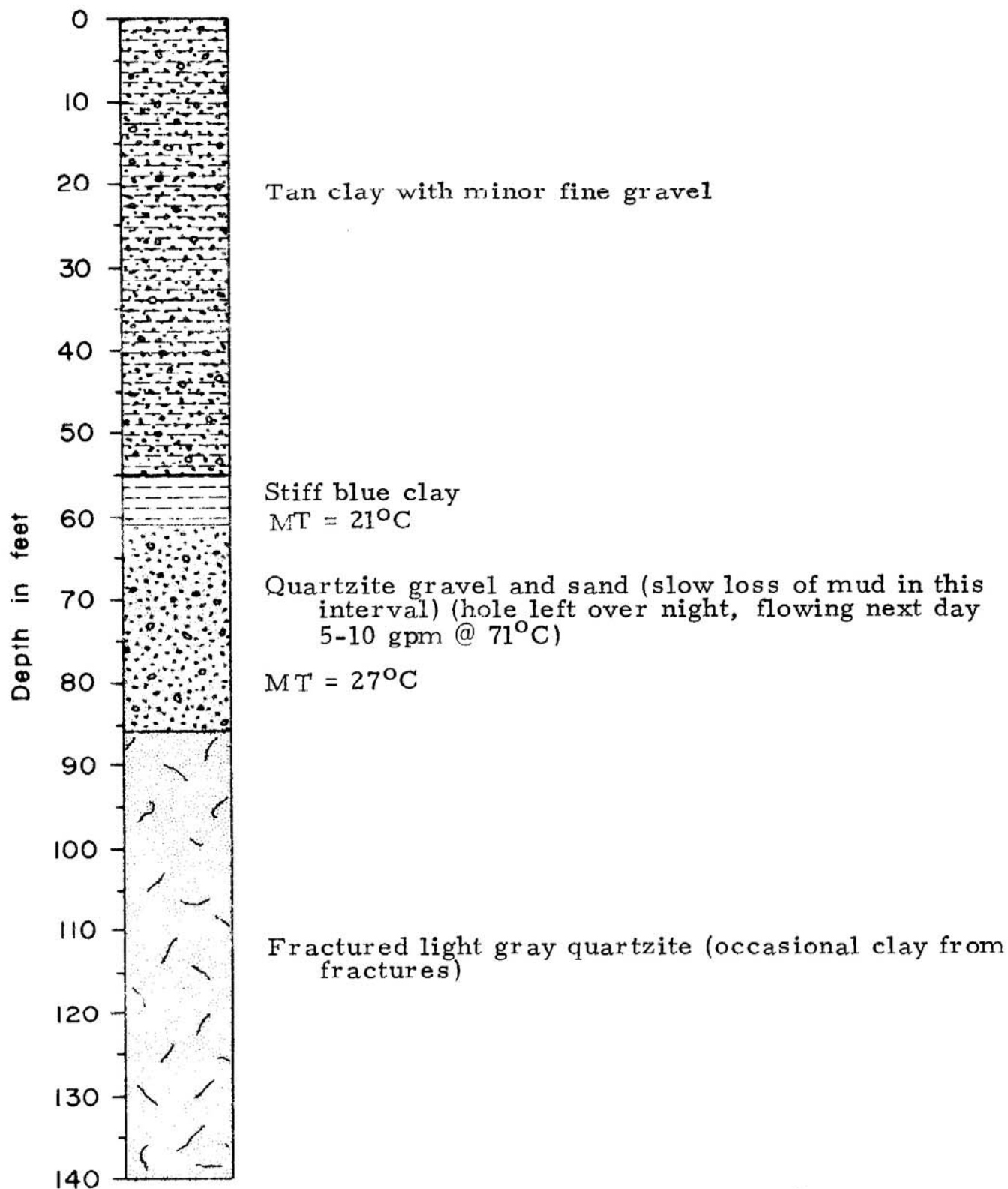
10 feet = 3.048 meters

## Temperature Gradient Hole Log

Hole C/GH - D (continued)Comments

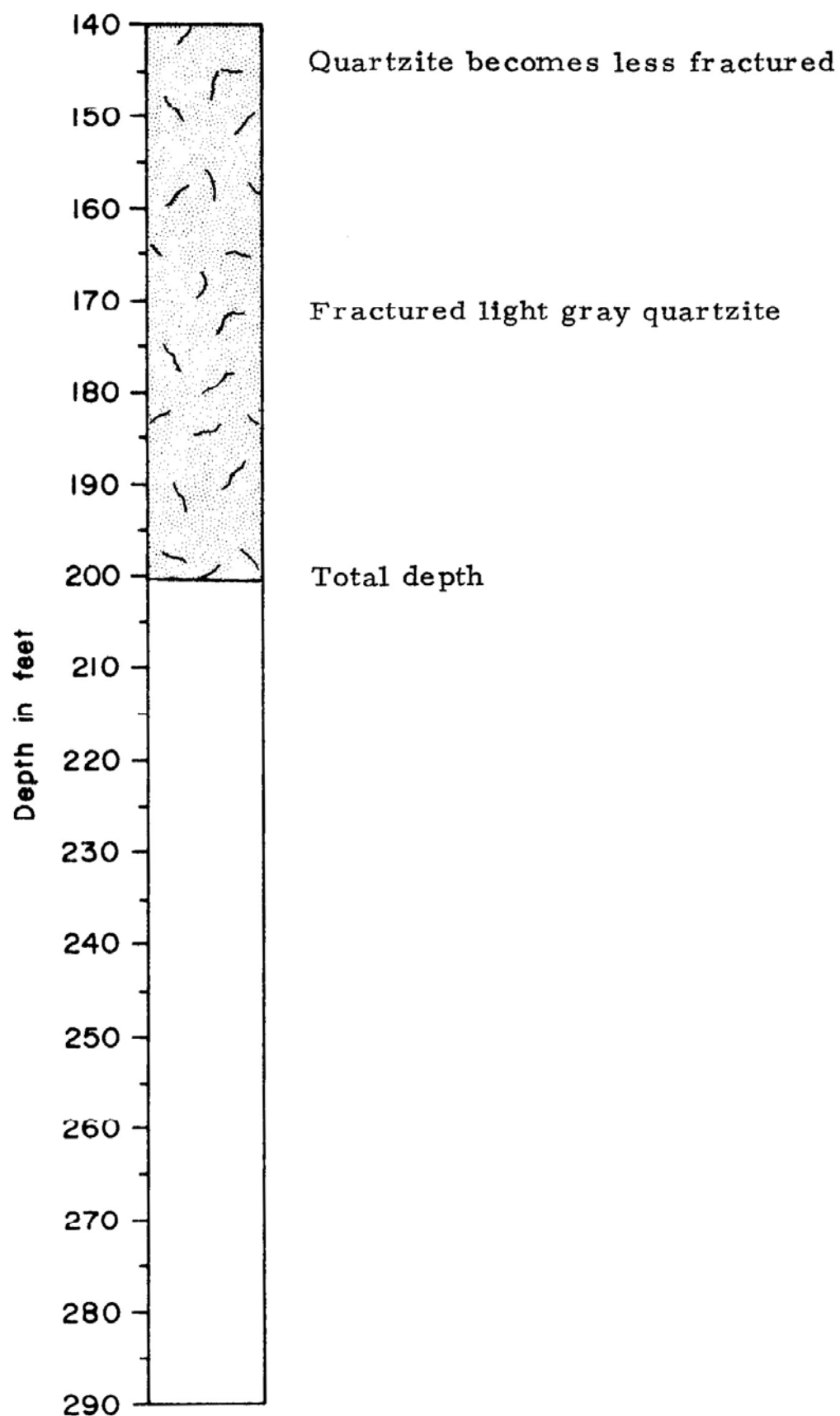


## Temperature Gradient Hole Log

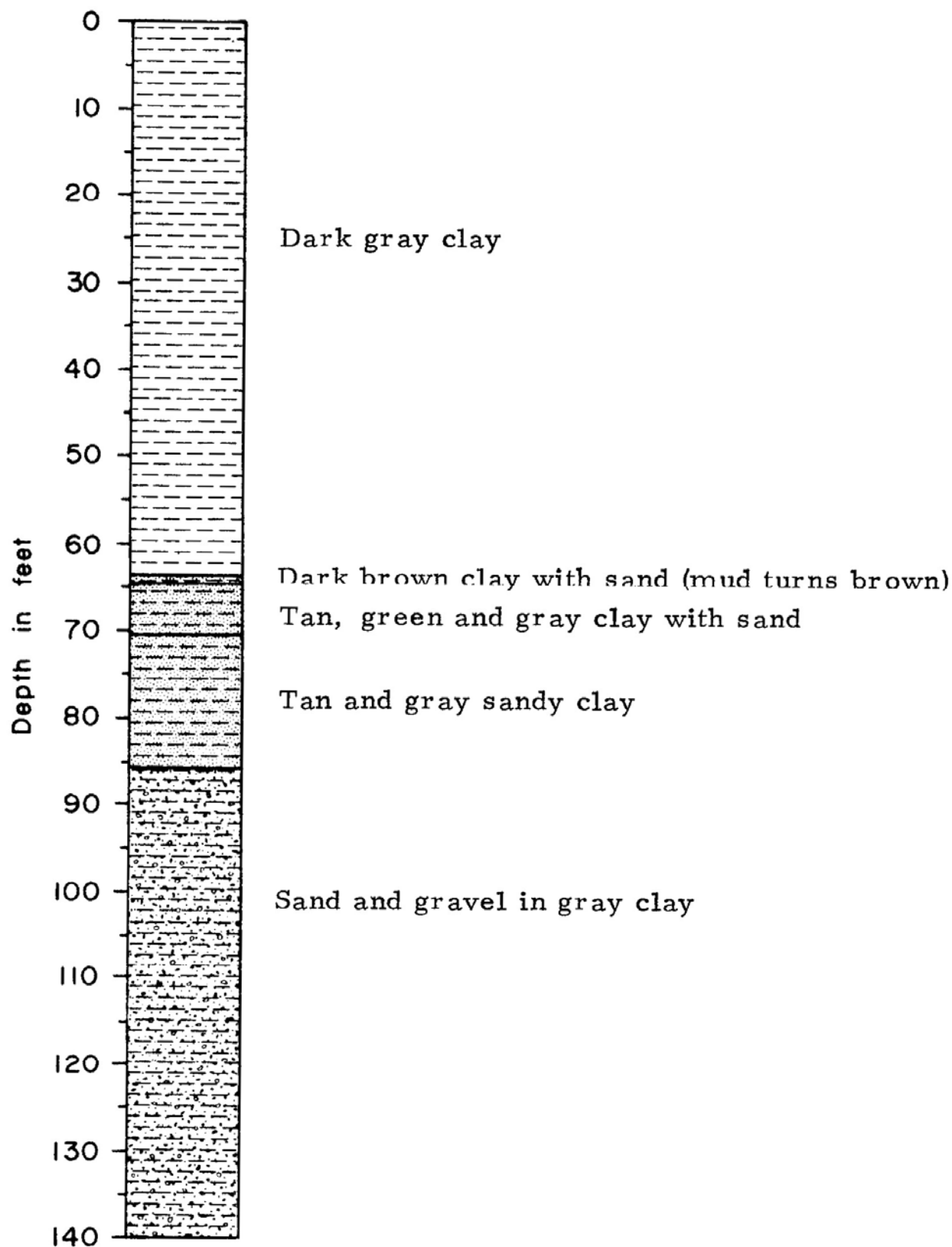
Hole C/GH - E Location (C - 4 - 1) 12 bbcSurface Elevation 4465' Comp. Date 3 - 17 - 78 T.D. 200'Comments

10 feet = 3.048 meters

## Temperature Gradient Hole Log

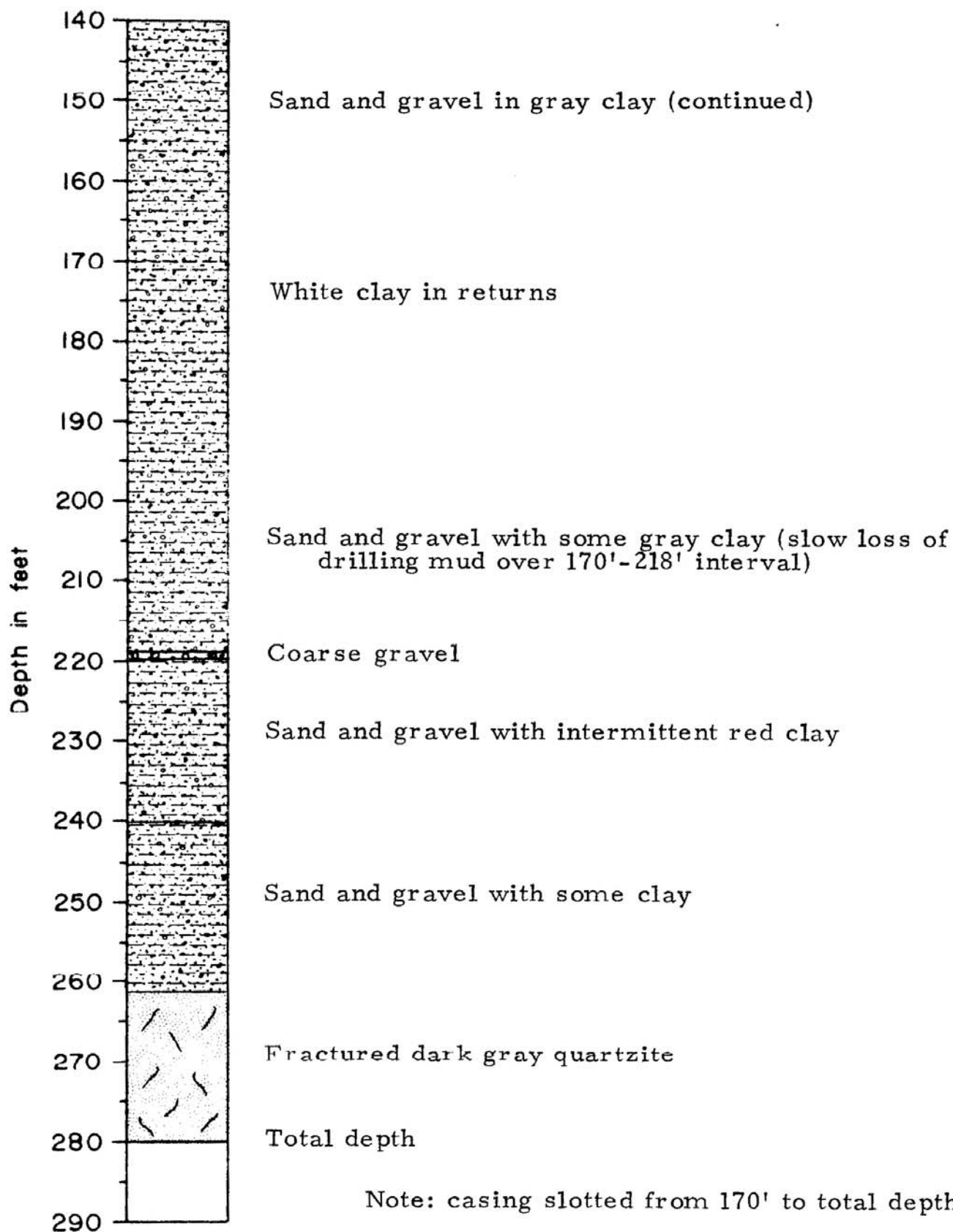
Hole C/GH - E (continued)Comments

## Temperature Gradient Hole Log

Hole C/WW - SF Location (C - 4 - 1) 12 bbd 2Surface Elevation 4460' Comp. Date 4 - 12 - 78 T. D. 280'Comments

10 feet = 3.048 meters

## Temperature Gradient Hole Log

Hole C/WW - SF (continued)Comments

\*\*\*\*\* WIN: 000067 \*\*\*\*\*

•&l6D  
•&a130M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@

N 100 ft W 2759 ft from E4 CORNER of SECTION 13 T 3N R 1W BASE SL

Elevation: feet

•&d0DDRILLER ACTIVITIES:•&d@

ACTIVITY # 1 NEW WELL

DRILLER: LANG EXPLORATORY DRILLING INC

LICENCE #: 568

START DATE: 12/09/1991 COMPLETION DATE: 01/11/1992

•&d0DBOREHOLE INFORMATION:•&d@

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 910	25	ROTARY	

•&d0DLITHOLOGY:•&d@

Depth(ft)	Lithologic Description
Color	Rock Type

From To	
0 110	SAND, GRAVEL
	EXTREME CAVING FROM 0 - 80
110 180	CLAY, SAND, GRAVEL
	SMOOTH, FAST PENETRATION FROM 80 - 420
180 290	SAND, GRAVEL, BOULDERS
290 300	CLAY, SAND, GRAVEL, BOULDERS
300 420	SAND, GRAVEL, BOULDERS
420 750	CLAY, SILT, SAND, GRAVEL, BOULDERS
	HARD & ROUGH FROM 420 - 210
750 810	CLAY, SILT, SAND, GRAVEL
810 910	CLAY

HARDPAN

•&d0DWATER LEVEL DATA:•&d@

Date	Time	Water Level (feet)	Status
		(-)above ground	
02/03/1992		- .50	

•&d0DCONSTRUCTION - CASING:•&d@

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 48		.50	36
+3 195		.375	20
395 450		.375	16
520 565		.375	16
610 750		.375	16

•&d0DCONSTRUCTION - SCREENS/PERFORATIONS:•&d@

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From To			
195 395	SCREEN	80	16
STNLS. STEEL			
450 520	SCREEN	80	16
STNLS. STEEL			
565 610	SCREEN	80	16
STNLS. STEEL			

•&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS:•&d@

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 145	CEMENT GROUT		
145 910	GRAVEL 6 - 9		

•&d0DWELL TESTS:•&d@

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
02/03/1992	ARTESIAN FLOW	1.114		
02/03/1992	PUMP TEST	5.657	70.24	3
02/03/1992	PUMP TEST	6.689	91.38	2
02/03/1992	PUMP TEST	7.823	122.40	3

\*\*\*\*\* WIN: 000102 \*\*\*\*\*

•&l6D  
•&a130M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@

N 1000 ft W 990 ft from SE CORNER of SECTION 30 T 2N R 1E BASE SL

Elevation: feet

•&d0DDRILLER ACTIVITIES:•&d@

ACTIVITY # 1 NEW WELL

DRILLER: LANG EXPLORATORY DRILLING INC

LICENCE #: 568

START DATE: 07/04/1991 COMPLETION DATE: 03/15/1992

•&d0DBOREHOLE INFORMATION:•&d@

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 1000	20	ROTARY	

•&d0DLITHOLOGY:•&d@

Depth(ft)	Lithologic Description
Color	Rock Type

From To	
0 35	SAND
35 195	CLAY,SAND
195 235	CLAY
235 245	SAND
245 435	CLAY
435 475	SILT,SAND
475 515	CLAY,SAND
515 530	SAND,GRAVEL
530 572	CLAY,SILT
572 815	GRAVEL
815 875	CLAY
875 970	GRAVEL
970 1000	CLAY,SAND

•&d0DWATER LEVEL DATA:•&d@

Date	Time	Water Level (feet)	Status
		(-)above ground	
03/16/1992		524.00	

•&d0DCONSTRUCTION - CASING:•&d@

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 50		.50	48
0 584		.375	24
0 670		.50	36
584 672		.375	22
797 897		.375	20
959 989		.375	20

•&d0DCONSTRUCTION - SCREENS/PERFORATIONS:•&d@

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		

From To			
672 797	SCREEN	80	20
897 960	SCREEN	80	20

WIREWRAP

WIREWRAP

•&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS:•&d@

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 590	CEMENT GROUT		
590 1000	GRAVEL PACKED-1/4X3/8		

Copied..... vgh 5-2-51  
 Exam. & Recorded..... mv 3-14-51  
 Exam. for filing.....  
 Final Copy checked.....  
 Indexed..... vgh 3-1-51  
 Well No. D-1-17cba-2

PAGE.....  
 (Leave Blank)

Report No. 8250  
 Filed..... Dec. 4..... 1950  
 Rec. By..... mv  
 Ret'd.....

## Report of Well and Tunnel Driller STATE OF UTAH

(Separate report shall be filed for each well or tunnel)

### GENERAL INFORMATION:

Report of well or tunnel driller is hereby made and filed with the State Engineer, in compliance with Sec. 100-3-22, Utah Code Annotated, 1943. (This report shall be filed with the State Engineer within 30 days after the completion or abandonment of well or tunnel. Failure to file such report constitutes a misdemeanor.)

- Name and address of person, ~~company or corporation~~ ~~drilling~~ well ~~or tunnel~~  
 (Strike words not needed)  
V. P. Larsen, 2547 South St., Salt Lake City, Utah
- Name and address of owner of well ~~or tunnel~~  
 (Strike Words not needed)  
George Larsen, 1066 South State St., Salt Lake City, Utah
- Source of supply is in..... Salt Lake..... County;  
 ..... drainage area;..... artesian basin  
 (Leave blank) underground water claim (Leave blank)
- The number of ~~approved applications~~ to ~~appropriate~~ water is..... C-20890
- Location of well ~~or mouth of tunnel~~ is situated at a point.....  
S. 221.2 ft. & E. 704 ft. from W. Cor. Sec. 7, T1S, R1E, SLM.  
 (Describe by rectangular co-ordinates or by one course and distance with reference to U. S. Government Survey  
 Corner — Copy description from well owner's approved application)
- Date on which work on well ~~or tunnel~~ was begun..... April 20, 1950  
 (Strike words not needed)
- Date on which work on well ~~or tunnel~~ was completed ~~or abandoned~~..... May 22, 1950  
 (Strike words not needed)
- Maximum quantity of water measured as flowing, pumped or..... on completion of  
 (Strike words not needed)  
 well or tunnel in sec. ft.....; or in gals. per minute..... Date.....

### DETAIL OF COLLECTING WORKS:

- WELL: It is drilled, dug, flowing or pump well. Temperature of water..... °F.  
 (Strike words not needed)
  - Total depth of well is..... 1010..... ft. below ground surface.
  - If flowing well, give water pressure (hydrostatic head) above ground surface..... ft.
  - If pump well, give depth from ground surface to water surface before pumping.....  
 .....; during pumping.....
  - Size and kind of casing..... 2" black pipe  
 (If only partially cased, give details)
  - Depth to water-bearing stratum.....  
 (If more than one stratum, give depth to each)
  - If casing is perforated, give depth from ground surface to perforations.....
  - Log of well..... 87' clay; 5' sand; 36' clay 2' sand 40' clay 3' gravel 95' clay; 3' gravel; 40' clay 5' muddy sand 55' clay 6' muddy sand 65' clay 10' muddy sand; 30' clay 4' sand 52' clay from here on down to 260' was little streaks of clay and the remaining hard muddy like sand. Then at 270' we had another streak of gravel. Each of these gravel streaks has about one gallon per minute Water seemed awful.
  - Well was equipped with cap, valve, or..... to control flow.  
 (Strike words not needed)

(Over)

10. TUNNEL: It is timbered, tiled, piped, open, bulkheaded, covered or.....  
(Strike words not needed)

(a) Dimensions.....; total length.....; temperature of water.....°F.

(b) Position of water bearing stratum or strata with reference to mouth of tunnel.....  
.....  
.....

(c) Log of tunnel.....  
.....  
.....  
.....

11. GENERAL REMARKS: (Note any general or detailed information not covered above).

STATE OF UTAH,

COUNTY OF Salt Lake

} ss.

I, V. P. Larsen, being first duly sworn,  
do hereby certify that I am the driller of the aforesaid well or tunnel who furnished the foregoing  
statement of facts; that I have read said statement and each and all of the items therein contained  
are true to the best of my knowledge and belief.

/s/ V. P. Larsen  
Driller

Subscribed and sworn to before me this 4 day of December, 19 50.

(SEAL)

(SEAL)

/s/ Laurence C. Monson  
Notary Public

My Commission Expires:

July 18, 1952



Table 4.—Drillers' logs of selected wells—Continued

Material	Thickness	Depth	Material	Thickness	Depth	Material	Thickness	Depth
(D-4-2)31abd-1.—Continued			(D-5-1)1bcd-1.—Continued			(D-5-1)6bcd-1. Drilled and cored by U.S. Geological Survey. Drilled 0-72, 92-202, 225-240 feet. Cored 72-92, 202-225, 240-293.5 feet. Log by D. W. Clark, G. L. Appel, and P. E. Fairbanks. Alt. 4,537.		
Conglomerate . . . . .	10	183	Clay and gravel, mixed . . . . .	17	299	Clay, brown . . . . .	12	12
Clay and gravel . . . . .	4	187	Sand, gravel, and cobbles, dirty; water . . . . .	15	314	Clay, brown; fine sand . .	13	25
Conglomerate . . . . .	13	200	Sand, gravel, and cobbles, some clay; water . . . .	112	426	Clay, plastic, dark gray . .	15	50
Clay and gravel . . . . .	12	212	Clay and gravel, mixed; water . . . . .	6	432	Clay, gritty, very dark gray . . . . .	32	72
Conglomerate . . . . .	8	220	Gravel and cobbles, cemented . . . . .	39	471	Clay, very dark gray; some sand . . . . .	7.6	79.6
Gravel; streaks of clay . . . . .	10	230	Clay and gravel, mixed . . . . .	43	514	Clay, olive gray; gravel up to 1 inch . . . . .	5	84.6
Conglomerate . . . . .	6	236	Sand and gravel, some clay . . . . .	23	537	Clay and gravel . . . . .	7.4	92.0
Gravel and clay, streaks . . . . .	18	254	Clay and gravel . . . . .	7	544	Clay . . . . .	1	93
Clay, cobbles, and lime . . . . .	18	272	Gravel, dirty . . . . .	14	558	Gravel, coarse . . . . .	1	94
Limestone . . . . .	8	280	(D-5-1)2baa-1. Log by Eldon Comer. Alt. 4,832.			Clay . . . . .	1	95
Clay and gravel . . . . .	12	292	Soil . . . . .	2	2	Gravel, coarse . . . . .	1	96
Clay, gravel, and cobbles . . . . .	8	300	Gravel, cobbles, and boulders . . . . .	16	18	Clay, light brown . . . . .	2.6	98.6
Clay, gravel, and cobbles; some water . . . . .	3	303	Sand and gravel . . . . .	13	31	Gravel, coarse, mostly granitic; water . . . . .	19.4	110
Limestone . . . . .	5	308	Clay, tan . . . . .	14	45	Clay, pinkish gray; some fine sand . . . . .	8	126
Conglomerate . . . . .	48	356	Clay, blue . . . . .	47	92	Sand, fine . . . . .	3	129
Clay and gravel . . . . .	10	366	Clay, sand, gravel, cobbles, and conglomerate, tan . . . . .	66	158	Clay, sand, and gravel . . .	5	134
Clay, gravel, and cobbles . . . . .	16	382	Clay, tan . . . . .	17	175	Clay, pinkish gray . . . . .	6	140
Gravel; packed sand . . .	5	387	Clay, blue . . . . .	28	203	Clay; some sand and gravel stringers . . . . .	10	160
Conglomerate; some water . . . . .	5	392	Clay, sand, gravel, and conglomerate, tan . . . . .	42	245	Clay, sandy, light brown . .	9	159
Conglomerate . . . . .	50	442	Sand and gravel; water . . . . .	55	300	Gravel; some sand and clay . . . . .	16	175
Conglomerate; streaks of limestone . . . . .	6	448	(D-5-1)5cbc-1. Log by Eldon Comer. Alt. 4,566.			Sand and gravel; water . .	5	180
Gravel; streaks of water . . . . .	15	463	Soil . . . . .	3	3	Clay, light brown; some gravel . . . . .	15	195
Limestone . . . . .	38	501	Sand . . . . .	4	7	Clay, gritty, pink . . . . .	2	197
(D-4-2)31bda-1. Log by Eldon Comer. Alt. 4,975.			Clay and sand . . . . .	12	19	Hardpan, fine grained, cemented, calcareous, pink . . . . .	9.6	205.6
Gravel and boulders . . .	375	375	Clay, tan . . . . .	6	25	Clay, brown . . . . .	.5	207.1
Gravel; water . . . . .	5	380	Clay, sandy blue; water . . . . .	30	55	Clay, reddish brown; sand and gravel to 1 inch . . .	1.4	208.5
Gravel and clay . . . . .	38	418	Sand and gravel . . . . .	10	65	Gravel, up to 4 inches, mostly quartzite; some sand . . . . .	3.3	212
Gravel; water . . . . .	6	424	Clay and sand . . . . .	23	88	Sand, reddish brown . . . .	1.5	213.5
Conglomerate . . . . .	111	535	Gravel; water . . . . .	9	97	Gravel, up to 3 inches, quartzite and black limestone; some sandy clay . . . . .	4.0	217.5
Boulders, clay, and gravel . . . . .	77	612	Clay, tan . . . . .	18	115	Sand, light olive brown . . .	.5	218.0
(D-5-1)1bcd-1. Log by Eldon Comer. Alt. 4,853.			Sand . . . . .	15	130	Sand, gravel, and cobbles up to 5 inches, quartzite and limestone; water . .	7	225
Sand, gravel, and boulders . . . . .	22	22	Gravel; water . . . . .	10	140	Sand and gravel . . . . .	8	233
Clay, tan . . . . .	4	26	Clay, tan . . . . .	38	178	Clay, sandy, light brown . .	6	239
Clay, blue . . . . .	56	82	Sand . . . . .	12	190	Hardpan, fine grained, cemented, calcareous, white . . . . .	1	240
Clay and sand, blue . . .	27	109	Gravel; water . . . . .	18	208			
Clay, blue . . . . .	5	114	Clay . . . . .	22	230			
Clay and gravel . . . . .	36	150	Sand and gravel; water . . . . .	12	242			
Gravel; dry . . . . .	26	176	Gravel . . . . .	20	262			
Clay, tan . . . . .	8	184	Clay and gravel, stratified . . . . .	40	302			
Clay and sand, blue . . .	8	192	Clay and gravel, cemented . . . . .	43	345			
Clay and sand; streaks of gravel . . . . .	40	232						
Clay and gravel, mixed . . . . .	46	278						
Sand, gravel, and cobbles; water . . . .	4	282						

\*\*\*\*\* WIN: 000720 \*\*\*\*\*

•&l6D  
•&a130M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@

S 2247 ft E 3842 ft from NW CORNER of SECTION 8 T 4N R 1W BASE SL

Elevation: feet

•&d0DDRILLER ACTIVITIES:•&d@

ACTIVITY # 1 NEW WELL

DRILLER: AAA Drilling

LICENCE #: 531

START DATE: 03/17/1956 COMPLETION DATE: 09/11/1956

ACTIVITY # 2 WELL REPAIR

DRILLER: WIDDISON TURBINE SERVICE

LICENCE #: 533

START DATE: 04/12/1992 COMPLETION DATE: 05/09/1992

•&d0DBOREHOLE INFORMATION:•&d@

Depth(ft) Diameter(in) Drilling Method Drilling Fluid

From To

0 802 12 CABLE

•&d0DLITHOLOGY:•&d@

Depth(ft) Lithologic Description

Color Rock Type

From To

0 4 OTHER

TOP SOIL

4 22

CLAY

YELLOW

22 40

CLAY

BROWN

40 55

SAND

55 240

CLAY

BLUE

240 245

SAND

245 257

CLAY

BLUE

257 260

SAND

260 265

CLAY

BLUE

265 310

SAND

310 365

CLAY

BLUE

365 392

SAND

392 401

CLAY

BROWN

401 440

CLAY

GRAY

440 445

SAND

445 450

CLAY

GRAY

450 495

CLAY

BROWN

495 507

SAND

507 526

HARD SAND

SANDY SHALE

526 536

SAND

536 540

HARD SAND

RED

540 548

SHALE

548 553

RED SHALE

BROWN

553 557

CLAY

BLUE

BLUE

557 560 SAND  
 560 562 HARD SAND  
 560 562 CLAY, SAND  
 562 594 SAND  
 594 597 EXTRA HARD SAND  
 594 597 CLAY  
 BLUE

597 620 BLUE  
 597 620 SAND  
 620 625 HARD SAND  
 625 633 CLAY  
 625 633 SAND  
 633 635 HARD SAND  
 633 635 CLAY  
 BLUE

635 700 BLUE  
 635 700 SAND  
 700 736 HARD SAND  
 736 739 GRAVEL  
 736 739 CLAY, GRAVEL  
 739 745 GRAVEL  
 745 760 SAND, GRAVEL  
 745 760 FINE GRAVEL  
 760 768 GRAVEL  
 768 775 CLAY  
 BROWN

775 802 BROWN  
 775 802 CLAY  
 BLUE

•&d0DWATER LEVEL DATA:•&d@

Date	Time	Water Level (feet) (-)above ground	Status
04/29/1992		381.55	STATIC

•&d0DCONSTRUCTION - CASING:•&d@

Depth(ft) From To	Material	Gage(in)	Diameter(in)
0 280		.313	20
249 462		.313	18
429 596		.313	16
567 802		.313	12

•&d0DCONSTRUCTION - SCREENS/PERFORATIONS:•&d@

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in) Screen Type/# Perf.			
From To			
645 687	PERFORATION	.313	2.5

502 SEE COM.

•&d0DWELL TESTS:•&d@

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
05/09/1992	PUMP TEST	2.005		3.32
05/09/1992	PUMP TEST	3.899		7.80
05/09/1992	PUMP TEST	6.016		17.3
05/09/1992	PUMP TEST	6.907		22.7

•&d0DGENERAL COMMENTS:•&d@

\*CASING -

new perforations - from 645 to 687' 502 perf. size .313 x 2.5"

old perforations - 691 to 733' ?

738 to 744' ?

750 to 766' ?

\*SCREENS - Driller note: "We bailed the well out to 795'. The depth of the casing and the perfs. were taken from the video log done on the well."

\*WELL TESTS - ALSO - pump test yield 2600 gpm with 18.05' drawdown after 39 hours

The approval for repair was evidently never requested or authorized Weber Regional Engineer said it was OK.

Table 3.--Drillers' logs of selected wells - Continued

Material	Thickness	Depth	Material	Thickness	Depth	Material	Thickness	Depth
SOUTHERN UTAH VALLEY - Continued								
(D-9-3)5bhd-1. Log by Eldon Comer. Alt. 4,685 ft.			(D-10-1)1acd-2 - Continued			(D-10-1)11bhd-1. Log by Eldon Comer. Alt. 5,020 ft.		
Topsoil	3	3	Clay, yellow	8	11	Soil	5	5
Gravel and cobbles	12	15	Clay and gravel	4	15	Clay, tan	3	8
Sand and gravel	18	33	Gravel	38	53	Gravel	34	42
Clay, blue, and sand	227	260	Boulders	25	78	Clay, blue, and sand	14	56
Clay, gravel, and hardpan	30	290	Gravel	20	98	Hardpan	24	80
Sand, gravel, and cobbles; water	50	340	Clay and gravel	38	136	Clay, tan, and gravel	62	142
Clay, tan	8	348	Gravel	24	160	Sand and gravel	15	157
Clay and gravel, cemented	4	352	Clay and boulders	8	168	Clay, red	11	168
Clay, yellow	49	401	Sand and gravel	7	175	Sand and gravel	46	214
Clay, blue	32	433	Gravel	18	193	Clay, red	12	222
Clay, yellow, and sand	64	497	Clay and gravel	7	200	Clay and gravel	12	238
Clay and gravel, mixed	3	500	Gravel	23	223	Clay, tan	4	242
Sand, gravel, and cobbles	12	512	Clay and gravel	258	481	Clay and gravel	26	268
Sand, gravel, and cobbles, good	77	589	Gravel and boulders	50	531	Clay, gravel, and boulders	32	300
Clay, tan	31	620	Gravel	24	555	Boulders and conglomerate	32	332
(D-10-1)1acd-2. Log by D. V. Robinson. Alt. 4,920 ft.			Clay and gravel	4	559	Clay, sand, and gravel; water	93	425
Topsoil	3	3	Gravel	30	589	Sand and boulders	33	458
			Conglomerate	17	606	Clay and boulders	12	470
			Clay and gravel	6	612	Sand rock, gray	30	500
			Conglomerate	65	677			
GOSHEN VALLEY								
(C-8-1)16cbb-1. Log by J. T. Woodhouse and Sons. Alt. 4,545 ft.			(C-10-1)4cbb-1 - Continued			(C-10-1)29cdd-1 - Continued		
Topsoil	3	3	Sand, coarse, small gravel, some pyrite	38	797	Sand and gravel; water	2	698
Clay, white	2	5	Clay, sandy	5	802	Clay, tan	30	728
Clay, brown	20	25	Sand, coarse, and small gravel	27	829	Sand and gravel; water	3	731
Clay, white	25	50	Sand	1	830	Clay and gravel, mixed	29	760
Clay, brown, rocks	8	58	Clay and some gravel	40	870	Sand and gravel; water	2	762
Sand, fine; water	2	60	Clay breaks, sand, and gravel	18	888	Clay, brown	8	770
Clay, brown, and rock	60	120	Clay, hard, red	32	920	Clay, sand, and gravel streaks; water	9	779
Clay, light red, tough	80	200	Gravel, sand, and clay	5	925	Clay and gravel streaks; water	23	802
Clay, white	35	235	Clay, hard, and little gravel	69	994	Sand and gravel, good	13	815
Clay, brown, and rock	65	300	Rock, red and black, streaks of sand and gravel	37	1,031	Clay and gravel streaks	47	862
Sandstone, solid rock	45	345	Clay, hard, red and green	10	1,041			
Shale, white, red and gray with intervening solid limestone ribs	47	392	Clay and sandy clay	20	1,061	(C-10-1)33cbb-1. Log by Scott Stephenson. Alt. 4,680 ft.		
(C-9-1)4dde-1. Log by D. V. Robinson. Alt. 4,570 ft.			Clay, sticky	15	1,076	Surface	40	40
Clay, yellow	33	33	Clay, hard, and some gravel	66	1,142	Clay, gray	80	122
Clay and sand	47	80	Clay streaks, sandy clay and small gravel	26	1,168	Clay, brown	25	145
Gravel; water at 86 feet	10	90	Clay, hard	3	1,171	Gravel; surface water at 145 ft.	15	160
Sand	22	112	Clay, sandy	6	1,177	Clay, silt, and sand	10	170
Clay and sand	78	190	Clay, hard	7	1,184	Clay and gravel	10	180
Clay and gravel	35	225	Clay, sandy	3	1,187	Gravel, good	17	197
Clay, red	10	235	Gravel, thin layers of hard rock	13	1,200	Clay and gravel	15	212
Clay and gravel	5	240	Shale, hard, red, some green shale	18	1,218	Gravel	98	310
Gravel	5	245				Clay	3	313
Clay and gravel	110	355	(d-10-1)29cdd-1. Log by C. M. Stephenson to 574 ft. and by Eldon Comer 575 to 862 ft.			Clay and gravel in layers	53	366
Hardpan	5	360	Alt. 4,680 ft.			Clay, silt, and gravel	94	460
Clay and gravel	120	480	Topsoil	35	35	Clay	35	495
Clay and sand	12	492	Clay, gray	5	40	Clay and gravel in layers, cemented	9	504
Clay, yellow, and gravel	78	570	Gravel, small	25	65	Clay, brown, and small gravel	14	518

\*\*\*\*\* WIN: 002927 \*\*\*\*\*

•&l6D  
•&a130M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@  
N 636 ft E 2492 ft from SW CORNER of SECTION 31 T 5N R 1W BASE SL  
Elevation: feet  
•&d0DDRILLER ACTIVITIES:•&d@  
ACTIVITY # 1 WELL DEEPENING  
DRILLER: PETERSEN BROTHERS DRILLING CO INC LICENCE #: 249  
START DATE: 04/12/1994 COMPLETION DATE: 05/09/1994  
•&d0DBOREHOLE INFORMATION:•&d@  
Depth(ft) Diameter(in) Drilling Method Drilling Fluid  
From To  
970 1288 16.0 CABLE TOOL NONE  
1288 1395 12.0 CABLE TOOL NONE  
•&d0DLITHOLOGY:•&d@  
Depth(ft) Lithologic Description  
Color Rock Type  
From To  
970 990 SILT,SAND,GRAVEL  
TAN/BROWN  
GRAVEL PACK FROM ORIGINAL DRILLED WELL  
990 1026 SILT,SAND,GRAVEL  
TAN/BROWN  
1/8" TO 3/8" GRAVELS  
1026 1044 GRAVEL,COBBLES,BOULDERS  
TAN/BROWN  
LARGE COBBLES AND GRAVELS (5 DAY PUMP TEST)  
1044 1109 GRAVEL,COBBLES,BOULDERS  
TAN/BROWN  
LARGE COBBLES AND GRAVELS (5 DAY PUMP TEST)  
1109 1112 CLAY,SAND,GRAVEL  
TAN/BROWN  
PEA GRAVELS  
1112 1143 CLAY,SAND  
FREE FLOWING SAND (HARD CLAY AREAS)  
1143 1193 CLAY,SAND  
VERY FIRM-CEMENTED  
1193 1200 CLAY,GRAVEL  
(5 DAY PUMP TEST)  
CASING JACKS VERY HARD USING 3100 PSI  
1200 1208 CLAY,SAND,GRAVEL  
TAN/BROWN  
ANT SIZE GRAVELS (USING 2800 PSI)  
1208 1242 WATER-BEARING,SAND,GRAVEL  
TAN/BROWN  
DRILLS EASY  
1242 1294 WATER-BEARING,GRAVEL,COBBLES,BOULDERS  
TAN/BROWN  
WATER ZONE (5 DAY PUMP TEST)  
1294 1365 CLAY  
BLUE/GREEN  
HARD AND STICKY  
1365 1389 CLAY  
BLUE/GREEN  
NO WATER  
1389 1395 CLAY,SAND  
BLUE/GREEN  
DECOMPOSED BAILED BLACK COLOR  
•&d0DWATER LEVEL DATA:•&d@  
Date Time Water Level (feet) Status  
(-)above ground  
05/09/1994 506.00 STATIC  
•&d0DCONSTRUCTION - CASING:•&d@  
Depth(ft) Material Gage(in) Diameter(in)  
From To  
0 496 A53B .375 20.0  
496 860 A53B .375 18.0  
860 1288 A53B .375 16.0  
1288 1363 A53B .375 12.0  
•&d0DCONSTRUCTION - SCREENS/PERFORATIONS:•&d@  
Depth(ft) Screen(S) or Perforation(P) Slot/Perf. siz Screen Diam/Length  
Perf(in) Screen Type/# Perf.  
From To  
1246 1286 PERFORATION .375 3.00  
12 PER ROUND  
•&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS•&d@

Depth(ft)	Material	Amount	Density(pcf)
From	To		
496	1000	GROUTED BEHIND 18" LNR	

•&d0DWELL TESTS:•&d@

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
03/01/1994		7.130	42	153

•&d0DGENERAL COMMENTS:•&d@

CONSTRUCTION INFORMATION:

Well head configuration: Installed 700 HP Submersible Pump 720'  
 Casing joint type: Welded Perforator used: 16" mills knife  
 Bottom Hole 1395' Note: cement plug set from 1363' up to 1355'  
 Filter Pack: Grouted behind 18" steel liner cement/sand/silica  
 Well Development: Method: 16" bowls - 12" column 750' setting  
 Pump: 700 HP Sub - 720' setting Pump Rate: 3200 GPM  
 Well disinfected: Yes  
 Comments: Ceiling of vault was shored up - 36-L B E cable tool  
 Method - 18" .250 wall 80' long liner was set in bottom to seal out  
 existing silica gravel pack - 16" casing was perforated 12" above  
 drive shoe for Zone water quality testing - Four zone testing  
 were performed - Casing was jacked in using scow for quality

formation.

sampling of

Additional data not available

\*\*\*\*\* WIN: 003077 \*\*\*\*\*

•&l6D  
•&al30M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@  
S 1563 ft W 2013 ft from NE CORNER of SECTION 6 T 2N R 1E BASE SL  
Elevation: feet  
•&d0DDRILLER ACTIVITIES:•&d@  
ACTIVITY # 1 NEW WELL  
DRILLER: PETERSEN BROTHERS DRILLING CO INC LICENCE #: 249  
START DATE: 05/20/1986 COMPLETION DATE: 10/20/1986  
•&d0DBOREHOLE INFORMATION:•&d@  
Depth(ft) Diameter(in) Drilling Method Drilling Fluid  
From To  
0 593 16.0 CABLE  
•&d0DLITHOLOGY:•&d@  
Depth(ft) Lithologic Description  
Color Rock Type  
From To  
0 4 SILT,SAND,COBBLES,BOULDERS  
TOUGH  
4 11 CLAY,SAND,GRAVEL  
11 18 BOULDERS  
18 42 CLAY,GRAVEL,COBBLES,BOULDERS  
42 82 CLAY,SAND,GRAVEL,BOULDERS  
3/8" TO 4" DIAMETER  
82 86 CLAY,SILT,SAND,GRAVEL  
3/8" TO 1/2"  
86 97 CLAY,GRAVEL,COBBLES,BOULDERS  
97 110 CLAY,GRAVEL,COBBLES  
110 144 CLAY,BOULDERS  
144 160 CLAY,GRAVEL  
160 175 CLAY,GRAVEL  
BROWN  
175 210 BROWN 1/4" TO 1-1/2"  
CLAY,GRAVEL  
BROWN  
210 216 LOOSE-BROWN  
GRAVEL  
3/8 TO 3" DIA  
216 227 CLAY,GRAVEL  
HARD  
227 229 CLAY  
SOME SMALL GRAVEL  
229 277 GRAVEL,BOULDERS  
2" TO 6"-BOULDERS  
277 299 SAND,GRAVEL  
2" -  
299 419 CLAY,GRAVEL,BOULDERS  
GREY  
419 593 GREY IN COLOR-TOUGH  
CLAY,GRAVEL,COBBLES,BOULDERS  
HARD-OPEN HOLE  
NOTE: ROCKS ROLLED DENTS IN 16" CASING 12 TIMES-HAD TO SWEDGE OUT-  
PINCHED 16" DRIVE SHOE 4 TIMES-SHOE SPLIT-COULD NOT DRIVE BEYOND 445'  
•&d0DWATER LEVEL DATA:•&d@  
Date Time Water Level (feet) Status  
(-)above ground  
10/01/1986 9.00 STATIC  
•&d0DCONSTRUCTION - CASING:•&d@  
Depth(ft) Material Gage(in) Diameter(in)  
From To  
0 445 NEW .375 16.0  
430 500 NEW .312 14.0  
590 593 NEW .307 10.0  
•&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS•&d@  
Depth(ft) Material Amount Density(pcf)  
From To  
0 105 CEMENT  
•&d0DWELL TESTS:•&d@  
Date Test Method Yield (CFS) Drawdown (ft) Time Pumped (hrs)  
10/20/1986 PUMP 5.570 85 35  
•&d0DGENERAL COMMENTS:•&d@  
Perforations: Mills 3/8 x 3"  
Additional data not availalbe

\*\*\*\*\* WIN: 003100 \*\*\*\*\*

•&l6D  
•&a130M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@

N 1100 ft E 1160 ft from SW CORNER of SECTION 3 T 4N R 1W BASE SL

Elevation: feet

•&d0DDRILLER ACTIVITIES:•&d@

ACTIVITY # 1 WELL REPAIR

DRILLER: NICKERSON COMPANY INC

LICENCE #: 678

START DATE: / / COMPLETION DATE: / /

ACTIVITY # 2 NEW WELL

DRILLER: LAYNE CHRISTENSEN COMPANY

LICENCE #: 188

START DATE: 06/12/1986 COMPLETION DATE: 11/01/1986

•&d0DBOREHOLE INFORMATION:•&d@

Depth(ft) Diameter(in) Drilling Method Drilling Fluid

From To

0 964 16.0 ROTARY

•&d0DLITHOLOGY:•&d@

Depth(ft) Lithologic Description

Color Rock Type

From To

0 20 CLAY,SAND

20 232 CLAY

232 610 CLAY,SILT,SAND

VERY FINE SAND & SILT

610 655 CLAY

655 731 CLAY,SAND

731 886 GRAVEL

CEMENTED/FRACTURED

886 952 CLAY,SAND

952 964

CEMENTED/EXTREMELY HARD

•&d0DWATER LEVEL DATA:•&d@

Date Time Water Level (feet) Status

(-)above ground

10/26/1986 578.00 STATIC

•&d0DCONSTRUCTION - SCREENS/PERFORATIONS:•&d@

Depth(ft) Screen(S) or Perforation(P) Slot/Perf. siz Screen Diam/Length

Perf(in) Screen Type/# Perf.

From To

572 947 SCREEN .030 16.0

SS JOHNSON

•&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS:•&d@

Depth(ft) Material Amount Density(pcf)

From To

0 100 CEMENT

•&d0DWELL TESTS:•&d@

Date Test Method Yield (CFS) Drawdown (ft) Time Pumped (hrs)

11/01/1986 PUMP TEST 1.448 20 3.5

•&d0DGENERAL COMMENTS:•&d@

Additional data not available

\*REPAIR WELL LOG RECIEVED 05/11/1999

START: no data

FINISH: no data

BOREHOLE: no data

LITHO: no data

WATER LEVEL:

Date: 03/15/1999

Water Level: 581 feet

Flowing: No

Method of Measurement: video

PSI: no data

Point of Measurement:top of casing

Height above Ground: no data

Temperature: no data

CASING: no data

SCREEN: no data

Well Head configuration: no data

Casing Joint Type: no data

Perforator Used: no data

FILTER PACK: no data

WELL DEVELOPMENT: no data

PUMP: no data

COMMENTS: video Brushed well 8 hrs. Bailed well to 929' Re-video

Additional data not available



\*\*\*\*\* WIN: 003457 \*\*\*\*\*

•&l6D  
•&a130M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@  
S 1012 ft E 704 ft from N4 CORNER of SECTION 27 T 4N R 1W BASE SL  
Elevation: feet  
•&d0DDRILLER ACTIVITIES:•&d@  
ACTIVITY # 1 NEW WELL  
DRILLER: STODDARD DRILLING, G J LICENCE #: 41  
START DATE: 07/07/1993 COMPLETION DATE: 09/22/1993  
•&d0DBOREHOLE INFORMATION:•&d@  
Depth(ft) Diameter(in) Drilling Method Drilling Fluid  
From To  
0 997 8.75 ROTARY (MUD) BENTONITE  
•&d0DLITHOLOGY:•&d@  
Depth(ft) Lithologic Description  
Color Rock Type  
From To  
0 3 OTHER  
BLACK TOP SOIL  
TOP SOIL  
3 181 CLAY  
BROWN  
181 185 BROWN STICKY  
GRAY SAND, GRAVEL  
185 405 1" TO 3"  
BLUE CLAY  
405 412 BLUE STICKY  
RED SAND, GRAVEL  
412 445 CEMENTED SAND & GRAVEL (TIGHT)  
RED CLAY, GRAVEL  
445 451 CONGLOMERATE  
BLUE CLAY  
451 454 BLUE STICKY  
RED SAND, GRAVEL  
454 475 CEMENTED  
RED WATER-BEARING, LOW-PERMEABILITY, CLAY, GRAVEL  
475 580 CONGLOMERATE SOME WATER  
BROWN CLAY  
580 583 BROWN STICKY  
RED/BROWN WATER-BEARING, HIGH-PERMEABILITY, GRAVEL  
583 600 LOOSE 1/2 TO 2"  
BROWN CLAY, GRAVEL  
600 660 CONGLOMERATE  
BROWN WATER-BEARING, LOW-PERMEABILITY, SAND, GRAVEL  
660 679 CEMENTED  
RED/BROWN CLAY, SAND  
679 735 SOFT  
BROWN LOW-PERMEABILITY, GRAVEL  
735 786 CONGLOMERATE  
BROWN SAND  
786 789 CEMENTED  
BROWN CLAY  
789 797 BROWN  
BROWN CLAY, GRAVEL  
797 860 CONGLOMERATE  
BROWN CLAY  
860 875 BROWN  
BROWN WATER-BEARING, HIGH-PERMEABILITY, CLAY, SAND, GRAVEL

875 938 CONGLOMERATE  
BROWN CLAY

938 945 BROWN STICKY  
RED/BROWN WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL

945 967 1/2 TO 2"  
BROWN LOOSE  
CLAY

967 974 BROWN STICKY  
RED/BROWN WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL

974 980 1/2 TO 2"  
BROWN LOOSE  
CLAY

980 991 BROWN STICKY  
RED/BROWN WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL

991 997 1/2 TO 2" LOOSE  
BROWN CLAY, GRAVEL

CONGLOMERATE  
•&d0DWATER LEVEL DATA:•&d@

Date	Time	Water Level (feet) (-)above ground	Status
09/22/1993		123.00	

•&d0DCONSTRUCTION - CASING:•&d@

Depth(ft) From To	Material	Gage(in)	Diameter(in)
0 630	BLACK PLAIN END	.277	8.00

•&d0DCONSTRUCTION - SCREENS/PERFORATIONS:•&d@

Perf(in)	Screen Type/#	Depth(ft) From To	Screen(S) or Perforation(P) Perf.	Slot/Perf. siz	Screen Diam/Length
TORCH CUT		180 185	PERFORATION	.125	6.00
TORCH CUT		402 410	PERFORATION	.125	6.00
TORCH CUT		450 470	PERFORATION	.125	6.00
TORCH CUT		579 585	PERFORATION	.125	6.00
TORCH CUT		600 615	PERFORATION	.125	6.00

•&d0DWELL TESTS:•&d@

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
09/20/1993	PUMPED W/AIR	.134	60	35

•&d0DGENERAL COMMENTS:•&d@

CONSTRUCTION INFORMATION:  
Well head Configuration: Cap Casing Joint type: Welded  
Perforator used: No  
PUMP: Submersible 3" collum Pipe Horsepower: 10  
Intake Depth: 357 feet Approx Pump Rate: 60 to 70 GPM  
Well disinfected: Yes  
No additional data available

**Table 4.—Drillers' logs of selected wells**

[See text for explanation of numbering system for hydrologic-data sites. Altitude (Alt.) is land surface altitude. Surveyed altitudes given in feet and decimal fractions; altitudes interpolated from U.S. Geological Survey topographic maps given in full feet.]

**Thickness:** Thickness of unit in feet.

**Depth:** Depth to bottom of unit, in feet, below land surface. Total depth of log may be greater than the depth of well given in tables 1 and 3 because the drilled depth may have been greater than the depth of the completed well.

Material	Thickness	Depth	Material	Thickness	Depth	Material	Thickness	Depth
<b>(C-4-1)26aad-1.</b> Log by J. S. Lee and Sons. Alt. 4,632.			<b>(C-5-1)15aac-1—Continued.</b>			<b>(D-4-1)13acb-1.</b> Log by J. S. Lee and Sons. Alt. 5,190.		
Clay and gravel	8	8	Sand, gravel, and conglomerate.	45	170	Soil	4	4
Gravel, dry	30	38	Clay, tan	6	176	Clay and gravel	6	10
Clay, brown	14	52	Clay, sand, gravel, and conglomerate.	51	227	Boulders	25	35
Gravel, dry	112	164	Clay, tan	7	234	Conglomerate	120	155
Clay, blue	31	195	Clay, gravel, and conglomerate, tan	22	256	Gravel	1	156
Gravel; water	19	214				Conglomerate	59	215
Clay, black	5	219				Gravel	1	216
Gravel, cemented	3	222	<b>(C-5-1)22cdb-1.</b> Log by Paul B. Billings. Alt. 4,637.5.			Conglomerate	219	435
Gravel; water	29	251	Clay	13	13	Clay, sandy with rock	20	455
Clay and gravel	12	263	Clay, sand, gravel, cobbles, and boulders	3	16	Clay, gravel, and boulders	160	615
Conglomerate	6	269	Clay, sand, gravel, and cobbles	9	25			
Clay, sticky	5	274	Boulders	1	26			
Clay and gravel	5	279	Clay, sand, and gravel.	4	30	<b>(D-4-1)25ddb-1.</b> Log by Cecil M. Stephenson. Alt. 4,932.		
Clay, brown	63	342	Clay and sand	3	33	Soil	5	5
Clay, green	18	360	Clay, sand, gravel, and cobbles	2	35	Gravel, cobbles, and boulders	17	22
Clay and gravel	16	376	Sand, gravel, and cobbles.	7	42	Clay, sand, and gravel.	36	58
Clay, brown	4	380	Clay, sand, gravel, and cobbles	64	106	Gravel, cobbles	123	181
Clay, gray	36	416	Limestone; small clay layers	94	200	Clay, sandy	63	244
Clay, brown	20	436				Gravel, cemented	21	265
Clay and gravel	89	525	<b>(C-5-1)24dbc-1.</b> Log by Eldon Comer. Alt. 4,492.			Clay and gravel	90	355
Clay and sand, in layers; water	15	540	Soil	3	3	Gravel, cemented	30	385
			Clay, blue	62	65	Conglomerate	13	398
<b>(C-5-1)11cab-1.</b> Log by Paul Comer. Alt. 4,627.			Sand	2	67	Clay and gravel	16	414
Soil	2	2	Sand and gravel, dirty; water	14	81	Gravel, cemented; hard clay	64	478
Clay, tan	20	22	Clay, tan	37	118	Clay, hard; gravel	73	551
Clay, sand, and gravel, tan.	21	43	Gravel, fine; water	7	125	Clay and gravel	20	571
Clay, tan	44	87	Clay, tan	26	151	Gravel, cemented	35	606
Clay, gravel, and conglomerate, tan	37	124	Gravel, dirty; water	9	160	Clay, hard; limestone	9	615
Sand, gravel, and conglomerate, tan	45	169	Clay, tan	13	173	Clay and gravel	9	624
Clay, tan	4	173	Clay, sand, and gravel, tan.	8	181	Clay, hard; layers of limestone	10	634
Clay, sand, gravel, and conglomerate, tan	28	201	Clay, tan	16	197	Clay, soft, tan	2	636
			Clay and gravel, dirty; water	25	222	Clay, hard; limestone	28	664
<b>(C-5-1)15aac-1.</b> Log by Paul Comer. Alt. 4,630.9.			Clay, tan	15	237	Clay; streaks of gravel	39	703
Soil	3	3	Clay, sand, and gravel, conglomerate.	133	370	Clay; some gravel	12	715
Clay, tan	22	25	Clay	30	400	Clay, hard; limestone	150	865
Clay, sand, and gravel, tan	16	41				Limestone and quartz	20	885
Clay, tan	51	92				Clay, hard; limestone	50	935
Clay, gravel, and conglomerate.	27	119				Limestone and quartz	97	1,032
Clay, tan	6	125				Clay, hard; limestone, quartz.	8	1,040
						Limestone and quartz	37	1,077

**Table 4.—Drillers' logs of selected wells—Continued**

Material	Thickness	Depth	Material	Thickness	Depth	Material	Thickness	Depth
<b>(D-4-1)26aac-1.</b> Log by J. G. Lee. Alt. 4,923.			<b>(D-4-1)33cdc-1.</b> Log by Paul Comer. Alt. 4,777.			<b>(D-4-2)18bdd-1.</b> —Continued		
Soil . . . . .	2	2	Soil . . . . .	2	2	Sand and gravel . . . . .	32	72
Clay and gravel . . . . .	63	65	Sand and gravel . . . . .	16	18	Clay, sand, gravel, and cobbles . . . . .	23	95
Sand and gravel . . . . .	37	102	Sand . . . . .	45	63	Gravel and cobbles, cemented . . . . .	62	157
Clay and sand . . . . .	92	194	Clay, blue . . . . .	87	150	Clay and gravel . . . . .	4	161
Clay and gravel . . . . .	82	276	Clay and sand, blue, in layers . . . . .	48	198	Gravel and cobbles, cobbles . . . . .	39	200
Clay and sand; water . . . . .	44	320	Sand and gravel; dry . . . . .	45	243	Sand and gravel, dirty . . . . .	20	220
Clay, silt, and sand . . . . .	62	382	Sand and gravel; water . . . . .	16	259	Gravel . . . . .	15	235
Clay and sand . . . . .	48	430	Clay and gravel . . . . .	9	268	Sand and gravel, dirty . . . . .	71	306
Sand and gravel . . . . .	22	452	Sand and gravel; water . . . . .	12	280	Clay and gravel . . . . .	47	353
Clay, sand, and gravel . . . . .	11	463	<b>(D-4-1)36adc-1.</b> Log by Cecil M. Stephenson. Alt. 4,935.			Granite . . . . .	12	365
Conglomerate . . . . .	142	605	Soil . . . . .	1	1	<b>(D-4-2)19ccb-1.</b> Log by J. S. Lee and Sons. Alt. 4,955.		
Granite . . . . .	10	615	Gravel, cobbles, and boulders . . . . .	54	55	Soil . . . . .	10	10
<b>(D-4-1)31cbb-2.</b> Log by Eldon Comer. Alt. 4,605.			Clay, sandy . . . . .	2	57	Clay and gravel, brown . . . . .	9	19
Soil . . . . .	2	2	Gravel and cobbles . . . . .	43	100	Sand, coarse . . . . .	16	35
Clay and gravel . . . . .	6	8	Gravel, cobbles, and boulders . . . . .	43	143	Sand and gravel, coarse . . . . .	44	79
Clay, tan . . . . .	20	28	Gravel, cobbles . . . . .	47	190	Clay, sand, and gravel, brown . . . . .	26	105
Clay, blue . . . . .	19	47	Clay, sand, and gravel . . . . .	49	239	Sand and gravel, coarse . . . . .	62	167
Clay and sand, blue . . . . .	9	56	Clay, gravel, and cobbles . . . . .	112	351	Clay, sand, and gravel, brown . . . . .	133	300
Clay, blue . . . . .	88	144	Gravel and cobbles; some water . . . . .	9	360	Conglomerate . . . . .	35	335
Sand and gravel . . . . .	15	159	Clay and gravel; water . . . . .	20	380	Conglomerate, sandy . . . . .	25	360
Clay, tan . . . . .	11	170	Clay; small gravel . . . . .	6	386	Conglomerate . . . . .	84	444
Gravel, dirty . . . . .	22	192	Gravel; layers of clay . . . . .	17	403	Clay and gravel, brown . . . . .	23	467
Clay, tan . . . . .	8	200	Gravel . . . . .	2	405	Conglomerate . . . . .	23	490
Sand and gravel, dirty . . . . .	12	212	Clay and gravel . . . . .	4	409	Sand and gravel, cemented . . . . .	11	501
Clay and gravel . . . . .	16	228	Gravel, cemented . . . . .	122	531	Conglomerate . . . . .	122	623
Clay . . . . .	12	240	Clay, hard; sand and fine gravel . . . . .	3	534	Granite . . . . .	27	650
Sand and gravel . . . . .	12	252	Gravel, cemented . . . . .	18	552	<b>(D-4-2)31abd-1.</b> Log by Ben R. Gardner. Alt. 4,980.		
Clay, tan . . . . .	11	263	Limestone; streaks of clay . . . . .	14	566	Gravel and cobbles . . . . .	14	14
Gravel . . . . .	5	268	Gravel, cemented; limestone and hard clay . . . . .	11	577	Boulders, large . . . . .	20	34
Clay, tan . . . . .	8	276	<b>(D-4-1)36cab-1.</b> Log by George Roberts. Alt. 4,903.			Boulders . . . . .	8	42
Sand and gravel . . . . .	13	289	Boulders and gravel . . . . .	28	28	Clay, gravel, and cobbles . . . . .	23	65
Clay, tan . . . . .	29	318	Clay, sandy . . . . .	90	118	Gravel, large . . . . .	5	70
Clay and gravel . . . . .	17	335	Boulders and gravel . . . . .	57	175	Clay and cobbles . . . . .	5	75
Clay, tan . . . . .	23	358	Sand and clay; some gravel . . . . .	33	208	Cobbles and boulders; some water . . . . .	3	78
Gravel, dirty . . . . .	22	380	Sand and gravel; dry . . . . .	104	312	Gravel; some water . . . . .	6	84
Clay, tan . . . . .	19	399	Gravel and boulders; water . . . . .	158	470	Gravel and cobbles . . . . .	8	92
Gravel, dirty . . . . .	91	490	Conglomerate, clay and gravel . . . . .	30	500	Gravel and cobbles, large . . . . .	4	96
<b>(D-4-1)32dbb-1.</b> Log by Eldon Comer. Alt. 4,740.			<b>(D-4-2)18bdd-1.</b> Log by J. S. Lee and Sons. Alt. 5,230.			Boulders . . . . .	4	100
Clay, tan . . . . .	32	32	Cobbles . . . . .	10	10	Gravel and cobbles . . . . .	16	116
Clay, blue . . . . .	20	52	Clay, gravel, and cobbles . . . . .	30	40	Gravel; streaks of clay . . . . .	12	128
Clay and sand, tan . . . . .	48	100				Gravel and cobbles . . . . .	12	140
Clay and gravel, tan . . . . .	75	175				Clay and gravel . . . . .	33	173
Sand and gravel; water . . . . .	23	198						
Clay, tan . . . . .	2	200						
Gravel . . . . .	51	251						
Clay, tan . . . . .	19	270						
Gravel . . . . .	9	279						
Clay; scattered gravel . . . . .	22	301						
Clay and sand . . . . .	23	324						
Clay; scattered gravel . . . . .	31	355						
Conglomerate . . . . .	55	410						

Examined W.K.K.  
Recorded: B. C. W.K.K. T. W.K.K.  
Inspection Sheet \_\_\_\_\_  
Copied \_\_\_\_\_

REPORT OF WELL DRILLER  
STATE OF UTAH

Change No. A-8647  
Application No. 31714-A (55-5642)  
Claim No. \_\_\_\_\_  
Coordinate N-5-2 27000

GENERAL STATEMENT: Report of well driller is hereby made and filed with the State Engineer, in accordance with the laws of Utah. (This report shall be filed with the State Engineer within 30 days after the completion or abandonment of the well. Failure to file such reports constitutes a misdemeanor.)

(1) WELL OWNER:  
Name Pleasant Grove City  
Address Pleasant Grove, Utah

(2) LOCATION OF WELL:  
County Utah Ground Water Basin \_\_\_\_\_  
(leave blank)  
608 feet, 192 feet from N 1/4 Corner  
South \_\_\_\_\_ West \_\_\_\_\_  
of Section 27, T 5, R 2 E SLBM (strike  
out words not needed)

(3) NATURE OF WORK (check): New Well ☒  
Replacement Well ☐ Deepening ☐ Repair ☐ Abandon ☐  
If abandonment, describe material and procedure: \_\_\_\_\_

(4) NATURE OF USE (check):  
Domestic ☐ Industrial ☐ Municipal ☒ Stockwater ☐  
Irrigation ☐ Mining ☐ Other ☐ Test Well ☐

(5) TYPE OF CONSTRUCTION (check):  
Rotary ☐ Dug ☐ Jetted ☐  
Cable ☒ Driven ☐ Bored ☐

(6) CASING SCHEDULE: Threaded ☐ Welded ☒  
20 " Diam. from 0 feet to 108 feet Gage. 250  
16 " Diam. from 0 feet to 573 1/2 feet Gage. 375  
" Diam. from \_\_\_\_\_ feet to \_\_\_\_\_ feet Gage. \_\_\_\_\_  
New ☒ Reject ☐ Used ☐

(7) PERFORATIONS: Perforated? Yes ☒ No ☐  
Type of perforator used Mills  
Size of perforations 3 inches by 1/4 inches  
984 perforations from 529 feet to 570 feet  
perforations from (12 holes around  
every 6") feet to \_\_\_\_\_ feet  
perforations from \_\_\_\_\_ feet to \_\_\_\_\_ feet  
perforations from \_\_\_\_\_ feet to \_\_\_\_\_ feet

(8) SCREENS: Well screen installed? Yes ☐ No ☐  
Manufacturer's Name \_\_\_\_\_  
Type \_\_\_\_\_ Model No. \_\_\_\_\_  
Diam. \_\_\_\_\_ Slot size \_\_\_\_\_ Set from \_\_\_\_\_ ft. to \_\_\_\_\_  
Diam. \_\_\_\_\_ Slot size \_\_\_\_\_ Set from \_\_\_\_\_ ft. to \_\_\_\_\_

(9) CONSTRUCTION:  
Was well gravel packed? Yes ☐ No ☐ Size of gravel: \_\_\_\_\_  
Gravel placed from \_\_\_\_\_ feet to \_\_\_\_\_ feet  
Was a surface seal provided? Yes ☒ No ☐  
To what depth? 120 feet  
Material used in seal: Cement (Between 20" & 16")  
Cemented 107" outside of 20"  
Did any strata contain unusable water? Yes ☐ No ☒  
Type of water: \_\_\_\_\_ Depth of strata \_\_\_\_\_  
Method of sealing strata off: \_\_\_\_\_

(10) WATER LEVELS:  
Static level 498 feet below land surface Date 6/18/76  
Artesian pressure \_\_\_\_\_ feet above land surface Date \_\_\_\_\_

LOG RECEIVED: (11) FLOWING WELL:  
Controlled by (check) Valve ☐  
Cap ☐ Plug ☐ No Control ☐  
Does well leak around casing? Yes ☐  
No ☐

(12) WELL TESTS: Drawdown is the distance in feet the water level is lowered below static level.  
Was a pump test made? Yes ☒ No ☐ If so, by whom? Rhodes Bros.  
Yield: \_\_\_\_\_ gal./min. with \_\_\_\_\_ feet drawdown after \_\_\_\_\_ hours  
" " " " " "  
" " " " " "  
Bailer test None gal./min. with \_\_\_\_\_ feet drawdown after \_\_\_\_\_ hours  
Arterian flow \_\_\_\_\_ g.p.m. Date \_\_\_\_\_  
Temperature of water \_\_\_\_\_ Was a chemical analysis made? No ☐ Yes ☐

(13) WELL LOG: Diameter of well 16 inches  
Depth drilled 580 feet. Depth of completed well 580 feet.

NOTE: Place an "X" in the space or combination of spaces needed to designate the material or combination of materials encountered in each depth interval. Under REMARKS make any desirable notes as to occurrence of water and the color, size, nature, etc., of material encountered in each depth interval. Use additional sheet if needed.

DEPTH		MATERIAL										REMARKS
From	To	Clay	Silt	Sand	Gravel	Cobbles	Boulders	Hardpan	Conglomerate	Bedrock	Other	
0	4			X	X							Topsoil.
4	12	X	X	X		X						
12	15	X		X	X							
15	33	X		X	X		X					
33	38	X		X	X							
38	70	X		X	X		X					
70	81	X					X					
81	89	X			X		X					
89	94	X		X	X							
94	121	X			X		X					
121	138	X		X	X		X					
138	143						X					
143	198				X		X					Loose.
198	240	X		X	X		X					
240	255				X		X					Loose.
255	273	X										
273	280				X		X					Water.
280	296	X			X		X					
296	330	X			X							Brown.
330	337	X			X							Blue.
337	348	X			X		X					
348	382						X					
382	395	X			X		X					Brown.
395	405	X										Blue
405	428	X			X		X					Brown
428	452						X					
452	535											Bedrock, Fractured Limestone.
535	550											Fractured Lime & Water.
550	574											Lime. Not Fractured.
574	575											Lime & Water.
575	580											Line.

Work started 2/3/76, 19\_\_\_\_ Completed 6/18/76, 19\_\_\_\_

(14) PUMP:  
Manufacturer's Name \_\_\_\_\_  
Type \_\_\_\_\_ H. P. \_\_\_\_\_  
Depth to pump or bowles \_\_\_\_\_ feet

Well Driller's Statement:  
This well was drilled under my supervision, and this report is true to the best of my knowledge and belief.  
Name Gardner Drilling Company  
(Person, firm, or corporation) (Type or print)  
Address 7888 West 2400 South, Magna, Utah 84044  
(Signed) [Signature] (Well Driller)  
License No. 63 Date July 13, 1976

**Table 4.—Drillers' logs of selected wells—Continued**

Material	Thickness	Depth	Material	Thickness	Depth	Material	Thickness	Depth
<b>(D-6-2)13adc-1.</b> Log by D. W. Clark from records of B.C. and M. Drilling. Alt. 4,750.			<b>(D-6-2)22dbd-2.</b> Log by Paul Comer. Alt. 4,715.			<b>(D-6-2)34caa-6.</b> —Continued.		
No record . . . . .	20	20	Soil . . . . .	2	2	Sand and gravel . . . . .	15	185
Gravel and boulders. . . . .	15	35	Silt and sand . . . . .	6	8	Sand . . . . .	25	210
Gravel . . . . .	72	107	Clay and sand, tan . . . . .	23	31	Quicksand . . . . .	15	225
Sand . . . . .	18	125	Sand, tan . . . . .	43	74	Clay, black . . . . .	35	260
Gravel, sandy . . . . .	12	137	Clay and sand, blue . . . . .	12	86	Sand and gravel, gray . . . . .	10	270
Gravel . . . . .	28	165	Clay, blue . . . . .	57	143	Sand and gravel, large. . . . .	5	275
Gravel and boulders. . . . .	32	197	Sand, blue . . . . .	5	148			
Rock; water . . . . .	18	215	Clay and sand, blue . . . . .	37	185	<b>(D-6-3)7ccc-1.</b> Log by Eldon Comer. Alt. 4,784.		
Gravel and boulders. . . . .	35	250	Sand; water . . . . .	27	212	Boulders . . . . .	25	25
Boulders and broken			Clay, tan . . . . .	15	227	Sand, brown . . . . .	20	45
hard rock . . . . .	15	265	Clay and sand, tan; water . . . . .	12	239	Gravel; dry . . . . .	142	187
Gravel, sandy and rock . . . . .	35	300	Sand and gravel; water . . . . .	5	244	Gravel; water . . . . .	25	212
Gravel . . . . .	30	330						
Gravel and boulders. . . . .	45	375	<b>(D-6-2)25bcb-1.</b> Log by Roscoe Moss Company. Alt. 4,747.			<b>(D-6-3)19cba-1.</b> Log by Eldon Comer. Alt. 4,718.		
Boulders and hard rock. . . . .	30	405	Sand and gravel, loose . . . . .	98	98	Clay, gravel, and cobbles . . . . .	32	32
Gravel, boulders, and			Clay, sandy, brown . . . . .	38	136	Sand, tan; water. . . . .	15	47
rock . . . . .	10	415	Clay, sandy, blue . . . . .	18	154	Sand, blue . . . . .	5	52
Boulders; blue shale. . . . .	5	420	Clay, sandy, brown . . . . .	22	176	Clay and sand, blue . . . . .	98	150
Gravel and boulders. . . . .	10	430	Clay, sandy, blue . . . . .	98	274	Clay, sand, and gravel, blue . . . . .	25	175
Gravel, boulders, and			Sand and gravel . . . . .	96	370	Clay and gravel, mixed, blue . . . . .	45	220
broken rock . . . . .	30	460	Clay, yellow . . . . .	20	390	Sand, gravel, and cobbles; water . . . . .	87	307
Gravel and hard rock . . . . .	10	470	Clay, blue . . . . .	10	400	Clay and sand . . . . .	121	428
Gravel; shale . . . . .	5	475	Clay, brown . . . . .	10	410	Sand and gravel, dirty . . . . .	29	457
Gravel, boulders, and			Clay, blue . . . . .	35	445	Sand, gravel, and cobbles. . . . .	28	485
broken rock . . . . .	27	502	Sand and gravel to 8 inches. . . . .	249	694	Clay, tan . . . . .	8	493
			Clay, yellow . . . . .	6	700	Clay and gravel, mixed . . . . .	10	503
<b>(D-6-2)17dcc-1.</b> Log by Paul Comer. Alt. 4,532.			<b>(D-6-2)26cdd-1.</b> Log by Eldon Comer. Alt. 4,722.			Clay and gravel, in layers. . . . .	11	514
Soil . . . . .	2	2	Sand, gravel, and cobbles. . . . .	36	36	Clay and gravel, mixed . . . . .	20	534
Clay and sand, tan . . . . .	19	21	Sand and silt. . . . .	108	144	Clay and gravel . . . . .	28	562
Clay, blue . . . . .	23	44	Clay, blue; layers of sand . . . . .	65	209			
Clay and sand, blue . . . . .	61	105	Sand, blue . . . . .	59	268	<b>(D-7-2)1aca-1.</b> Log by G. Roberts. Alt. 4,567.		
Sand and gravel; water . . . . .	10	115	Clay, blue . . . . .	2	270	Ash, cinder. . . . .	5	5
Clay, sand, and gravel, tan. . . . .	6	121	Sand, blue . . . . .	38	308	Gravel and clay . . . . .	11	16
Clay and sand, tan . . . . .	18	139	Clay, tan . . . . .	6	314	Sand and clay . . . . .	64	80
Clay and sand, blue . . . . .	66	205	Gravel; water . . . . .	26	340	Hardpan . . . . .	8	88
Sand and gravel; water . . . . .	48	253				Sand and clay . . . . .	85	173
<b>(D-6-2)21cdb-1.</b> Log by Paul Comer. Alt. 4,532.			<b>(D-6-2)34caa-6.</b> Log by W. R. Bacon and Sons. Alt. 4,535.			Clay, layers of hardpan. . . . .	27	200
Soil . . . . .	3	3	Soil . . . . .	5	5	Clay, rock . . . . .	8	208
Clay, tan . . . . .	19	22	Clay. . . . .	15	20	Gravel; water . . . . .	22	230
Clay, blue . . . . .	25	47	Clay and sand . . . . .	20	40	Conglomerate . . . . .	23	253
Clay and sand, blue . . . . .	46	93	Sand . . . . .	20	60	Gravel; water . . . . .	19	272
Clay, sand, gravel, and cobbles; water . . . . .	70	163	Sand, gray . . . . .	50	110	Conglomerate . . . . .	28	300
Clay, tan . . . . .	27	190	Clay, gray . . . . .	11	121	Clay and gravel, stratified . . . . .	12	312
Clay, blue . . . . .	31	221	Sand and gravel, coarse, gray . . . . .	49	170	Clay. . . . .	116	428
Clay, tan . . . . .	15	236				Conglomerate, hard. . . . .	9	437
Clay and sand, tan . . . . .	15	251				Clay. . . . .	12	449
Sand and gravel; water . . . . .	32	283				Conglomerate . . . . .	6	455
						Clay. . . . .	5	460
						Conglomerate, hard. . . . .	8	468

Table 4.--Selected drillers' logs of wells in northern Utah Valley

Altitudes are for land surface at well.

Thickness in feet. Depth in feet below land surface.

Thickness		Depth		Thickness		Depth		Thickness		Depth	
<u>(C-5-1)12dec-6. Log by Eldon</u>											
Comer. Alt. 4,505 ft.											
Soil . . . . .	3	3									
Clay . . . . .	88	91									
Gravel . . . . .	13	104									
<u>(C-5-1)25ccc-4. Log by Eldon</u>											
Comer. Alt. 4,500 ft.											
Soil . . . . .	3	3									
Clay . . . . .	92	95									
Gravel and sand . . . . .	10	105									
<u>(D-4-1)36cab-1. Log by George</u>											
Roberts. Alt. 4,900 ft.											
Boulders and gravel . . . . .	28	28									
Clay, sandy . . . . .	90	118									
Boulders and gravel . . . . .	57	175									
Sand and clay; some gravel . . . . .	33	208									
Sand and gravel; dry . . . . .	104	312									
Gravel and boulders; water . . . . .	158	470									
Conglomerate, clay and gravel . . . . .	30	500									
<u>(D-4-2)3lacd-1. Log by Eldon</u>											
Comer. Alt. 4,970 ft.											
Boulders and gravel . . . . .	213	213									
Boulders and gravel, in yellow clay mix . . . . .	174	387									
Gravel; water . . . . .	11	398									
Clay and boulders . . . . .	8	406									
Conglomerate, hard . . . . .	15	421									
Gravel; small water . . . . .	5	426									
Conglomerate in layers and gravel; water . . . . .	44	470									
Conglomerate, hard . . . . .	37	507									
Conglomerate; little water . . . . .	52	559									
Gravel; water . . . . .	5	564									
Conglomerate, hard . . . . .	16	580									
Gravel; water . . . . .	3	583									
Conglomerate . . . . .	8	591									
<u>(D-5-1)8dccc-1. Log by Eldon</u>											
Comer. Alt. 4,555 ft.											
Gravel . . . . .	3	3									
Sand and gravel . . . . .	4	7									
Clay, light . . . . .	13	20									
Clay and gravel; some water . . . . .	5	25									
Clay, brown . . . . .	12	37									
Sand and gravel; some water . . . . .	3	40									
Clay, sandy, blue . . . . .	39	79									
Gravel; water . . . . .	7	86									
Clay . . . . .	4	90									
Clay and boulders; some water . . . . .	9	99									
Gravel, coarse; good water . . . . .	9	108									
Clay, yellow . . . . .	34	142									
Clay and gravel; water . . . . .	11	153									
Gravel; good water . . . . .	21	174									
Clay, yellow . . . . .	4	178									
Gravel; good water . . . . .	12	190									
Clay, yellow . . . . .	5	195									
Gravel; good water . . . . .	12	207									
Clay . . . . .	8	215									
Sand; water . . . . .	19	234									
Clay, sandy; trace of blue clay . . . . .	6	240									
<u>(D-5-1)9dabb-1. Log from</u>											
Mr. Meiling, City Recorder. Alt. 4,560 ft.											
Soil . . . . .	1	1									
Sand . . . . .	31	32									
Clay, blue . . . . .	5	37									
Sand and clay, streaked . . . . .	20	57									
Gravel and boulders . . . . .	18	75									
Clay, gravelly, and boulders . . . . .	8	83									
Gravel and boulders . . . . .	15	98									
Clay, gravelly . . . . .	10	108									
Gravel, sand, and clay . . . . .	12	120									
Clay, sandy . . . . .	8	128									
Sand and gravel . . . . .	22	150									
Clay, yellow . . . . .	3	153									
Gravel and boulders . . . . .	14	167									
Gravel, loose . . . . .	3	170									
Gravel . . . . .	5	175									
Clay, yellow . . . . .	5	180									
Gravel and boulders . . . . .	6	186									
Clay, yellow . . . . .	8	194									
Gravel . . . . .	6	200									
Clay . . . . .	7	207									
<u>(D-5-1)10cab-1. Log by F. G.</u>											
Farris. Alt. 4,662 ft.											
Soil . . . . .	8	8									
Soil, sandy . . . . .	33	41									
Sand, fine . . . . .	7	48									
Clay, sandy . . . . .	15	63									
Sand and gravel, fine . . . . .	11	74									
Clay . . . . .	20	94									
Clay and sand . . . . .	8	102									
Gravel and boulders . . . . .	47	149									
Clay, yellow . . . . .	17	166									
Clay and sand . . . . .	43	209									
Gravel and clay . . . . .	36	245									
Gravel; water . . . . .	6	251									
Clay . . . . .	3	254									
Gravel; water . . . . .	18	272									
Gravel and clay . . . . .	12	284									
Clay . . . . .	23	307									
Clay and gravel . . . . .	15	322									
Clay . . . . .	18	340									
Sand and clay . . . . .	4	344									
Clay . . . . .	8	352									
Sand and clay . . . . .	6	358									
Boulders and clay . . . . .	20	378									
Clay, yellow . . . . .	2	380									
Boulders and clay . . . . .	2	382									
Clay . . . . .	2	384									
Clay and sand . . . . .	12	396									
Clay . . . . .	4	400									
<u>(D-5-1)15bbc-2. Log by Eldon</u>											
Comer. Alt. 4,554 ft.											
Soil . . . . .	4	4									
Clay . . . . .	28	32									
Gravel . . . . .	51	83									
Clay and sand . . . . .	12	95									
Clay . . . . .	40	135									
Gravel; water . . . . .	31	166									
Clay and sand . . . . .	13	179									
Clay and gravel . . . . .	17	196									
Gravel; water . . . . .	19	215									
Clay . . . . .	6	221									
Gravel . . . . .	12	233									
Clay . . . . .	16	249									
Gravel; water . . . . .	7	256									
Clay and sand . . . . .	20	276									
Clay . . . . .	31	307									
Gravel; water . . . . .	8	315									
<u>(D-5-1)19dac-2. Log by Eldon</u>											
Comer. Alt. 4,498 ft.											
Soil . . . . .	3	3									
Clay . . . . .	62	65									
Gravel . . . . .	25	90									
Clay . . . . .	48	138									
Gravel . . . . .	17	155									
<u>(D-5-1)23dca-1. Log by H. C.</u>											
Comer. Alt. 4,557 ft.											
Soil . . . . .	8	8									
Clay and sand . . . . .	86	94									
Gravel . . . . .	18	112									
Clay and sand . . . . .	62	174									
Gravel; water . . . . .	12	186									
Clay and sand . . . . .	89	275									
Gravel; water . . . . .	35	310									
Sand . . . . .	43	353									
<u>(D-5-1)36adb-2. Log by H. C.</u>											
Comer. Alt. 4,500 ft.											
Soil . . . . .	5	5									
Clay . . . . .	25	30									
Gravel, pea-size . . . . .	10	40									
Clay . . . . .	85	125									
Sand . . . . .	10	135									
Gravel; water . . . . .	23	158									
<u>(D-6-2)6acc-1. Log by Eldon</u>											
Comer. Alt. 4,500 ft.											
Soil . . . . .	3	3									
Clay . . . . .	101	104									
Clay and sand . . . . .	27	131									
Gravel . . . . .	16	147									
<u>(D-6-2)8acb-1. Log by Roscoe</u>											
Moss Company. Alt. 4,543 ft.											
Clay and gravel fill . . . . .	40	40									
Clay, sandy, blue . . . . .	40	80									
Clay, blue . . . . .	36	116									
Sand and gravel . . . . .	110	226									
Clay, blue . . . . .	72	298									
Sand and gravel; clay streaks . . . . .	177	475									
Clay . . . . .	7	482									
Clay and gravel . . . . .	10	492									
<u>(D-6-2)8acb-1.--Continued</u>											
Sand and gravel . . . . .	16	508									
Clay, blue . . . . .	51	559									
Sand and gravel . . . . .	59	618									
Clay, blue . . . . .	10	628									
Sand and gravel . . . . .	21	649									
Clay, blue . . . . .	33	682									
Gravel and sand, tight . . . . .	76	758									
Clay, brown . . . . .	26	784									
Sand and gravel . . . . .	120	904									
Clay, sandy, brown . . . . .	32	936									
Clay, blue . . . . .	28	964									
Gravel and sand . . . . .	28	992									
Clay and gravel . . . . .	12	1,004									
Clay, blue . . . . .	24	1,028									
Sand and gravel; clay streaks . . . . .	26	1,054									
Clay, blue . . . . .	31	1,085									
Gravel, tight; clay streaks . . . . .	75	1,160									
Clay, brown . . . . .	12	1,172									
Sand and gravel . . . . .	20	1,192									
<u>(D-6-2)17dda-4. Log by Eldon</u>											
Comer. Alt. 4,545 ft.											
Soil . . . . .	2	2									
Clay . . . . .	19	21									
Sand and clay . . . . .	42	63									
Clay . . . . .											

Table 3.--Drillers' logs of selected wells

Altitudes are in feet above mean sea level for land surface at well; determined by interpolation from topographic maps.  
Thickness in feet.  
Depth in feet below land surface.

Material	Thickness	Depth	Material	Thickness	Depth	Material	Thickness	Depth
SOUTHERN UTAH VALLEY								
(D-7-2)36dec-4. Log by Eldon Comer. Alt. 4,500 ft.			(D-8-2)32aab-1. Log by R. M. Robinson. Alt. 4,518 ft.			(D-9-1)14aad-1- Continued		
Clay, red, and sand	44	44	Soil, black	3	3	Gravel	22	182
Clay, blue	45	89	Clay	12	15	Clay	4	186
Sand, gray	14	103	Sand and gravel; 25 gpm of water	6	21	Gravel	21	207
Clay and sand, gray	45	148	Clay, sandy	8	29	Clay	17	230
Sand and gravel; water	22	170	Clay, black	51	80	Gravel	13	247
Clay, tan	22	192	Clay, blue	13	93	Clay, red	13	260
Clay, sand, and gravel	6	198	Sand and gravel	3	96	Gravel	8	268
Clay, red	63	261	Clay, white	39	135	Clay, red	5	273
Sand and gravel; water	7	268	Clay, yellow	25	160	Gravel	5	278
Clay, blue	39	307	Clay, blue	13	173	Clay, red	4	292
Sand, dirty	26	333	Sand, black	5	178	Gravel	12	304
Gravel	2	335	Sand, blue, and coarse gravel; flow	16	194	Clay, red	11	315
Clay, tan	8	343	25 gpm	4	198	Gravel	10	325
Sand, gray, fine	8	351	Gravel, black	4	198	Clay, red	13	338
Clay and silt, tan, layers	121	472	Gravel, blue	38	236	Gravel	10	348
Sand and gravel; water	24	496	Gravel	4	240	Clay, red	12	360
Sand, clean; water	18	514	Sand, quick	10	250			
Clay and silt, tan	58	572	Clay and gravel	6	256			
Sand and gravel; water	12	584	Sand	4	260			
Clay, blue	40	624	Clay, yellow, and gravel	15	275			
Sand, brown	13	637	Clay, yellow	5	280			
Clay, gray	37	674	Clay, blue	38	318			
Clay, red	45	719	Clay, brown	12	330			
			Clay, blue	15	345			
(D-7-3)28bdb-1. Log by Eldon Comer. Alt. 4,520 ft.			Clay, brown	15	360			
Clay, fill, and gravel, debris	7	7	Clay, blue	25	385			
Gravel and cobbles; water	5	12	Clay, brown	20	405			
Clay, tan	10	22	Clay, blue	21	426			
Clay, blue	44	66	Sand, fine	3	429			
Gravel and cobbles; water flow	60	126	Clay, blue	36	465			
900 gpm	15	141	Sand, coarse, and fine gravel; flows	7	472			
Clay and gravel, brown, mixed	57	198	water	10	482			
Clay, tan	70	268	Clay, blue	42	530			
Clay, gravel and boulders, gray, mixed	50	318	Clay, red	15	545			
Sand, gravel, and cobbles; water	8	326	Clay, red	40	585			
Clay and gravel, mixed	6	332						
Sand, gravel, and cobbles; water	6	338						
Clay and gravel, mixed	6	338						
			(D-8-3)14acc-1. Log by Lester Binning. Alt. 4,775 ft.			(D-9-2)1bcb-1. Log by D. V. Robinson. Alt. 4,580 ft.		
(D-7-3)33ccc-6. Log by C. M. Stephenson. Alt. 4,560 ft.			Clay, red	82	82	Clay and silt	4	4
Clay and gravel	40	40	Clay and sand	20	102	Sand; making water	24	28
Clay, blue	20	60	Sand	87	189	Clay, blue, and sand	17	45
Clay, sandy	30	90	Gravel; water	3	192	Clay, blue	157	202
Clay, blue	38	128	Clay and gravel	10	202	Gravel	38	240
Gravel	2	130	Clay and boulders	20	222	Clay, yellow, and gravel	7	247
Clay and gravel, streaks	15	145	Clay and cobbles	20	242	No record	13	260
Clay, brown, and gravel	25	170	Clay and sand	60	302	Clay, blue	5	265
Gravel	3	173	Clay and gravel	65	367	Conglomerate	13	278
Gravel and clay	27	200	Conglomerate	5	372	Clay, blue	84	362
Clay, brown, and sand stringers	20	220	Sand; small amount of water	40	412	Conglomerate	68	430
Conglomerate and clay	55	275	Clay, gravel, and cobbles	95	507	Clay, yellow, and gravel	33	463
Clay and gravel stringers	23	298	Clay and gravel, ribbed	93	600	Clay, blue, and gravel	29	492
Conglomerate	77	375	Clay and gravel, ribbed; some water	20	620	Clay, blue, and sand	10	502
Clay and gravel	15	390	Gravel; a little water	5	625	Clay and gravel	16	518
Clay, gray, and small gravel	32	422	Clay and gravel; ribbed	10	635	Sand and gravel	9	527
stringers	15	437	Clay and gravel	40	675	Clay and gravel	3	530
Clay, gray, tight	18	455				Sand and gravel	3	533
Conglomerate	10	465	(D-8-3)27cdc-1. Log by Eldon Comer. Alt. 4,780 ft.			Clay and gravel	4	537
Clay, brown	18	483	Gravel and cobbles	18	18	Gravel	41	578
Clay, brown	3	486	Clay and sand, tan	120	138	Clay, blue	14	592
Conglomerate	9	495	Clay and sand, gray	24	162	Gravel	8	600
Gravel, cemented	3	498	Sand, cemented	32	194	Clay and gravel	5	605
Clay, brown	6	504	Clay, sand, and gravel, mixed	17	211	Conglomerate	12	617
Conglomerate	21	525	Sand, gravel, and cobbles; water	35	246	Clay, blue	5	622
Clay and gravel	10	535	Clay, tan, sand and gravel, mixed	41	287	No record	10	632
			Clay, gravel, and boulders, mixed	19	306	Clay, blue	15	647
			Clay and sand, tan	17	323	Clay and gravel	42	689
			Clay, blue, and sand	50	373	Conglomerate	10	699
			Sand, gravel, and cobbles; water	62	435	Sand and gravel	10	709
			Clay, gravel, and boulders	16	451	Clay, blue	5	714
			Clay, tannish red	14	465	Sand and gravel	8	722
			Clay, gravel, and cobbles, mixed	7	472	Clay, blue	33	755
			Clay, tan	42	514			
			Sand and gravel	6	520			
			Clay, tan	20	540			
			Sand and gravel; water	6	546			
			Clay, tan, and sand	36	582			
			Sand, gravel, and cobbles, mixed	7	589			
			Clay, tan, and sand	8	597			
			Clay and rock, mixed	43	640			
			(D-9-1)14aad-1. Log by Eldon Comer. Alt. 4,619 ft.			(D-9-2)10cad-3. Log by Hershel Woodhouse. Alt. 4,582 ft.		
			Clay, tan	60	60	Topsoil	3	3
			Clay and gravel; water	10	70	Clay, brown	18	21
			Clay, brown	10	80	Sand, gray	14	35
			Clay and gravel; water	15	95	Gravel, blue	32	67
			Clay, white	10	105	Clay	38	105
			Clay, red	20	125	Clay, brown	10	115
			Gravel	20	145	Clay, brown, and gravel	155	270
			Clay, red	15	160	Lime formation	21	291
						Clay	18	309
						Clay, brown, and gravel	136	445
						Lime hardpan	15	460
						Clay and gravel, clay with intervening ribs	110	570



\*\*\*\*\* WIN: 011851 \*\*\*\*\*

•&l6D  
•&a130M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@  
N 1142 ft W 1706 ft from SE CORNER of SECTION 13 T 3N R 1W BASE SL  
Elevation: feet  
•&d0DDRILLER ACTIVITIES:•&d@  
ACTIVITY # 1 NEW WELL  
DRILLER: LAYNE CHRISTENSEN COMPANY LICENCE #: 188  
START DATE: 05/22/1996 COMPLETION DATE: 06/18/1996  
•&d0DBOREHOLE INFORMATION:•&d@  
Depth(ft) Diameter(in) Drilling Method Drilling Fluid  
From To  
0 30 42.0 AUGER DRILLING NONE  
30 705 28.0 REVERSE ROTARY WATER  
•&d0DLITHOLOGY:•&d@  
Depth(ft) Lithologic Description  
Color Rock Type  
From To  
0 30 LOW-PERMEABILITY,CLAY,GRAVEL,BOULDERS  
SLOW DRILLING  
30 145 HIGH-PERMEABILITY,CLAY,COBBLES  
GRAY/BROWN  
145 150 CALCITE & SILTSTONE/GRAY/BROWN-SLOW DRILLING  
LOW-PERMEABILITY,CLAY,OTHER  
GRAY  
150 340 GRAY ROCK/GRAY/MEDIUM DRILLING  
HIGH-PERMEABILITY,OTHER  
GRAY  
340 434 CALCITE & GRAY GRANITE/GRAY/MEDIUM DRILLING  
HIGH-PERMEABILITY,OTHER  
GRAY  
434 449 CALCITE/GRANITE/GRAY/MEDIUM DRILLING  
HIGH-PERMEABILITY,CLAY  
BROWN CLAY  
449 478 CLAY/BROWN/MEDIUM DRILLING  
HIGH-PERMEABILITY,CLAY,SILT,OTHER  
GRAY  
478 673 FINE SAND/BROKEN GRANITE/GRAY/MEDIUM DRILLING  
LOW-PERMEABILITY,BOULDERS,OTHER  
GRAY  
673 685 CALCITE GRANITE/GRAY/SLOW DRILLING  
LOW-PERMEABILITY,OTHER  
GRAY  
685 705 FRACTURED GRANITE/GRAY/SLOW DRILLING  
LOW-PERMEABILITY,OTHER  
GRAY  
BEDROCK/GRAY/TOTAL DEPTH  
•&d0DWATER LEVEL DATA:•&d@  
Date Time Water Level (feet) Status  
(-)above ground  
06/18/1996 .00 FLOWING  
•&d0DCONSTRUCTION - CASING:•&d@  
Depth(ft) Material Gage(in) Diameter(in)  
From To  
0 30 API 5 LB LOW CARBON .375 36.0  
+1 180 A53B-LOW CARBON .375 20.0  
380 470 A53B-LOW CARBON .375 16.0  
530 620 A53B-LOW CARBON .375 16.0  
660 700 A53B-LOW CARBON .375 16.0  
•&d0DCONSTRUCTION - SCREENS/PERFORATIONS:•&d@  
Depth(ft) Screen(S) or Perforation(P) Slot/Perf. siz Screen Diam/Length  
Perf(in) Screen Type/# Perf.  
From To  
180 380 SCREEN .080 16.0  
SS WIRE  
470 530 SCREEN .080 16.0  
SS WIRE  
620 660 SCREEN .080 16.0  
SS WIRE  
•&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS•&d@  
Depth(ft) Material Amount Density(pcf)  
From To  
0 130 CEMENT GROUT  
130 705 CO SILICA SAND 6 X 9 2150  
•&d0DWELL TESTS:•&d@

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
06/14/1996	SWAB & AIRLIFT	.000		
07/15/1996	C.R. PUMP TEST	5.013	48	27

•&d0DGENERAL COMMENTS:•&d@

CONSTRUCTION INFORMATION:  
 Well head configuration: Welded Plate  
 Casing Joint Type: No data  
 Perforator used: No data  
 Additional data not available

\*\*\*\*\* WIN: 018503 \*\*\*\*\*

•&l6D  
•&al30M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@

S 350 ft W 1014 ft from NE CORNER of SECTION 16 T 4N R 1W BASE SL

Elevation: feet

•&d0DDRILLER ACTIVITIES:•&d@

ACTIVITY # 1 NEW WELL

DRILLER: LAYNE CHRISTENSEN COMPANY

LICENCE #: 188

START DATE: 12/14/1998 COMPLETION DATE: 02/12/1999

•&d0DBOREHOLE INFORMATION:•&d@

Depth(ft) From	Depth(ft) To	Diameter(in)	Drilling Method	Drilling Fluid
0	39	48	AUGER	NONE
39	912	30	REVERSE CIRC ROTARY	BENTONITE/POLYMER
912	1030	17.5	REVERSE CIRC ROTARY	BENTONITE/POLYMER

•&d0DLITHOLOGY:•&d@

Depth(ft) Lithologic Description  
Color Rock Type

From	To	Rock Type
0	220	WATER-BEARING,HIGH-PERMEABILITY,CLAY,SAND UNSTABLE CLAY W/SAND
220	240	WATER-BEARING,HIGH-PERMEABILITY,CLAY,SAND MORE SAND
240	510	WATER-BEARING,HIGH-PERMEABILITY,CLAY,SAND CLAY W/SAND
510	570	WATER-BEARING,HIGH-PERMEABILITY,CLAY,GRAVEL INCREASED GRAVEL CONTENT
570	710	WATER-BEARING,HIGH-PERMEABILITY,CLAY,SAND CEMENTED CLAY/GRAVEL
710	920	WATER-BEARING,HIGH-PERMEABILITY,GRAVEL LESS CEMENTING
920	930	WATER-BEARING,HIGH-PERMEABILITY,GRAVEL MOSTLY GRAVEL
930	960	HIGH-PERMEABILITY,CLAY,GRAVEL GRAVEL W/CLAY
960	1030	WATER-BEARING,HIGH-PERMEABILITY,SAND,GRAVEL,BOULDERS LARGER GRAVEL/BOULDERS

•&d0DWATER LEVEL DATA:•&d@

Date	Time	Water Level (feet) (-)above ground	Status
03/11/1999		200.00	STATIC

•&d0DCONSTRUCTION - CASING:•&d@

Depth(ft) From	Depth(ft) To	Material	Gage(in)	Diameter(in)
0	40	MILD STEEL A53B	.5	42
40	544	MILD STEEL A53B	.375	24
699	819	MILD STEEL A53B	.375	24

•&d0DCONSTRUCTION - SCREENS/PERFORATIONS:•&d@

Depth(ft) Screen(S) or Perforation(P) Slot/Perf. siz Screen Diam/Length  
Perf(in) Screen Type/# Perf.

From	To	Screen Type	Slot/Perf. siz	Screen Diam/Length
544	699	SCREEN	.060	24
819	900	SCREEN	.060	24

WIRE WRAP

WIRE WRAP

•&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS:•&d@

Depth(ft) From	Depth(ft) To	Material	Amount	Density(pcf)
0	259	CEMENT GROUT	40 CY	
259	912	COLORADO SILICA GRAVEL	80 TONS	

•&d0DWELL TESTS:•&d@

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
03/10/1999	TURBINE PUMP	6.684	50	24

•&d0DGENERAL COMMENTS:•&d@

Construction Information  
Well Head Configuration: 24" casing to surface w/welded cap  
Casing joint type: welded  
Perforator used: N/A  
FILTER PACK  
Grout density for 0 to 259': 2000psi sand/cement grout  
Grout density for 259 to 912': 8 x 12 mix  
WELL TESTS  
3/10/99 Method: vertical turbine pump.  
Additional data not available.

\*\*\*\*\* WIN: 018526 \*\*\*\*\*

•&l6D  
•&a130M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@

N 120 ft W 140 ft from SE CORNER of SECTION 31 T 2N R 1E BASE SL

Elevation: feet

•&d0DDRILLER ACTIVITIES:•&d@

ACTIVITY # 1 NEW WELL

DRILLER: PETERSEN BROTHERS DRILLING CO INC

LICENCE #: 249

START DATE: 12/02/1998 COMPLETION DATE: 09/05/1999

•&d0DBOREHOLE INFORMATION:•&d@

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 150	24	CABLE TOOL	NONE
150 697	20	CABLE TOOL	NONE
697 735	16	CABLE TOOL	NONE

•&d0DLITHOLOGY:•&d@

Depth(ft) Lithologic Description  
Color Rock Type

From	To	
0	16	CLAY,SAND,GRAVEL,BOULDERS,OTHER
MANY		
		HARD ROCK, FILL MATERIAL (CONCRETE, ASPHALT WIRE OLD BARRELS, WOOD, STEEL, ETC.)
16	28	SAND,GRAVEL
		LOOSE
28	48	SAND,GRAVEL
		LARGE ROCK, DRILLS OPEN
48	101	SAND,GRAVEL
		3" MINUS, LOOSE
101	107	CLAY,SAND,GRAVEL
REDDISH		
107	118	SAND,GRAVEL
		1 1/2"
118	129	CLAY,SAND,GRAVEL
BROWN		
129	149	CLAY,SAND,GRAVEL
		BOOTING MATERIAL
149	154	CLAY,SAND,GRAVEL
		1 1/2" MINUS (WATER)
154	160	CLAY,SAND,GRAVEL
		W/ PEA GRAVEL
160	169	GRAVEL
		1 1/2" MINUS W/CLAY
169	171	CLAY,SAND
171	181	CLAY,GRAVEL
		6" MINUS
181	186	CLAY,GRAVEL
		PEA SIZE
186	210	CLAY,SAND,GRAVEL
		CEMENTED
210	244	CLAY,GRAVEL
		BOOTING TYPE
244	258	CLAY,GRAVEL
		(WATER) VERY DIRTY
258	266	CLAY,GRAVEL
BROWN		
		BOOTING
266	269	CLAY,SAND,GRAVEL
		HARD VERY DIRTY FORMATION
269	290	CLAY,GRAVEL,COBBLES
REDDISH		
		DRILLS OPEN HOLE
290	299	CLAY,SAND,GRAVEL
		SMALL GRAVELS
299	303	CLAY
		BOOTING
303	735	CLAY,SAND,GRAVEL
		CEMENTED GRAVEL TO 735'

•&d0DWATER LEVEL DATA:•&d@

Date	Time	Water Level (feet)	Status
		(-)above ground	
09/17/1999		87.00	STATIC

•&d0DCONSTRUCTION - CASING:•&d@

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 150	A53-B PRIME	.375	24

	0	692	A53-B PRIME	.375	20
	195	735	A53-B PRIME (LINERS)	.375	14
	690	703	A53-B PRIME (LINERS)	.375	18
•&d0DCONSTRUCTION - SCREENS/PERFORATIONS:•&d@					
	Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length	
Perf(in)	Screen Type/#	Perf.			
	From	To			
	0	150	PERFORATION	.375	3
12 TO 15	149	210	PERFORATION	.375	3
12 TO 15	210	244	PERFORATION	.375	3
12 TO 15	244	266	PERFORATION	.375	3
12 TO 15	266	385	PERFORATION	.375	3
12 TO 15	385	395	PERFORATION	.375	3
12 TO 15	395	500	PERFORATION	.375	3
12 TO 15	500	600	PERFORATION	.375	3
12 TO 15	600	635	PERFORATION	.375	3
12 TO 15	635	690	PERFORATION	.375	3
•&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS:•&d@					
	Depth(ft)	Material	Amount	Density(pcf)	
	From	To			
	0	150	CEMENT-SAND	18 YDS.	10
•&d0DWELL TESTS:•&d@					
	Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
	08/25/1999	8" O/L PUMP TEST	.125	300	24
•&d0DGENERAL COMMENTS:•&d@					
LOCATION: Extreme South East Corner of Foss Lewis, Bountiful City					
Gravel pit 2600 South 800 East (no homes yet)					
CONSTRUCTION INFORMATION					
SCREEN/PERF					
690 to 703' Torch 1/8" x 8" 8 per round					
695 to 735' Torch 1/8" x 8" 5 per round					
Well Head Configuration: Concrete Cap					
Casing joint type: Welded					
Perforator used: Mills knife and Torch					
FILTER PACK					
Material: Cement-sand 12 bag cement per yd. Density: 8-10 slump					
PUMP					
none					
Well disinfected on completion: yes					
COMMENTS					
24" casing jacked to 150'-20" driven to 250'- 20" jacked W/ spider & slips to 692' - 18" and 14" liners set in bottom to 375' - 32 dents from rolled in Rocks outside casing while jacking casing - two fishing jobs due to dents in casing (stuck 20" tools) cemented gravel all the way - Well plugged Killed. ADDITIONAL DATA NOT AVAILABLE.					

022120

31-5160

**LOCATION:**

S 1400 ft E 1320 ft from NW CORNER of SECTION 12 T 4N R 1W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

DRILLER: STODDARD DRILLING, G J

LICENSE #: 41

START DATE: 06/05/2000 COMPLETION DATE: 07/29/2000

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 20	10	MUD ROTARY	BENTONITE
20 393	8.75	MUD ROTARY	BENTONITE

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 23	CLAY
RED	
	MOSTLY CLAY
23 203	SAND, GRAVEL
RED	
	COURSE SAND, SMALL GRAVEL MIX
203 393	OTHER
GRAY	
	GRANNTTE FRACTURES

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
07/31/2000		120.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
+1.5 393	PVC WELL CASING 80		6

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From To			
193 393	PERFORATION	.125	3
6 CUTS PR FT			

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 20	HOLE PLUG BENTONITE	12 BAG	

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
07/29/2000	BAILING & PUMP	.078	20	39

**GENERAL COMMENTS:**

CONSTRUCTION INFORMATION:  
Well Head Configuration: Wel Cap water tight  
Perforator used: no  
Surface Seal: yes  
Depth of Seal: 20 feet  
Drive Shoe: no  
Method of Placement: From the top using 1" pipe to place  
Pump: no pump  
Comments: hard drilling from 193 to 393  
ADDITIONAL DATA NOT AVAILABLE

022914

31-2409

**LOCATION:**

S 245 ft W 363 ft from E4 CORNER of SECTION 26 T 5N R 2W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

DRILLER: Stoddard, Wesley

LICENSE #: 62

START DATE: 05/14/1962 COMPLETION DATE: 07/25/1962

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 920	16	ROTARY	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 3	OTHER
TOPSOIL	
3 40	CLAY
40 80	CLAY, SAND
80 106	CLAY
106 310	CLAY, SAND
310 395	CLAY
395 400	SAND
400 430	CLAY
430 440	SAND
440 512	GRAVEL
512 535	CLAY
535 544	SAND
544 556	CLAY
556 580	SAND
580 712	CLAY, SAND
712 730	GRAVEL
730 732	CLAY
732 736	GRAVEL
736 741	CLAY
741 788	COBBLES, OTHER
CONGLOMERATE	
788 822	CLAY
822 830	SAND
830 840	CLAY
840 843	GRAVEL
843 880	CLAY, OTHER
CONGLOMERATE	
880 920	GRAVEL, COBBLES, BOULDERS

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
07/25/1962		250.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 420		.312	16
400 920		.330	12

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From To			
880 920	PERFORATION	2.50	.50

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
07/25/1962	PUMP	2.228	40	
07/25/1962	PUMP	2.674	50	
07/25/1962	PUMP	2.897	70	106

023001

31-2577

**LOCATION:**

N 209 ft W 154 ft from SE CORNER of SECTION 32 T 5N R 2W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 WELL ABANDONMENT

DRILLER: WIDDISON TURBINE SERVICE, LLC

LICENSE #: 533

START DATE: / / COMPLETION DATE: / /

ACTIVITY # 2 NEW WELL

START DATE: 11/12/1955 COMPLETION DATE: 04/27/1956

ACTIVITY # 3 WELL REPAIR

DRILLER: STODDARD DRILLING, G J

LICENSE #: 41

START DATE: 05/18/1977 COMPLETION DATE: 05/21/1977

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From	To		
0	1048	2	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From	To
0	2 OTHER
TOPSOIL	
2	20 CLAY,SAND
20	40 CLAY
40	194 CLAY,SAND
194	205 SAND
205	215 CLAY
215	250 SAND
250	265 CLAY
265	425 CLAY,SAND
425	440 CLAY
440	472 CLAY,SAND
472	479 CLAY
479	490 CLAY,SAND
490	523 CLAY
523	546 SAND
546	560 CLAY
560	580 SAND
580	590 CLAY
590	598 SAND
598	620 CLAY
620	625 SAND
625	630 CLAY
630	659 SAND
659	661 CLAY
661	680 SAND
680	688 CLAY
688	718 SAND
718	728 CLAY
728	731 SAND
731	751 GRAVEL
751	765 CLAY
765	768 SAND, GRAVEL
768	770 CLAY
770	776 SAND, GRAVEL
776	777 CLAY
777	790 SAND, GRAVEL
790	797 CLAY
797	871 SAND, GRAVEL
871	885 CLAY
885	933 SAND
933	970 CLAY
970	1030 SAND, GRAVEL
1030	1048 CLAY

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
04/27/1956		731.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From	To		
0	1048	10	8



**CONSTRUCTION - SCREENS/PERFORATIONS:**

Perf(in)	Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
	From	To		
	735	823		PERFORATION

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
04/17/1956	ARTESIAN	.000	2	

**GENERAL COMMENTS:**

cleaned and repaired well  
baled and washed replaced seal

023237

31-715

**LOCATION:**

S 2122 ft W 938 ft from NE CORNER of SECTION 6 T 4N R 1W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 WELL ABANDONMENT

DRILLER: LANG EXPLORATORY DRILLING INC

LICENSE #: 568

START DATE: / / COMPLETION DATE: / /

ACTIVITY # 2 WELL REPLACEMENT

DRILLER: LANG EXPLORATORY DRILLING INC

LICENSE #: 568

START DATE: 03/28/2001 COMPLETION DATE: 04/30/2001

**BOREHOLE INFORMATION:**

Depth(ft) From	To	Diameter(in)	Drilling Method	Drilling Fluid
0	20	46	CONVENTIONAL-MUD	BENTONITE
20	555	29	FLOODED REVERSE	BENTONITE & POLYMER
555	1500	22	FLOODED REVERSE	BENTONITE & POLYMER

**LITHOLOGY:**

Depth(ft) Color	Lithologic Description Rock Type
From To	
0 15	SAND, GRAVEL
YELLOW & BRN	ALLUVIUM
15 20	CLAY, SILT, SAND
YELLOW & BRN	ALLUVIUM
20 60	SILT, SAND, GRAVEL
YELLOW & BRN	ALLUVIUM
60 150	WATER-BEARING, SAND, GRAVEL
YEL/GRY/BRN	SANDSTONE
	SANDSTONE, SOME QUARTZITE
150 470	CLAY, SILT
YELLOW & BRN	CLAY
	SOFT, STICKY CLAY
470 560	CLAY, SAND
DARK GRAY	CLAY
	CLAY IS MEDIUM HARD AND STICKY
560 660	WATER-BEARING, CLAY, SAND
YELLOW & BRN	
	SANDSTONE & QUARTZITE
660 920	WATER-BEARING, CLAY, GRAVEL
YEL/BRN/GRY	
	CLAY IS SOFT AND STICKY WITH SOME HARD STRINGS
920 970	CLAY
REDDISH/BRN	
	CLAY IS SOFT AND STICKY
970 1030	WATER-BEARING, SAND, GRAVEL, COBBLES
RED/BRN/YEL	
	COARSE SAND TO MEDIUM PEBBLES
1030 1145	CLAY, SAND, GRAVEL
RED/BRN/YEL	
	CLAY IS SOFT, STICKY WITH COARSE SAND AND GRAVEL
1145 1240	WATER-BEARING, SAND, GRAVEL
YELLOW & BRN	
	COARSE SAND AND GRAVEL
1240 1315	CLAY, GRAVEL
	DARK YELLOW, BROWN & GRAY. CLAY IS SOFT AND STICKY
1315 1430	WATER-BEARING, SAND, GRAVEL
BRN/GRAY	
	SANDS AND COARSE GRAVEL
1430 1500	CLAY
RED/BRN/GRY	
	CLAY IS HARD AND STICKY

**WATER LEVEL DATA:**

Date	Time	Water Level (feet) (-)above ground	Status
04/25/2001		493.95	STATIC

**CONSTRUCTION - CASING:**

Depth(ft) From	To	Material	Gage(in)	Diameter(in)
0	20	STEEL	.375	40
0	555	STEEL	.375	24
+3	970	STEEL	.375	16
1030	1145	STEEL	.375	16
1245	1315	STEEL	.375	16

1435 1445 STEEL .375 16

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Perf(in)	Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Screen Type/#	From	To	Perf.	
WIRE WRAP	970	1030	PERFORATION	.030 16
WIRE WRAP	1145	1245	PERFORATION	.030 16
WIRE WRAP	1315	1435	PERFORATION	.030 16

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From	To		
0	935	PORTLAND CEMENT	58 YARDS
935	947	HOLE PLUG, BENTONITE	18 BAGS
947	1500	8 X 12 GRAVEL	

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
04/25/2001	TEST PUMPED	5.348	85.25	24

**GENERAL COMMENTS:**

CONSTRUCTION INFORMATION  
Well Head Configuration: 16" steel  
Casing joint type: welded  
Peforator: no data  
Surface seal: yes  
Depth of seal: 935'  
Drive shoe: no  
Surface seal placement method: Tremie from bottom to surface  
SURFACE SEAL  
0 to 935' Grout density: 16 lb grout  
935 to 947' Grout density: 18 #50 bags, 3/8" holeplug welded  
947 to 1500' Grout density: 35-3500 lbs. brg  
Additional data not available.

025571

31-2276

**LOCATION:**

S 2485 ft W 1525 ft from NE CORNER of SECTION 30 T 2N R 1E BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 WELL REPLACEMENT

DRILLER: LANG EXPLORATORY DRILLING INC

LICENSE #: 568

START DATE: 07/05/2002 COMPLETION DATE: 08/18/2002

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From	To
0	3
SOIL	
3	70 SAND, GRAVEL, COBBLES
BRW TAN WHIT	
70	123 SAND, GRAVEL
WHITE BROWN	
123	170 SAND, GRAVEL, COBBLES, BOULDERS
BROWN/BLACK	LIMESTONE
170	280 SAND, GRAVEL, COBBLES
BRW/TAN/WHIT	SANDSTONE
280	290 CLAY, SILT, GRAVEL
BRW/GRAY	CLAY/GRAVEL
290	348 SAND, GRAVEL
BRW/TAN/WHIT	
348	356 CLAY
BROWN	
356	422 SAND, GRAVEL
BRW/TAN/WHIT	
422	424 CLAY
BROWN	
424	490 SAND, GRAVEL
BRW/TAN/BL/W	
490	520 CLAY, GRAVEL
BRW, WHITE, BL	BROWN CLAY

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
07/19/2002		175.50	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From	To		
0	47 STEEL	.38	36
+3	300 STEEL	.38	20
340	372 STEEL	.38	16
412	434 STEEL	.38	16
495	514 STEEL	.38	16

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/#	Perf.	
From	To		
300	340	SCREEN	.050 16
STAINLESS ST			
372	413	SCREEN	.050 16
STAINLESS ST			
434	494	SCREEN	.050 16
STAINLESS ST			

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From	To		
0	47 NEAT CEMENT-HOLE PLUE	35 SACKS	
0	100 NEAT CEMENT	14 YRDS	
100	510 GRAVEL PACK	720 CU '	

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
08/07/2002	TEST PUMP	3.340	94	48

**GENERAL COMMENTS:**

CONSTRUCTION INFORMATION

Well head configuration:

Casing type: Weld

Perforator: None

Surface seal: Yes, 240', Tremmie hole plug 16lb/gal, neat cement 16.4

Drive shoe: No

Additional data not available

Simplified Density and Lithology Log  
of the Gulf Energy and Minerals Co. Bank # 1 Well

Location Sec. 13 T 8 S R 2 E SLC A Base Meridian

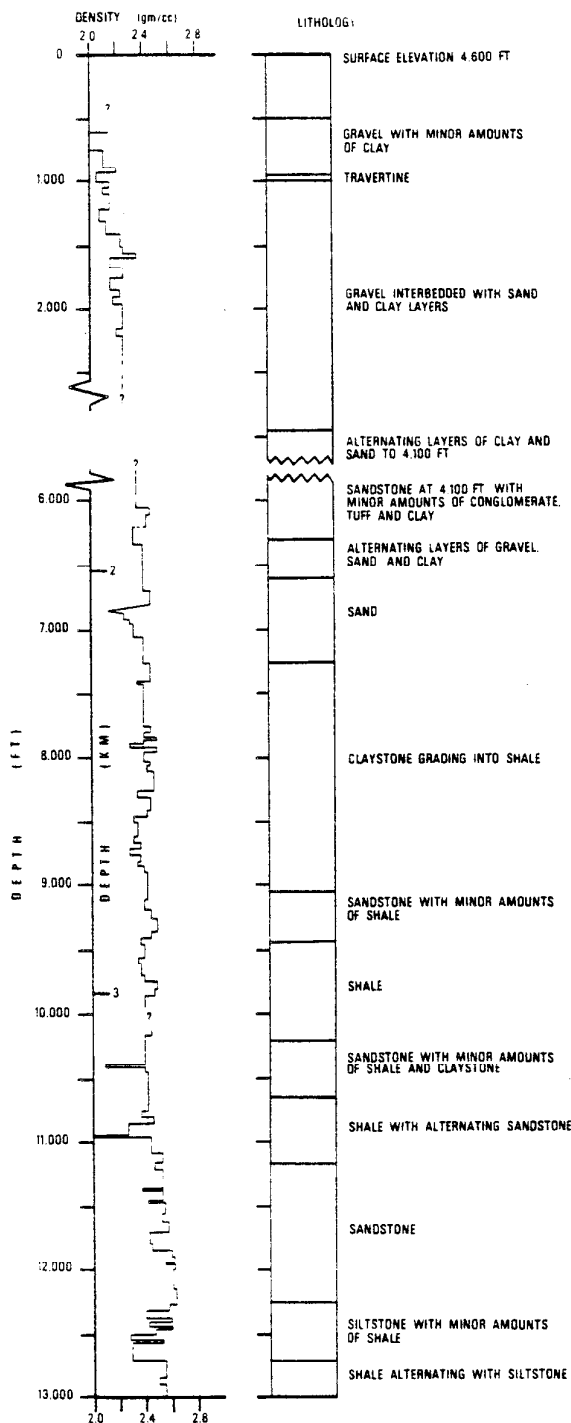
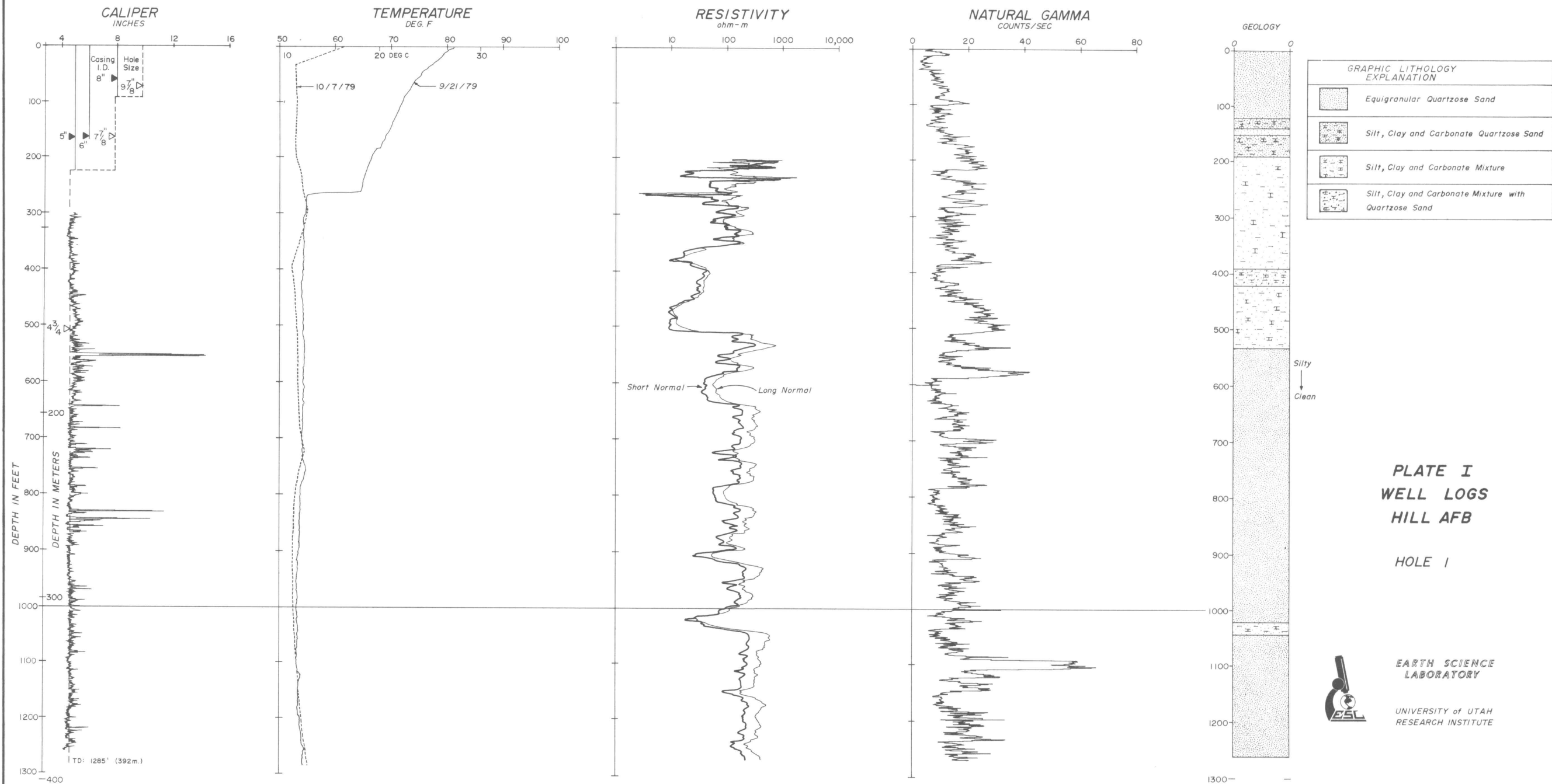
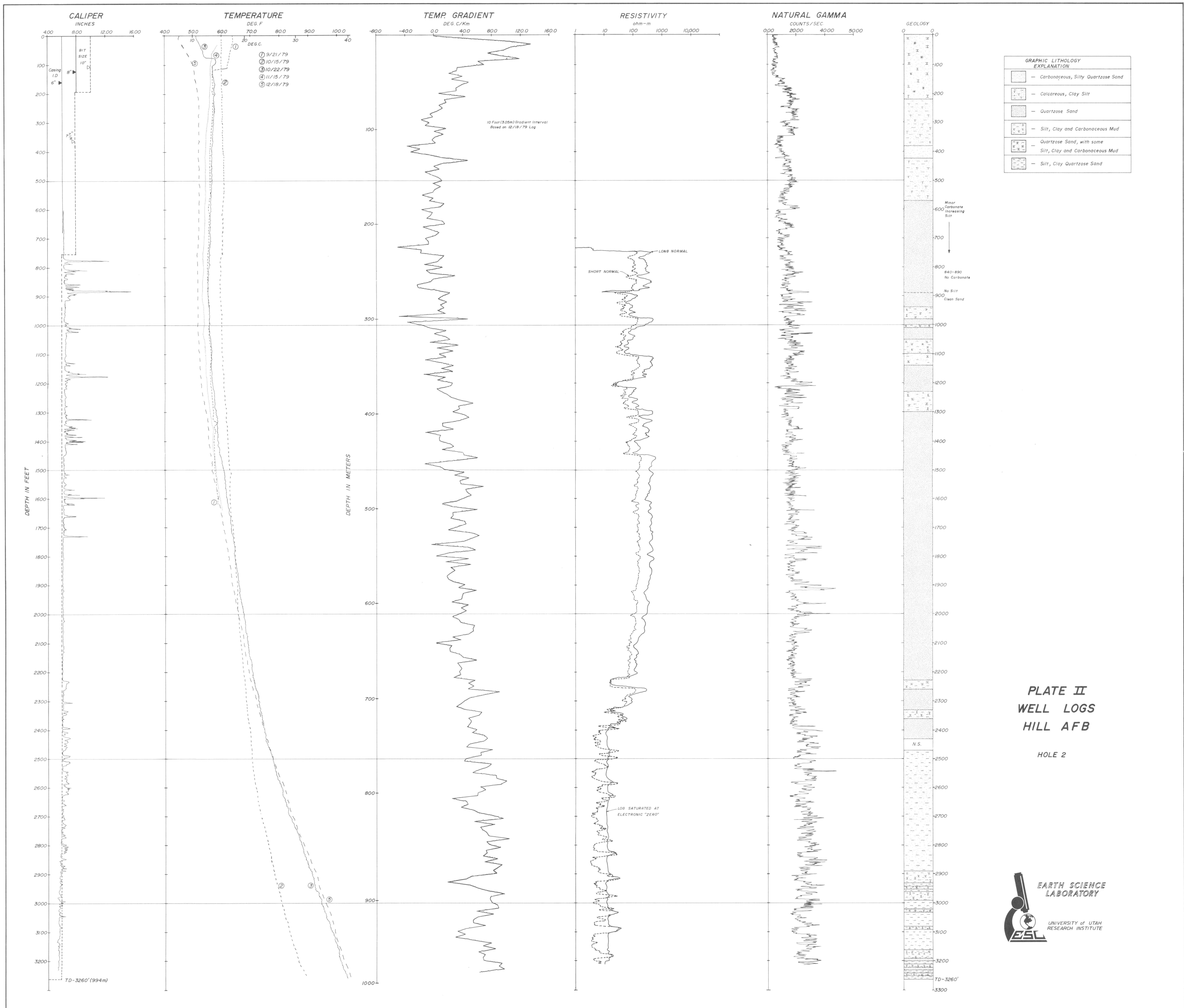


Figure 11. Simplified density and lithology log of Gulf Energy and Minerals Company #1 Bank well. Well drilled during July 1977. (Data furnished by Gulf Energy and Minerals Company.)







# Forward-Reverse Refraction Survey at Metropolitan Water Plant

Gerard T. Schuster  
University of Utah  
(schuster@mines.utah.edu)

March 1, 2003

## Abstract

Personnel from the University of Utah carried out a two-way refraction survey on Feb. 21-22, 2003 at the Metropolitan Water District of Salt Lake and Sandy (3430 East Danish Road). A two-layer refraction model was estimated from the data, with the top layer having a thickness of about 95 m and a P velocity of 1050 m/s; the bottom layer has a P velocity of 2742 m/s. The depth and velocity errors were roughly estimated to be about 10 percent. The P velocity of the bottom layer does not correlate with the consolidated R2 layer velocity value estimated from a sonic log (5 km/s), but correlates quite well with the R1 semiconsolidated layer velocity (about 2.5 km/s). The deepest interface probed by our refraction experiment appears to be the R1 interface (contact between the unconsolidated and semiconsolidated layers) at a depth of about 95 meters. The acoustic bedrock interface R2 is the contact between the semiconsolidated and consolidated layers, and appears to exist deeper than 225 m beneath the ground surface. However, the R1 contact discovered in our survey will strongly echo seismic waves and likely act as a resonator for seismic waves of intermediate wavelength. The depths to both the R1 and R2 reflectors should be accounted for in an accurate assessment of resonance and its influence on earthquake hazard.

## Introduction

A two-way refraction survey was carried out Feb. 21-22, 2003 at the Metropolitan Water District of Salt Lake and Sandy (3430 East Danish Road). The objective was to determine the depth to acoustic bedrock in order to assess earthquake hazard due to seismic resonance in the underlying layers. The acoustic bedrock is defined as the contact between the the

semiconsolidated sediments and the consolidated sediments, and has a P velocity of over 5 km/s (Hill, 1988). This contact is known as the R2 interface (Arnow and Mattick, 1968) and its strong contrast in velocity will promote strong ground shaking at low frequencies (Hill, 1988; Olsen, 1994). Thus, the R2 interface will be denoted as the upper boundary of the acoustic basement.

## Refraction Experiment

The survey area and survey line are depicted in Figure 1. A total line length of 600 m with 40 geophone groups were deployed, with a group interval of 15 m. A 500-lb Elastic Weight Drop (EWG) source (see Figure 2) was used at both ends of the survey line, and the ground was thumped about 30 times at each end. The records from each thump were stacked onto one another to increase signal to noise in the data. In addition, each group consisted of six 10-Hz vertical-component phones in order to enhance the signal-to-noise ratio. This was needed because of the high-level of wind and cultural noise at the site. A Bison 48-channel recorder was used to record the data, and Table I shows the recording parameters.

The elevation of the ground surface along the seismic line is depicted by the dashed line in Figure 3. The datum for the profile is denoted by the solid line which intersects the shotpoints at each end of the line. The lowest refraction velocity is 1000 m/s so several meter elevation variation with respect to the datum leads to, at most, a 2 ms shift in the arrivals. Thus elevation corrections were not applied to the data.

Figures 4-5 depict the forward and reverse shot gathers collected at the field site. The western (eastern) shot gather corresponds to traces generated by the shot at the western (eastern) end of the line. The shot point for the eastern shot gather was offset 12 m east of the eastern-most group, while the western shot point was located at the western-most group. There was much wind and electrical noise in the data as seen in the top sections, but the bottom sections show that much of this noise was suppressed after prediction-error filtering followed by bandpass filtering. No noticeable shift in the arrival times was induced by the filtering.

## Data Interpretation

I interpreted a two-layer P velocity model, as indicated by the two solid lines depicted in the lower sections of Figures 4-5. I will denote the associated refraction interface as the R1 refractor because it appears to correlate in P velocity with the R1 interface depicted in Hill (1988; also the same as R1 in Arnow and Mattick, 1968). Table II shows the estimated P velocity and intercept values. There is a very shallow ( $\approx$  several meters) low-velocity layer I am ignoring, but this is warranted because it is too shallow to affect the major results in this study.

Plugging in the apparent velocities and intercept times into the refraction formula

$$\beta = 1/2[\sin^{-1}(V_1 m_w) - \sin^{-1}(V_1 m_e)],$$

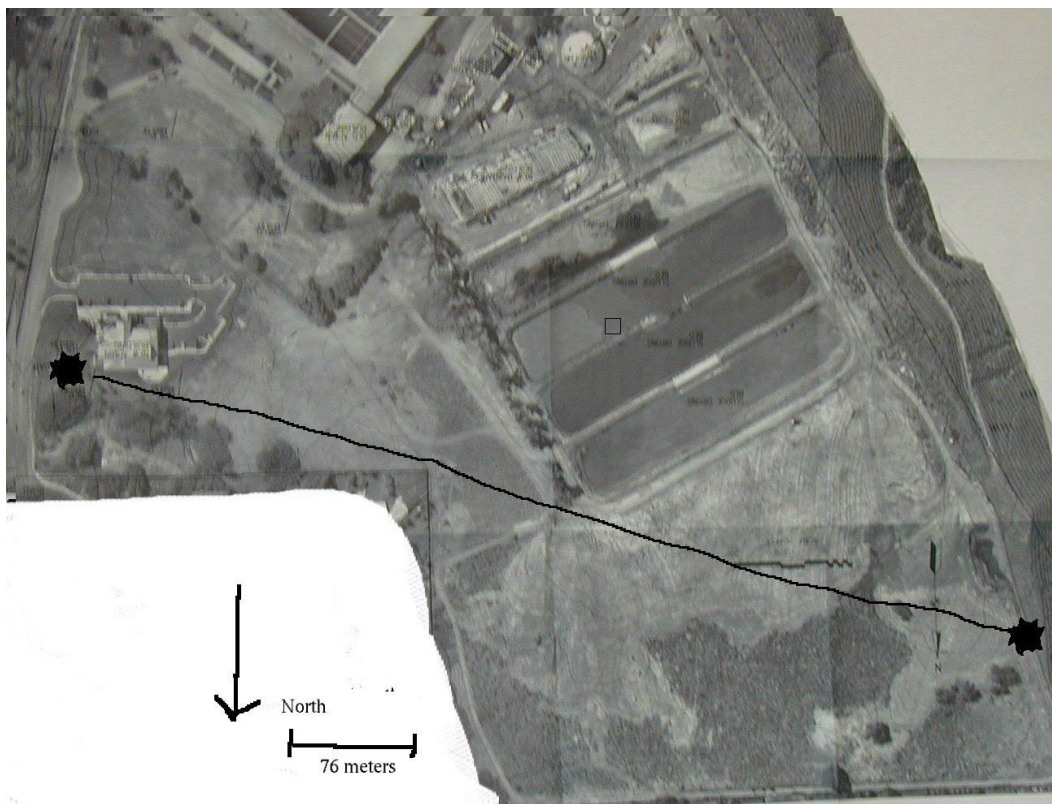


Figure 1: Aerial photo of site, shot points denoted by black swirls and survey line denoted by solid black line.



Figure 2: Photo of Elastic Weight Drop Source at western part of line.

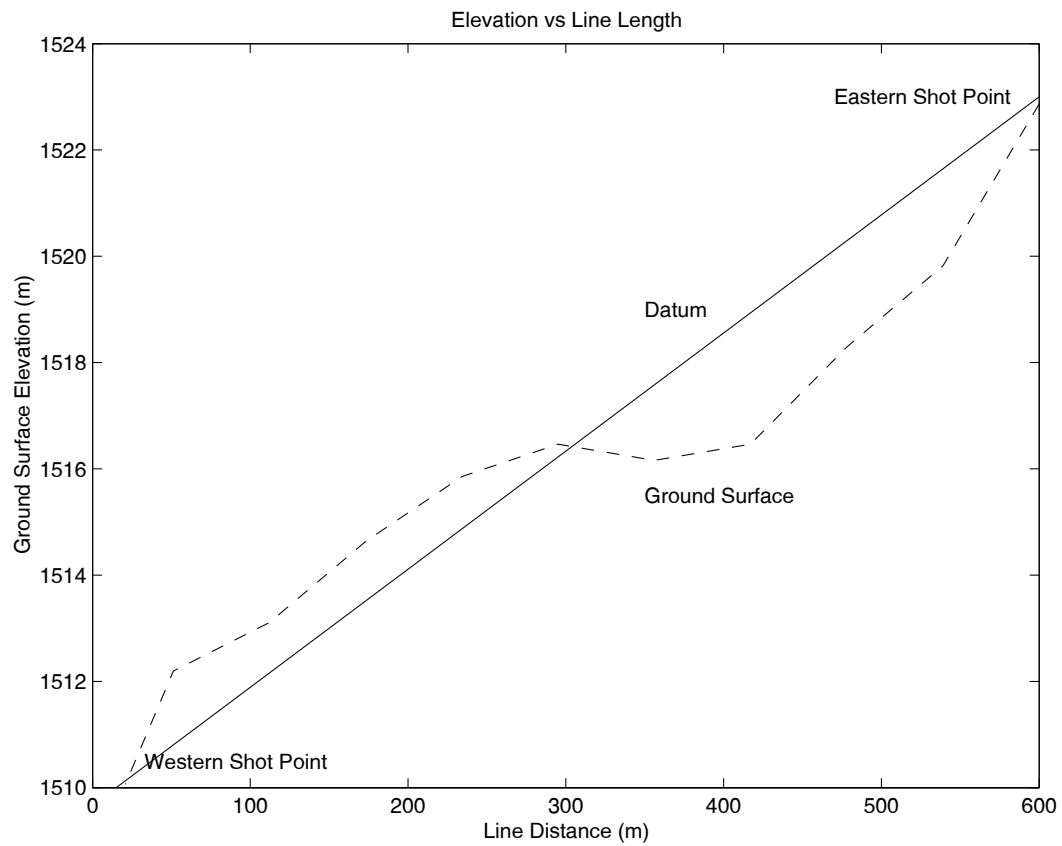


Figure 3: Elevation of ground surface along seismic line (see Figure 2) estimated from contours in an aerial photo.

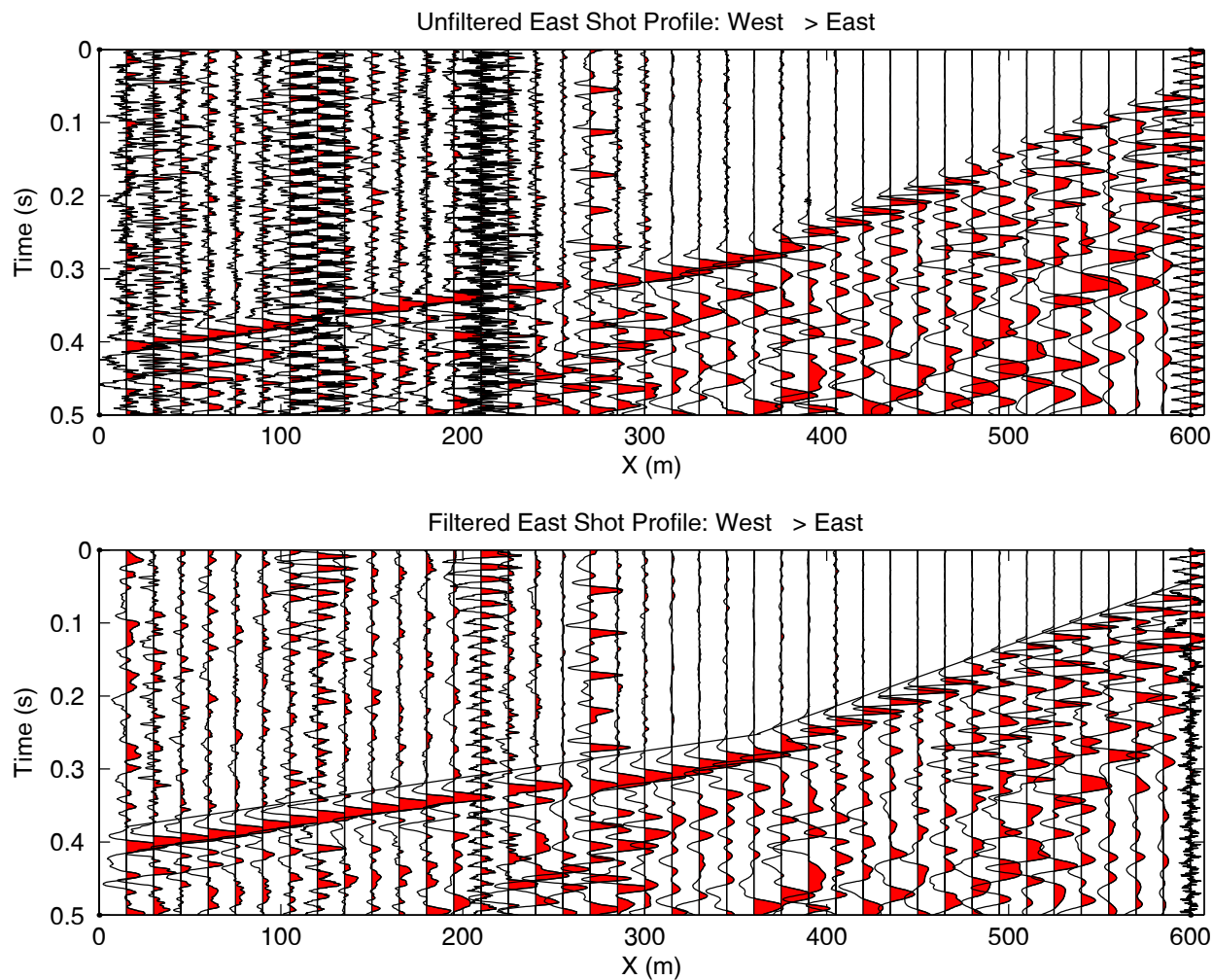


Figure 4: Eastern shot gather (top) before and (bottom) after filtering. Black line depicts interpreted refraction arrivals.



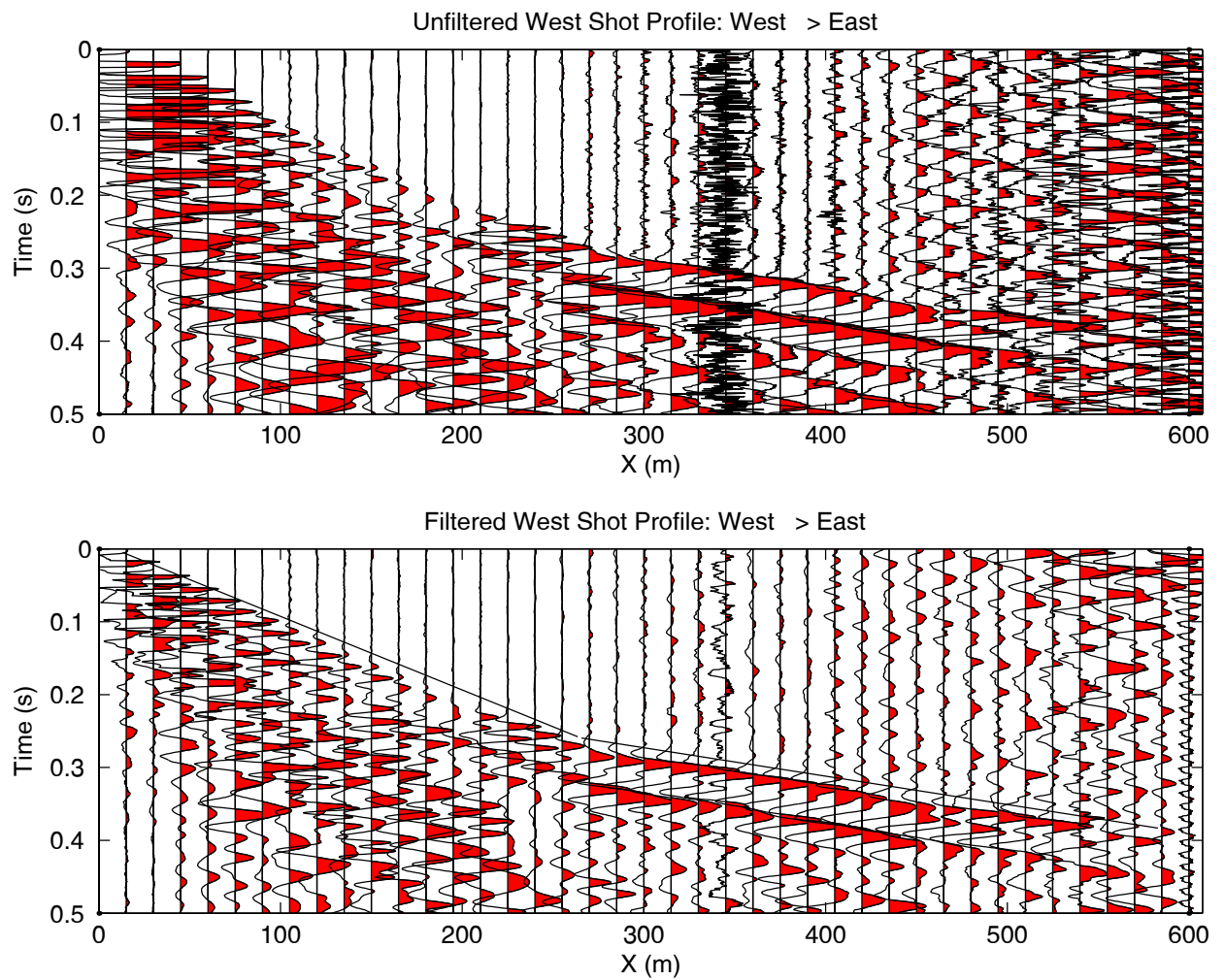


Figure 5: Western shot gather (top) before and (bottom) after filtering. Black line depicts interpreted refraction arrivals.

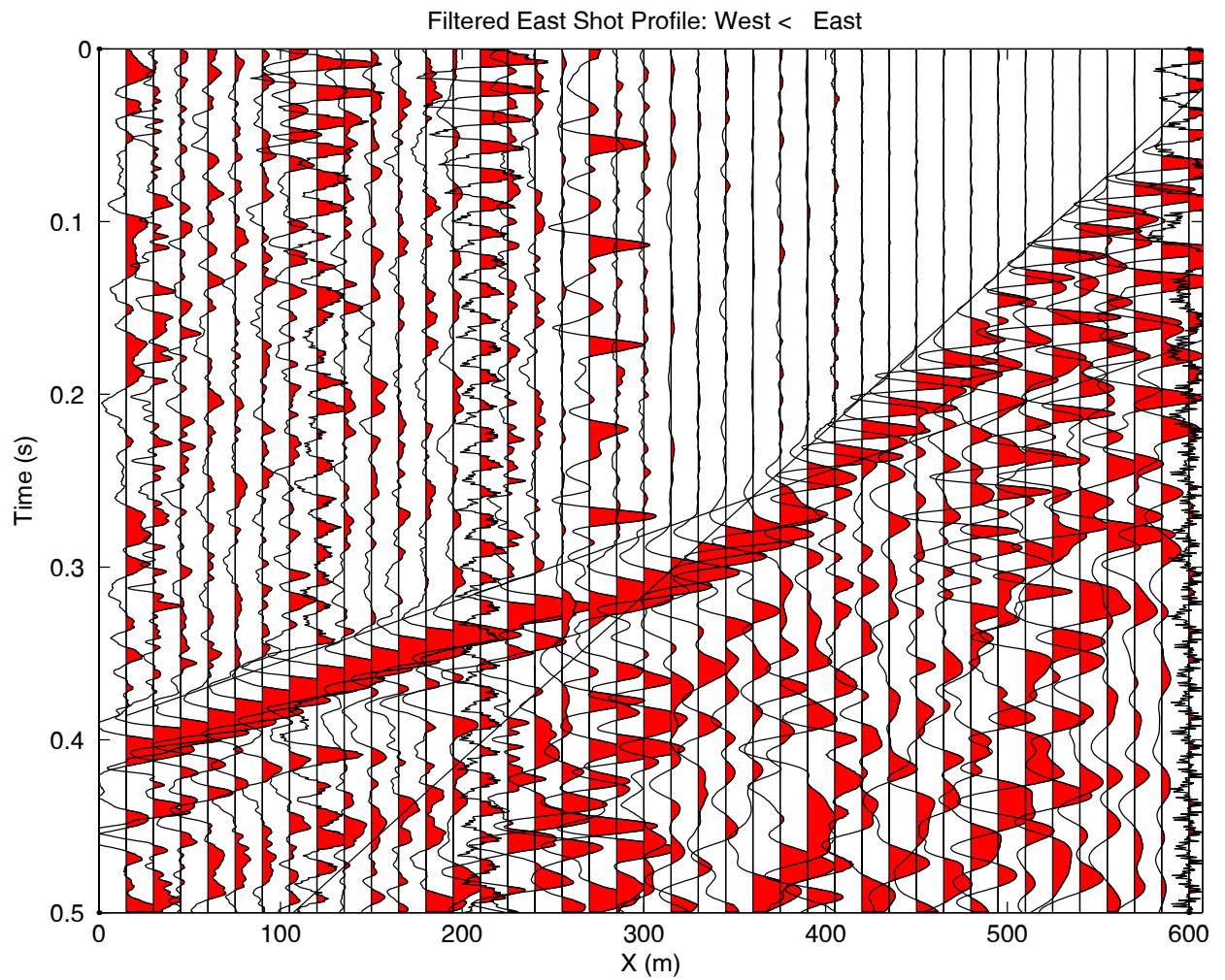


Figure 6: Eastern shot gather and slanted lines indicate picked slopes of direct wave and R1 refraction (see Table 2).



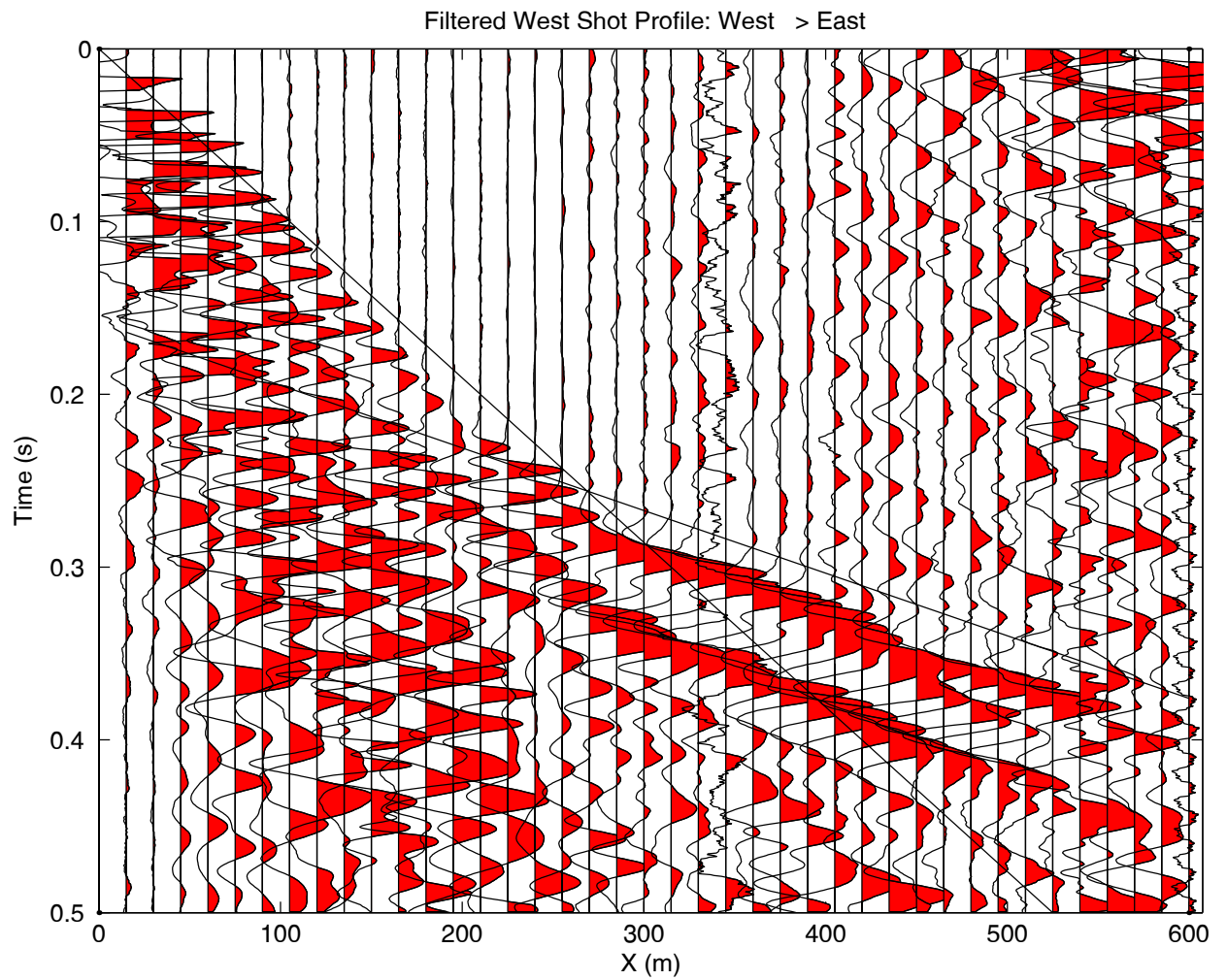


Figure 7: Western shot gather and slanted lines indicate picked slopes of direct wave and R1 refraction (see Table 2).

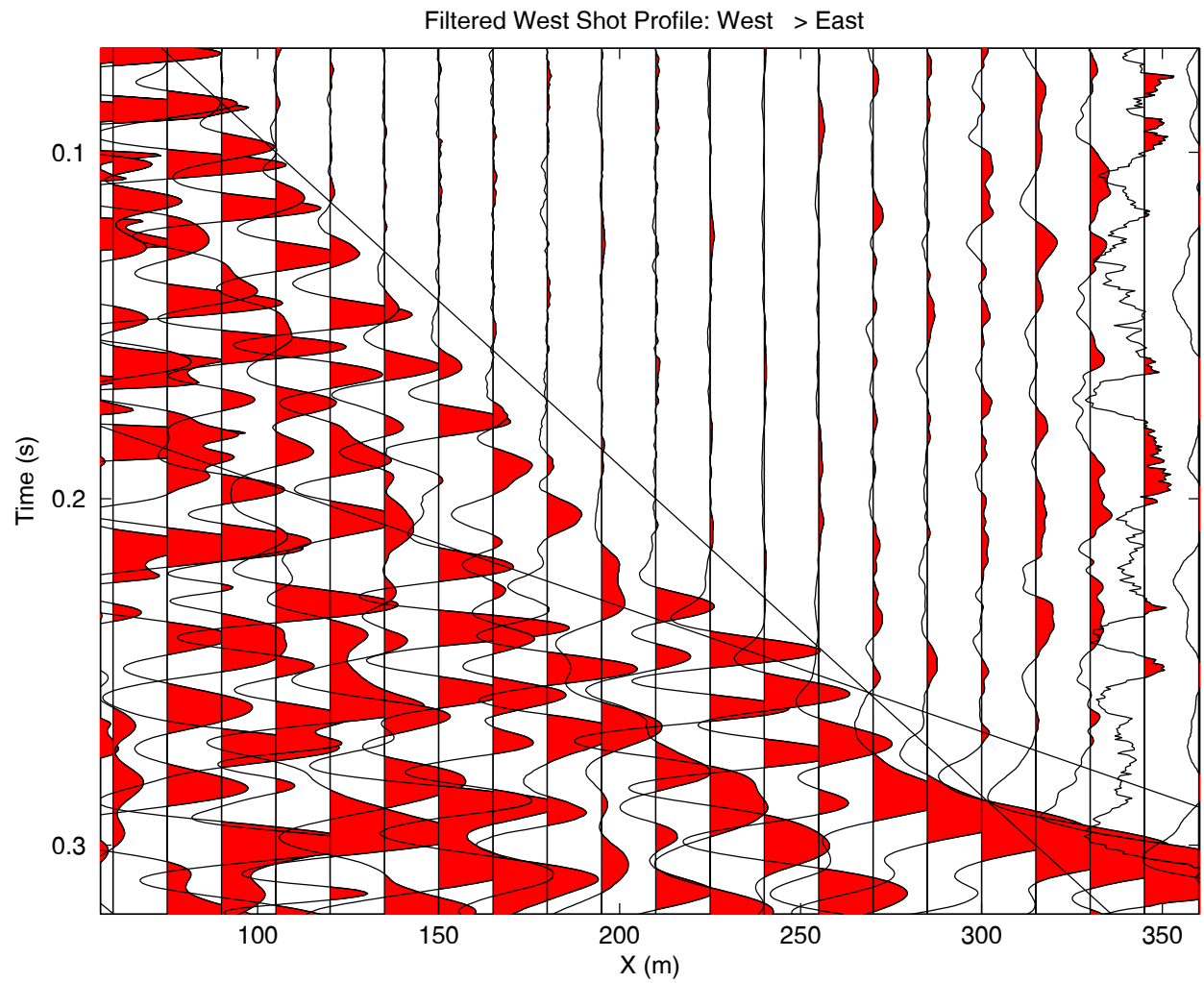


Figure 8: Zoom view of western shot gather; slanted lines indicate picked slopes of direct wave and R1 refraction.

$$\theta = 1/2[\sin^{-1}(V_1 m_w) + \sin^{-1}(V_1 m_e)], \quad (1)$$

gives  $\beta$  the dip angle of the bed (Burger, 1992), where  $V_1$  is the first layer P velocity,  $\theta$  is the critical angle, and  $m_e$  ( $m_w$ ) is  $dt/dx$  of the second refraction on the eastern (western) shot line. The depth to the R1 refractor can be found with the formulas

$$\begin{aligned} j_w &= 0.5t_w V_1 / \cos\theta \quad ; \quad j_e = 0.5t_e V_1 / \cos\theta, \\ z_w &= j_w / \cos\beta \quad ; \quad z_e = j_e / \cos\beta, \end{aligned} \quad (2)$$

where  $t_w$  ( $t_e$ ) is the intercept time for the R1 refraction in the western (eastern) shot gather. Here,  $j_w$  ( $j_e$ ) is the perpendicular depth to the R1 interface at the end of the western (eastern) line, while symbol  $z_w$  ( $z_e$ ) denotes the depth (perpendicular to datum) to the R1 interface at the end of the western (eastern) line.

Table 1. Parameters for refraction survey. A 48-channel seismograph was used to record the data at forty groups, each group consisted of six 10-Hz geophones.

Survey	No. of stacks	Time Sample Interval	Group Spacing
West shot	30	0.0005 s	15-15.5 m
East shot	30	0.0005 s	15-15.5 m

Table 2. Slope ( $V_2^{app}$ ) and intercept parameters obtained from east and west shot gathers in Figures 5-6, and consequent model estimates for the first and second layer P velocities  $V_1$  and  $V_2$ , and depths  $Z$  beneath the western and eastern shotpoints.

Survey	$V_2^{app}$ Intercept Time	$V_1$	$V_2^{app}$	$V_2$	$Z$
West shot	0.164 s	1050 m/s	2759 m/s	2742 m/s	93 m
East shot	0.167 s	1050 m/s	2726 m/s	2742 m/s	95 m

The parameters needed for equations 1-2 are estimated from the shot gathers and given in Table 2. These values were obtained by blowing up pictures of the shot gathers and manually fitting straight lines to the data. Figures 4-5 only show the approximate slopes, but Figure 6-7 show the actual picked slopes. The picked slopes  $V_2^{app}$  and intercept values are shown in Table 2 and plugged into the formulas to give a depth estimate (perpendicular to datum) to R1 of about 95 m (93.2 m) beneath the eastern (western) part of the survey line and a P velocity of  $V_2 = 2742$  m/s. The underlying R1 interface dips with less than 1 degree angle with respect to the ground surface. I roughly estimate the errors in velocities and depths to be about 10 percent of the true value, which was ascertained by having three people independently estimate values from the shot gather and determine model parameters.

The western shotpoint is about 12 meters lower than the eastern shot point. Thus, the above results imply that R1 dips down towards the west because the datum intersects the

eastern and western shotpoints. Based on the seismic profile in the northern part of the valley (Hill, 1988), the R1 reflector dips downward towards the east.

## **Depth Estimate to R2**

A sonic log obtained in the northern portion of the valley (Hill, 1988) shows the R2 layer (consolidated sediments) to have a P velocity of around 5000-5500 m/s. Figure 9 depicts the crossover distance as a function of the depth to the hypothetical R2 layer. We did not observe the R2 refraction out to offsets of 600 m in our data so we conclude that the R2 interface is deeper than 225 m at the water works site.

## **Sources of Error**

The refraction model assumes a layered velocity model, which might not be true. However, the data shows a nearly linear moveout of the R1 arrivals, which suggests that the layered model assumption is reasonable. Attenuation might hide the early arrivals of the R1 refraction so that we might be picking later refraction arrivals delayed by 10 ms or so. If this is so then I would expect a shallower R1 interface, perhaps at 90 m instead of 95 m. Estimating the slopes and intercepts of the refractions also contain error, but I roughly estimated that this would lead to velocity and depth errors of about 10 percent.

## **Summary**

A two-way refraction survey was carried out by personnel from the University of Utah on Feb. 21-22, 2003 at the Metropolitan Water District of Salt Lake and Sandy (3430 East Danish Road). The data quality was high after filtering and the data analysis shows that the R1 refractor (likely the unconsolidated-semiconsolidated interface) is about 95 m beneath the ground surface, and has a P velocity contrast going from about 1050 m/s to 2742 m/s. This is a large velocity contrast that can lead to strong reflections reverberating in this layer. Calculations show that the R2 interface is more than 225 m beneath the ground surface at this site. The R2 interface should also strongly reflect waves and should also be considered in assessing risk analysis. It has the greatest density contrast (Hill, 1988) and so it might be estimated from gravity data. A puzzling result is that the R1 refractor dips (about a 1 degree angle) westward towards the valley, which is opposite to its dip in the northern part of the valley.

## **Acknowledgments**

I would like to thank Maike Buddensiek for leading this survey, and thank Paul Gettings, and members of the GG5220 class (Jamie F., Aaron D., Laura, and Inannoue) for their able assistance.

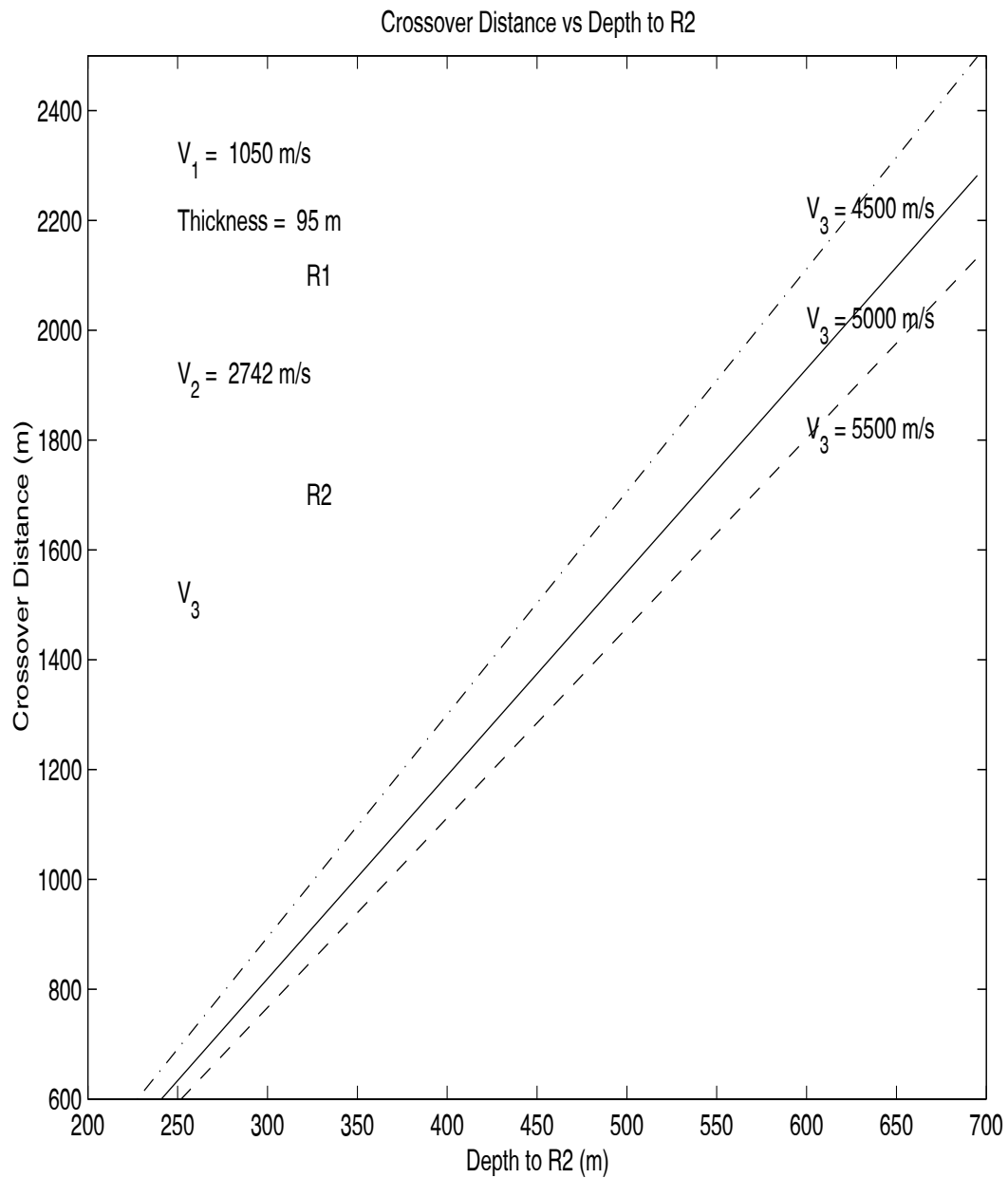


Figure 9: Crossover distance vs Depth to R2 reflector. The maximum offset in the experiment was 600 m and an R2 refraction was not observed in the data; therefore, the R2 refractor must be deeper than 225 m (assuming the R2 velocity is not greater than 5500 m/s).

## References

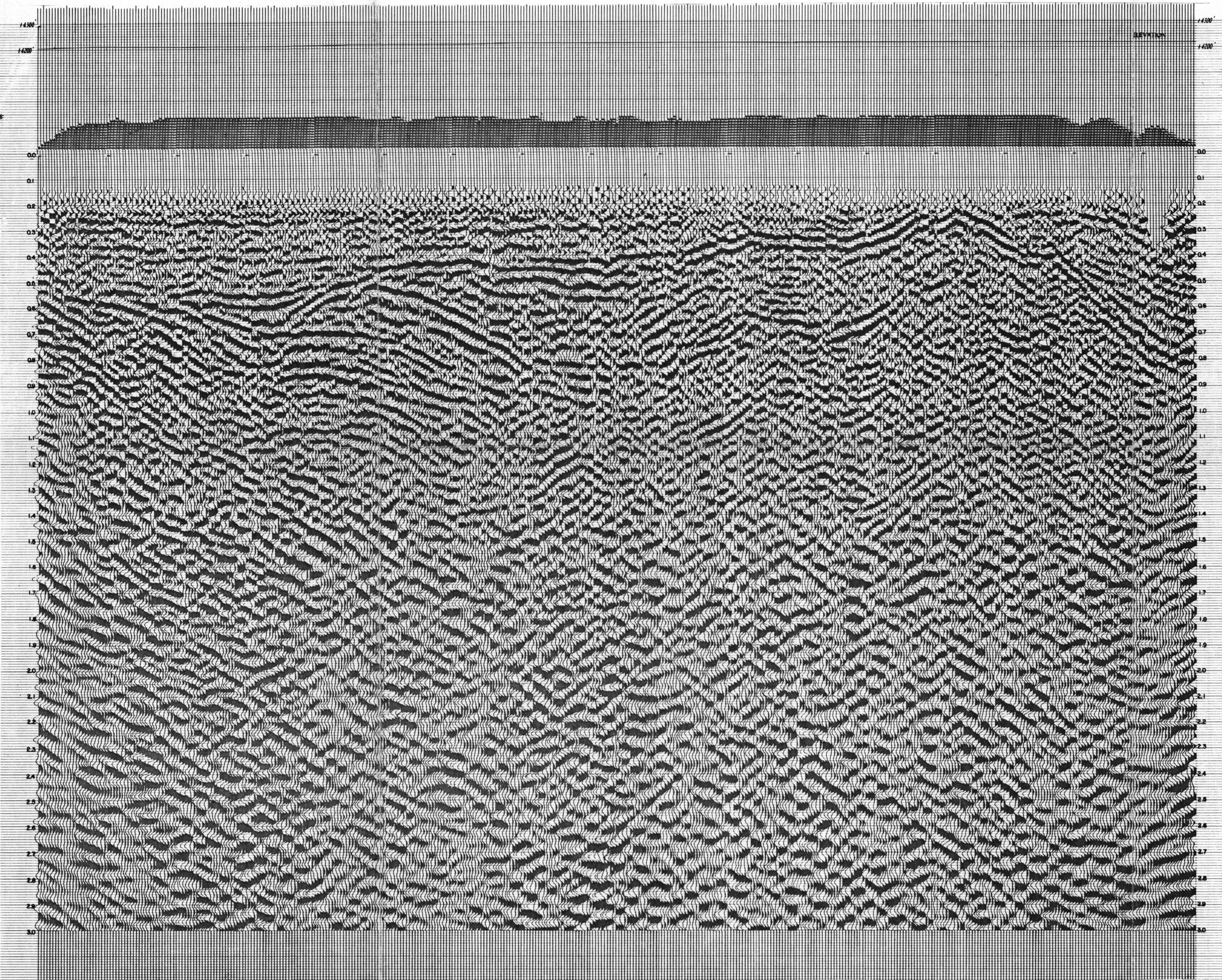
Arnow, T., and Mattick, 1968, Thickness of valley fill in the Jordan Valley east of the Great Salt Lake, Utah: U.S. geol. Surv. Prof. Paper, 600-B, B79-B82.

Burger, R., 1992, Exploration Geophysics of the Shallow Subsurface: Prentice-Hall Co., Englewood Cliffs, New Jersey.

Hill, J., 1988, A finite-difference simulation of seismic wave propagation and resonance in the Salt Lake Valley, Utah: MS Thesis, University of Utah.

Olsen, K., 1994, Simulation of 3-D wave propagation in the Salt Lake Valley, Utah: PhD Dissertation, University of Utah.





LINE R-10

AREA SALT AIR SALT LAKE COUNTY, UTAH

FOR MOUNTAIN FUEL SUPPLY COMPANY

BY  Seismograph Service Corporation  
P.O. BOX 1590 • TULSA, OKLAHOMA 74102 • (918) 627-3330

Job Number 745064  
Date 5-30-74

PROCESSED WITH **the PHOENIX** ON SITE DIGITAL DATA SYSTEM

- PROCESSING SEQUENCE
- |                             |                         |
|-----------------------------|-------------------------|
| 1. Demultiplex - Edit - Sum | • Additional Processing |
| 2. VIBROSEIS® Correlation   | • 11 Time Migration     |
| 3. Velocity Analysis        |                         |
| 4. Normal Moveout           |                         |
| 5. Datum Statics            |                         |
| 6. Automatic Statics        |                         |
| 7. Stack - 12 - Fold        |                         |
| 8. Deconvolution            |                         |
| 9.10. Filter                |                         |
| 11.12. Trace Equalization   |                         |

PROCESSING PARAMETERS

**CORRECTIONS**

Datum +4300 Ft.

$V_e$  8,000 Ft/sec  $V_w$  \_\_\_\_\_

Automatic Statics Window .200 to 1.200 sec.

Additional \_\_\_\_\_

	Operator Length (ms)	Design Window (sec)	Prediction Time (ms)
<b>DECONVOLUTION BEFORE STACK</b>	_____	_____	_____
<b>DECONVOLUTION AFTER STACK</b>	<u>400</u>	<u>.200 - 2.300</u>	_____

	Band Pass (Hz)	Application Time (sec)	Overlap Time (sec)
<b>BAND PASS FILTERS</b>			
(3)	16-20 56-60	0.000 1.500	_____
	12-16 56-60	1.500 2.200	_____
	10-16 56-60	2.200 5.000	_____
	_____	_____	_____
(10)	14-16 32-36	0.000 1.000	_____
	12-14 28-32	1.000 5.000	_____

Sample Rate .4 ms

Traces Per Inch 12

One Second 7.5 Inches

Playback Gain -4 dB

RECORDING PARAMETERS

Contract 2475 Party B Date Recorded 2/7, 8, 11, 12/74

SP/VP Interval: 220' Instrument Type: DFS III ADD-IT

Geophone Interval: 220' Amplifiers: Binary Gain

Near Offset: 440' Recording Filter: 12-62 Hz

Far Offset: 2860' Sample Rate: 2 ms

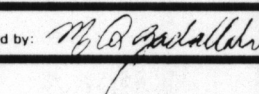
Number Traces: 24 Record Length: 5 sec

Configuration: Split Straddle Sweep Length: Primordial

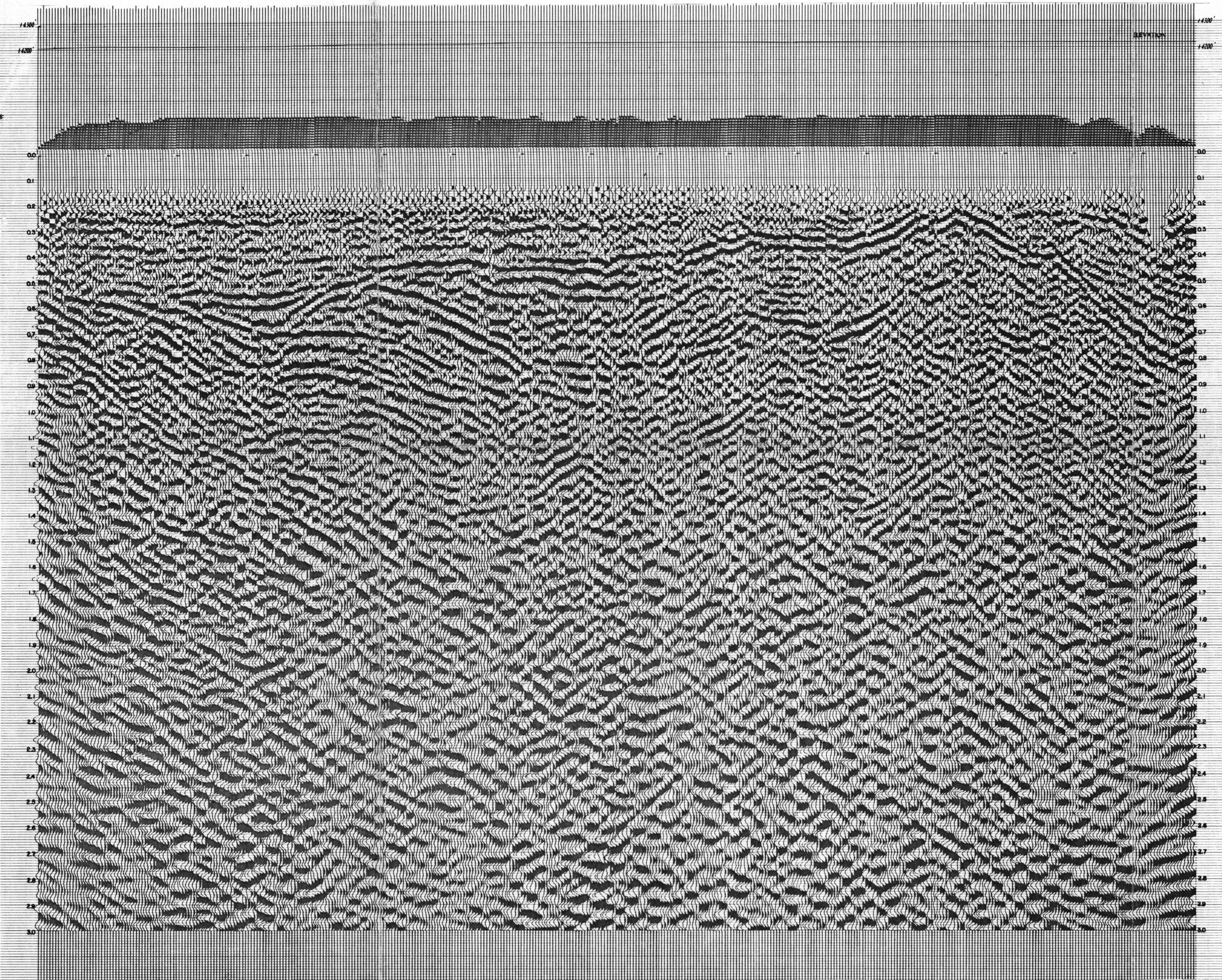
Progression: W to E Sweep Frequency: \_\_\_\_\_

Geophones/Trace: 27 Number Sweeps: \_\_\_\_\_

Registered Trademark and Service Mark of Continental Oil Company  
SSC 1000

Approved by:  5/31/74





LINE R-10

AREA SALT AIR SALT LAKE COUNTY, UTAH

FOR MOUNTAIN FUEL SUPPLY COMPANY

BY  Seismograph Service Corporation  
P.O. BOX 1590 • TULSA, OKLAHOMA 74102 • (918) 627-3330

Job Number 745064  
Date 5-30-74

PROCESSED WITH **the PHOENIX** ON SITE DIGITAL DATA SYSTEM

- PROCESSING SEQUENCE
- |                             |                         |
|-----------------------------|-------------------------|
| 1. Demultiplex - Edit - Sum | • Additional Processing |
| 2. VIBROSEIS® Correlation   | • 11 Time Migration     |
| 3. Velocity Analysis        |                         |
| 4. Normal Moveout           |                         |
| 5. Datum Statics            |                         |
| 6. Automatic Statics        |                         |
| 7. Stack - 12 - Fold        |                         |
| 8. Deconvolution            |                         |
| 9.10. Filter                |                         |
| 11.12. Trace Equalization   |                         |

PROCESSING PARAMETERS

**CORRECTIONS**

Datum +4300 Ft.

$V_0$  8,000 Ft/sec  $V_w$  \_\_\_\_\_

Automatic Statics Window .200 to 1.200 sec.

Additional \_\_\_\_\_

	Operator Length (ms)	Design Window (sec)	Prediction Time (ms)
<b>DECONVOLUTION BEFORE STACK</b>	_____	_____	_____
<b>DECONVOLUTION AFTER STACK</b>	<u>400</u>	<u>.200 - 2.300</u>	_____

	Band Pass (Hz)	Application Time (sec)	Overlap Time (sec)
<b>BAND PASS FILTERS</b>			
(3)	16-20 56-60	0.000 1.500	_____
	12-16 56-60	1.500 2.200	_____
	10-16 56-60	2.200 5.000	_____
	_____	_____	_____
(10)	14-16 32-36	0.000 1.000	_____
	12-14 28-32	1.000 5.000	_____

Sample Rate .4 ms

Traces Per Inch 12

One Second 7.5 Inches

Playback Gain -4 dB

RECORDING PARAMETERS

Contract 2475 Party B Date Recorded 2/7, 8, 11, 12/74

SP/VP Interval: 220' Instrument Type: DFS III ADD-IT

Geophone Interval: 220' Amplifiers: Binary Gain

Near Offset: 440' Recording Filter: 12-62 Hz

Far Offset: 2860' Sample Rate: 2 ms

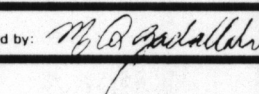
Number Traces: 24 Record Length: 5 sec

Configuration: Split Straddle Sweep Length: Primordial

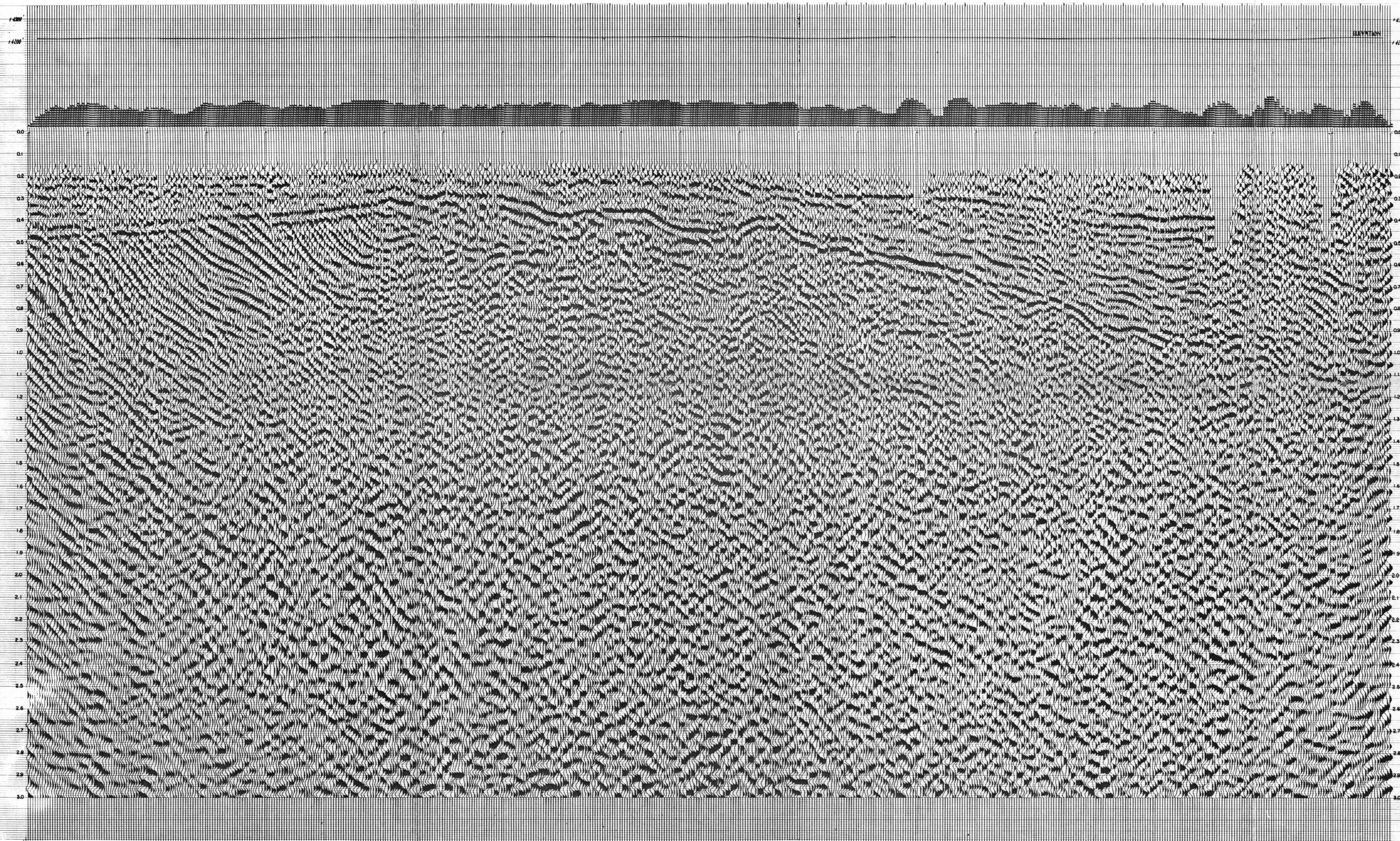
Progression: W to E Sweep Frequency: \_\_\_\_\_

Geophones/Trace: 27 Number Sweeps: \_\_\_\_\_

Registered Trademark and Service Mark of Continental Oil Company  
SSC 1000

Approved by:  5/31/74





LINE R-II

TIME MIGRATION

AREA

SALT AIR

SALT LAKE COUNTY, UTAH

FOR

MOUNTAIN FUEL SUPPLY COMPANY

BY

Seismograph Service Corporation

1100 10th Street • Salt Lake City, Utah 84102 • Phone 801-333-3336 • Telex 801-333-3336

Job Number 745064

Date 5-28-74

PROCESSED WITH

the PHOENIX

ON SITE DIGITAL DATA SYSTEM

PROCESSING SEQUENCE

1 Demultiplex - Edit - Sum

2 Vibroseis® Correlation

3 Velocity Analysis

4 Normal Moveout

5 Datum Statics

6 Automatic Statics

7 Stack 12 Fold

8 Deconvolution

9 Filter

10.11.12 Trace Equalization

13 Additional Processing

Time Migration

PROCESSING PARAMETERS

CORRECTIONS

Datum -4200 Ft.

Ve -5000 Ft/Sec. Vw

Automatic Statics Window 200 to 1400 sec.

Additional

DECONVOLUTION BEFORE STACK

Operator Length (ms) Design Window (sec) Prediction Time (ms)

200 200 2.000

DECONVOLUTION AFTER STACK

200 200 2.000

BAND PASS FILTERS

	Band Pass (Hz)	Application Time (sec)	Overlap Time (sec)
(3)	16.20 - 56.60	6	1.5
	12.16 - 56.60	1.5	2.2
	10.14 - 56.60	2.2	5.0
(10)	14.16 - 32.36	0	1.0
	12.14 - 28.32	1.0	5.0

Sample Rate 4 ms

Traces Per Inch 12

One Second 7.5 inches

Playback Gain -5 dB

RECORDING PARAMETERS

Contract 2475

Party B

Date Recorded Feb. 13, 16, 18, 25, 1974

SP VP Interval 220 Ft.

Instrument Type

DFS III Add-H

Geophone Interval 220 Ft.

Amplifiers

Binary Gain

Near Offset 960 Ft (440 Ft SP 101 125)

Recording Filter

Low 62 Hz

Far Offset 3080 Ft (2060 Ft SP 101 125)

Sample Rate

2 ms

Number Traces 24

Record Length

5 sec

Configuration Split Saddle

Sweep Length

Primordial

Progression 8 to 16

Sweep Frequency

Number Sweeps

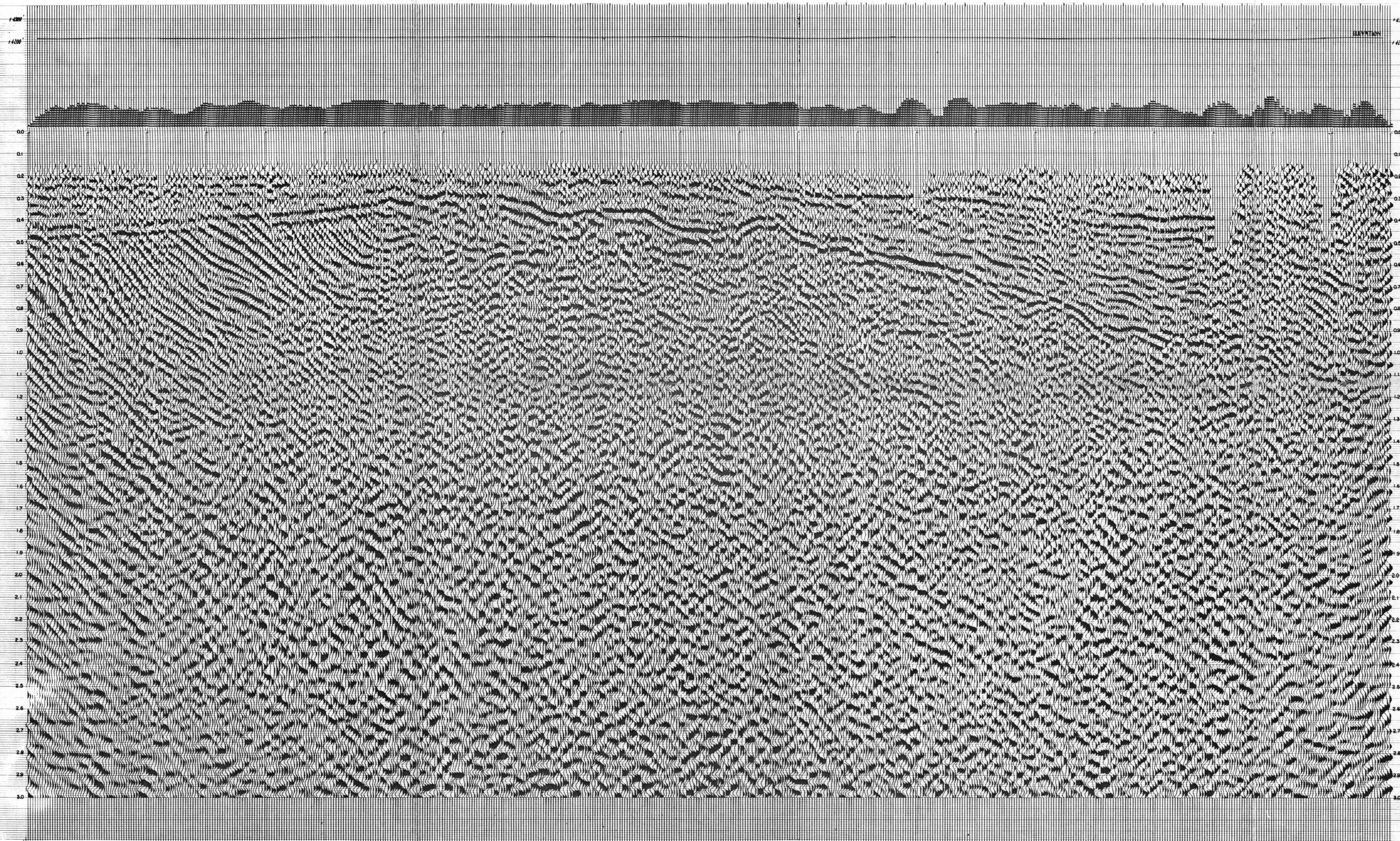
Geophones Trace 27 (SP 101 165)

18 (SP 166 379)

501 1046

Approved by *[Signature]* 5/31/74





LINE R-II

TIME MIGRATION

AREA

SALT AIR

SALT LAKE COUNTY, UTAH

FOR

MOUNTAIN FUEL SUPPLY COMPANY

BY

Seismograph Service Corporation

1100 10th Street • Salt Lake City, Utah 84102 • Phone 801-333-3336 • Telex 801-333-3336

Job Number 745064

Date 5-28-74

the PHOENIX

ON SITE DIGITAL DATA SYSTEM

PROCESSING SEQUENCE

1. Demultiplex - Edit - Sum

2. Vibroseis® Correlation

3. Velocity Analysis

4. Normal Moveout

5. Datum Statics

6. Automatic Statics

7. Stack 12 Fold

8. Deconvolution

9. Filter

10. Trace Equalization

11. Additional Processing

12. Time Migration

PROCESSING PARAMETERS

CORRECTIONS

Datum +4200 Ft.

Vel 5000 Ft/Sec. V<sub>0</sub>

Automatic Statics Window 200 to 1.400 sec.

Additional

DECONVOLUTION BEFORE STACK

Operator Length (ms)        Design Window (sec)        Prediction Time (ms)

DECONVOLUTION AFTER STACK

200

200

2.300

BAND PASS FILTERS

	Band Pass (Hz)	Application Time (sec)	Overlap Time (sec)
(3)	16.20 - 56.60	6	1.5
	12.16 - 56.60	1.5	2.2
	10.14 - 56.60	2.2	5.0
(10)	14.16 - 32.36	0	1.0
	12.14 - 28.32	1.0	5.0

Sample Rate 4 ms

Traces Per Inch 12

One Second 7.5 inches

Playback Gain -8 dB

RECORDING PARAMETERS

Contract 2475 Party B Date Recorded Feb. 13, 16, 18, 25, 1974

SP VP Interval 220 Ft. Instrument Type DFS III Amplifier        Binary Gain

Geophone Interval 220 Ft. Recording Filter        Sample Rate 2 ms

Near Offset 960 Ft (440 Ft SP 101 125) Record Length 5 sec

Far Offset 3080 Ft (2060 Ft SP 101 125) Sweep Length        Primordial

Configuration Split Staddle Sweep Frequency

Progression 8 to 18 Number Sweeps

Geophones/Trace 27 (SP 101 165) 18 (SP 166 379)

551 1046

Approved by [Signature] 5/31/74



\*\*\*\*\* WIN: 001364 \*\*\*\*\*

•&l6D  
•&a130M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@  
S 800 ft E 1000 ft from NW CORNER of SECTION 21 T 8S R 3E BASE SL  
Elevation: feet  
•&d0DDRILLER ACTIVITIES:•&d@  
ACTIVITY # 1 NEW WELL  
DRILLER: BASIN & RANGE DRILLING CO LICENCE #: 354  
START DATE: 10/25/1992 COMPLETION DATE: 11/11/1992  
•&d0DBOREHOLE INFORMATION:•&d@  
Depth(ft) Diameter(in) Drilling Method Drilling Fluid  
From To  
0 292 8 CABLE  
•&d0DLITHOLOGY:•&d@  
Depth(ft) Lithologic Description  
Color Rock Type  
From To  
0 4 CLAY  
TAN T.S.  
4 25 SAND, GRAVEL, OTHER  
TAN COBBLES  
25 44 SAND, GRAVEL  
TAN  
44 61 SAND  
TAN  
61 71 SAND, GRAVEL  
TAN  
71 110 SAND  
GRAY  
110 120 SILT  
GRAY  
120 220 CLAY  
GRAY  
220 225 CLAY, GRAVEL  
GRAVE 0.24"  
225 233 CLAY  
GRAY  
233 264 SILT  
GRAY  
264 270 SAND  
HARD CEMENTED  
270 286 SAND, GRAVEL, OTHER  
CONGLOMERATE  
SMALL GRAV.  
286 292 WATER-BEARING, BOULDERS, OTHER  
CONGLOMERATE  
LOTS OF WATER  
•&d0DWATER LEVEL DATA:•&d@  
Date Time Water Level (feet) Status  
(-)above ground  
11/12/1992 136.00 STATIC  
•&d0DCONSTRUCTION - CASING:•&d@  
Depth(ft) Material Gage(in) Diameter(in)  
From To  
+1.7 289.8 NEW .322 8  
•&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS:•&d@  
Depth(ft) Material Amount Density(pcf)  
From To  
0 100 BENTONITE  
•&d0DWELL TESTS:•&d@  
Date Test Method Yield (CFS) Drawdown (ft) Time Pumped (hrs)  
11/12/1992 PUMP .038 8  
•&d0DGENERAL COMMENTS:•&d@  
\*TYPE OF WATER: surface  
\*METHOD OF SEALING OFF STRATA: Surface casing & bentonite. Surface casing pulled after well was test pumped.  
\*PUMP TEST - Drawdown unknown.

003163

**LOCATION:**

N 550 ft E 430 ft from S4 CORNER of SECTION 13 T 9S R 2E BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL  
DRILLER: DOXEY DRILLING  
START DATE: 01/29/1993

COMPLETION DATE: 06/01/1993

LICENSE #: 400

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 502	8.75	ROTARY/TRI-CONE BIT	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 5	OTHER
TOP SOIL	
	TOP SOIL
5 60	SAND, GRAVEL
60 75	SILT
75 110	SAND, GRAVEL, COBBLES
110 160	OTHER
HARD	CONGLOMERATE
	CONGLOMERATE (HARD)
160 175	WATER-BEARING, SAND, GRAVEL
175 185	CLAY
185 210	OTHER
CONGLOMERATE	
	CONGLOMERATE (HARD DRILLING)
210 215	CLAY
215 260	OTHER
CONGLOMERATE	
	CONGLOMERATE
260 267	CLAY
267 375	WATER-BEARING, OTHER
CONGLOMERATE	
	CONGLOMERATE
375 380	CLAY
380 394	OTHER
	VERY HARD
394 445	OTHER
	CONGLOMERATE
445 450	CLAY
450 500	WATER-BEARING, GRAVEL, COBBLES, OTHER
	WATER BEARING

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
05/12/1993		442.00	

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
+1.5 500	5" STEEL PRIME	.250	5.25

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From To			
160 175	PERFORATION	.125	.250
265 375	PERFORATION	.125	.250
394 445	PERFORATION	.125	.250
460 500	PERFORATION	.125	.250

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 502	SURFACE SEAL/GRAVEL		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
05/ /1993	BAIL, SWAB, SURGE	.033	20	
06/ /1993	PUMP TEST	.031	23	60

**GENERAL COMMENTS:**

CONSTRUCTION INFORMATION:

Well head Configuration; 5" well seal

FILTER PACK: Surface seal washed 1/4" gravel

No other data available

\*\*\*\*\* WIN: 006096 \*\*\*\*\*

•&l6D  
•&a130M

Division of Water Rights Well

Data

•&d0DLLOCATION:•&d@  
S 650 ft E 2550 ft from W4 CORNER of SECTION 22 T 5S R 1W BASE SL  
Elevation: feet  
•&d0DDRILLER ACTIVITIES:•&d@  
ACTIVITY # 1 NEW WELL  
DRILLER: ZIMMERMAN WELL SERVICE LICENCE #: 527  
START DATE: 04/22/1994 COMPLETION DATE: 05/09/1994  
•&d0DBOREHOLE INFORMATION:•&d@  
Depth(ft) Diameter(in) Drilling Method Drilling Fluid  
From To  
0 20 12.5 AIR ROTARY  
20 170 8.75 MUD ROTARY BENTONITE  
170 200 6.00 AIR ROTARY AIR/FOAM  
•&d0DLITHOLOGY:•&d@  
Depth(ft) Lithologic Description  
Color Rock Type  
From To  
0 4 OTHER  
TOP SOIL  
4 21 TOP SOIL  
BROWN CLAY,SAND,GRAVEL  
21 30 SOME GRAVEL  
BROWN SAND,GRAVEL  
30 35 GRAVEL  
35 41 CLAY,SAND,GRAVEL  
BROWN  
41 99 CLAY,SAND,GRAVEL  
BROWN  
99 170 VERY LITTLE CLAY  
GRAY OTHER  
LIMESTONE  
WEATHERED-CLAY INTERBEDDED  
170 200 OTHER  
GRAY LIMESTONE  
FRACTURED  
•&d0DWATER LEVEL DATA:•&d@  
Date Time Water Level (feet) Status  
(-)above ground  
05/09/1994 132.00 STATIC  
•&d0DCONSTRUCTION - CASING:•&d@  
Depth(ft) Material Gage(in) Diameter(in)  
From To  
0 170 A53A STEEL .250 6.00  
140 200 SCH 40 PVC .237 4.50  
•&d0DCONSTRUCTION - SCREENS/PERFORATIONS:•&d@  
Depth(ft) Screen(S) or Perforation(P) Slot/Perf. siz Screen Diam/Length  
Perf(in) Screen Type/# Perf.  
From To  
160 200 PERFORATION .125 4.00  
200 PERFS  
•&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS:•&d@  
Depth(ft) Material Amount Density(pcf)  
From To  
0 40 HOLE PLUG BENTONITE CH  
150 200 1/4 GRAVEL  
•&d0DWELL TESTS:•&d@  
Date Test Method Yield (CFS) Drawdown (ft) Time Pumped (hrs)  
05/09/1994 AIR LIFT .045  
•&d0DGENERAL COMMENTS:•&d@  
CONSTRUCTION INFORMATION:  
Well head configuration: Welded cap Access Port: No data  
Casing Joint Type: Weld steel Threaded PVC Perforator: Saw  
Pump: No data  
Comments: At time of development water tested for iron at 0.7 PPM  
PH 7.4, hardness 36 GPG  
Additional data not availabel

\*\*\*\*\* WIN: 008281 \*\*\*\*\*

•&l6D  
•&a130M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@  
N 1900 ft E 600 ft from S4 CORNER of SECTION 32 T 8S R 1W BASE SL  
Elevation: feet  
•&d0DDRILLER ACTIVITIES:•&d@  
ACTIVITY # 1 NEW WELL  
DRILLER: STEPHENSON DRILLING LICENCE #: 106  
START DATE: 01/17/1995 COMPLETION DATE: 04/09/1995  
•&d0DBOREHOLE INFORMATION:•&d@  
Depth(ft) Diameter(in) Drilling Method Drilling Fluid  
From To  
0 45 20.0 CABLE TOOL WATER  
46 560 16.0 CABLE TOOL WATER  
561 675 8.00 CABLE TOOL WATER  
•&d0DLITHOLOGY:•&d@  
Depth(ft) Lithologic Description  
Color Rock Type  
From To  
0 11  
SURFACE  
11 157 SURFACE  
RED WATER-BEARING, LOW-PERMEABILITY, CLAY, SILT, SAND, GRAVEL  
RED CLAY  
157 238 MIXED SMALL GRAVEL/SAND/CLAY  
PINK WATER-BEARING, LOW-PERMEABILITY, CLAY, SILT, SAND  
PINK CLAY SHOWING GRAVEL-SAND MIXED  
238 549 WATER-BEARING, LOW-PERMEABILITY, CLAY, SILT, SAND, OTHER  
PINK CLAY SHOWING SMALL GRAVEL-SAND MIXED  
549 560 OTHER  
BLUELINE  
560 616 BLUELINE  
BLUELINE FRACTURED BLUE LIME STONE  
OTHER  
616 625 BLUELINE  
BLUELINE FRACTURED  
WATER-BEARING, LOW-PERMEABILITY  
625 648 BLUELINE  
BLUELINE FRACTURED  
648 667 WATER-BEARING, HIGH-PERMEABILITY  
BLUELINE  
667 675 BLUELINE  
LIME/RED FRACTURED FORMATION WATER COOLER  
WATER-BEARING, HIGH-PERMEABILITY, CLAY  
LIME-DARK/RED CLAY  
FRACTURED FORMATION  
•&d0DWATER LEVEL DATA:•&d@  
Date Time Water Level (feet) Status  
(-)above ground  
04/05/1995 148.60  
•&d0DCONSTRUCTION - CASING:•&d@  
Depth(ft) Material Gage(in) Diameter(in)  
From To  
0 552 STEEL GRADE BA53 .375 15.5  
•&d0DCONSTRUCTION - SCREENS/PERFORATIONS:•&d@  
Depth(ft) Screen(S) or Perforation(P) Slot/Perf. siz Screen Diam/Length  
Perf(in) Screen Type/# Perf.  
From To  
180 550 PERFORATION .375 3.00  
185/8 PER RN  
•&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS:•&d@  
Depth(ft) Material Amount Density(pcf)  
From To  
0 45 CEMENT/SAND 10 BG MIX  
•&d0DWELL TESTS:•&d@  
Date Test Method Yield (CFS) Drawdown (ft) Time Pumped (hrs)

## •&amp;d0DGENERAL COMMENTS:•&amp;d@

## CONSTRUCTION INFORMATION:

Well head configuration: Pump Base

Casing Joint Type: Welded-3 Passes

Perforator used: mills

Access Port Provided: through pump base

Filter Pack: cement/sand 10 bag mix

Pump: No data

well disinfected: No data

Comments: No data

Additional data not available



\*\*\*\*\* WIN: 008841 \*\*\*\*\*

•&l6D  
•&a130M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@  
N 600 ft W 1325 ft from E4 CORNER of SECTION 26 T 4S R 1W BASE SL  
Elevation: feet  
•&d0DDRILLER ACTIVITIES:•&d@  
ACTIVITY # 1 NEW WELL  
DRILLER: Advanced Drilling Incorporated LICENCE #: 451  
START DATE: 05/09/1995 COMPLETION DATE: 08/25/1995  
•&d0DBOREHOLE INFORMATION:•&d@  
Depth(ft) Diameter(in) Drilling Method Drilling Fluid  
From To  
0 715 17.0 MUD ROTARY BENTONITE/BARITE  
715 1038 12.5 MUD ROTARY BENTONITE/BARITE  
•&d0DLITHOLOGY:•&d@  
Depth(ft) Lithologic Description  
Color Rock Type  
From To  
0 80 CLAY,SILT,SAND,GRAVEL,COBBLES  
LITTLE CLAY  
80 700 LOW-PERMEABILITY,CLAY,SILT,SAND,GRAVEL  
LITTLE GRAVEL  
700 1000 HIGH-PERMEABILITY,OTHER  
YELLOW/GRAY QUARTZITE  
QUARTZITE/YELLOW & GRAY/EXTREMELY FRACTURED  
1000 1038 LOW-PERMEABILITY,CLAY,OTHER  
YELLOW/GRAY QUARTZITE  
QUARTZITE/YELLOW & GRAY/FRACTURES FILLED WITH CLAY  
•&d0DWATER LEVEL DATA:•&d@  
Date Time Water Level (feet) Status  
(-)above ground  
06/12/1995 -184.8 FLOWING  
•&d0DCONSTRUCTION - CASING:•&d@  
Depth(ft) Material Gage(in) Diameter(in)  
From To  
0 20 STEEL .250 18.0  
1 711 STEEL .375 14.0  
690 710 STEEL .330 9.00  
1010 1030 STEEL .330 9.00  
•&d0DCONSTRUCTION - SCREENS/PERFORATIONS:•&d@  
Depth(ft) Screen(S) or Perforation(P) Slot/Perf. siz Screen Diam/Length  
Perf(in) Screen Type/# Perf.  
From To  
710 1010 PERFORATION 100 9.50  
STAINLESS  
•&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS:•&d@  
Depth(ft) Material Amount Density(pcf)  
From To  
0 20 CONCRETE 9  
0 711 NEAT CEMENT/11 LB/MUD  
•&d0DGENERAL COMMENTS:•&d@  
CONSTRUCTION INFORMATION:  
Well head configuration: Spool with 10", 4" & 2" valves  
Casing Joint Type: Welded  
Perforator used: No data  
Well Development:  
Method: Reverse circulation swab  
Flow: 500-1000 GPM  
Drawdown: -0-  
Time Pumped: 72  
Pump: No data  
well disinfected: No data  
Comments: No data  
Additional data not available

\*\*\*\*\* WIN: 011382 \*\*\*\*\*

•&l6D  
•&al30M

Division of Water Rights Well

Data

**LOCATION:**

N 1300 ft W 150 ft from S4 CORNER of SECTION 7 T 9S R 2E BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL  
DRILLER: MILLER DRILLING  
START DATE: 02/28/1996

COMPLETION DATE: 03/04/1996

LICENSE #: 292

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 218	6.00	AIR ROTARY	AIR AND WATER

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 4	LOW-PERMEABILITY, CLAY
BROWN	
4 18	GRAVEL
TAN	
18 80	CLAY, SAND
TAN	
80 120	WATER-BEARING, HIGH-PERMEABILITY, SAND
TAN	
120 150	CLAY, SAND
TAN	
150 156	WATER-BEARING, SILT, SAND
TAN	
156 174	WATER-BEARING, SAND
RED	
174 218	LOW-PERMEABILITY, OTHER
NO WATER	BEDROCK

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
03/04/1996		26.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 151	STEEL	.250	6.00

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 20	BENTONITE DRY	1	

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
03/01/1996	AIR LIFT	.067		1

**GENERAL COMMENTS:**

CONSTRUCTION INFORMATION:  
Well head configuration: Pitless Adaptor  
Casing Joint Type: Welded  
perforator used: N/A  
Screen/perforations: no data  
Pump: Grundfos  
HP: 3/4  
Intake Depth: 130 feet  
approx pump rate: 20 gpm  
Well disinfected: No  
Additional data not available

011537

**LOCATION:**

S 400 ft W 2200 ft from NE CORNER of SECTION 15 T 9S R 2E BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL  
DRILLER: DOXEY DRILLING  
START DATE: 03/01/1996

LICENSE #: 400

COMPLETION DATE: 03/07/1996

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 265	9.00	ROTARY TRI-CONE	WATER-QUIK GEL BAROI

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 3	OTHER
DARK BROWN	TOP SOIL
3 7	TOP SOIL
7 19	WATER-BEARING, HIGH-PERMEABILITY, SAND CLAY
TAN	
19 21	HIGH-PERMEABILITY, GRAVEL
21 77	LOW-PERMEABILITY, CLAY
TAN	
77 86	LOW-PERMEABILITY
86 93	HIGH-PERMEABILITY, GRAVEL
93 113	LOW-PERMEABILITY, CLAY
DARK BROWN	
113 119	CLAY, GRAVEL
119 135	CLAY
TAN	
135 150	HIGH-PERMEABILITY, GRAVEL
150 155	LOW-PERMEABILITY, CLAY
TAN	
155 167	HIGH-PERMEABILITY, GRAVEL
167 174	LOW-PERMEABILITY, CLAY
TAN	
174 179	HIGH-PERMEABILITY, SILT, SAND
179 188	WATER-BEARING, HIGH-PERMEABILITY, SAND
188 191	LOW-PERMEABILITY, CLAY
TAN	
191 200	HIGH-PERMEABILITY, SILT, SAND
200 206	CLAY
206 223	WATER-BEARING, HIGH-PERMEABILITY, CLAY, SILT, SAND, GRAVEL
223 232	LOW-PERMEABILITY, OTHER
FRACTURES/ROCK	
	HARD ROCK W/FRACTURES
232 238	WATER-BEARING, SAND, GRAVEL
238 253	WATER-BEARING, OTHER
	FRACTURES W/ROCK
253 265	WATER-BEARING, SAND, GRAVEL
	WATER

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
03/12/1996		1.00	FLOWING

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
+2 265	5" PVC WELL CASING	.271	5.25

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From To			
216 253	PERFORATION	.125	1.25
450 SLOTS			

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 33	HOLE PLUG/GRAN BENTONI		
33 265	WASHED PEA GRAVEL 1/4"		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
03/05/1996	AIR JET/LIFTING	.067	65	2

**GENERAL COMMENTS:**

## CONSTRUCTION INFORMATION:

Well head configuration: 5" x 1" well seal

Casing Joint Type: Solvent Weld

Perforator used: Slots

Comments: After development we let well sit overnight and well was flowing 1 gpm over top of well casing. We installed a well seal to shut off water.

Additional data not available

\*\*\*\*\* WIN: 013507 \*\*\*\*\*

•&l6D  
•&a130M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@  
S 1432 ft E 415 ft from NW CORNER of SECTION 30 T 6S R 1E BASE SL  
Elevation: feet  
•&d0DDRILLER ACTIVITIES:•&d@  
ACTIVITY # 1 NEW WELL  
DRILLER: Robinson Drilling Company LICENCE #: 10  
START DATE: 03/30/1973 COMPLETION DATE: 05/17/1973  
•&d0DBOREHOLE INFORMATION:•&d@  
Depth(ft) Diameter(in) Drilling Method Drilling Fluid  
From To  
0 490 8 CABLE  
•&d0DLITHOLOGY:•&d@  
Depth(ft) Lithologic Description  
Color Rock Type  
From To  
0 5 CLAY,SILT,BOULDERS  
5 18 CLAY,GRAVEL,BOULDERS  
18 32 BOULDERS  
32 39 CLAY,BOULDERS  
39 230 CLAY,GRAVEL,BOULDERS  
230 272 CLAY,GRAVEL  
RED  
HARD CLAY  
272 403 OTHER  
DRK BLUE SHALE  
SMALL AMOUNT OF WATER AT 272 FT.  
403 490 WATER-BEARING,OTHER  
DRK BLUE SHALE  
HARD  
•&d0DWATER LEVEL DATA:•&d@  
Date Time Water Level (feet) Status  
(-)above ground  
05/03/1973 249.00 STATIC  
•&d0DCONSTRUCTION - CASING:•&d@  
Depth(ft) Material Gage(in) Diameter(in)  
From To  
0 233 NEW 10  
0 487 NEW 8  
•&d0DCONSTRUCTION - SCREENS/PERFORATIONS:•&d@  
Depth(ft) Screen(S) or Perforation(P) Slot/Perf. siz Screen Diam/Length  
Perf(in) Screen Type/# Perf.  
From To  
275 485 PERFORATION .19 2.50  
480  
•&d0DWELL TESTS:•&d@  
Date Test Method Yield (CFS) Drawdown (ft) Time Pumped (hrs)  
05/03/1973 BAILER .053 35 4

\*\*\*\*\* WIN: 013537 \*\*\*\*\*

•&l6D  
•&a130M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@

N 981 ft E 368 ft from W4 CORNER of SECTION 10 T 8S R 1E BASE SL

Elevation: feet

•&d0DDRILLER ACTIVITIES:•&d@

ACTIVITY # 1 NEW WELL

DRILLER: Poulson, Mark, Excavating & Drilling

LICENCE #: 243

START DATE: 03/25/1976 COMPLETION DATE: 04/30/1976

•&d0DBOREHOLE INFORMATION:•&d@

Depth(ft) Diameter(in) Drilling Method Drilling Fluid

From To

0 275 6 CABLE

•&d0DLITHOLOGY:•&d@

Depth(ft) Lithologic Description

Color Rock Type

From To

0 4 OTHER

TOP SOIL

4 20 CLAY, COBBLES, BOULDERS

20 40 CLAY, COBBLES, BOULDERS

40 60 WATER-BEARING, SAND, GRAVEL

WATER TEMP 67

60 80 CLAY, COBBLES, BOULDERS

80 108 CLAY, COBBLES, BOULDERS

108 115 WATER-BEARING, SAND, GRAVEL

WATER TEMP 74.

115 152 CLAY, SAND, GRAVEL, COBBLES, BOULDERS

152 200 GRAVEL, COBBLES

200 208 WATER-BEARING, OTHER

BEDROCK

WATER TEMP 75 AND 84

208 240 WATER-BEARING, OTHER

BEDROCK

240 275 WATER-BEARING, OTHER

BEDROCK

WATER TEMP 98

•&d0DWATER LEVEL DATA:•&d@

Date Time Water Level (feet) Status  
(-)above ground

04/30/1976 19.00 STATIC

•&d0DCONSTRUCTION - CASING:•&d@

Depth(ft) Material Gage(in) Diameter(in)

From To

0 240 NEW .280 6

\*\*\*\*\* WIN: 013701 \*\*\*\*\*

•&l6D  
•&al30M

Division of Water Rights Well

Data

**LOCATION:**

S 66 ft E 90 ft from W4 CORNER of SECTION 4 T 10S R 1W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

DRILLER: Layne-Texas Company

LICENSE #: 183

START DATE: 01/27/1962 COMPLETION DATE: 05/11/1962

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 1218	29	ROTARY	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 23	CLAY, SAND
23 62	CLAY, SAND, GRAVEL
62 90	CLAY, SAND, GRAVEL
90 114	GRAVEL LARGE
114 144	SAND, GRAVEL
144 166	GRAVEL, BOULDERS
166 254	SAND, GRAVEL
254 284	CLAY, GRAVEL CLAY BREAKS
284 294	CLAY, GRAVEL HARD
294 302	GRAVEL, OTHER
SHALE 302 310	OTHER
SHALE 310 340	HARD GRAVEL, OTHER
SHALE 340 365	SANDY SAND, GRAVEL
365 409	SAND, GRAVEL SAND BREAKS
409 419	SAND, GRAVEL SAND BREAKS
419 451	GRAVEL
451 529	SAND, GRAVEL
529 579	FINE GRAVEL LAYERS, SAND BREAKS OTHER
SHALE 579 685	HARD SANDY, PYRITE SAND, GRAVEL
685 708	CLAY, SAND, GRAVEL
708 757	SAND, GRAVEL COARSE SAND, FINE GRAVEL
757 759	CLAY
759 797	SAND, GRAVEL, OTHER
PYRITE 797 802	CLAY
802 829	SAND, GRAVEL
829 830	SAND
830 870	CLAY, GRAVEL
870 888	CLAY, SAND, GRAVEL CLAY BREAKS
888 920	CLAY
920 925	CLAY, SAND, GRAVEL
925 994	CLAY, GRAVEL
994 1031	SAND, GRAVEL, OTHER
ROCKS 1031 1041	ROCK STREAKS CLAY
RED, GREEN 1041 1061	HARD CLAY, SAND SANDY
1061 1076	CLAY STICKY

1076	1142	CLAY, GRAVEL
		HARD CLAY
1142	1168	CLAY, SAND, GRAVEL
		CLAY STREAKS, SMALL GRAVEL
1168	1171	CLAY
		HARD
1171	1177	CLAY, SAND
		SANDY
1177	1184	CLAY
		HARD
1184	1187	CLAY, SAND
		SANDY
1187	1200	GRAVEL, OTHER
ROCK		
		THIN LAYERS OF HARD ROCK
1200	1218	OTHER
RED		SHALE
		HARD, SOME GREEN

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
04/10/1962		143.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 50	NEW	.38	30
1 551	NEW	.31	16
551 870	NEW	.31	12

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in) Screen Type/#	Perf.		
From To			
406 550	SCREEN	.19	16
MOSS SHUTTER			
640 680	SCREEN	.19	12
MOSS SHUTTER			
700 740	SCREEN	.19	12
MOSS SHUTTER			
750 850	SCREEN	.19	12
MOSS SHUTTER			

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 50	CONCRETE		
0 870	GRAVEL		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
04/10/1962	PUMP	4.623	61.5	24
04/10/1962	PUMP	4.679	58	6
04/10/1962	PUMP	4.679	78	48

**WATER QUALITY DATA AVAILABLE**

**GENERAL COMMENTS:**

Depth well drilled 1218 ft. Depth of completed well 870 ft.



\*\*\*\*\* WIN: 019979 \*\*\*\*\*

•&l6D  
•&al30M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@  
S 1370 ft E 1040 ft from W4 CORNER of SECTION 26 T 6S R 2E BASE SL  
Elevation: feet  
•&d0DDRILLER ACTIVITIES:•&d@  
ACTIVITY # 1 NEW WELL  
DRILLER: MAGILL DRILLING CO INC LICENCE #: 580  
START DATE: 07/19/1999 COMPLETION DATE: 08/01/1999  
•&d0DBOREHOLE INFORMATION:•&d@  
Depth(ft) Diameter(in) Drilling Method Drilling Fluid  
From To  
0 325 8.75 ROTARY WATER,BENTONITE  
•&d0DLITHOLOGY:•&d@  
Depth(ft) Lithologic Description  
Color Rock Type  
From To  
0 10 HIGH-PERMEABILITY,SAND,GRAVEL  
10 105 HIGH-PERMEABILITY,SAND,GRAVEL,COBBLES  
GRAVEL LAYERS SMALL  
105 119 HIGH-PERMEABILITY,CLAY  
RED  
119 185 HIGH-PERMEABILITY,CLAY,SAND,GRAVEL  
RED  
185 245 SMALL SANDY GRAVEL LAYER  
HIGH-PERMEABILITY,OTHER  
BLUE  
245 269 SHALE,FIRM LAYERS  
LOW-PERMEABILITY  
BLUE  
269 288 FIRM SHALE  
HIGH-PERMEABILITY  
BLUE  
288 325 SHALE  
BLACK BASALT  
FRACHARED  
•&d0DWATER LEVEL DATA:•&d@  
Date Time Water Level (feet) Status  
(-)above ground  
08/01/1999 195.00 STATIC  
•&d0DCONSTRUCTION - CASING:•&d@  
Depth(ft) Material Gage(in) Diameter(in)  
From To  
0 280 SDR 21 PVC .316 6  
•&d0DCONSTRUCTION - SCREENS/PERFORATIONS:•&d@  
Depth(ft) Screen(S) or Perforation(P) Slot/Perf. siz Screen Diam/Length  
Perf(in) Screen Type/# Perf.  
From To  
280 300 PERFORATION .040 1  
5 300 325 PERFORATION .25 3  
2  
•&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS:•&d@  
Depth(ft) Material Amount Density(pcf)  
From To  
0 30 3/8-3/4 SWELL PLUG 20 BAGS  
•&d0DWELL TESTS:•&d@  
Date Test Method Yield (CFS) Drawdown (ft) Time Pumped (hrs)  
07/29/1999 BLOWED OUT W/AIR .100 1  
08/01/1999 PUMP TEST .100 22 2  
•&d0DGENERAL COMMENTS:•&d@  
CONSTRUCTION INFORMATION:  
well head configuration: well cap  
casing joint type: glued pvc joints  
perforator used: saw

UGMS OFR 38 (FOX, 83)

<u>LABEL</u>	<u>LOCATION</u>		<u>INTERCEPT DEPTH (FT)</u>	<u>INTERCEPT FORMATION (?)</u>	<u>TOTAL DEPTH (FT)</u>
	<u>LAT</u>	<u>Lon</u>			
UR #2					
(UTAH ROSE)	40 35.17	111 53.84		Sand/Gravel	5008
WP-1	40 48.18	111 57.56		Tertiary	1832
SLC-1	40 44.95	111 55.58		Tertiary	732
SLC-2	40 45.27	111 54.53		Tertiary	1170
SLC-3	40 46.34	111 54.16		Tertiary	464
SLC-4	40-43.29	111 54.44		Unconsol	875
SLC-5	40 42.52	111 55.22		Unconsol	1083
SLC-6	40 41.98	111 54.33		Unconsol	1005
TP-1	40 42.02	111 52.63		Unconsol	930
MWD-1	40 35.07	111 51.85		Unconsol	1027
— ASR-1	40 30.37	111 54.78	390	Andesite	1880
— ASR-2	40 29.56	111 57.96	370	Andesite	940
— PF-1	40 29.73	111 58.11	707	Andesite	825
— PF-2	40 29.85	111 57.04	300	Quartzite	335
Sugar Fact	40 36.17	111 59.09		Valley Fill	1900
TR-1	40 43.24	112 4.85		Limestone	524
TR-2	40 39.89	112 6.11		Clay	500
TR-3	40 39.85	112 5.72		Sand	526
TR-4	40 41.70	112 3.03	(Shallow Pit)	Tert. Volc.	
TR-5	40 44.07	112 5.82		Gravel	854
TR-6	40 43.69	112 5.85		Clay	1000
TR-7	40 43.24	112 5.08		Gravel	420
TR-8	40 42.56	112 5.51		Gravel	1000
TR-9	40 41.73	112 5.97		Gravel	206
TR-10	40 39.05	112 3.83		Clay	402
(1)	40 27.30	111 58.40	150	Quartzite	152
— (2)	40 48.28	112 7.64	1432	Pre-Tertiary (?)	
(3)	40 48.96	112 4.99	1086	Tertiary	3207
(4)	40 48.06	112 5.03	1288	TSL	
			3070	Precambrian	3265
(5)	40 47.72	112 5.53		Lake Bed	585
(6)	40 46.21	112 10.16		Clay	884
(7)	40 46.01	112 6.52		Clay	1150
— (8)	40 45.83	111 56.42	870	Shale (?)	3352
(9)	40 45.60	111 55.56		Clay	1142
— (10)	40 44.92	111 54.60	741	Shale	750
— (11)	40 44.73	111 51.01	265	BR	265
(12)	40 42.85	111 54.62		Sand	952
(13)	40 42.74	111 50.78		Clay	540
(14)	40 42.33	111 55.90		Tertiary	1000
(15)	40 41.87	111 54.85		Clay	855
— (16)	40 43.11	112 4.79	520	Limestone	524
(17)	40 43.98	112 10.59	882	Limestone	886
— (18)	40 39.72	112 5.63	480	Shale	520
(19)	40 40.29	111 54.23		Clay	650
(20)	40 40.82	111 51.21		Consolidated	398
(21)	40 38.24	111 52.51		Clay	500
(22)	40 37.92	111 56.67		Clay	1000

<u>LABEL</u>	<u>LOCATION</u>		<u>INTERCEPT</u>	<u>INTERCEPT</u>	<u>TOTAL</u>
	<u>LAT</u>	<u>LON</u>	<u>DEPTH (FT)</u>	<u>FORMATION (?)</u>	<u>DEPTH (FT)</u>
(23)	40 36.22	111 52.45		Clay	447
(24)	40 35.53	112 6.41		Clay	1200
(25)	40 34.83	111 52.28		Tertiary (?)	1000
(26)	40 33.59	111 52.30	605	Granite	606
(27)	40 33.44	111 56.29		Clay	1150
(28)	40 30.77	112 6.10	336	Limestone	350
(29)	40 31.09	112 4.49		Clay	615
(30)	40 30.15	112 2.10	561	Tert. Volc.	577
(31)	40 27.40	111 58.58		Clay	212

# **UPPER CRUSTAL STRUCTURE OF THE NORTHERN WASATCH FRONT, UTAH, FROM SEISMIC REFLECTION AND GRAVITY DATA**

*by*

**Bernard R. McNeil**

**and**

**Robert B. Smith**

**Department of Geology and Geophysics  
University of Utah  
Salt Lake City, Utah 84112**

**CONTRACT REPORT 92-7      September, 1992**  
**UTAH GEOLOGICAL SURVEY**  
a division of  
**UTAH DEPARTMENT OF NATURAL RESOURCES**





**THE PUBLICATION OF THIS PAPER  
IS MADE POSSIBLE WITH MINERAL LEASE FUNDS**

A primary mission of the UGS is to provide geologic information of Utah through publications. This Contract Report represents material that has not undergone policy, technical, or editorial review required for other UGS publications. It provides information that, in part, may be interpretive or incomplete and readers are to exercise some degree of caution in the use of the data. The UGS makes no warranty of the accuracy of the information contained in this publication.

## ABSTRACT

Three data sets are used in this study: 1) seismic reflection profiles supplied by Elf Aquitaine Petroleum; 2) the complete Bouguer anomaly gravity data for the area; and 3) geophysical well logs from the Utah Oil and Gas Commission. Depth-to-basement values determined from the interpretation of seismic profiles and a density contrast of - 0.53 g/cc calculated from the density well logs were used as constraints for a three-dimensional gravity inversion using a nonlinear weighted and damped least squares method. A basin model was generated by contouring the depths determined from the seismic profiles and gravity inversion results.

The depth-to-basement contour map produced in this study shows basin depths and geometries which closely match (differ by < 15% in all cases) the four two-dimensional profiles produced by other investigators. The basin geometry elucidated by the depth-to-basement contour map implies the segments of the Wasatch fault in the study area are affected by Early and Pre-Cenozoic structures, i.e., the Absaroka ramp-anticline, the Salt Lake salient and the thrust sheets north of Ogden. The depth-to-basement model produced in this study shows a depression in the basin between Ogden and Brigham City. If this depression is real, the notion of persistent segment boundaries in this area has to be rethought, because the southern portion of the deep spot is located at a segment boundary. Finally, the geometry of the Weber Basin is significantly different than the geometry of the Great Salt Lake Basin.

## CONTENTS

ABSTRACT.....	iv
LIST OF FIGURES.....	vi
ACKNOWLEDGMENTS .....	viii
INTRODUCTION .....	1
Previous Work.....	3
Geologic Setting.....	4
Regional Tectonics .....	6
ACQUISITION OF DATA.....	9
Seismic Reflection Data.....	9
Gravity Data .....	10
Well Data.....	13
THEORY .....	14
Inversion Theory.....	14
ANALYSES OF DATA.....	17
Seismic Data Analysis.....	17
Well Data Analysis.....	21
Gravity Analysis .....	24
INTERPRETATION .....	33
Seismic Interpretation .....	33
Well Log Interpretation.....	35
Gravity Interpretation.....	36
CONCLUSIONS .....	48
APPENDIX .....	52
REFERENCES .....	60



## LIST OF FIGURES

### Figure

1. Map showing the location of the study area along with prominent regional features. ....	2
2. Map showing the general geology of the study area from Hintze (1980) .....	5
3. Map showing the general (bottom) and detailed (top) compressional structures in the study area.....	7
4. Plot showing the distribution of gravity measurements in the study area.....	11
5. Complete Bouguer anomaly gravity map for the study area.....	12
6. Depth-to-basement profiles for seismic reflection lines 1–5.....	18
7. Depth-to-basement profiles for seismic reflection lines 6–10. ....	19
8. Depth-to-Basement contour map of the study area from the seismic reflection profiles.....	20
9. Acoustic velocity and density profiles for wells "a" and "b".....	22
10. Comparison of synthetic seismogram and corresponding section of Line 10.....	23
11. Distribution of seismic reflection and gravity data over the study area.....	25
12. Contour map of residual gravity data used in the gravity inversion routine. ....	28
13. Depth-to-basement contour map from seismic reflection data and results of the inversion of gravity data.....	30
14. Depth-to-basement contour map with seam between Model 1 and Model 2 shifted about 8 km north.....	32
15. Residual complete Bouguer anomaly gravity contour map of the study area with fault segment boundaries from Machette et al. (1991). ....	37
16. Map showing the locations of other investigators' two-dimensional depth- to-basement profiles which are compared to the results of this study. ....	40
17. Seismic reflection profile from Smith and Bruhn (1984) showing the basement reflector dipping 17° west (top) and model for this geometry (bottom).....	43

18. Acoustic velocity and density model for fault geometry discussed in text (top) from Smith (1984) and corresponding synthetic reflection seismic profile (bottom).....44
19. Generalized cross-section from Stansbury Island to the Wasatch Front showing the difference in geometry between the Great Salt Lake and Weber basins. ....51

Plate

1. Seismic reflection lines 1 (bottom) and 2 (top) with interpretation. ....in pocket
2. Seismic reflection lines 3 (bottom) and 4 (top) with interpretation.....in pocket
3. Seismic reflection lines 5 (bottom) and 6 (top) with interpretation.....in pocket
4. Seismic reflection lines 7 (bottom) and 8 (top) with interpretation.....in pocket
5. Seismic reflection Line 9 with interpretation.....in pocket
6. Seismic reflection lines R11 (bottom) and 10 (top) with interpretation.....in pocket

## ACKNOWLEDGMENTS

I would very much like to thank the chairman of my committee, Dr. Robert B. Smith, for giving me the academic freedom to pursue this project in the manner I saw fit. I would also like to thank the other two committee members, Dr. Jerry Schuster and Dr. Ron Bruhn, for their assistance and guidance in this project.

The people at Elf Aquitaine Petroleum were generous with their data and extremely helpful in making sure we had the data we needed, especially Paul Kennedy; he always took time out of his busy schedule to help me. The project was funded by The Utah Geological and Mineral Survey Contract number 88 2211 and the College of Mines and Earth Sciences Mineral Leasing Fund.

Special thanks go to my "subadvisory" committee, Tony Lowry, Les Beard, Rob Harris, and Bill Stephenson. They were always available to help me flesh out good ideas and rule out bad ones. Also, most of the computer programs used for calculating the regional gravity field were written by Tony Lowry.

Thank you Dan Trentman for nursing me through my computer illiteracy. And thanks to all my friends, fellow students, staff, and faculty, in the department who treated me like family (good or bad).

Finally, I would like to thank my parents and eleven brothers (6) and sisters (5) for their love and support through this endeavor.

## INTRODUCTION

The Wasatch Front extends from the south end of Utah valley in central Utah northward to Idaho, and is considered the tectonic boundary between the Basin-Range province and the Rocky Mountains to the north and the Colorado Plateau to the south. The Wasatch fault zone which trends 370 km north-south along the front is one of the largest normal fault systems in the United States and bounds the Wasatch Range which rises 1.5 km above the valley floor. This area has been the focus of recent studies aimed at delineation of earthquake hazards and understanding the general seismotectonics of the region. Studies have ranged from fault segment mapping (Schwartz and Coppersmith, 1984; Machette, Personius, Nelson, Schwartz and Lund, 1991) to determination of strain rate (Snay, Smith and Soler, 1984), to delineating the regional seismicity (Arabasz, Pechmann and Brown, 1987).

Most basin studies, to determine basin geometry, have been motivated by the search for natural resources such as ore deposits, oil and natural gas. A few basin studies have been conducted to obtain information on ground water systems, or for earthquake hazards analyses in populated areas. This study is motivated by two objectives: 1) to determine the geometry of the basin west of the Wasatch fault from Bountiful northward to Brigham City; and 2) to produce useful information about the Wasatch fault geometry and provide earthquake hazards investigators with a basin model for use in site amplification studies. The study area is shown in Figure 1 and will hereafter be referred to as the Weber Basin study area.

Three types of data were used in this study: 1) seismic reflection profiles provided by Elf Aquitaine Petroleum; 2) the complete Bouguer anomaly (CBA) gravity

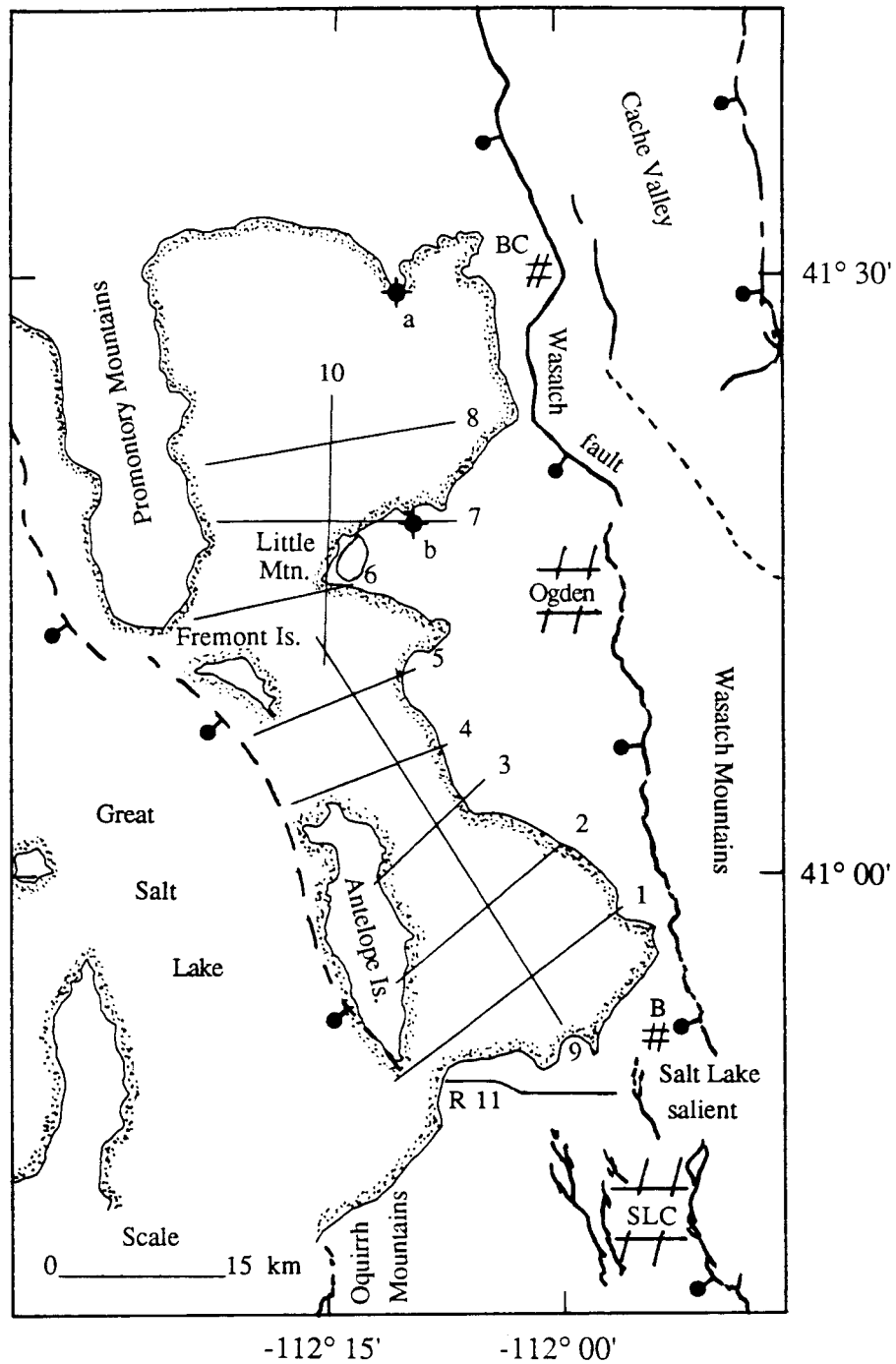


Figure 1. Map showing the location of the study area along with prominent regional features. Seismic reflection profiles are labelled 1–10 and R 11, wells are labelled "a" and "b", SLC = Salt Lake City, B = Bountiful, BC = Brigham City.

data compiled by Cook, Bankey, Mabey and DePangher (1989); and 3) geophysical well logs on file at the Utah Oil and Gas Commission. Depth-to-basement values determined from the interpretation of seismic profiles and a density contrast of -0.53 g/cc calculated from the density well logs were used as constraints for a three-dimensional gravity inversion; a nonlinear weighted and damped least squares method is used to determine the three-dimensional geometry of the Weber Basin. A basin model was generated by contouring the depths determined from the seismic profiles and gravity inversion results.

### Previous Work

Though numerous studies have been conducted along the Weber Basin, no three-dimensional gravity modeling has been attempted. All previous modeling work has been restricted to two-dimensional gravity studies. Glenn, Chapman, Foley, Capuano, Cole, Sibbett, and Ward (1980) conducted a geothermal study at Hill Air Force Base which included seismic reflection, gravity and heat flow studies. The objectives of both the seismic reflection and gravity studies were to determine the basin and fault geometries. Zoback (1983) compiled 22 two-dimensional gravity profiles produced by forward modeling, three of which are located in this study area. Zoback (1983) used these profiles along with seismic reflection, contoured CBA gravity, and well data to study the Cenozoic tectonics and structure along the Wasatch fault. The maximum basin depths shown by Zoback (1983) for this study area ranged from 1.8 to 2.6 km. Zoback's (1983) study is of a considerably broader scope than this study. Wilson, Saugy and Zimmermann (1986) interpreted four seismic reflection profiles from Elf Aquitaine Petroleum, to determine basin geometry on the east side of the Great Salt Lake. They showed maximum basin depths of between 2.1 to 4.0 km for the Weber basin. Lambert and West (1989) conducted a continuous seismic profiling study east of

Antelope and Fremont islands to determine the geometry of the basin for use in ground water studies. The depth-to-basement map produced in this study shows maximum basement depths of  $> 0.5$  km over their area of interest. The results of this study are compared with these investigators' results.

Two investigations of nearby basins were carried out by Viveiros (1986) and Radkins (1990). Viveiros (1986) reprocessed and interpreted several seismic reflection profiles, donated by Amoco Oil Co., to determine the geometry of the basin on the west side of the Great Salt Lake. Viveiros' (1986) basin model shows an asymmetric basin geometry with a shallow eastward dip of approximately  $12^{\circ}$  to  $15^{\circ}$  from Stansbury and Carrington islands to the deepest ( $> 3.0$  km) part of the basin. The east side of the basin is bounded by a west dipping listric normal fault with about 3 to 4 km of offset. Radkins (1990) developed and used a three-dimensional gravity inversion routine to generate a basin model of the Salt Lake Valley. Radkins' (1990) basin model shows a broad relatively shallow ( $< 0.3$  km) basin geometry with two deeper, but still quite shallow ( $< 1.1$  km) areas, one of which is located northwest of Salt Lake City and the other in the east-central part of the model near Sandy, Utah.

### Geologic Setting

One manifestation of the complexity of this area is the geology. Rocks of the Farmington Canyon complex, of Archean to Early Proterozoic age ( $>1600$  m.y.), are exposed on Antelope and Fremont islands, from Bountiful to Ogden east of the Wasatch fault, and on Little Mountain west of Ogden (Figure 2). The dominant rock types in the Farmington Canyon complex are granitic gneiss, migmatite, gneiss and schist (Bryant, 1984). Paleozoic rocks are exposed at the northern end of Antelope Island, in the Oquirrh and Promontory mountains, and east of the Wasatch fault from Ogden to the northern end of the study area (Figure 2). The major Paleozoic rock types in the study

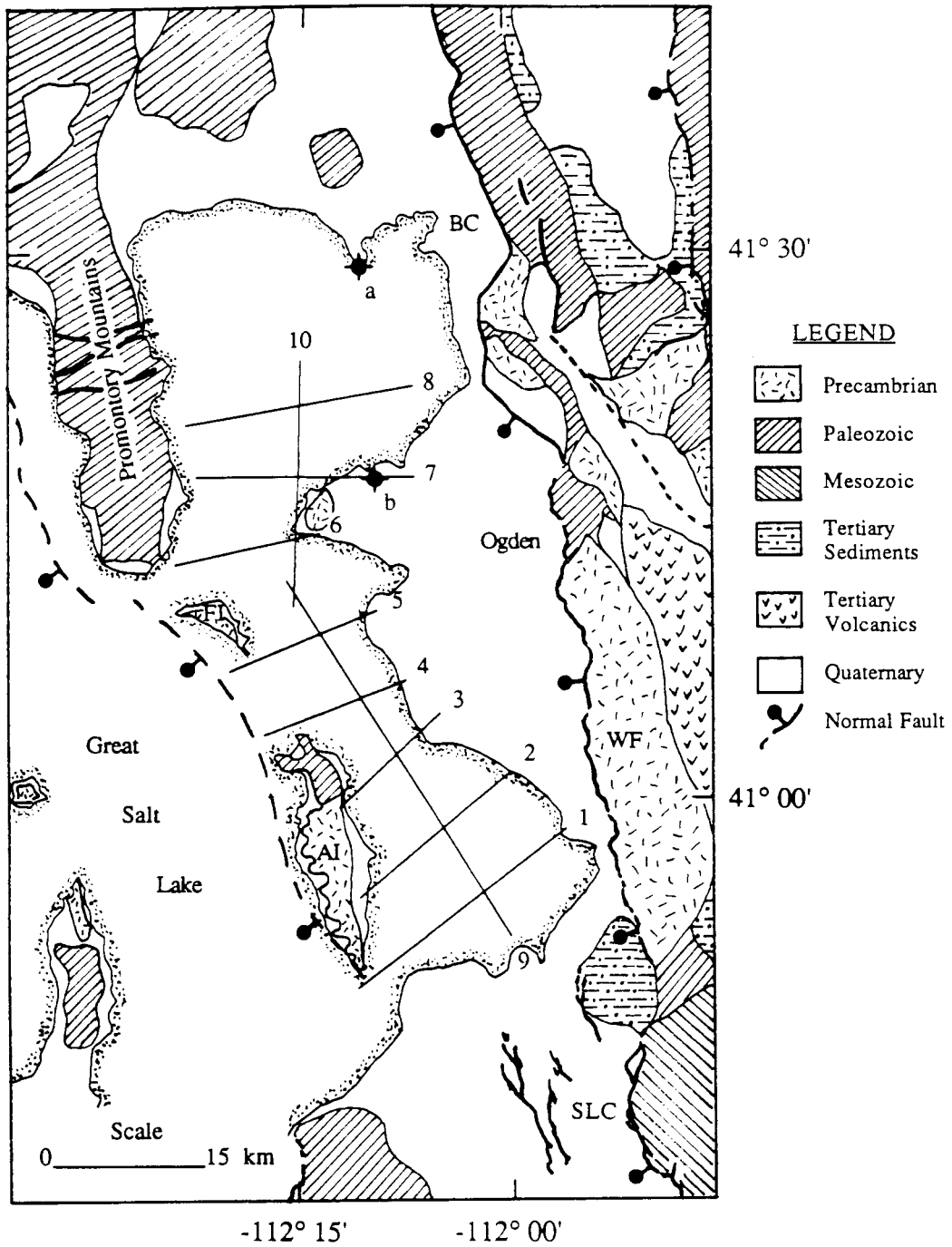


Figure 2. Map showing the general geology of the study area from Hintze (1980). Location of normal faults on the Promontory Mountains from Olson (1960). WF = Wasatch fault, SLC = Salt Lake City, BC = Brigham City.



area are quartzite, limestone and dolostone. No rocks of Mesozoic age are exposed in the study area, but they are present south of the Salt Lake salient. Tertiary age rocks of the Wasatch Formation are exposed at the Salt Lake salient and Tertiary age volcanics are exposed east of the Farmington Canyon complex from Bountiful to Ogden. The center of the study area is covered by Quaternary sediments. These sediments are predominantly Bonneville Lake sediments, mud and salt flats. There are large gaps in the stratigraphic sequence between the >1600 m.y. old Farmington Canyon complex and Paleozoic rocks and between the Paleozoic and Cenozoic rocks. These gaps indicate a depositional hiatus associated with tectonic activity, such as uplift and associated erosion and faulting.

### Regional Tectonics

The geologic complexity of the study area is a result of tectonic activity during the past 100 m.y (Yonkee, 1990). This area has been subjected to compressional followed by extensional tectonic forces over this time period.

### Compressional Tectonics

Two major compressional tectonic events have left their signature on the structural complexity of the study area. The Sevier Orogeny, which was active from approximately 105 to 70 m.y.b.p. (Stokes, 1986), produced a series of thrust sheets in central and northern Utah that get younger from west to east (Hintze, 1988) and is part of the Idaho-Utah-Wyoming Overthrust belt. Hintze (1988) shows that there are five separate thrust systems in northeastern Utah. The Absaroka ramp-anticline which trends north-south from Bountiful to Ogden 10 km east of the Wasatch fault (Figure 3) is thought to have been formed at this time (Yonkee, 1990). The complex structural geometries produced by these thrust sheets and their geographic orientations are shown

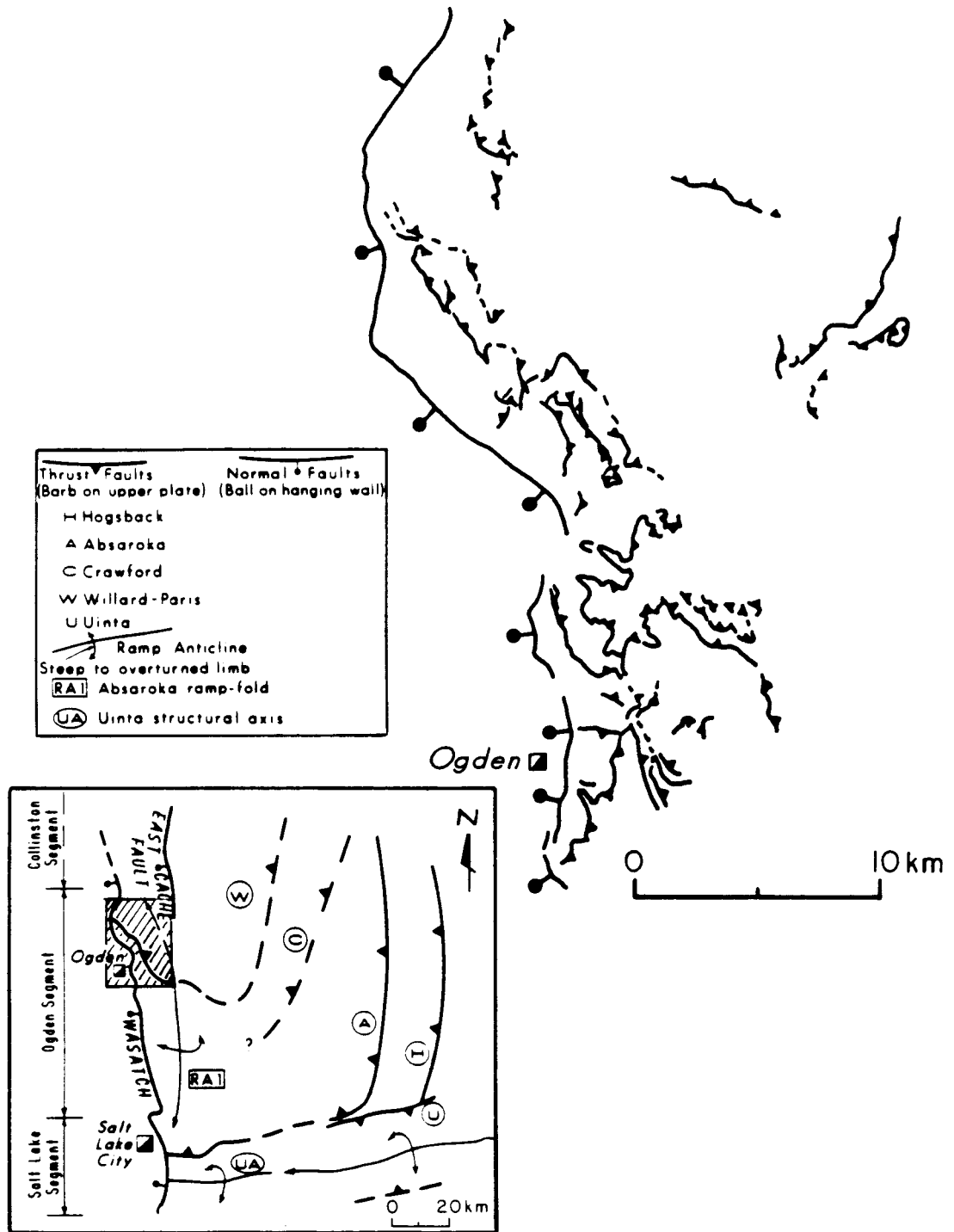


Figure 3. Map showing the general (bottom) and detailed (top) compressional structures in the study area. General structures from Smith and Bruhn (1984) and detailed structures from Davis (1985).

in Figure 3. The Laramide Orogeny, assumed to be active from approximately 80 to 40 m.y.b.p., is thought to be responsible for the formation of the Uinta Mountains and associated structures which extend in all directions (Stokes, 1986). Some of these associated structures, such as the Salt Lake salient, extend to and possibly through the Wasatch Front.

### Extensional Tectonics

The formation of the Basin and Range province over the last 15 to 20 m.y. (Hintze, 1988) is the primary extensional tectonic event in this region. The major component of the extension direction is east-west. In the most simplified models the Basin and Range province is represented as a series of ranges and asymmetric basins trending north-south and extending from the eastern front of the Sierra Mountains to the Wasatch Front.

## ACQUISITION OF DATA

Three types of data were used in this study: 1) industry seismic reflection profiles; 2) complete Bouguer anomaly gravity data; and 3) well data (geophysical logs showing depth to basement). These geophysical data sets provide the most complete geophysical information available for the study area and the combination of these data produces optimal resolution and spatial coverage of the Weber Basin.

### Seismic Reflection Data

The criteria used for selecting the seismic profiles in this study were the quality of data and the extent of data processing. Data quality is highly dependent on the fold number (number of times each common depth point is sampled) and the source type (explosive or vibrator) of the seismic data. Data of at least 24-fold with an explosive source were preferred. Wave equation migration and associated processing (secondary statics corrections, secondary velocity analysis and predictive or spiking deconvolution) was a minimum requirement for processing. Ten seismic reflection profiles meeting these requirements were acquired by Elf Aquitaine Petroleum (EAP) between 1979 and 1980. EAP shot these 24-fold data using a 200 grain Primacord explosive source. The locations of the profiles used are shown in Figure 1. These data were processed by EAP with the general background information listed in Table 1.

Additional seismic profiles from CGG and Celcius Energy were examined, but were not used in this study. I had little confidence in the basement picks from these data because of poor data quality. The seismic profiles acquired at Hill Air Force Base by Seismograph Service Corporation under contract to the University of Utah Research Institute were not used for the same reasons.

Table 1  
General information for seismic reflection profiles used in this study.

Profile	Source	Datum (ft)	Station Spacing(ft)	Fold	Migration
Line 1	Primacord	4193	165	24	Wave Eq.
Line 2	Primacord	4193	165	24	Wave Eq.
Line 3	Primacord	4193	165	24	Wave Eq.
Line 4	Primacord	4193	165	24	Wave Eq.
Line 5	Primacord	4193	165	24	Wave Eq.
Line 6	Primacord	4193	165	24	Wave Eq.
Line 7	Primacord	4193	165	24	Wave Eq.
Line 8	Primacord	4193	165	24	Wave Eq.
Line 9	Primacord	4193	165	24	Wave Eq.
Line 10	Primacord	4193	165	24	Wave Eq.
Line R11	Primacord	4200	220	12	Time

#### Gravity Data

A subset of the complete Bouguer anomaly gravity data for Utah compiled by Cook et al. (1989) was used in this study. These data are the most recent and complete available for Utah. Latitude and longitude, elevation and terrain corrections were applied to the observed gravity data using the 1967 gravity formula (Cook et al., 1989) to produce the complete Bouguer anomaly data. This subset consists of approximately 1700 gravity measurements which were used to produce a residual gravity map of the study area. The distribution of these measurements is shown in Figure 4 and the complete Bouguer anomaly gravity map for the area is shown in Figure 5.

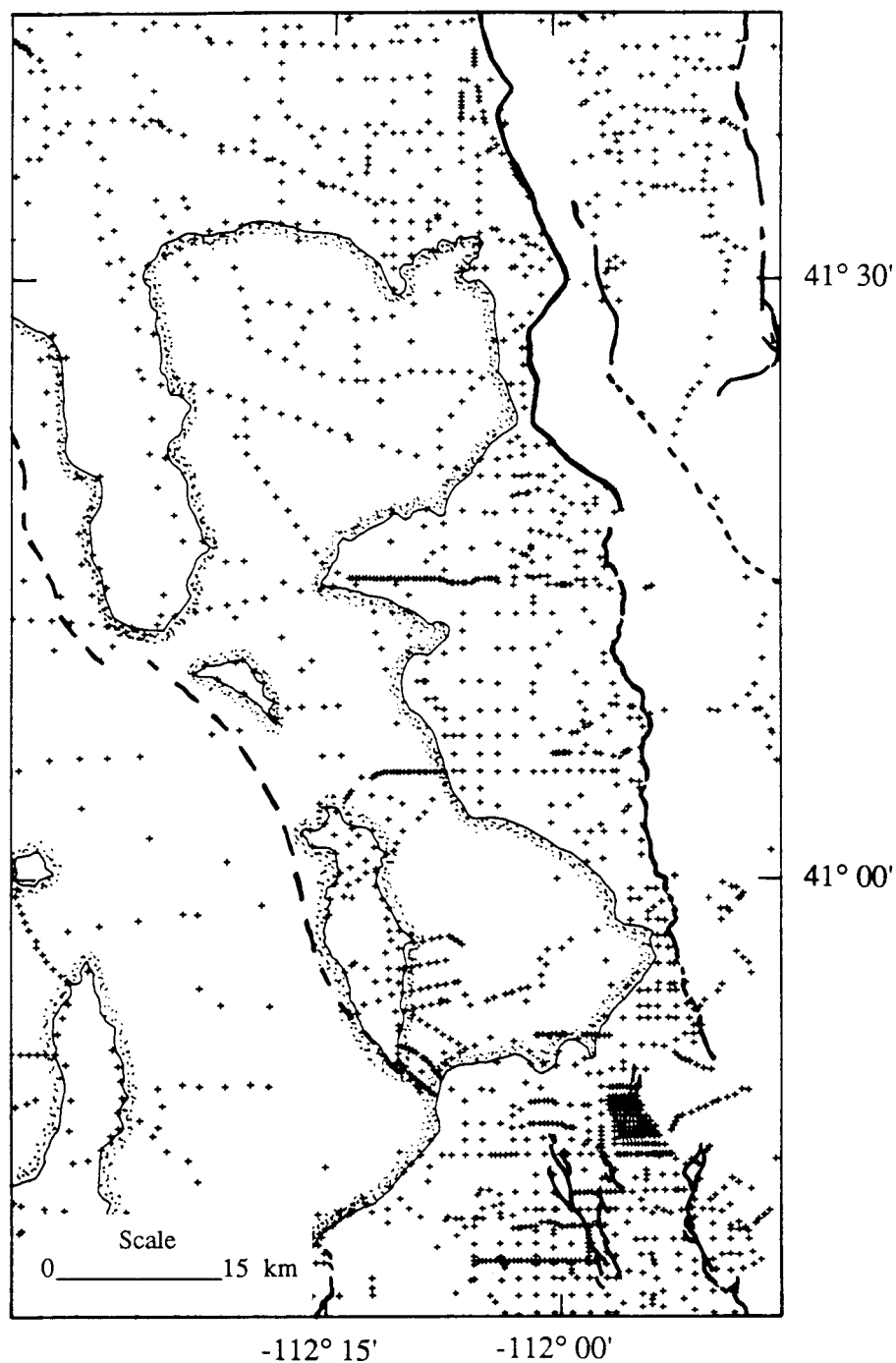


Figure 4. Plot showing the distribution of gravity measurements in the study area. Locations are marked by "+".

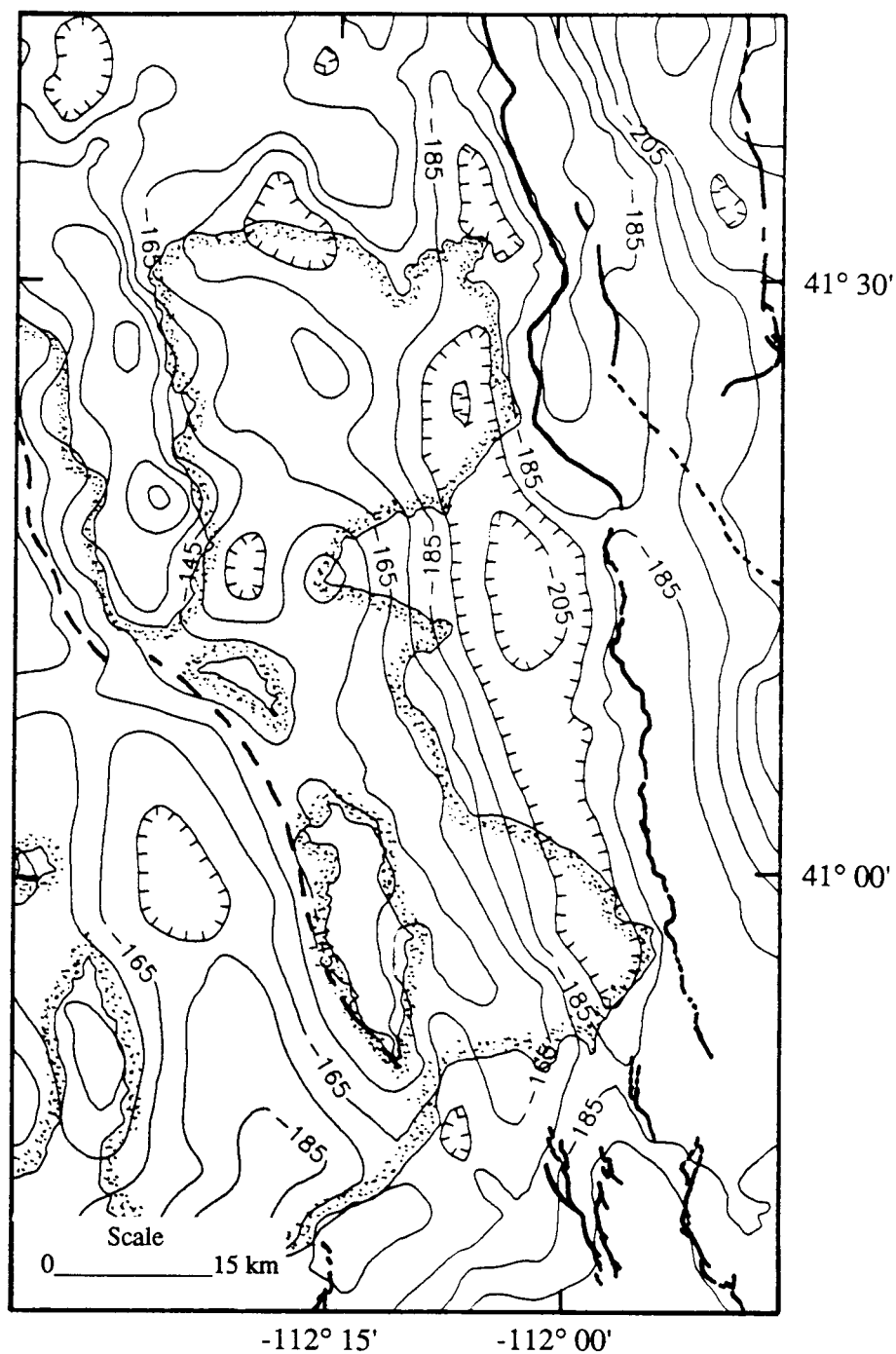


Figure 5. Complete Bouguer anomaly gravity map for the study area. Contour interval 10 mGal.

### Well Data

Well log data were obtained from the Utah Oil and Gas Commission. The criteria used in selecting the well data were proximity to seismic profiles, the types of well logs available for each well, and well depth. Wells had to be close enough to the seismic reflection profiles to correlate seismic reflectors to geophysical data from the well logs. Acoustic velocity and density logs were a minimum requirement for the geophysical logs. Wells that penetrated basement were preferable, but wells over 1000 meters deep with geophysical logs were acceptable. Well logs from two wells, of 15 examined, met these criteria and were used in this study (Table 2). Well "a" penetrated bedrock, interpreted to be of Paleozoic age, at a depth of 1070 m.

Table 2

General information on wells used in this study.

	Company	Name	Total Depth Drilled(ft)	Interval Logged(ft)	Type of Log
Well "a"	Burnett Oil Co.	D. Christensen # 1-9	6000	1010-5985	Density Velocity
Well "b"	Burnett Oil Co.	Basin Investment #1	4817	978-4816	Density Velocity



## THEORY

In this study the gravity data were inverted for the basin geometry using a damped and weighted least squares algorithm. A brief discussion of the theory behind the method developed by Richardson and MacInnes (1989) is given below.

### Inversion Theory

The weighted and damped least squares inversion method is a modification of the ordinary least squares method (Menke, 1984). The ordinary least squares and associated methods solve a system of linear equations which can be expressed as,

$$\mathbf{d} = \mathbf{Gm},$$

where  $\mathbf{d}$  is the observed data vector,  $\mathbf{G}$  is the sensitivity matrix and  $\mathbf{m}$  is the model parameter vector. For the nonlinear problem  $\mathbf{m}$  is expanded in a Taylor's series about  $\mathbf{m}_k$ , the estimate of model parameter vector after the  $k$ th iteration. The linearized model parameter update is written as

$$\mathbf{m}_{k+1} = \mathbf{m}_k + \Delta\mathbf{m}_k$$

### Weighted Least Squares

Under some circumstances it is useful to use weighted measures of the prediction errors (Menke, 1984). Usually, some observations or measurements are made more accurately than others. A way of taking this into consideration in the inversion method is to weight the effects of each measurement by its predicted error. For our purposes this weighting factor is the inverse of the covariance matrix of data errors  $\mathbf{C}_d^{-1}$ . A generalized prediction error  $E_d$  is defined as

$$E_d = \mathbf{e}_d^T \mathbf{C}_d^{-1} \mathbf{e}_d,$$

where  $\mathbf{e}_d = (\mathbf{d} - \mathbf{Gm})$ .

A weighting matrix  $\mathbf{C}_m^{-1}$  can also be applied to errors associated with the model parameters.  $\mathbf{C}_m^{-1}$  is the inverse of the covariance matrix of errors with respect to the starting model  $\mathbf{m}_0$ . A similar generalized prediction error  $E_m$  is defined as

$$E_m = \mathbf{e}_m^T \mathbf{C}_m^{-1} \mathbf{e}_m,$$

where  $\mathbf{e}_m = (\mathbf{m} - \mathbf{m}_0)$ .

Fitting noisy data and staying close to a starting model can be conflicting goals (Richardson and MacInnes, 1989). A reasonable way of dealing with this conflict is to take a weighted sum of the two criteria,

$$E_t = E_d + \gamma E_m,$$

where the choice of  $\gamma > 0$  determines the trade-off between fitting the data and staying close to the starting model.

Applying a least squares minimization to  $E_t$ ,

$$\nabla E_t = 0,$$

where  $\nabla$  is the gradient operator and substituting the appropriate variables we get

$$\mathbf{m}_{k+1} = \mathbf{m}_k + [\mathbf{G}^T \mathbf{C}_d^{-1} \mathbf{G} + \gamma \mathbf{C}_m^{-1} + \lambda \mathbf{D}]^{-1} [\mathbf{G}^T \mathbf{C}_d^{-1} \Delta \mathbf{d} + \gamma \mathbf{C}_m^{-1} (\mathbf{m}_0 - \mathbf{m}_k)],$$

where  $\Delta \mathbf{d} = (\mathbf{d}_{\text{obs}} - \mathbf{d}_{\text{pred}})$  with  $\mathbf{d}_{\text{obs}}$  being the observed data vector and  $\mathbf{d}_{\text{pred}}$  the predicted data vector,  $\lambda$  is the damping factor, and  $\mathbf{D}$  is a diagonal matrix composed of the diagonal elements of  $\mathbf{G}^T \mathbf{C}_d^{-1} \mathbf{G}$  (Richardson and MacInnes, 1989).

The advantage of a weighted damped least squares algorithm is that the user can penalize solutions that deviate from the desired one. A situation where this is very useful is when geologic or other geophysical information is available to constrain the initial model.

The computer program written by Richardson and MacInnes (1989) was modified to run on a Sun 4/390 computer and then was tested using two test data sets

included with the program. The results from running these data sets were identical to the results of Richardson and MacInnes (1989).

## ANALYSES OF DATA

### Seismic Data Analysis

Identifying the location of the Tertiary age basin fill and acoustic basement contact on each seismic profile involves geophysical interpretation and geologic insight. The geophysical background used for interpreting the contact included knowledge of seismic stratigraphy (identifying onlap, offlap, etc.), basic reflection seismology principles (understanding of impedance contrasts, etc.), signal analysis and seismic processing methods (separating seismic energy associated with actual impedance contrasts from that which is not) and scientific intuition. Using this background knowledge, the location of the acoustic basement contact was estimated. The interpreted basement reflectors are labelled in Plates 1–6.

At each shot point or common depth point where normal moveout and interval velocities were calculated for stacking the seismic data, the depth to basement was calculated. The depths were then used to produce depth-to-acoustic-basement profiles along the seismic lines (Figures 6 and 7). These profiles show the gross geometry of the west side of the basin, which varies more in the east-west direction than in the north-south direction.

The basement depths from each profile were combined with known coordinates of the basin edge, the surface trace of the Wasatch fault and along the shoreline of Antelope and Fremont islands and the Promontory Peninsula, to produce a depth-to-basement contour map (Figure 8). The depth values were gridded using MINC.F, which is a minimum curvature gridding routine (courtesy of R. Simpson, U. S. Geological Survey) and then contoured using a program in the Surfer Software package (Trademark of Golden Software Company, Golden, Colorado). The minimum

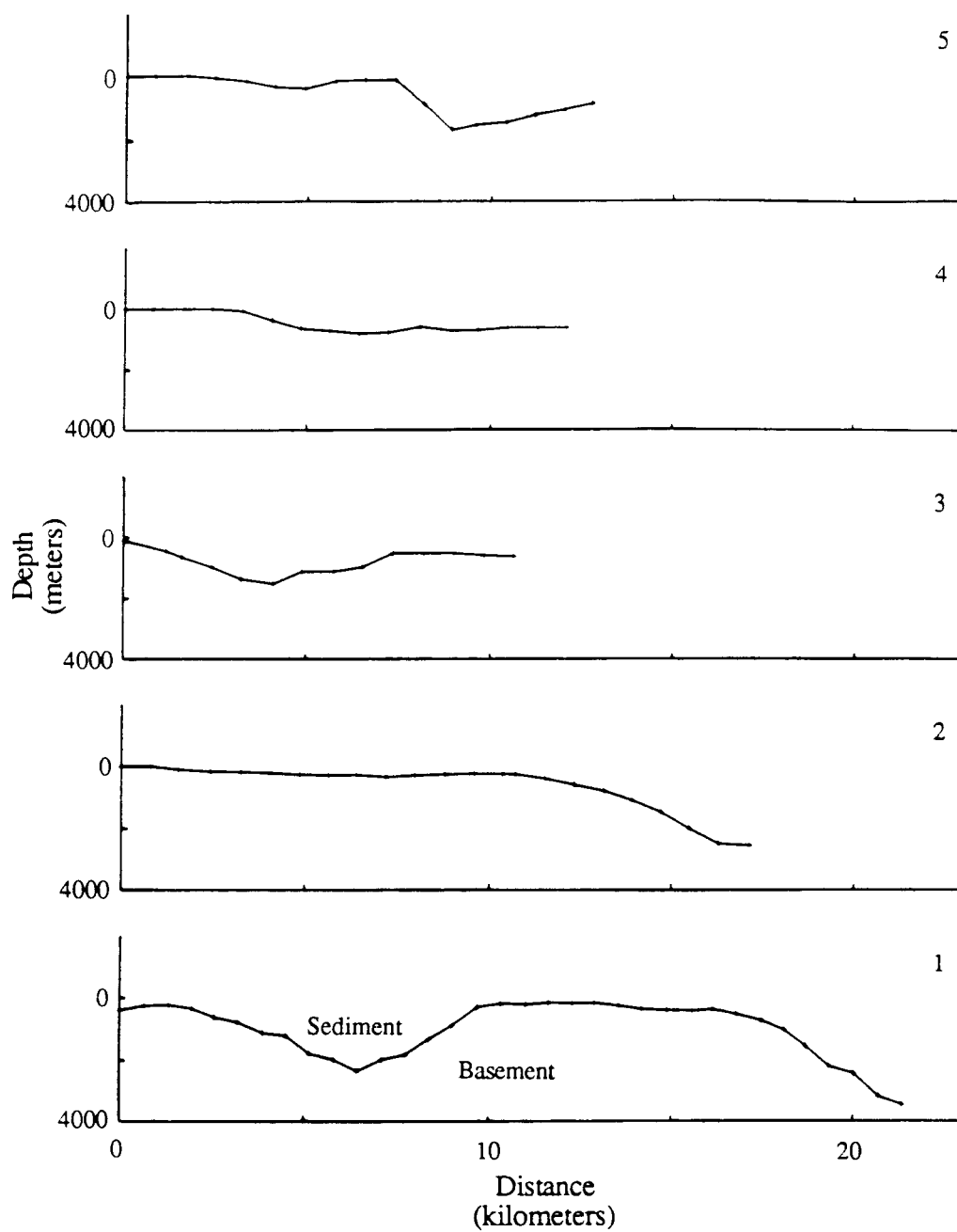


Figure 6. Depth-to-basement profiles for seismic reflection lines 1–5.

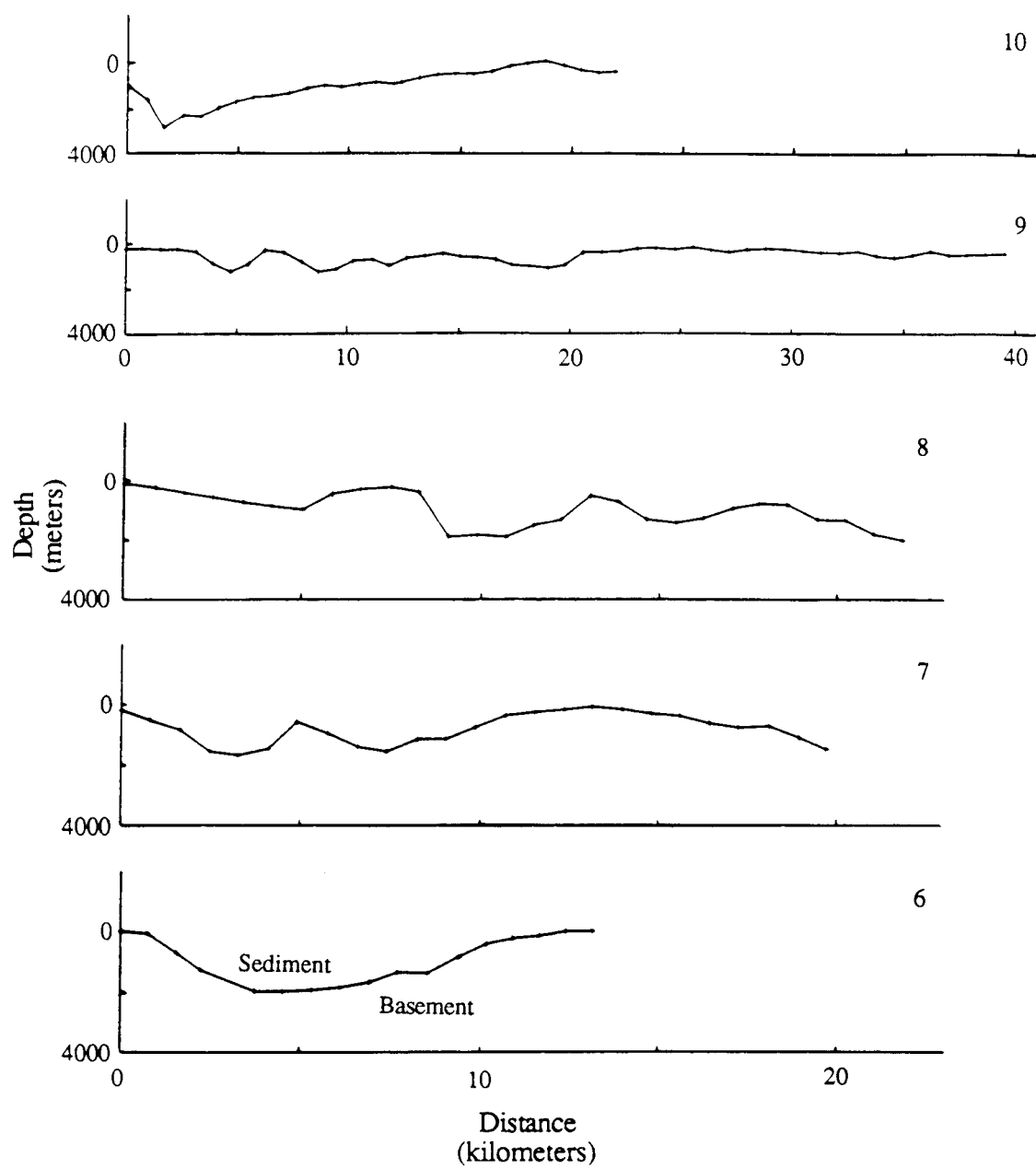


Figure 7. Depth-to-basement profiles for seismic reflection lines 6–10.

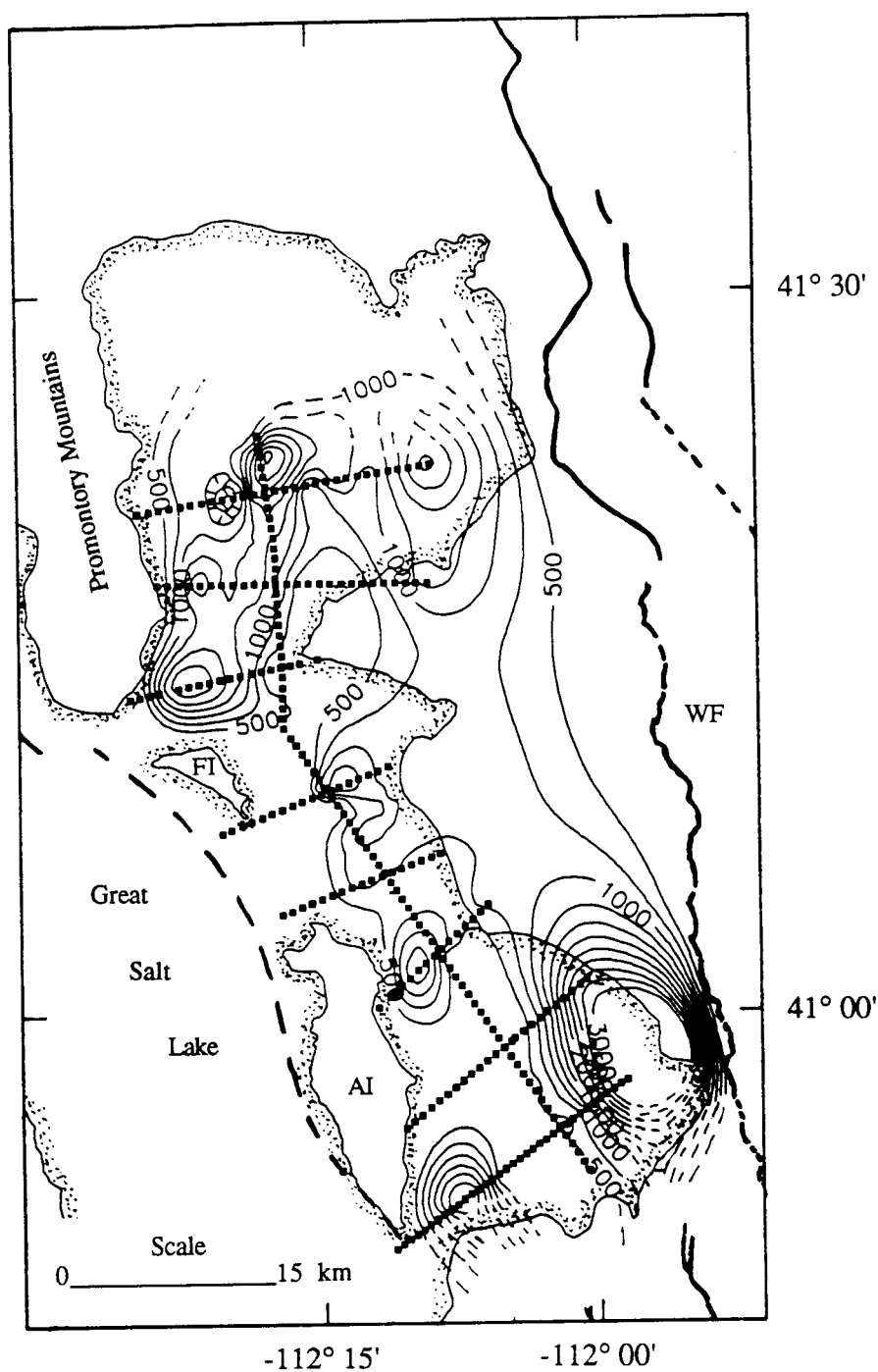


Figure 8. Depth-to-Basement contour map of the study area from the seismic reflection profiles. Contour interval is 500 m; squares show locations of depth values calculated from the seismic data. Hachures indicate closed basement highs.

curvature algorithm has no radius of influence constraint and therefore grids the whole data set with equal weight. In areas with no depth information the contours were dashed by hand.

### Well Data Analysis

The rationale behind the well log analysis was to see if the impedance contrasts recorded in the logs correlated with reflectors in the seismic reflection profile, and if so, how good is the correlation?

The location of the two wells used in this study are shown in Figure 1. Acoustic velocity and density profiles were produced from the acoustic velocity and density logs for these wells (Figure 9). The profiles were produced by identifying differences in density of greater than 0.1 g/cc and acoustic velocity differences greater than 0.25 km/s consistent over an interval of 30 m, which is the approximate spatial resolution of the seismic reflection data.

An impedance model was generated from the acoustic and density profiles. From this impedance model a zero offset synthetic seismogram was generated using the reflectivity method (Fuchs and Muller, 1971) and compared to the corresponding section from Line 7 (Figure 10).

The correlation between the synthetic seismogram and the seismic reflection profile is very good as can be seen in Figure 10. The acoustic velocity and density contrasts shown in the well logs produced synthetic reflections at two-way traveltimes comparable to the actual seismic reflection profile. The strong doublet reflection located at about 400 msec and the reflection located at about 1000 msec match the reflections in the seismic reflection profile at these times very closely in amplitude, phase and frequency. It is unreasonable to expect a one-to-one correspondence between the synthetic reflections and the real data reflections because the well log profiles are smoothed representations of the actual rock properties recorded in the well logs. This



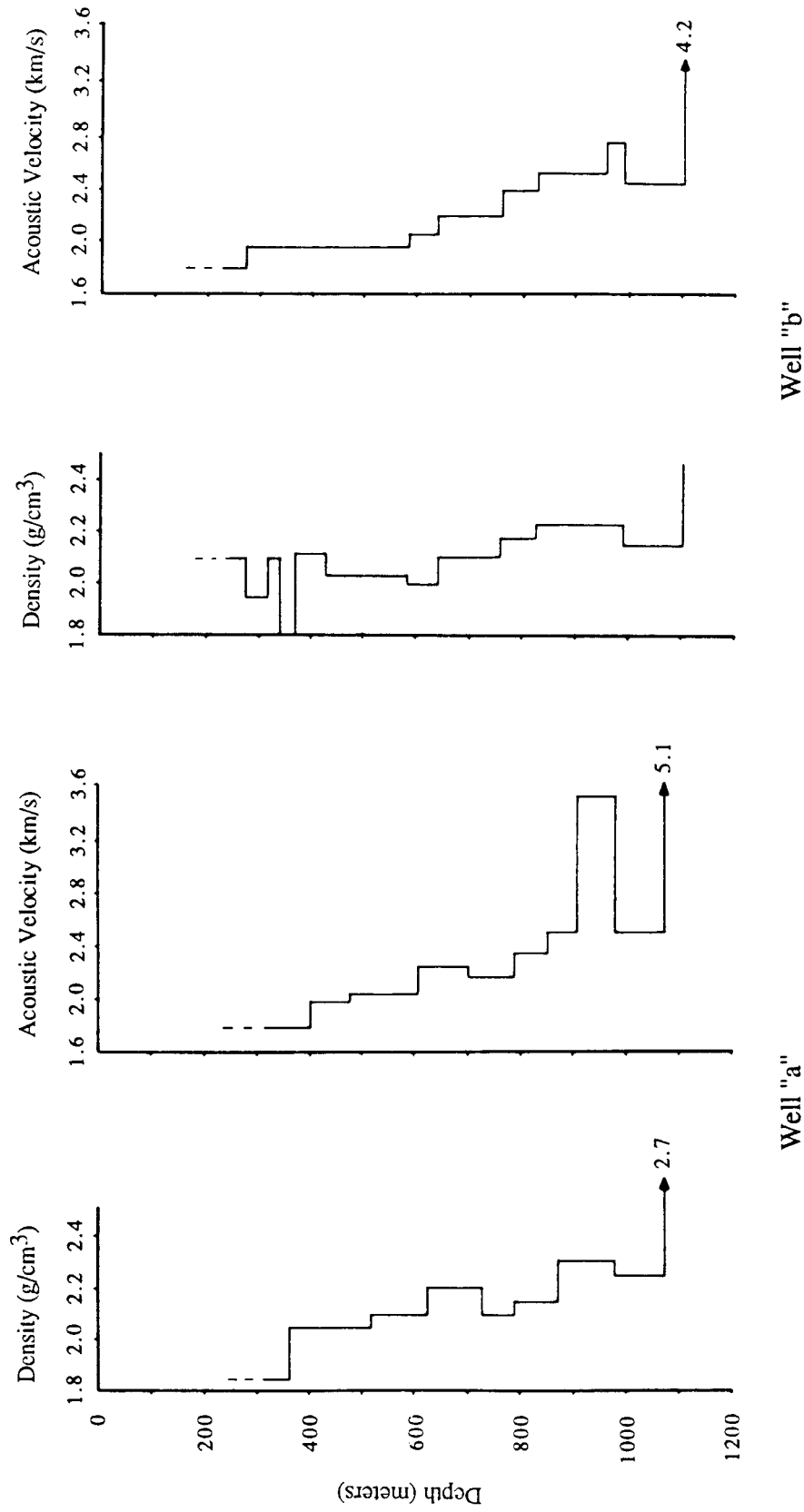


Figure 9. Acoustic velocity and density profiles for wells "a" and "b".

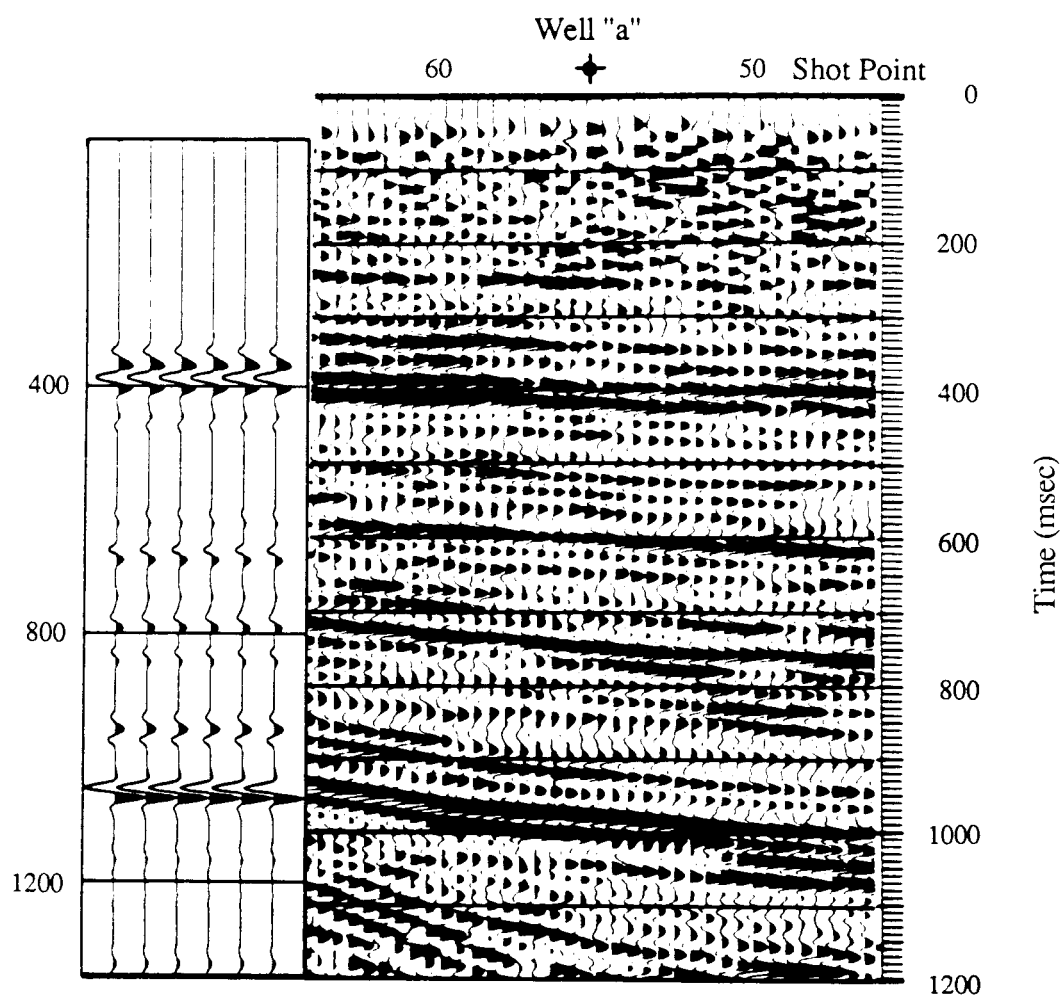


Figure 10. Comparison of synthetic seismogram and corresponding section of Line 10. Location of Well "a" and shot points are labelled on top of figure.

analysis lends confidence to the depth to basement calculations from the seismic reflection profiles because the depth of the large impedance contrasts in the logs correlated with the calculated depths from the seismic profiles.

The density-depth profiles produced in this study were used to calculate a weighted average density contrast between the basin sediments and basement rock, as described by Litinsky (1989). The weighted average was calculated by summing all the products of the density contrasts of each discrete layer with respect to the basement and the thickness of each layer, then dividing this sum by the depth of the basin. This calculation resulted in an average density contrast of -0.53 g/cc and was used in the three-dimensional gravity inversion.

#### Gravity Analysis

The gravity data were used to determine the basin geometry in locations where other geophysical and geologic data were not available. The analysis of the gravity data involves estimating the gravitational effects of deep crustal and upper mantle compensatory features and subtracting these effects from the data to enhance the shallower features. These residual gravity data were then used to determine the basin geometry.

The gravity data were sorted by latitude, longitude and elevation to include only those points in the study area. A subset consisting of 1098 gravity measurements was separated from the approximately 1700 measurements in the Weber basin vicinity to be used in the inversion of the gravity data. The locations of these 1098 measurement were plotted and compared to the seismic line locations. Combining the two data sets yields very good coverage of the area (Figure 11).

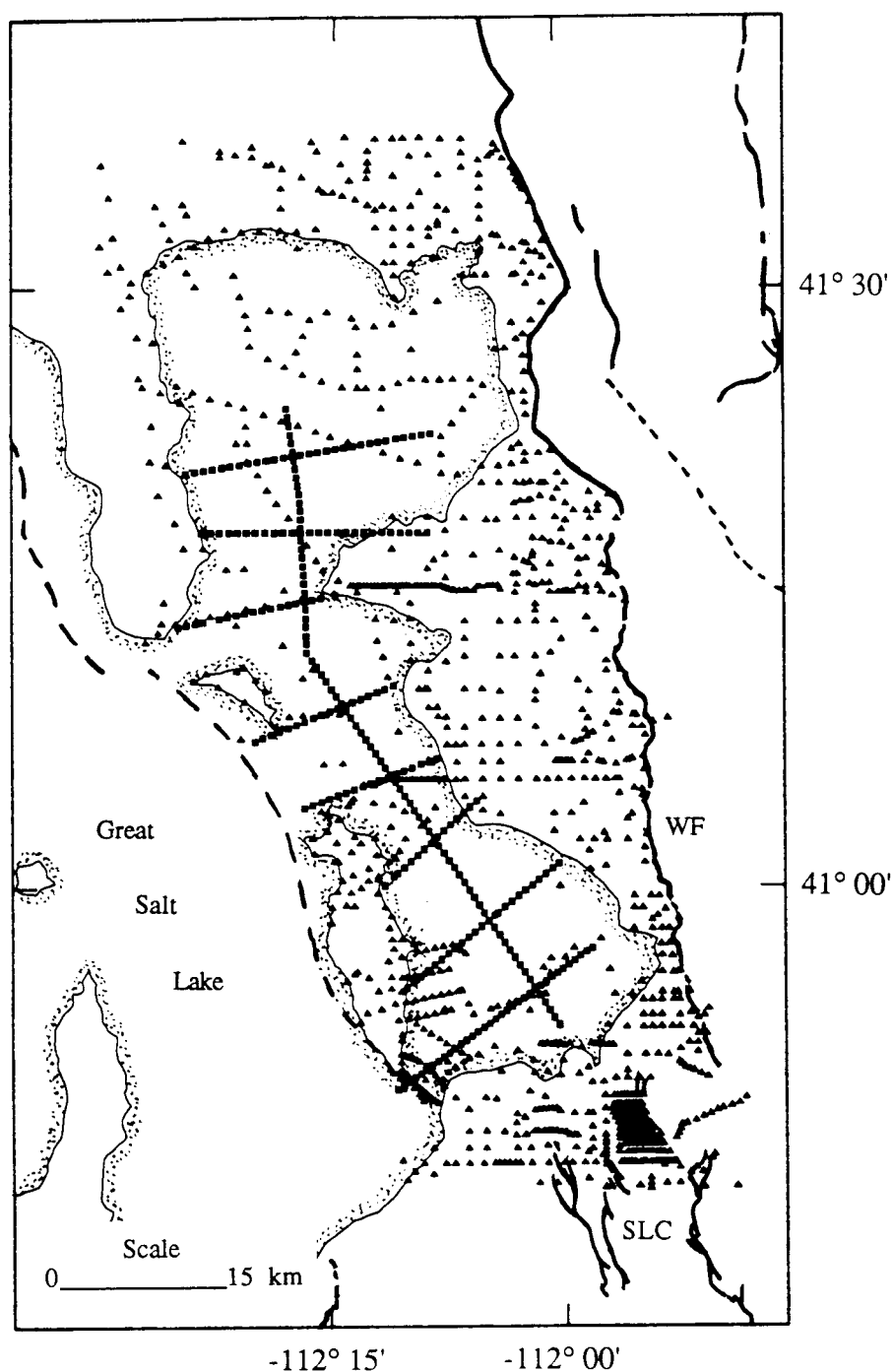


Figure 11. Distribution of seismic reflection and gravity data over the study area. Note the very good coverage. Squares represent seismic data locations; triangles represent gravity data locations.

### Regional Gravity Field

It is intuitively obvious gravity measurements contain geophysical information pertaining to the measurement location, but how one separates the wanted information from the unwanted information is a method wrought with personal biases. My personal biases are toward using models generated from estimates of the earth's physical properties as opposed to mathematical curve-fitting models to calculate regional effects and using the original data points rather than gridded data for input into inversion programs.

The regional gravity model employed for this study considers an isostatic compensation depth and an elastic plate thickness to calculate the large scale regional effects of isostatic compensation of surface topography and upper crustal loads. The algorithm, written by Tony Lowry, was generated from equations for flexure of the lithosphere due to periodic loading discussed in Turcotte and Schubert (p. 122–123 and p. 221–222, 1982) as well as an upper-crustal load deconvolution developed by Cordell, Zorin and Keller (1991). The estimates of physical parameters used to calculate the regional gravity field are: an elastic plate thickness of 8000 m; a continental crust density of 2670 kg/m<sup>3</sup>; an upper mantle density of 3200 kg/m<sup>3</sup>; a depth of compensation of 25000 m; a Poisson's ratio value of 0.25; and a Young's modulus value of  $10^{11}$ .

The residual complete Bouguer anomaly gravity map from this model is very similar to the isostatic map produced by Simpson, Jachens, Blakely and Saltus (1986) for the continental U.S., with less than approximately 10% variation of the amplitude and wavelength of the gravity fields between the two maps. This similarity is comforting because the algorithms for calculating the two regionals are not the same.

Unfortunately, this regional removal process did not completely isolate the gravity effects of the basin because effects caused by loading at the base of the crust cannot be predicted. Basin analysis using gravity data requires modeling negative

density contrasts unless one is dealing with the rare case of the basin sediments being more dense than the basement rocks. The isostatic residual generated here had a positive aspect over portions of the Weber Basin. To overcome this final difficulty, a best fit planar surface was calculated using gravity values from the edge of the basin at or near bedrock and then subtracted from the gravity values located in the basin. This guaranteed the negative density contrast between the basin sediments and bedrock needed for the gravity inversion as can be seen in Figure 12.

### Gravity Modeling

Barnett (1976) developed the three-dimensional forward model used in the inversion routine. The basin is modeled as a polyhedron made up of triangular facets which can be any size and have as many facets as needed to define the body, up to the parameter limits of the inversion program. For this study, the x and y position of the facet is fixed and its depth is allowed to vary for the points being inverted. The computer program, as written, limits the number of unknown depth nodes to 50 and the total number of depth nodes for the model to 102. This limit was restrictive, but was overcome by using two models to cover the extent (35x90 km) of the study area. Model 1 covers the lower two-thirds of the study area; model 2 covers the upper one-third. The models overlap by one row of inversion nodes.

Model 1 encompasses the area of the seismic data used in this study. The depth to basement on the west side of the model was fixed using the depths calculated from the seismic reflection profiles. Model nodes east of the surface trace of the Wasatch fault were fixed at zero depth. The inversion nodes were positioned to maximize the coverage over the areas where seismic data was sparse or nonexistent. The approximate spacing between these nodes is 4 to 5 km in both the x and y directions. The spatial

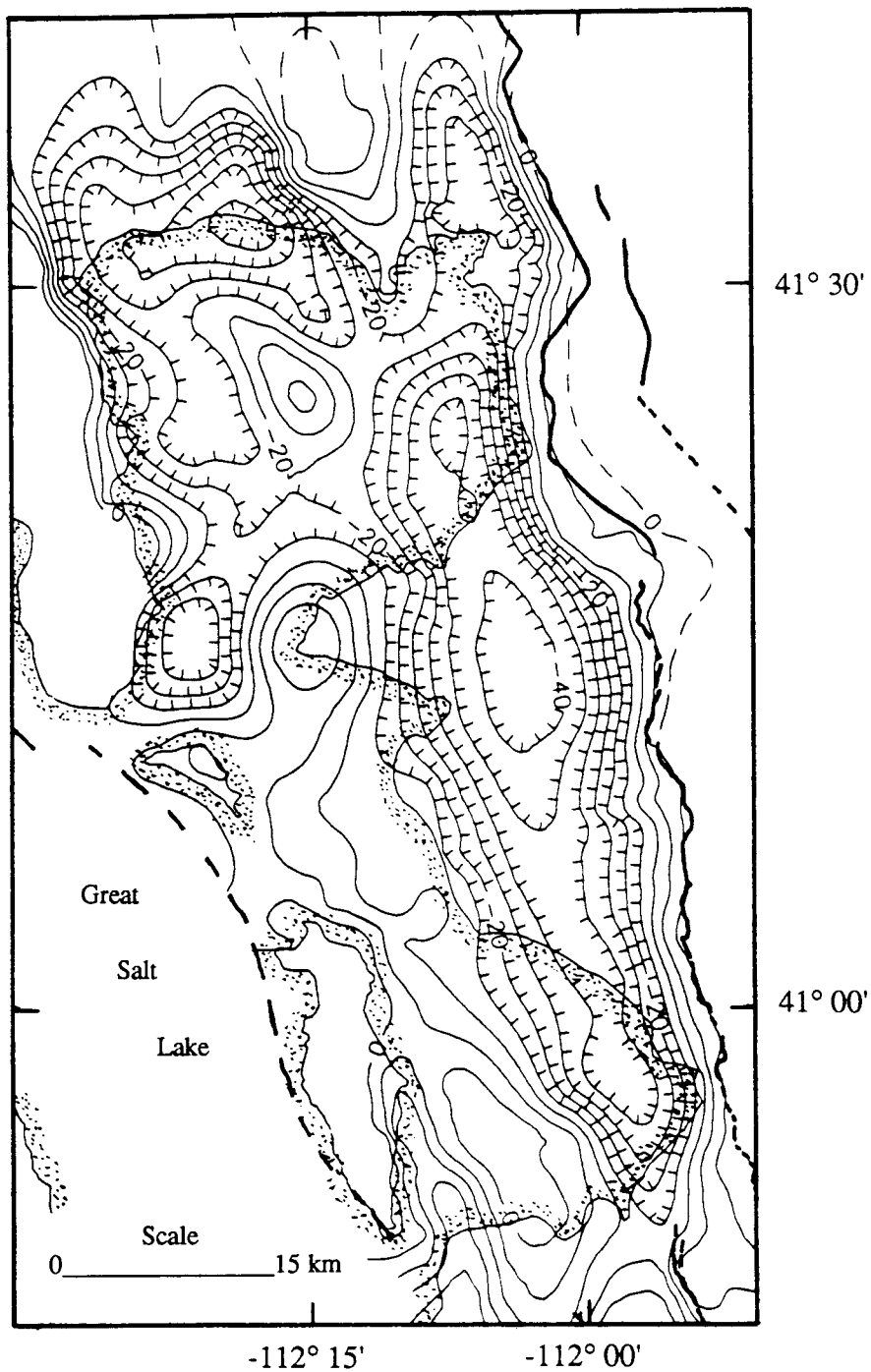


Figure 12. Contour map of residual gravity data used in the gravity inversion routine. Contour interval is 5 mGal.

resolution of this model is adequate based on the geometry of the study area and the distribution of gravity station measurements.

Model 2 was generated with the same x-y node spacing as Model 1, but had no seismic depth constraints. Node points located on the edge of the basin and east of the Wasatch fault were fixed at zero depth. The initial depths for the node points were set at zero. Due to the lack of depth control over the model area this is effectively an unconstrained gravity inversion.

Both initial models were fed to the inversion routine using a density contrast of  $-0.53$  g/cc, an initial ridge regression (Marquardt) damping factor,  $\lambda$ , of 1.0 and a maximum number of 10 iterations. The model-parameter-versus-observed-gravity weighting factor,  $\gamma$ , was set to 1.0 for Model 1. A value of 1.0 gives equal weight to the model parameters and observed gravity values. This value was used because the model is well constrained. This is not the case for Model 2 so the weighting factor was set to 0.5. This value weights the observed gravity data more heavily than the initial model parameters and thus favors a solution honoring the observed gravity data.

A depth-to-basement contour map was produced by combining the calculated depths from the seismic reflection profiles and the gravity inversion results (Figure 13). The latitude, longitude and depths for this basin model are listed in Appendix A. As can be seen by comparing Figures 8 and 13, the Figure 13 contour map has considerably more resolution. The basin geometry of the area east of the seismic profiles and west of the Wasatch fault is well defined in Figure 13.

Minor editing was done to the results of Model 1. For example, the two node points which had depth values above the valley surface, both  $< 0.27$  km, were set to zero depth. These points are located at the edge of the valley along the Wasatch fault, which is at the edge of the density contrast and could explain their deviant behavior. Otherwise, all the calculated depths produced by the inversion program were used.



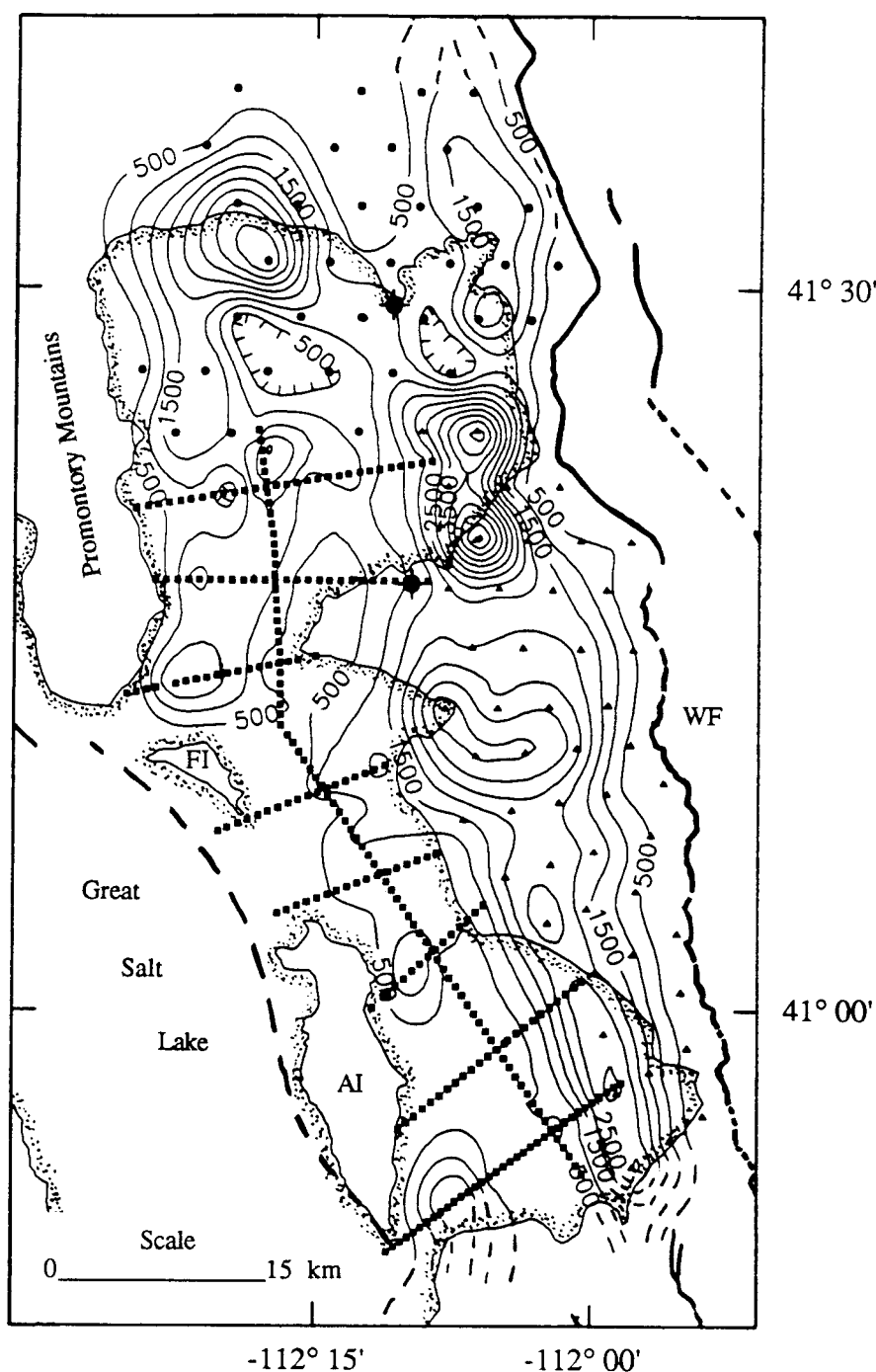


Figure 13. Depth-to-basement contour map from seismic reflection data (squares) and results of the inversion of gravity data. Triangles represent depth points determined from Model 1 and dots represent depth points determined from Model 2. Contour interval is 500 m. Hachures indicate closed basement highs.

Due to the lack of depth constraints for Model 2 a different approach was used in editing the results. The errors between the calculated and observed gravity values used in the inversion were contoured, and the depths associated with Model 2 were also contoured. Node points located in regions with errors greater than 2 mGals were removed; 15 points were deleted.

The basin model produced in this study shows an anomalous depression west of the Wasatch fault between North Ogden and Brigham City. The northern edge of this depression is located at the seam between Model 1 and Model 2. A second set of models were produced to test the effects of the seam on the basin model (Figure 14). Model 1 was extended approximately 8 km northward to minimize edge effects over the depression. As one can see by comparing Figure 13 with Figure 14 there are no significant differences between the basin models.

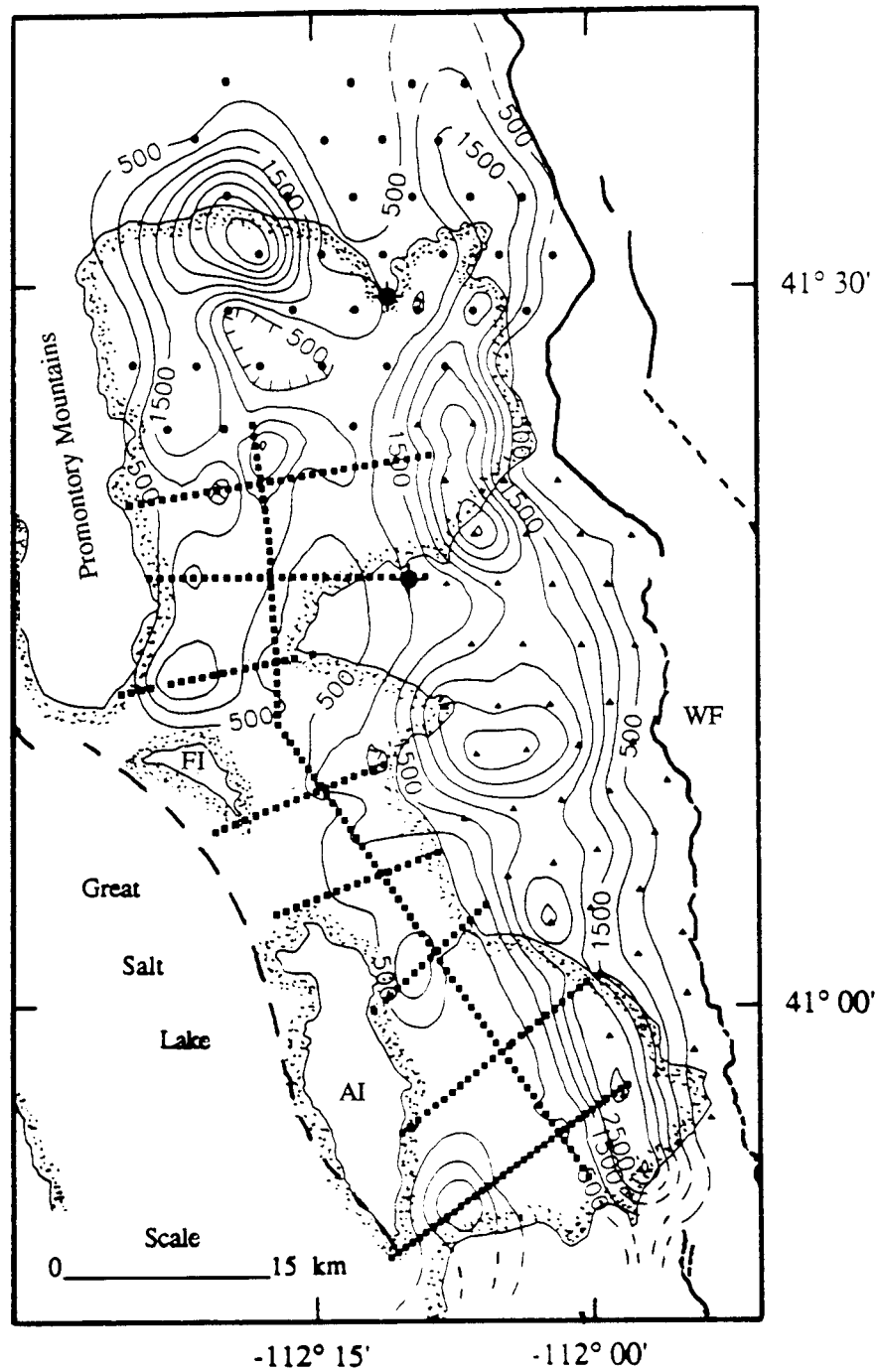


Figure 14. Depth-to-basement contour map with seam between Model 1 and Model 2 shifted about 8 km north. Contour interval is 500 m. Hachures indicate closed basement highs.

## INTERPRETATION

### Seismic Interpretation

Seismic profiles 1, 2, 3, 6, 7, and 8 (Plates 1–5) show similar basin geometries and structural features associated with two local basins, one east of Antelope Island and the other east of the Promontory Peninsula. These six profiles show east dipping Tertiary sedimentary sequences downlapping on to the Precambrian and Paleozoic basement. The sedimentary sequences show toplap into a possibly late Tertiary or Quaternary age unconformity. The clearest example of this geometry is shown in Line 6. The direction of downlap infers that the sediment transport direction in these basins was west to east. The center of profiles 1, 2, 7, and 8, and the east side of profiles 3 and 6 show the basement high which trends north-south over the length of the study area.

The west side of seismic profiles 4 and 5 (Plates 2 and 3) show the shallow sediment-basement reflector between Antelope and Fremont islands. The center and east side of these profiles show Tertiary sediments gently dipping into the main basin. As with the other profiles, the inferred sediment transport direction from these profiles is west to east.

All of Line 9 and the southern half of Line 10 (Plates 5 and 6) elucidate the geometry of the basement high which is covered by thin (< 750 m) Tertiary and Quaternary sediments. The northern half of Line 10 shows the sediment-basement contact dipping north into a local basin. The north end of Line 10 shows evidence of a normal fault with an apparent dip of 38° to the south. The gently folded Tertiary sediments are truncated above by an unconformity and to the north by this normal fault. The normal fault does not appear to penetrate the unconformity.

Olson (1960) mapped a series of normal faults in the Promontory Mountains, three of which (Figure 2) trend toward the normal fault shown on the north end of Line 10. One of these three faults, the Chokecherry fault, shows the same sense of displacement (north side up-south side down) as the Line 10 fault. A dip angle for the Chokecherry fault is not given, so a comparison of the two faults is not possible.

If one assumes the Line 10 fault trends sub-perpendicular (east-west) to Line 10 and projects eastward to the Wasatch fault it presents a new interpretation of the Weber Basin geometry in this area. In the basin model the north side of the depression between North Ogden and Brigham City west of the Wasatch fault has a dip of about  $37^\circ$  south which is  $1^\circ$  less than the calculated apparent dip of the Line 10 fault. Also, the Brigham City fault segment is thought by some investigators (Bruhn, personal communication, 1991) to end where the Line 10 fault projects into the Wasatch fault. If the Line 10 fault does project eastward across the Weber Basin its presence can help explain the complex geometry in this area.

At the south end of the basin one continuous coherent reflector (R2), which I interpret to be the sediment-basement contact, is present on Line R 11 (Plate 6). As one can see by comparing Line R 11 with the other ten seismic profiles, interpretation of Line R 11 is considerably more difficult.

Yonkee (1990) produced a balanced geologic cross-section from the northeast of Antelope Island eastward to the Wasatch Mountains on the basis of extensive geologic mapping and modeling. He shows a west dipping thrust fault east of Antelope Island which is part of the Ogden Thrust System (Yonkee, 1990). Though the fault is not exposed at the surface and the actual location is unknown, its presence is necessary to meet balancing constraints. Seismic profiles 2 and 3 (Plates 1 and 2) show what I interpret to be this fault, although its location is farther west than shown in the cross-

section. This was the only interpretable feature in the Paleozoic or Precambrian sections.

The east side of seismic profiles 1 and 2 (Plate 1) show evidence of en echelon down stepping normal faults from the Wasatch Front westward into the basin. A similar geometry is observed on a smaller scale by Stephenson (1991). These faults propagate through various levels of Tertiary age reflectors. During the formation of the basin, stress may have been released on various faults at various times rather than activating the most basinward fault on the range front. If this is the case displacement could occur on one or more of these faults due to an earthquake.

An antithetic normal fault is also interpreted to be located on the west slope of the basin forming a graben structure at the basin bottom. This interpretation is similar to that of Wilson et al. (1986) for seismic Line 1. The steep dipping normal fault shown in Yonkee's (1990) cross-section is not observed in the seismic profiles. This is not surprising considering steep dipping normal faults are not readily imaged by standard reflection seismology techniques.

#### Well Log Interpretation

A major question related to this section is: can the R2 reflector discussed in Arnou and Mattick (1968), defined by Hill (1988) and used by Radkins (1990), be correlated to reflectors in the Weber Basin? The answer is yes, but not as defined by Hill (1988). My interpretation differs from Hill's (1988) as to what the R2 reflector represents. Hill (1988) classifies the R2 reflector as being the contact between semi-consolidated and consolidated Tertiary sediments. The discussion in Arnou and Mattick (1968) and geophysical logs from nearby wells do not agree with this interpretation. A more consistent interpretation is that the R2 reflector represents the sediment-basement contact. Using this definition the two reflectors are compatible.

Velocity and density logs from seven wells in the west side of the Great Salt Lake were examined. Depths to the top of the Pliocene, Miocene and Paleozoic or Precambrian deposits are listed by Viveiros (1986). For all seven wells the top of the Pliocene and Miocene deposits are not associated with a distinct impedance contrast. Some other criteria must have been used to determine these boundaries. The only boundaries showing distinct impedance contrasts are the Pliocene or Miocene-Paleozoic or Precambrian contacts.

Assuming this same condition applies to the basin on the east side of the lake, the prominent reflectors seen in the seismic profiles are not associated with the Pliocene or Miocene boundaries, but are associated with impedance contrasts in these sequences. Consequently, no prominent reflector can be directly correlated with these boundaries. The one boundary which can be defined by a prominent reflector is the Tertiary-Paleozoic or Precambrian contact. Determining the depth to this boundary is the objective of the 3-D gravity inversion.

#### Gravity Interpretation

Zoback (1983) used a regional complete Bouguer anomaly gravity map to interpret basement structures which possibly affected Cenozoic basin formation and normal faulting. A similar regional interpretation is discussed here, but the interpretations are made from a residual complete Bouguer anomaly gravity map. Distribution of gravity measurements used to produce this map are shown in Figure 4. As discussed previously, the calculated effects of isostatic compensation at a deep crustal-upper mantle interface are removed in the generation of a residual gravity map; this enhances the shallower (<15 km) anomalies. A comparison of Figure 15 with Figure 5 illustrates how the near surface features are enhanced. The gravity anomaly associated with the Weber Basin is better resolved on the residual map than the regional

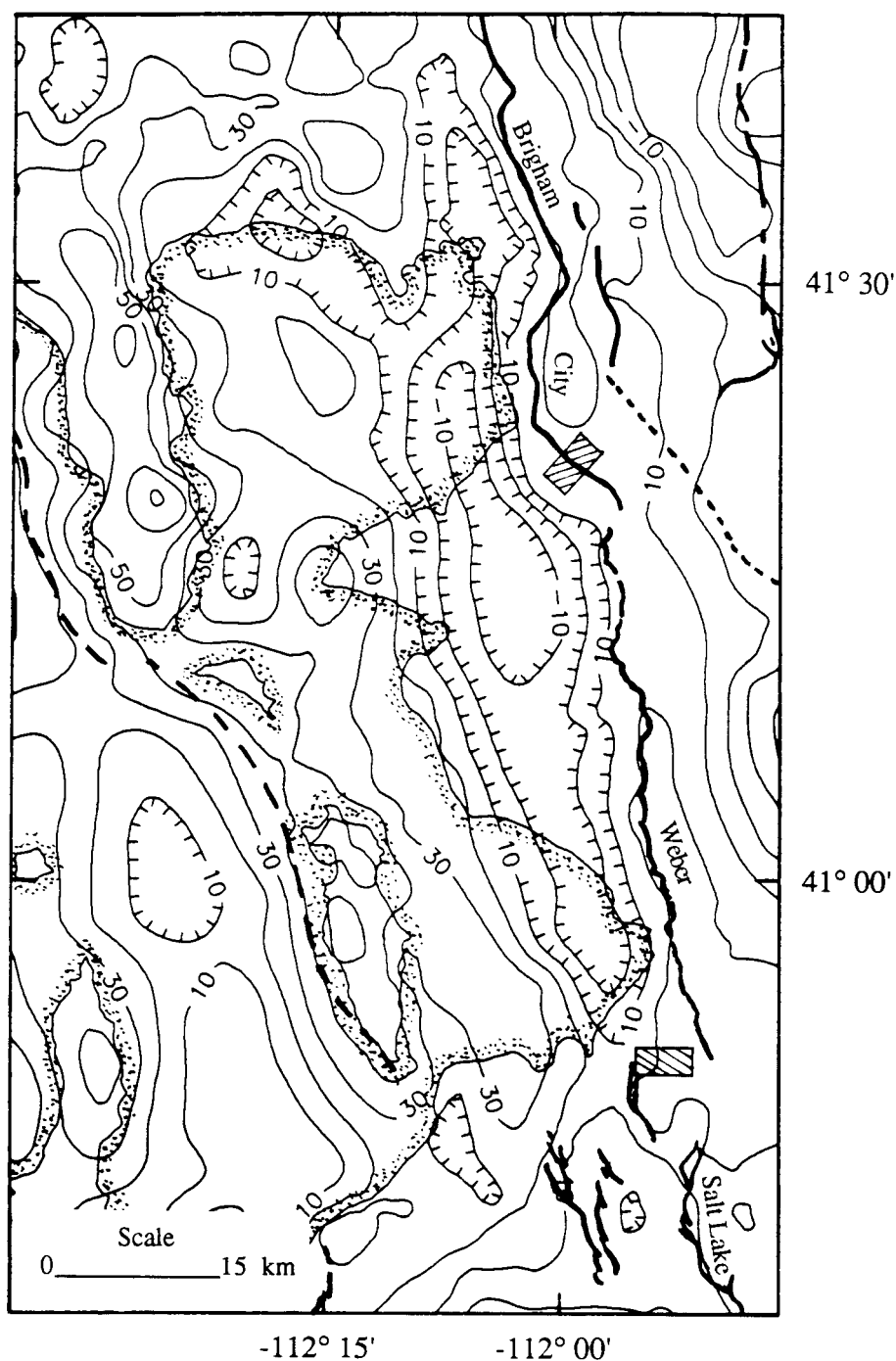


Figure 15. Residual complete Bouguer anomaly gravity contour map of the study area with fault segment boundaries from Machette et al. (1991). Contour interval is 10 mGal.



complete Bouguer anomaly map. From this map two separate types of structural features can be interpreted as follows.

Four Wasatch fault segments (Collinston, Brigham City, Weber and Salt Lake segments as described by Machette et al., (1991) are present in the study area. As can be seen from Figure 15, the gravity contours trend sub-parallel to the surface trace of the Wasatch fault in this study area except at two locations: the Brigham City-Weber and Weber-Salt Lake segment boundaries show a distinct gap between the gravity contours and the mapped fault trace. These perturbations are fairly prominent features on the gravity map. A small gravity field perturbation is associated with the Collinston-Brigham City segment boundary. The gravity expression does not indicate this to be a large asperity on the fault and it is not considered likely to be a persistent segment boundary as defined by Wheeler (1988).

The magnitude of the regional gravity anomaly associated with the basin diminishes south of Bountiful and north of Brigham City. The Salt Lake salient appears to be a continuous basement structure across the basin responsible for the reduced amplitude of the gravity anomaly south of Bountiful. Schwartz and Coppersmith (1984) observed no evidence of paleoseismicity along the Collinston segment over the past 13,500 years. If this is representative of the seismic activity over the lifetime of the segment the relatively small gravity anomaly may be due to languorous basin formation in this area. Also, the gravity anomaly associated with the Weber Basin branches southwest of Brigham City. One branch trends parallel to the Wasatch fault; the other branch trends northwest and cuts across the basement high. No other large scale (>10 km) basement structures such as found by Zoback (1983) were noticed in this study.

#### Interpretation of Gravity Inversion Results

Numerous investigators have calculated depth-to-basement values for various locations across the basin (Zoback, 1983; Lambert and West, 1989; Glenn et al., 1980;

Wilson et al., 1986). A number of exploratory wells which penetrated basement were drilled by various energy companies. The results of my analysis are compared to the wells and these investigators' depth-to-basement calculations. An interpretation of the basin geometry with respect to the tectonics of the region is also discussed.

Basin depths from the two wells used in this study were not used as constraints for the gravity inversions. Well "a" is located in Model 2 and has been interpreted to penetrate basement at a depth of 1070 meters. The depth-to-basement contour map shows a depth of approximately 1100 to 1300 meters at this location. This depth-to-basement value is associated with the unconstrained model; the result gives confidence to the other depths calculated for Model 2. Well "b" is located in Model 1 and within 1.0 km of seismic profile 7. Three depth values determined from the seismic profiles are located within 2.0 km of well "b" and no gravity inversion nodes are located within 2.5 km of this well. Consequently, the depth value at this location is heavily influenced by the seismic profile and a comparison to depths calculated by the gravity inversion routine is not valid.

A 3.35 km deep well was drilled by Geothermal Kinetics northwest of Brigham City (Figure 16). From well cuttings the well was interpreted to intersect the Wasatch fault at 2.39 km depth which corresponds to a fault dip of about  $42^\circ$  (Morgan, personal communication, 1991). My basin model shows a basin depth of about 1.0 km which does not compare favorably with this above value. The gravity anomaly associated with this area does not indicate such a deep basin contact if the gravity anomaly and corresponding depth are compared to other locations in the basin. The resolution of this part of the basin model may be less than other areas due to the fact that this area is located at the northeast edge of the unconstrained basin model (Model 2).

As might be expected, comparison with other investigators' results were mixed. Lambert and West (1989) conducted a shallow, sparker ("continuous") seismic profiling

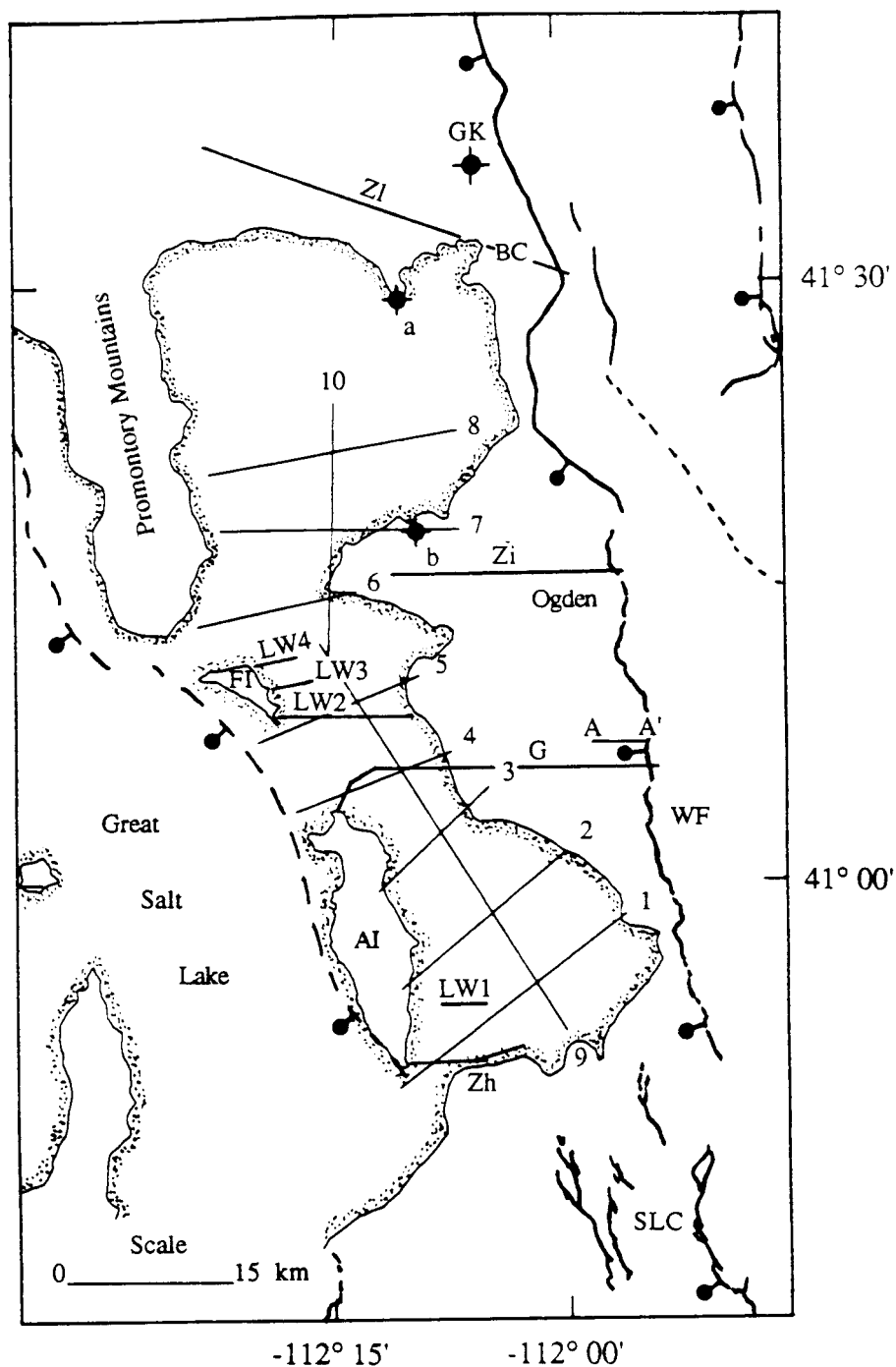


Figure 16. Map showing the locations of other investigators' two-dimensional depth-to-basement profiles which are compared to the results of this study. G = Glen et al. (1980), GK = Geothermal Kinetics, LW = Lambert and West (1989), Z = Zoback (1983), A-A' shows location of seismic reflection profile from Smith and Bruhn (1984).

survey east of Fremont and Antelope islands (Figure 16). The maximum depth of penetration for this method is approximately 300 m. All the calculated depths from their study are located between the 0 and 500 m contours on the depth-to-basement contour map, as one would expect given the depth of penetration of the method.

Wilson et al. (1986) interpreted four seismic profiles, three of which were also used in this study, lines 1, 7 and 8 (Figure 16). The estimated depths beyond the end of seismic profile 1 are deeper by over 1000 m than I observed. But the estimated depth of 2100 m for the west side of the profile is very close (within 200 m) to the values I calculated. The locations and approximate depths of depocenters shown by Wilson et al. (1986) correlate well with the depth-to-basement contour map produced in this study.

Glenn et al. (1980) produced a depth-to-basement profile by using forward modeling of gravity data. The profile trends eastward from the northeastern end of Antelope Island to the Wasatch fault (Figure 16). A density contrast of  $-0.43 \text{ g/cc}$  was used for their modeling. The geometry of the profile matches closely the results of this study. In gravity modeling, a reduction in density contrast between basin sediments and bedrock will result in an increase in volume (depth to the interface). For this reason, the estimated depth of the basin is about 15% greater for the 2-D model because of the smaller density contrast used in the modeling.

Zoback (1983) compiled three 2-D geometry profiles using forward modeling of gravity data in the study area (Figure 16). All three models used a density contrast of  $-0.5 \text{ g/cc}$ . Using her terminology, profile "h" is located at the south end of Antelope Island and trends eastward approximately 10 km. The maximum depth-to-basement associated with this profile is 1.83 km; this value correlates very well with my results. Profile "i" trends eastward from Little Mountain to the Wasatch fault. The maximum basin depth along this profile is 2.59 km. Again, the geometry and depth estimate are consistent with the results of this study. Profile "l" trends east-southeastward from the

Promontory Mountains to Brigham City. The maximum basin depth of 2.10 km agrees to within 300 m of my results. The 2-D geometry along this profile is also consistent with the geometry shown in the depth-to-basement contour map. From the above comparison of depth-to-basement estimates and basin geometries, the studies are remarkably consistent.

The entire Weber segment of the Wasatch fault shows the basement surface dipping  $13^{\circ}$  to  $19^{\circ}$  west from the surface trace of the Wasatch fault to the basin bottom. The dip decreases from  $19^{\circ}$  west in the south to  $13^{\circ}$  west in the north. This range of dips is consistent with a value of  $17^{\circ}$  west at Hill Air Force Base determined by Smith and Bruhn (1984) and a value of  $18^{\circ}$  west at Kaysville calculated by Stephenson (1991). It is not reasonable to assume this represents the dip of the Wasatch fault along the Weber segment. The top of Figure 17 shows the basement reflector (?) interpreted by Smith and Bruhn (1984) and the bottom of the figure illustrates my fault geometry model for the Weber segment of the Wasatch fault. Smith (1984) modeled the effects of this type of fault geometry on seismic reflection imaging. The top of Figure 18 shows one of Smith's (1984) fault models and the bottom of the figure shows the corresponding seismic reflection profile. At shallow dips a near continuous reflection is produced by this fault geometry which is similar to the reflection shown by Smith and Bruhn (1984).

Smith and Bruhn (1984) and later Anderson (1989) postulated that the late Cenozoic normal faulting and basin geometry are influenced by Early and Pre-Cenozoic structures. The structures of interest in this study are the Absaroka ramp-anticline, the Willard-Paris thrust sheet, the Ogden thrust zone and the Salt Lake salient. Eardley (1944) speculated, after studying the Ogden thrust zone and Willard-Paris thrust sheet, these structures influenced the geometry of the Wasatch fault between Ogden and Brigham City. Eardley's (1944) speculation is the most reasonable explanation for the

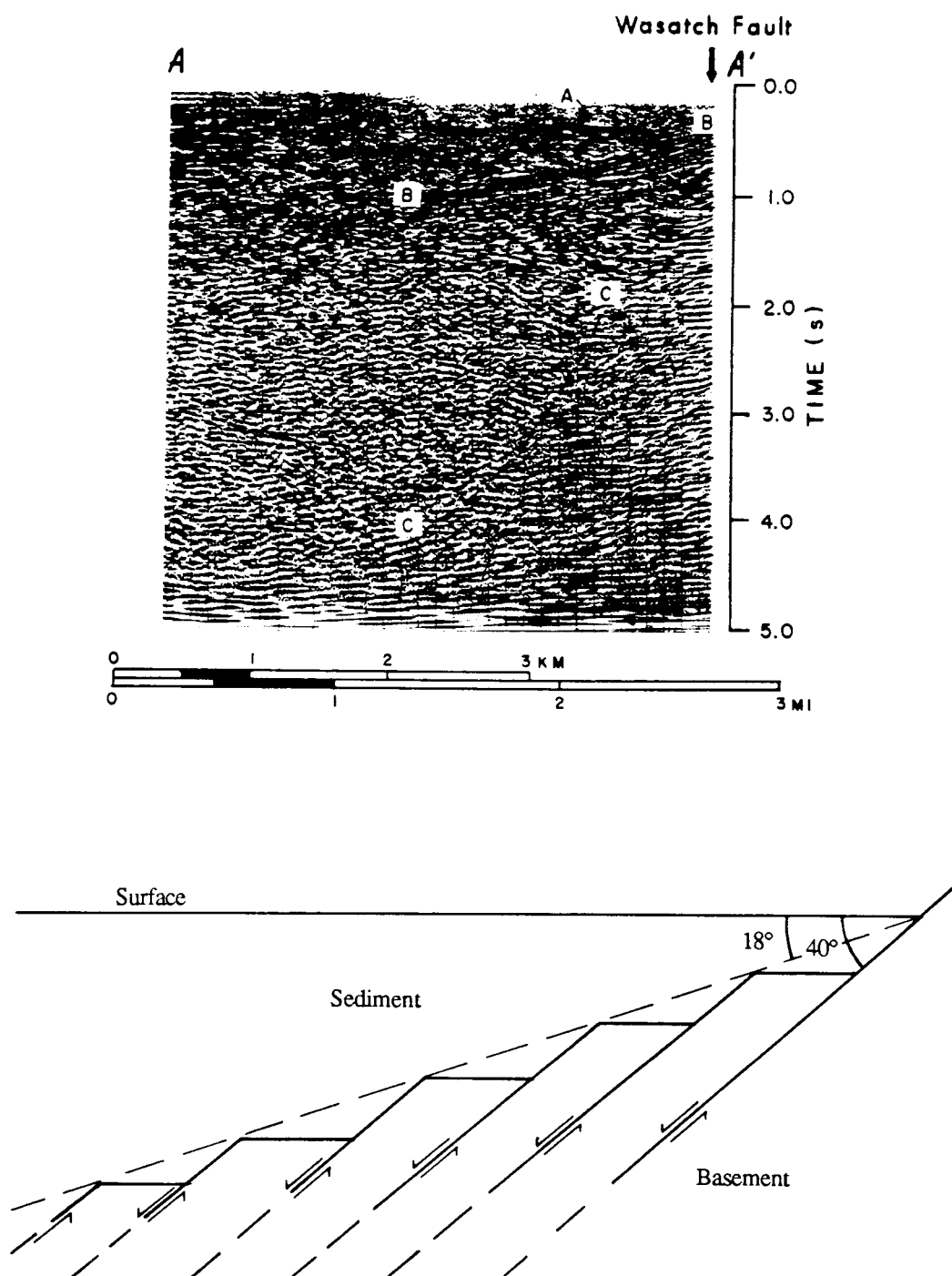


Figure 17. Seismic reflection profile from Smith and Bruhn (1984) showing the basement reflector dipping  $17^\circ$  west (top) and model for this geometry (bottom).

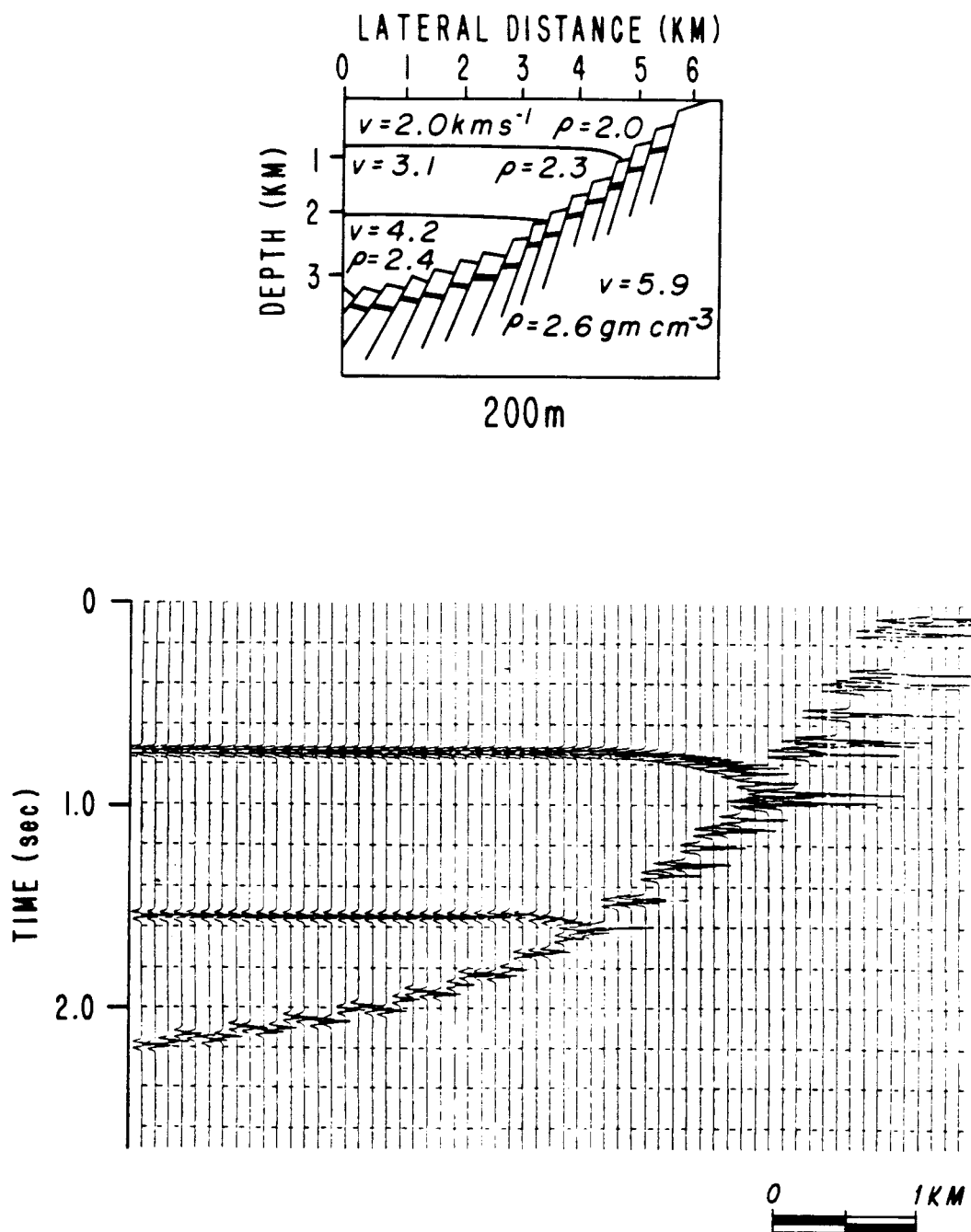


Figure 18. Acoustic velocity and density model for fault geometry discussed in text (top) from Smith (1984) and corresponding synthetic reflection seismic profile (bottom).

change in geometry of the Wasatch fault north of Ogden. The Salt Lake salient is the western boundary between the north-south oriented ramp-anticline and the east-west oriented Uinta Arch. This area has a complex structural history as can be seen from the geologic map of the area by Bryant (1990) . The Salt Lake salient is located where the dominant structure orientation rotates from north-south to east-west. This change in orientation is most probably responsible for the change in geometry of the Wasatch fault at the southern end of the Weber segment.

The axis of the Absaroka ramp-anticline trends sub-parallel to the Weber segment of the Wasatch fault. This is the major structural feature east of the Wasatch fault over this region. The ramp-anticline is presumed to have been active 90 to 50 m.y.b.p. (Yonkee, 1990). Considering this anticline was formed because of compressional stresses, the major component of the maximum principal stress,  $\sigma_1$ , was oriented east-west during this period. Assuming this is also the direction of maximum shortening, foliation is produced perpendicular to this direction, or sub-parallel to the axial surface of the fold (Park, 1983). Ramsay (1967, p.401) discusses the possibility of forming conjugate shear planes in the core of anticlines. This is a plausible explanation for the origin of the Francis Peak fault zone considering this is the assumed culmination of the ramp-anticline (Yonkee, 1990).

Rogers and Rizer (1981) model antithetic and synthetic secondary faults associated with thrust faulting. According to their models, secondary faults occur in both the hanging wall and footwall. These secondary faults are oriented subparallel to the strike of the master thrust fault. Bryant (1984) shows a whole series of faults oriented subparallel to both the Weber segment of the Wasatch fault and the axis of the Absaroka ramp-anticline. No sense of movement is shown for these faults. It is reasonable to assume these faults are associated with the thrusting which formed the Absaroka ramp-anticline, i.e., formed as secondary faults produced by the thrusting.



From approximately 50 to 15 m.y.b.p. the orientation of  $\sigma_1$  had change from east-west to vertical to allow normal faulting along the Wasatch fault. Also, for normal faulting the minimum principal stress,  $\sigma_3$ , is oriented subperpendicular to the strike of the fault, which in this case is east-west. The current stress field orientation is optimal to take advantage of the preexisting zones of weakness discussed above. The most plausible geometry to explain the shallow dip of the basement along the Weber segment is a series of normal faults down-stepping to the basin bottom. This interpretation is consistent with the seismic interpretation, but in this case the geometry is seen at the sediment-basement contact.

The depth-to-basement contour map shows a depression of 5.0 to 5.5 km between North Ogden and Brigham City; the question is, is it really that deep? Three lines of evidence suggest it is. First, the calculated dip from the surface trace of the Wasatch fault to the deepest part of the hole is approximately  $40^\circ$ . This value is quite respectable for a normal fault. Second, the Utah Valley and Great Salt Lake basin show comparable depths. A 4.05 km well drilled by Gulf Oil west of Spanish Fork in southern Utah Valley bottomed out in Miocene sediments (Hintze, 1988). Two wells drilled by Amoco Oil west of the Promontory Mountains in the Great Salt Lake recorded Miocene sediments to depths over 3.75 km. One well penetrates Precambrian basement, the other does not. Third, the magnitude of the gravity anomalies over these areas are similar. The gravity anomalies associated with the wells in Utah Valley and the west side of the Great Salt Lake are approximately 35 mGals. The anomaly associated with the hole in this study area is approximately 40 mGals. These values vary somewhat (within about 5 mGals) depending on the regional removed from the gravity data.

There are, however, two arguments against the depression being as deep as shown. First, a fundamental assumption for the gravity inversion is to assume a homogeneous density contrast across the study area. If the density contrast varies

laterally across the hole, which is a possibility, the density contrast used in the gravity inversion will not accurately represent the density contrast of the depression and this will add a fictitious component to the depth-to-basement estimate. For this case, if the density of the sediments in the hole is less than the density of the surrounding sediments the hole will appear deeper. Second, the gravity data coverage in this area may not be dense enough to accurately resolve this part of the model. Fewer gravity values are located in this section than in most other parts of the model.

It is quite reasonable to assume the depression is deeper than the rest of the basin. Whether it is 0.5 km deeper or 2.0 km deeper is indeterminate from the available data. Also, the northern edge of the depression coincides with the seam between the two models. Model edge effects could partially alter the geometry of this side of the depression as well.

The implications of the hole are substantial. The southern half of the hole is located west of the Brigham City-Weber segment boundary; the northern end is located near the middle of the Brigham City segment. Considering the segment boundaries are rupture boundaries along the fault, and the greatest amount of offset along the Wasatch fault is in the deepest part of the basin, the current segment boundaries do not accurately represent the long term ( $> 10,000$  yrs.(?)) segment boundaries associated with the fault. This implies some or all of the current segment boundaries are transitory over the lifetime of the fault (Bruhn, personal communication, 1991). This interpretation is strikingly different than interpretations by Machette et al. (1991) and Schwartz and Coppersmith (1984). This interpretation also puts an upper bound on what Wheeler (1988) classifies as persistent segment boundaries.

## CONCLUSIONS

The depth-to-basement contour map produced in this study shows basin depths and geometries which closely match (differ by  $< 15\%$  in all cases) the four 2-D profiles produced by other investigators (Zoback, 1983; and Glenn et al., 1980). These four profiles are distributed throughout the study area from the north of Brigham City to the southeast of Antelope Island. Considering that the basin geometry varies between these profiles because of 3-D variations in the basin, and the results of this study are consistent with the profiles, it is reasonable to assume the contour map accurately maps these variations throughout the basin. Therefore, we believe the contour map accurately represents the geometry of the basin.

The basin geometry elucidated by the depth-to-basement contour map implies the segments of the Wasatch fault in the study area are affected by Early and Pre-Cenozoic structures, i.e., the Absaroka ramp-anticline, the Salt Lake salient and the thrust sheets north of Ogden. The complex geometries of the thrust sheets north of Ogden are at least partly responsible for the change in orientation of the Wasatch fault in this area. It is not very likely a coincidence that the Wasatch fault geometry changes at the Salt Lake salient which is the northwestern end of the Uinta Arch. The fault geometry along the Weber segment is strongly influenced by the Absaroka ramp-anticline and the zones of weakness (secondary faults, foliation and conjugate shear planes) associated with this structure. The rotation in the stress field from compression during the Sevier Orogeny to the present extensional stress field orientation allows the normal faulting to take advantage of these zones of weakness. The geometry along this segment is modeled by a series of en echelon normal faults down-stepping from the surface traces of the Wasatch fault basinward. If the Wasatch fault zone is not an extraordinary case,

preexisting structures, thrust sheets, large-scale folds, igneous intrusions, etc., are most likely the origin of large scale ( $>10 \text{ km}^2$ ) asperities along major fault systems.

If the depression in the basin between Ogden and Brigham City is real, the notion of persistent segment boundaries in this area has to be rethought, because the southern portion of the deep spot is located at a segment boundary as mapped by Machette et al. (1991). Segment boundaries are thought to be barriers to fault rupture propagation. This implies the ends are basically fixed with respect to the rest of the segment and the displacement along the segment diminishes toward the ends. The southern half of the deep spot is located west of the mapped boundary between the Brigham City and Weber segments. It is difficult to explain having the maximum offset on the fault (deepest part of the basin) at this location if these boundaries are persistent over geologically significant time scales ( $>10,000 \text{ yrs. (?)}$ ). This result implies segment boundaries are transitory over the lifetime of the fault system.

The major factors associated with earthquake hazard analysis are source effects (location, magnitude and focal mechanism of earthquake), path, and site amplification effects. Site amplification analysis includes estimation of effects from seismic energy focusing and channeling, and basin resonance. A dominant factor which controls low frequency amplification effects is basin geometry. The basin geometry strongly influences the location and strength of amplification effects in the basin. The basin model produced in this study can be used in site amplification investigations. Considering the region from Bountiful to Brigham City is one of the most highly populated areas in the state, knowledge of these effects will be very important for future urban planning and emergency preparation.

The geometry of the Weber Basin is significantly different than the geometry of the Great Salt Lake Basin shown by Viveiros (1986). Viveiros' (1986) basin model shows an asymmetric basin geometry with a shallow eastward dip of approximately  $12^\circ$

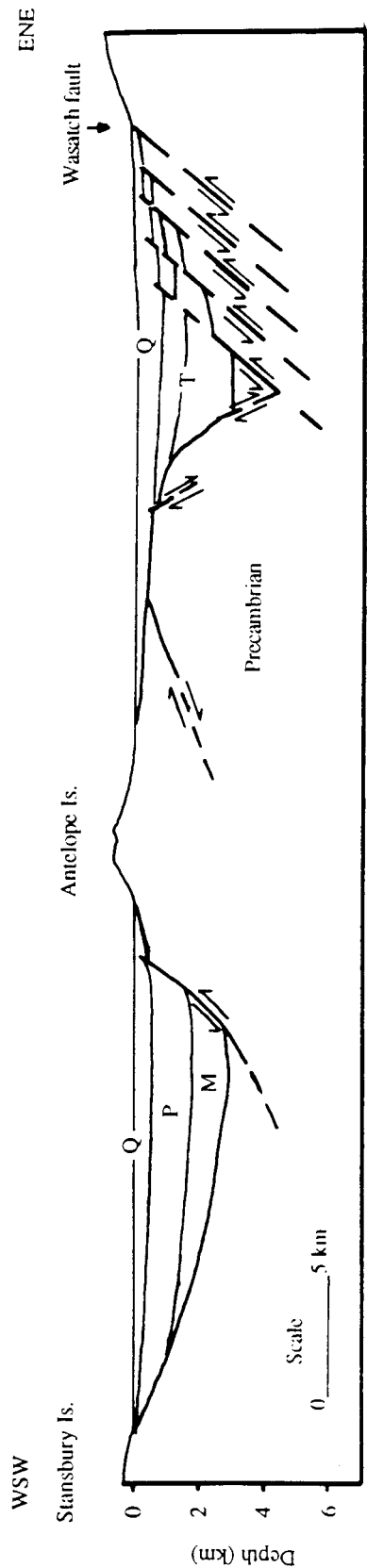


Figure 19. Generalized cross-section from Stansbury Island to the Wasatch Front showing the difference in geometry between the Great Salt Lake and Weber basins. T = Tertiary, M = Miocene, P = Pliocene, Q = Quaternary.

to 15° from Stansbury and Carrington islands to the deepest (> 3.0 km) part of the basin. The east side of the basin is bounded by a west dipping listric normal fault with about 3 to 4 km of offset (Figure 19). The Weber Basin model shows a broad nearly flat basement high projecting eastward from Antelope Island to halfway across the basin. The sediment-basement contact then dips about 30° east to the basin bottom. From the surface of the Wasatch fault, the sediment-basement contact dips at about 15° to 20° west into the basin. A series of en echelon normal faults down-stepping from the surface traces of the Wasatch fault basinward explains this shallow dip. The difference between the two basin geometries is illustrated in Figure 19.

## APPENDIX

Table 3

Longitude, Latitude both in Decimal Degrees, and Depth of Basin Model

Longitude	Latitude	Depth (m)
-112.1760	40.8320	385.00
-112.1700	40.8355	245.00
-112.1640	40.8390	230.00
-112.1570	40.8423	350.00
-112.1510	40.8456	635.00
-112.1460	40.8489	785.00
-112.1390	40.8526	1135.00
-112.1330	40.8560	1220.00
-112.1270	40.8595	1790.00
-112.1210	40.8628	1980.00
-112.1150	40.8664	2350.00
-112.1080	40.8701	1985.00
-112.1020	40.8732	1830.00
-112.0960	40.8767	1325.00
-112.0900	40.8801	885.00
-112.0840	40.8837	295.00
-112.0770	40.8870	185.00
-112.0710	40.8906	220.00
-112.0650	40.8941	160.00
-112.0590	40.8975	190.00
-112.0530	40.9007	180.00
-112.0470	40.9044	270.00
-112.0400	40.9076	375.00
-112.0340	40.9113	420.00
-112.0270	40.9149	430.00
-112.0220	40.9178	390.00
-112.0160	40.9214	545.00
-112.0090	40.9251	750.00
-112.0030	40.9283	1050.00
-111.9980	40.9314	1575.00
-111.9910	40.9349	2220.00
-111.9850	40.9386	2455.00
-111.9790	40.9424	3200.00
-111.9720	40.9455	3465.00
-112.1660	40.9162	0.00
-112.1590	40.9208	0.00
-112.1520	40.9251	113.00
-112.1440	40.9304	175.50

Longitude	Latitude	Depth (m)
-112.1360	40.9350	181.42
-112.1290	40.9395	214.13
-112.1210	40.9442	267.72
-112.1140	40.9487	288.51
-112.1070	40.9531	282.72
-112.1000	40.9576	343.69
-112.0920	40.9621	288.69
-112.0850	40.9668	254.96
-112.0780	40.9714	236.71
-112.0710	40.9757	252.70
-112.0670	40.9776	260.58
-112.0600	40.9824	401.79
-112.0520	40.9869	613.09
-112.0450	40.9916	810.16
-112.0370	40.9960	1112.72
-112.0300	41.0003	1497.19
-112.0230	41.0048	2024.25
-112.0150	41.0094	2514.56
-112.0080	41.0141	2570.31
-112.0010	41.0183	2632.78
-112.1900	41.0000	110.00
-112.1800	41.0073	460.00
-112.1760	41.0099	660.00
-112.1690	41.0149	985.00
-112.1610	41.0198	1380.00
-112.1540	41.0252	1530.00
-112.1470	41.0300	1130.00
-112.1400	41.0351	1130.00
-112.1330	41.0400	980.00
-112.1260	41.0452	520.00
-112.1180	41.0502	520.00
-112.1110	41.0553	520.00
-112.1040	41.0601	600.00
-112.0970	41.0651	630.00
-112.0900	41.0702	830.00
-112.2760	41.0644	0.00
-112.2670	41.0668	0.00
-112.2580	41.0696	0.00
-112.2490	41.0722	0.00
-112.2400	41.0750	79.30
-112.2310	41.0774	382.50
-112.2220	41.0800	660.00
-112.2130	41.0825	744.80
-112.2040	41.0852	826.80
-112.1950	41.0877	796.10
-112.1860	41.0904	622.80
-112.1760	41.0931	744.30
-112.1680	41.0956	729.70
-112.1590	41.0981	647.50
-112.1500	41.1009	654.70
-112.1410	41.1034	646.90



---

Longitude	Latitude	Depth (m)
-112.1320	41.1058	625.20
-112.3290	41.1204	0.00
-112.3210	41.1232	0.00
-112.3110	41.1262	0.00
-112.3030	41.1288	80.00
-112.2930	41.1315	185.00
-112.2850	41.1342	370.00
-112.2750	41.1370	425.00
-112.2660	41.1399	205.00
-112.2570	41.1424	180.00
-112.2480	41.1452	180.00
-112.2400	41.1478	925.00
-112.2310	41.1503	1725.00
-112.2240	41.1526	1560.00
-112.2150	41.1552	1490.00
-112.2060	41.1579	1275.00
-112.1970	41.1606	1120.00
-112.1890	41.1632	930.00
-112.1790	41.1662	890.00
-112.2670	41.1869	230.00
-112.2620	41.1816	210.00
-112.2570	41.1755	260.00
-112.2520	41.1698	255.00
-112.2460	41.1634	375.00
-112.2420	41.1577	890.00
-112.2360	41.1518	1250.00
-112.2310	41.1458	920.00
-112.2260	41.1401	305.00
-112.2200	41.1338	420.00
-112.2150	41.1278	830.00
-112.2100	41.1219	1290.00
-112.2040	41.1160	1155.00
-112.1990	41.1102	785.00
-112.1940	41.1040	720.00
-112.1890	41.0982	1000.00
-112.1830	41.0923	647.00
-112.1780	41.0862	565.00
-112.1730	41.0803	450.00
-112.1680	41.0744	605.00
-112.1620	41.0687	650.00
-112.1570	41.0625	755.00
-112.1520	41.0568	1000.00
-112.1470	41.0510	1030.00
-112.1410	41.0449	1115.00
-112.1360	41.0392	980.00
-112.1310	41.0329	410.00
-112.1260	41.0266	410.00
-112.1200	41.0205	385.00
-112.1150	41.0146	250.00
-112.1090	41.0084	245.00
-112.1040	41.0021	300.00

---

Longitude	Latitude	Depth (m)
-112.0980	40.9958	205.00
-112.0930	40.9899	325.00
-112.0870	40.9837	415.00
-112.0820	40.9776	290.00
-112.0770	40.9714	235.00
-112.0710	40.9653	250.00
-112.0660	40.9591	345.00
-112.0600	40.9529	415.00
-112.0550	40.9469	425.00
-112.0490	40.9409	350.00
-112.0440	40.9346	545.00
-112.0390	40.9286	635.00
-112.0340	40.9223	505.00
-112.0280	40.9163	335.00
-112.0230	40.9101	525.00
-112.0170	40.9038	490.00
-112.0120	40.8978	475.00
-112.0070	40.8913	455.00
-112.0010	40.8855	375.00
-112.4120	41.2154	0.00
-112.4040	41.2167	81.28
-112.3940	41.2183	714.07
-112.3860	41.2195	1272.24
-112.3680	41.2223	1966.34
-112.3590	41.2238	1967.72
-112.3500	41.2251	1927.47
-112.3400	41.2266	1842.83
-112.3310	41.2282	1677.96
-112.3220	41.2295	1344.23
-112.3120	41.2310	1382.93
-112.3020	41.2324	825.83
-112.2930	41.2338	419.21
-112.2840	41.2352	231.10
-112.2750	41.2366	146.40
-112.2670	41.2379	0.00
-112.2580	41.2392	0.00
-112.2420	41.2418	0.00
-112.3870	41.2945	180.00
-112.3770	41.2945	520.00
-112.3670	41.2945	840.00
-112.3570	41.2946	1565.00
-112.3480	41.2945	1680.00
-112.3380	41.2945	1460.00
-112.3280	41.2945	565.00
-112.3180	41.2944	955.00
-112.3080	41.2943	1410.00
-112.2990	41.2945	1575.00
-112.2880	41.2944	1145.00
-112.2790	41.2945	1155.00
-112.2690	41.2945	755.00
-112.2590	41.2945	365.00

Longitude	Latitude	Depth (m)
-112.2490	41.2946	260.00
-112.2390	41.2944	175.00
-112.2300	41.2943	85.00
-112.2200	41.2943	180.00
-112.2100	41.2943	310.00
-112.2010	41.2942	385.00
-112.1910	41.2944	630.00
-112.1810	41.2943	770.00
-112.1710	41.2941	720.00
-112.1610	41.2942	1085.00
-112.1520	41.2941	1305.00
-112.1410	41.2941	1310.00
-112.4050	41.3443	120.00
-112.3940	41.3456	270.00
-112.3850	41.3467	440.00
-112.3750	41.3479	600.00
-112.3650	41.3491	770.00
-112.3560	41.3504	895.00
-112.3460	41.3516	1010.00
-112.3360	41.3531	475.00
-112.3270	41.3540	320.00
-112.3160	41.3551	260.00
-112.3080	41.3563	430.00
-112.2980	41.3575	1910.00
-112.2880	41.3585	1860.00
-112.2790	41.3599	1922.00
-112.2690	41.3607	1525.00
-112.2600	41.3620	1355.00
-112.2510	41.3631	550.00
-112.2410	41.3643	770.00
-112.2320	41.3656	1350.00
-112.2220	41.3666	1450.00
-112.2130	41.3678	1305.00
-112.2030	41.3690	975.00
-112.1950	41.3700	820.00
-112.1850	41.3711	850.00
-112.1750	41.3724	1345.00
-112.1660	41.3735	1370.00
-112.1570	41.3745	1835.00
-112.1470	41.3757	2040.00
-112.1380	41.3769	2125.00
-112.2950	41.3987	996.65
-112.2940	41.3910	1628.23
-112.2920	41.3843	2842.15
-112.2910	41.3764	2302.63
-112.2890	41.3695	2357.74
-112.2880	41.3623	1996.76
-112.2870	41.3550	1732.31
-112.2850	41.3481	1554.76
-112.2840	41.3405	1513.56
-112.2830	41.3336	1410.32

---

Longitude	Latitude	Depth (m)
-112.2810	41.3264	1228.87
-112.2800	41.3192	1116.91
-112.2800	41.3125	1197.54
-112.2790	41.3053	1093.44
-112.2800	41.2983	984.29
-112.2790	41.2913	1061.54
-112.2790	41.2880	977.20
-112.2780	41.2808	796.70
-112.2770	41.2736	651.30
-112.2770	41.2663	612.30
-112.2760	41.2589	629.89
-112.2760	41.2517	529.99
-112.2750	41.2441	287.71
-112.2740	41.2372	164.90
-112.2740	41.2299	79.20
-112.2740	41.2222	278.41
-112.2740	41.2154	486.47
-112.2740	41.2079	586.72
-112.2740	41.2012	526.48
-112.2730	41.1938	388.22
-112.0260	41.4602	0.00
-112.0270	41.4076	0.00
-111.9960	41.3600	0.00
-111.9340	41.3201	0.00
-111.9480	41.2731	0.00
-111.9300	41.2177	0.00
-111.9310	41.1631	0.00
-111.9030	41.1245	0.00
-111.9050	41.0623	0.00
-111.8930	41.0176	0.00
-111.8790	40.9800	0.00
-111.8700	40.9413	0.00
-111.8440	40.8901	0.00
-111.8710	40.8471	0.00
-111.9070	40.8146	0.00
-111.8520	40.7872	0.00
-112.4400	41.4552	0.00
-112.4330	41.4192	0.00
-112.4280	41.3897	0.00
-112.4270	41.3547	0.00
-112.4020	41.3267	0.00
-112.3960	41.2707	0.00
-112.4090	41.2404	0.00
-112.4400	41.2122	0.00
-112.3620	41.1790	0.00
-112.3400	41.1820	0.00
-112.3170	41.1502	0.00
-112.2370	41.0582	0.00
-112.2080	41.0388	0.00
-112.1900	41.0212	0.00
-112.1700	40.9553	0.00

Longitude	Latitude	Depth (m)
-112.1720	40.9193	0.00
-112.1710	40.8900	0.00
-112.1730	40.8618	0.00
-111.9560	40.8902	3290.00
-111.9220	40.9085	950.00
-111.8930	40.9255	90.00
-111.9700	40.9412	8670.00
-111.9400	40.9558	1390.00
-111.9070	40.9722	370.00
-111.9810	40.9822	2960.00
-111.9510	40.9952	1480.00
-111.9120	41.0106	50.00
-111.9900	41.0239	2050.00
-111.9560	41.0368	1130.00
-111.9160	41.0510	0.00
-112.0320	41.0582	2920.00
-111.9970	41.0678	1570.00
-111.9530	41.0799	590.00
-112.0700	41.0899	2050.00
-112.0290	41.0984	2230.00
-111.9910	41.1071	1900.00
-111.9390	41.1184	490.00
-112.1080	41.1288	1420.00
-112.0650	41.1354	2160.00
-112.0220	41.1410	2090.00
-111.9790	41.1468	790.00
-111.9280	41.1542	140.00
-112.0970	41.1733	3580.00
-112.0530	41.1758	3640.00
-112.0060	41.1784	2740.00
-111.9580	41.1805	340.00
-112.1250	41.2057	3890.00
-112.0780	41.2060	2510.00
-112.0310	41.2067	2920.00
-111.9780	41.2077	1250.00
-112.1010	41.2484	1870.00
-112.0550	41.2480	2270.00
-112.0030	41.2469	1960.00
-111.9550	41.2462	520.00
-112.1230	41.2896	1970.00
-112.0770	41.2896	2160.00
-112.0280	41.2884	1770.00
-111.9800	41.2884	590.00
-112.0980	41.3232	6250.00
-112.0510	41.3226	1900.00
-112.0030	41.3222	530.00
-111.9570	41.3213	450.00
-112.1230	41.3598	3740.00
-112.0700	41.3597	1280.00
-112.0220	41.3596	0.00
-112.1470	41.3982	2850.00

Longitude	Latitude	Depth (m)
-112.0980	41.3988	5480.00
-112.0490	41.3990	580.00
-112.4320	41.3956	0.00
-112.3710	41.3962	1840.00
-112.3200	41.3964	1460.00
-112.2050	41.3973	750.00
-112.0010	41.3997	0.00
-112.4540	41.4408	0.00
-112.4010	41.4408	250.00
-112.3440	41.4401	2010.00
-112.2880	41.4399	0.00
-112.2320	41.4393	390.00
-112.1740	41.4390	1270.00
-112.1220	41.4387	0.00
-112.0270	41.4382	0.00
-112.4280	41.4794	100.00
-112.3160	41.4781	260.00
-112.2580	41.4782	1300.00
-112.2030	41.4778	1550.00
-112.1460	41.4771	360.00
-112.0970	41.4766	2360.00
-112.0490	41.4759	710.00
-112.0040	41.4753	0.00
-112.4580	41.5184	100.00
-112.2880	41.5167	4680.00
-112.2320	41.5161	680.00
-112.1770	41.5157	660.00
-112.1230	41.5153	640.00
-112.0730	41.5146	1650.00
-112.0250	41.5139	40.00
-112.3160	41.5563	3630.00
-112.2620	41.5556	1730.00
-112.2040	41.5549	0.00
-112.1510	41.5546	830.00
-112.0990	41.5543	1830.00
-112.0520	41.5536	1450.00
-112.0020	41.5532	0.00
-112.3450	41.5955	540.00
-112.2290	41.5938	0.00
-112.1770	41.5940	0.00
-112.1270	41.5930	1560.00
-112.0340	41.5923	0.00
-112.4800	41.6368	0.00
-112.3740	41.6350	0.00
-112.3170	41.6345	320.00
-112.2560	41.6336	50.00
-112.2050	41.6329	140.00
-112.1510	41.6320	790.00
-112.1030	41.6320	1090.00
-112.0570	41.6304	0.00

## REFERENCES

- Anderson, R. E., 1989, Tectonic evolution of the Intermontane System; Basin and Range, Colorado Plateau, and High Lave Plains, *in* Pakiser, L. C., and Mooney, W. D., Eds., Geophysical framework of the continental United States: Geol. Soc. Am. Memoir 172, The Geological Society of America, Inc., 163–176.
- Arabasz, W. J., Pechmann, J. C., and Brown, E. D., 1987, Observational seismology and evaluation of earthquake hazards and risk in the Wasatch Front area, Utah: *in* Gori, P. L., and Hays, W. W., Eds., Assessment of regional earthquake hazards and risk along the Wasatch Front, Utah, Vol.1: U. S. Geol. Surv. Prof. Paper 87–585, D1–39 [revised and in press, 1991, U. S. Geol. Surv. Prof. Paper 1500–C].
- Arnou, T., and Mattick, R. E., 1968, Thickness of valley fill in the Jordan Valley east of the Great Salt Lake, Utah: U. S. Geol. Surv. Prof. Paper 600-B, B79–B82.
- Barnett, C. T., 1976, Theoretical modeling of the magnetic and gravitational fields of an arbitrarily shaped three-dimensional body: Geophysics, **41**, 1353–1364.
- Bryant, B., 1984, Reconnaissance geologic map of the Precambrian Farmington Canyon Complex and surrounding rocks in the Wasatch Mountains between Ogden and Bountiful, Utah: U. S. Geol. Surv., Map I-1447.
- Bryant, B., 1990, Geologic map of the Salt Lake City 30' x 60' quadrangle, north-central Utah, and Uinta County, Wyoming: U. S. Geol. Surv., Map 1–1944.
- Cook, K. C., Bankey, V., Mabey, D. R., and DePangher, M., 1989, Complete Bouguer gravity anomaly map of Utah: Utah Geol. and Mineral Surv., Map 122.
- Cordell, L., Zorin, Y. A., and Keller, G. R., 1991, The decompensative gravity anomaly and deep structure of the region of the Rio Grande Rift: J. Geophys. Res., **96**, 6557–6568.
- Davis, F. D., 1985, Geologic map of the northern Wasatch Front, Utah: Utah Geol. and Mineral Surv., Map 53–A.
- Eardley, A. J., 1944, Geology of the north-central Wasatch Mountains, Utah: Bull., Geol. Soc. Am., **55**, 819–894.
- Fuchs, K. and Muller, G., 1971, Computation of synthetic seismograms with the reflectivity method and comparison with observations: Geophysical Journal of the Royal Astronomical Society, **23**, 417–433.

- Glenn, W. E., Chapman, D. S., Foley, D., Capuano, R. M., Cole, D., Sibbett, B., and Ward, S. H., 1980, Geothermal exploration program Hill Air Force Base, Davis and Weber County, Utah: Earth Science Laboratory, University of Utah Research Institute, Prepared for the Department of Energy, Division of Geothermal Energy Contract No. DE-AC07-78ET-28392.
- Hill, J. A., 1988, A finite difference simulation of seismic wave propagation and resonance in Salt Lake Valley, Utah: M. S. thesis, University of Utah.
- Hintze, L. F., 1980, Geologic map of Utah: Utah Geol. and Mineral Surv.
- Hintze, L. F., 1988, Geologic history of Utah: Kowallis, B. J., Ed, Brigham Young Univ. Geol. Studies Special pub. 7.
- Lambert, P. M., and West, J. C., 1989, Continuous seismic-reflection survey of the Great Salt Lake, Utah—east of Antelope and Fremont islands: U. S. Geol. Surv., Water-Resources Investigations Report 88-4157.
- Litinsky, V. A., 1989, Concept of effective density: key to gravity depth determinations for sedimentary basins: *Geophysics*, **54**, 1474-1482.
- Machette, M. N., Personius, S. F., Nelson, A. R., Schwartz, D. P., and Lund, W. R., 1991, The Wasatch fault zone, Utah—segmentation and history of Holocene earthquakes: *Journal of Structural Geology*, **13**, no. 2, 137-149.
- Menke, W., 1984, Geophysical data analysis: discrete inverse theory: Academic Press, Inc.
- Olson, R. H., 1960, Geology of the Promontory Range, Box Elder county, Utah: Ph.D. dissertation, University of Utah.
- Park, R. G., 1983, Foundations of structural geology: Blackie & Son Ltd.
- Radkins, H. C., 1990, Bedrock topography of the Salt Lake Valley, Utah, from constrained inversion of gravity data: M. S. thesis, University of Utah.
- Ramsay, J. G., 1967, Folding and fracturing of rocks: McGraw-Hill Book Co. (Div. of McGraw-Hill, Inc.).
- Richardson, R. M., and MacInnes, S. C., 1989, The inversion of gravity data into three-dimensional polyhedral models: *J. of Geophys. Res.*, **94**, 7555-7562.
- Rogers, D. A., and Rizer, W. D., 1981, Deformation and secondary faulting near the leading edge of a thrust fault, *in* McClay, K. R., and Price, N. J., Eds., Thrust and nappe tectonics: Geol. Soc. London, Blackwell Scientific Publications, Inc., 65-77.
- Schwartz, D. P., and Coppersmith, K. J., 1984, Fault behavior and characteristic earthquakes: examples from the Wasatch and San Andreas fault zones: *J. Geophys. Res.*, **89**, 5681-5698.



- Simpson, R. W., Jachens, R. C., Blakely, R. J., and Saltus, R. W., 1986, A new isostatic residual gravity map of the conterminous United States with a discussion on the significance of isostatic residual anomalies: *J. Geophys. Res.*, **91**, 8348–8372.
- Smith, K. A., 1984, Normal faulting in an extensional domain: constraints from seismic reflection interpretation and modeling: M. S. thesis, University of Utah.
- Smith, R. B., and Bruhn, R. L., 1984, Intraplate extensional tectonics of the eastern basin-range: inferences on structural style from seismic reflection data, regional tectonics, and thermal-mechanical models of brittle-ductile deformation: *J. Geophys. Res.*, **89**, 5733–5762.
- Snay, R. A., Smith, R. B., and Soler, T., 1984, Horizontal strain across the Wasatch Front near Salt Lake City, Utah: *J. Geophys. Res.*, **89**, 1113–1122.
- Stokes, W. L., 1986, *Geology of Utah*: Utah Museum of Natural History, University of Utah and Utah Geological and Mineral Survey Department of Natural Resources.
- Stephenson, W. J., 1991, High-resolution seismic imaging and gravity analysis of deformation across the Wasatch fault, Kaysville, Utah: M. S. thesis, University of Utah.
- Turcotte, D. L., and Schubert, G., 1982, *Geodynamics*: John Wiley & Sons, Inc.
- Viveiros, J. J., 1986, Cenozoic tectonics of the Great Salt Lake from seismic reflection data: M. S. thesis, University of Utah.
- Wheeler, R. L., 1988, Persistent segment boundaries on basin-range normal faults: *U. S. Geol. Surv. Open-File Report 89-315*, 432–444.
- Wilson, E. A., Saugy, L., and Zimmermann, M. A., 1986, Cenozoic tectonics and sedimentation of the eastern Great Salt Lake area, Utah: *Bull. Soc. Geol. Fr.*, n° 5, 777–782.
- Yonkee, W. A., 1990, Geometry and mechanics of basement and cover deformation, Farmington Canyon Complex, Sevier orogenic belt, Utah: Ph.D. dissertation, University of Utah.
- Zoback, M. L., 1983, Structure and Cenozoic tectonism along the Wasatch fault zone, Utah: *Mem. Geol. Soc. Am.* 157, 3–27.

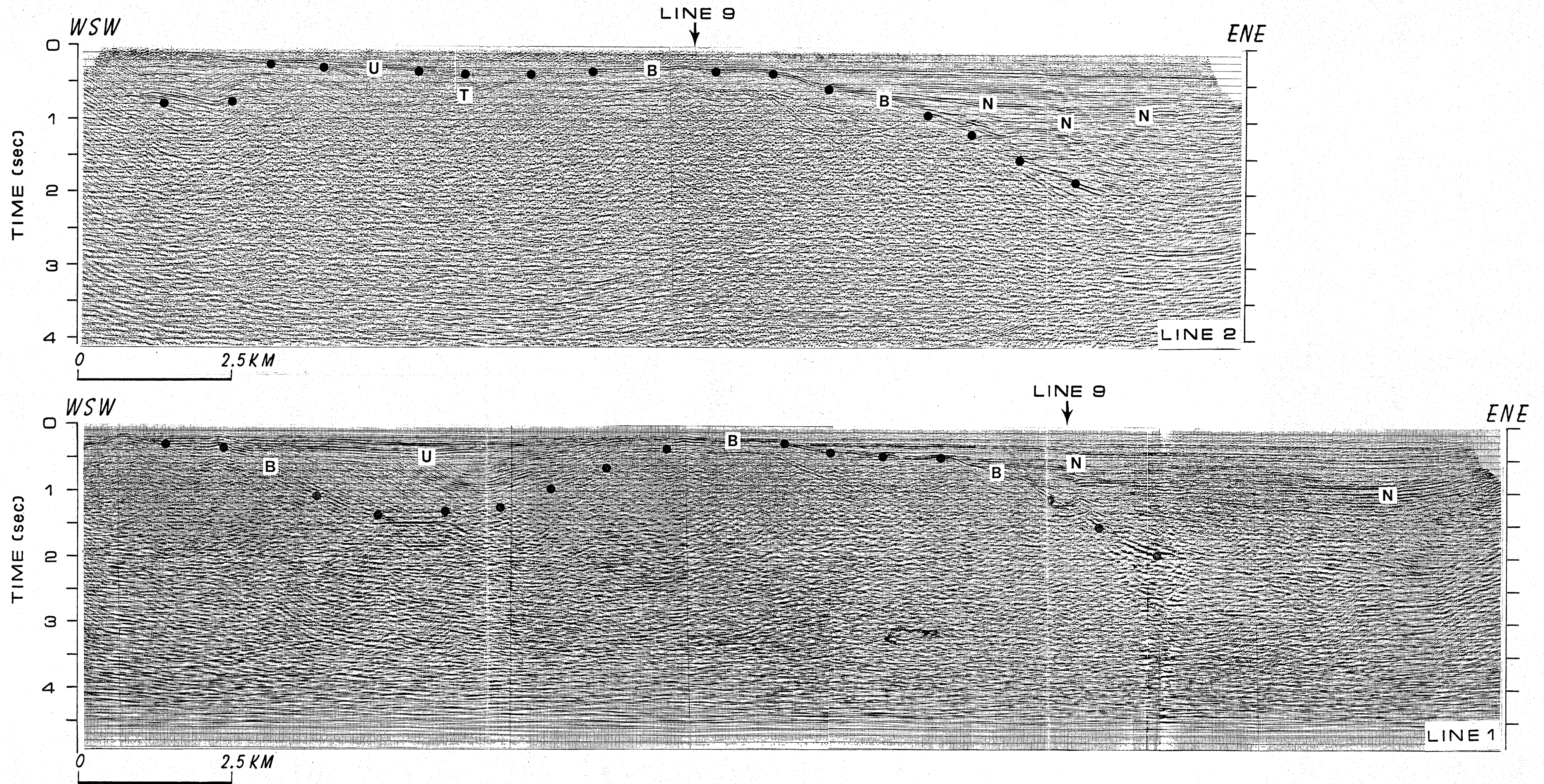


Plate 1. Seismic reflection lines 1 (bottom) and 2 (top) with interpretation. Location of intersecting lines shown with an arrow. B = sediment-basement reflector, N = normal fault, T = thrust fault, U = unconformity. Dots indicate sediment-basement contact.



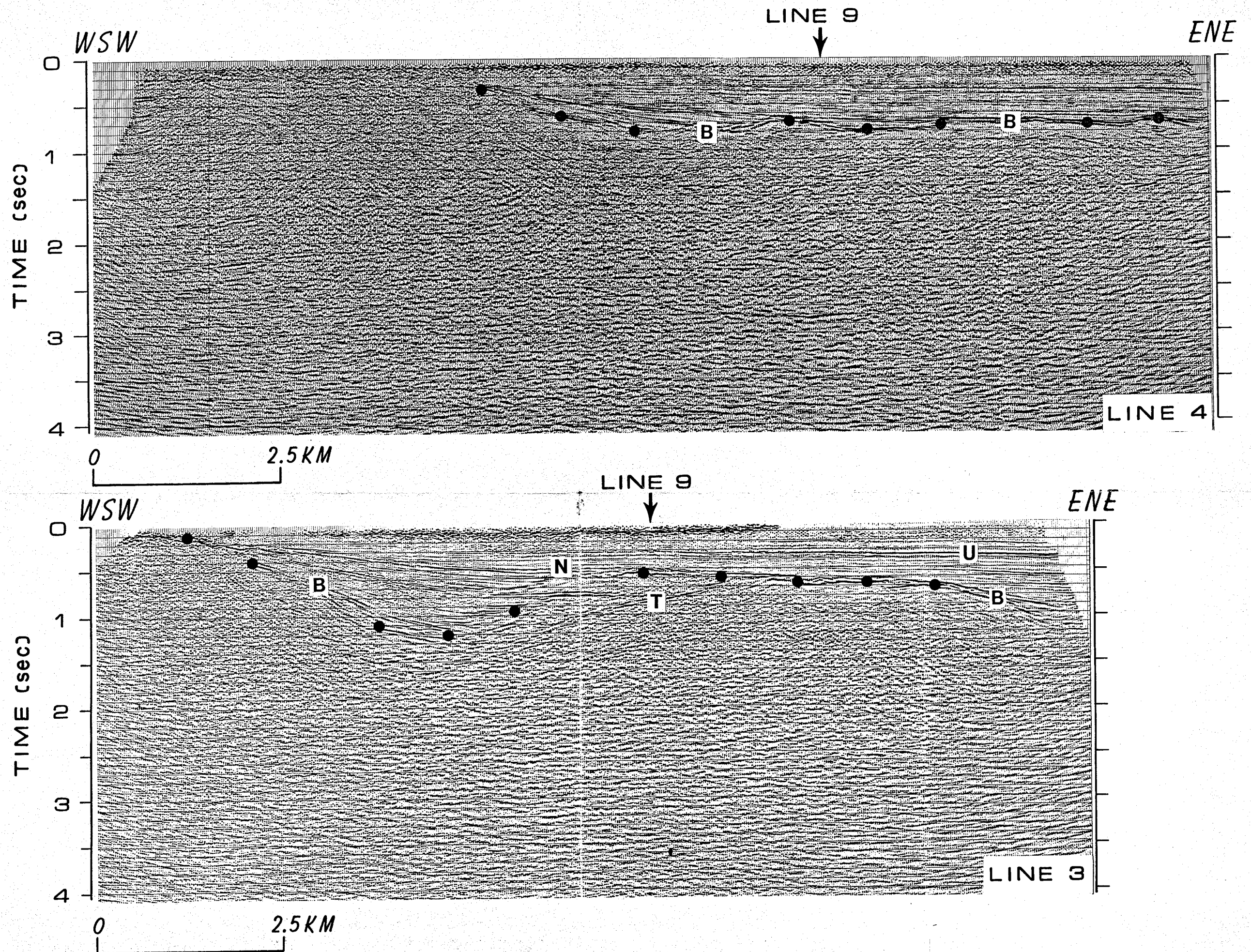


Plate 2. Seismic reflection lines 3 (bottom) and 4 (top) with interpretation. Location of intersecting lines shown with an arrow. B = sediment-basement reflector, N = normal fault, T = thrust fault, U = unconformity. Dots indicate sediment-basement contact.



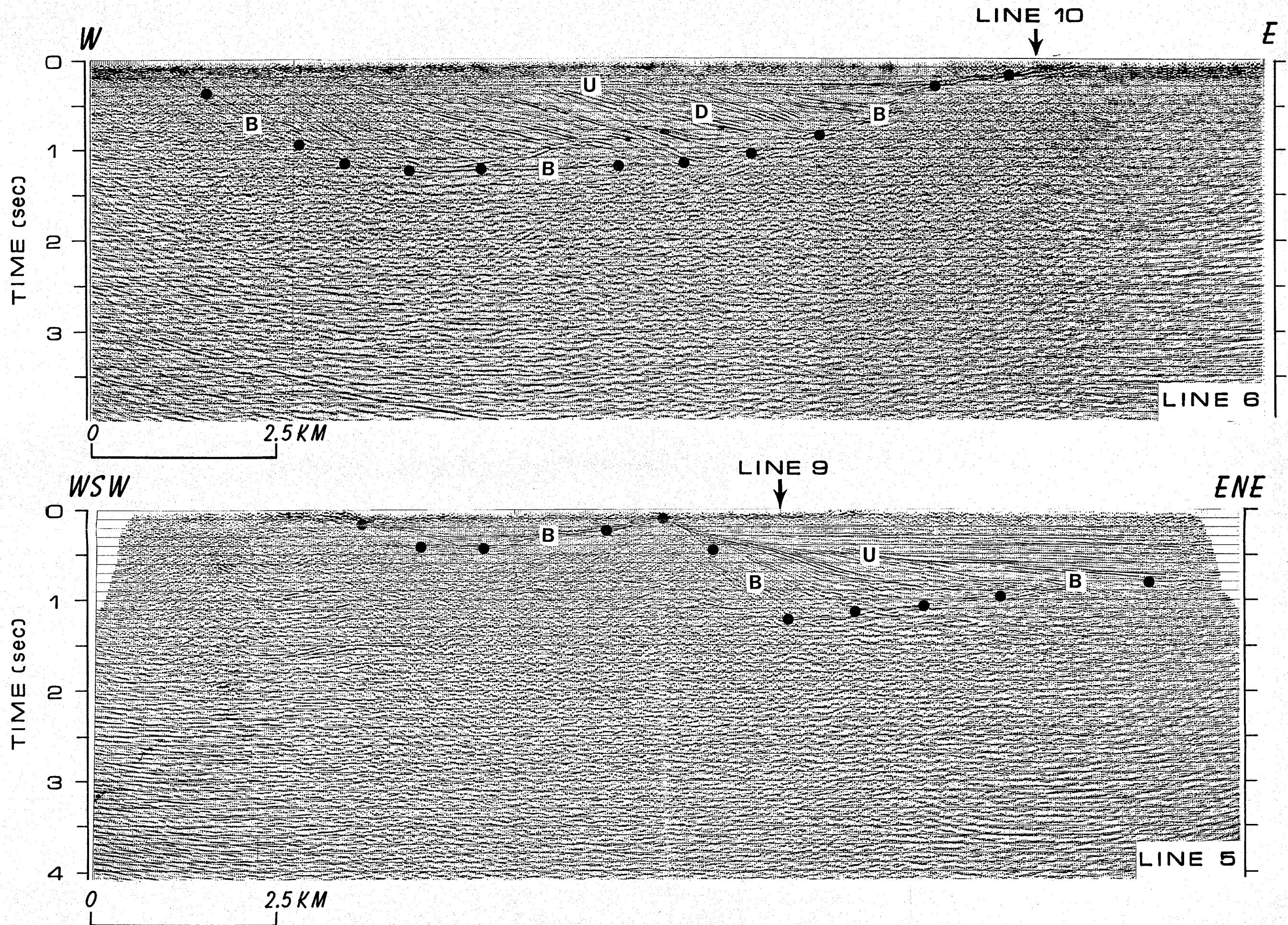


Plate 3. Seismic reflection lines 5 (bottom) and 6 (top) with interpretation. Location of intersecting lines shown with an arrow. B = sediment-basement reflector, U = unconformity, D = downlapping reflectors. Dots indicate sediment-basement contact.



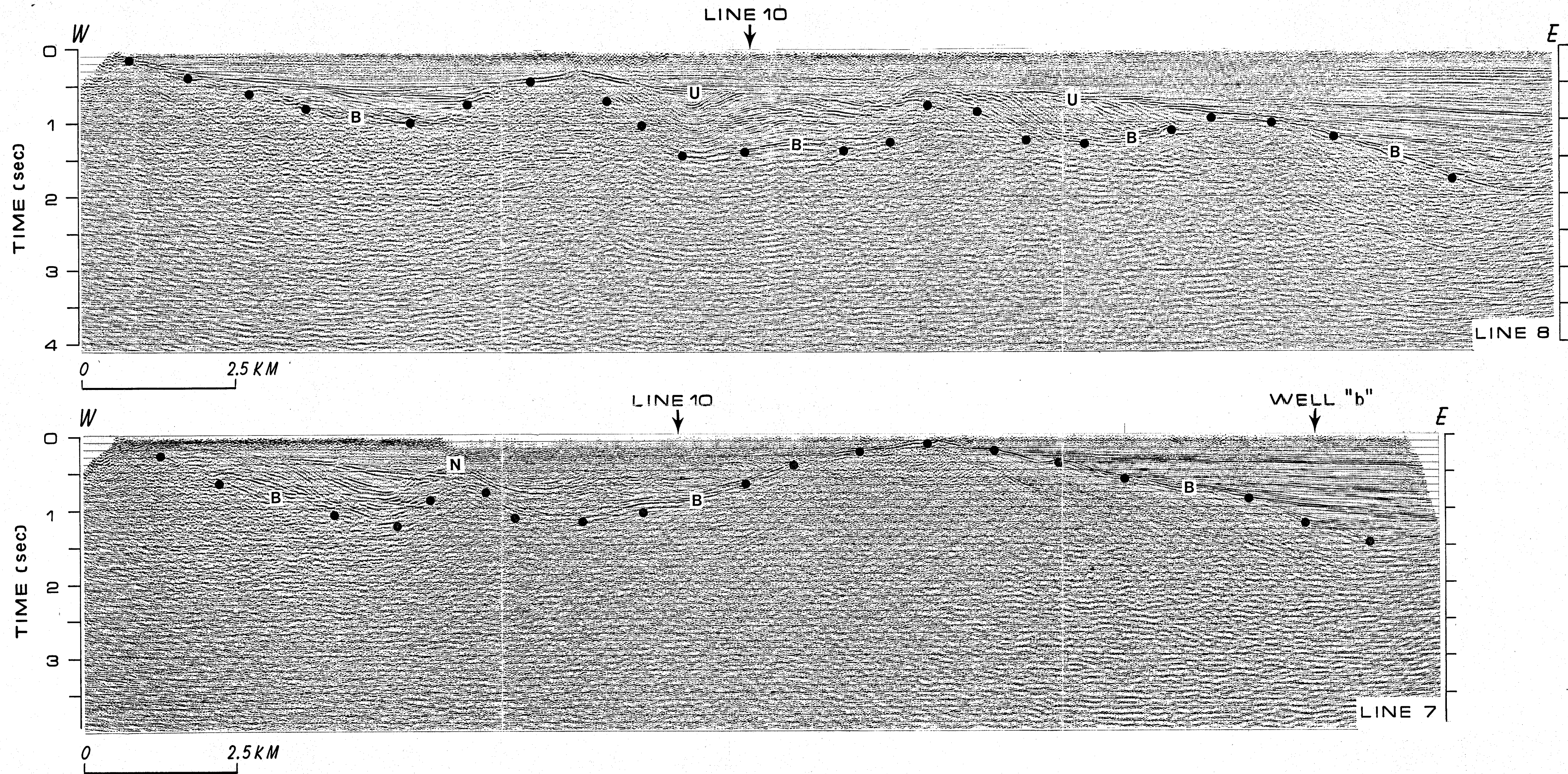


Plate 4. Seismic reflection lines 7 (bottom) and 8 (top) with interpretation. Location of intersecting lines and Well "b" shown with an arrow. B = sediment-basement reflector, N = normal fault, U = unconformity. Dots indicate sediment-basement contact.



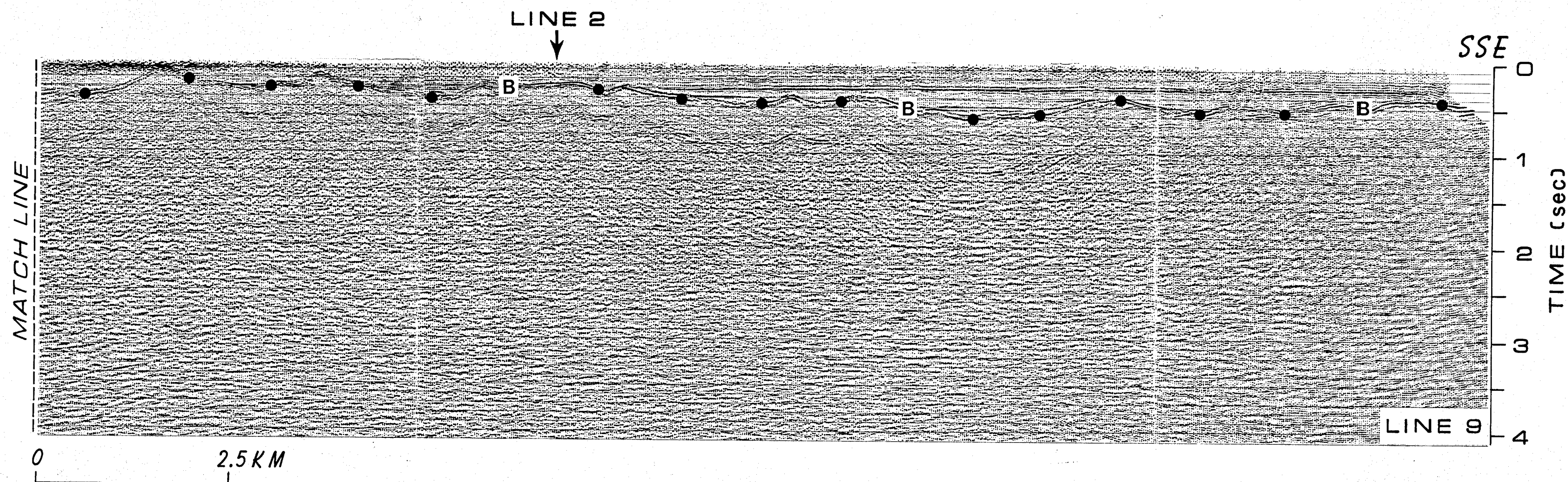
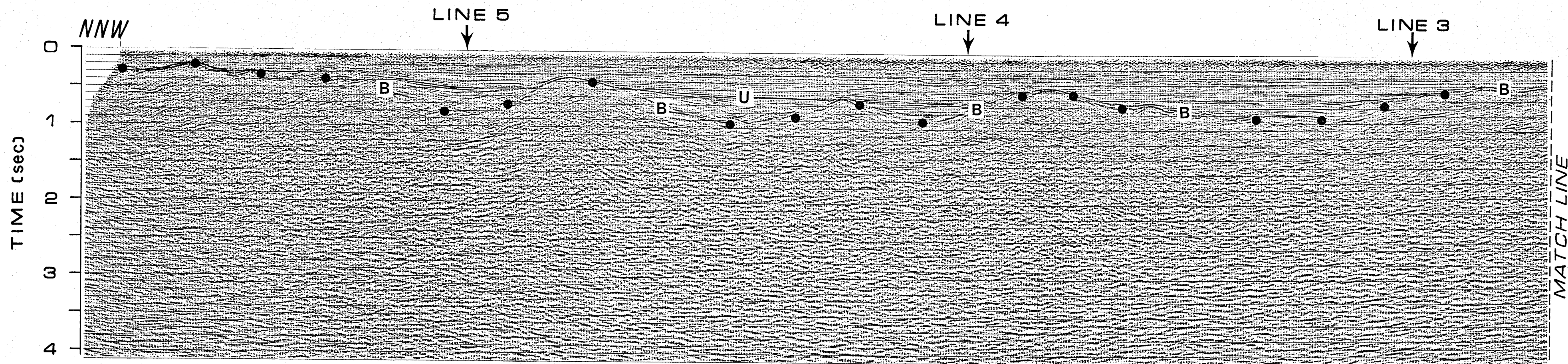


Plate 5. Seismic reflection Line 9 with interpretation. Location of intersecting lines shown with an arrow. B = sediment-basement reflector, U = unconformity. Dots indicate sediment-basement contact.



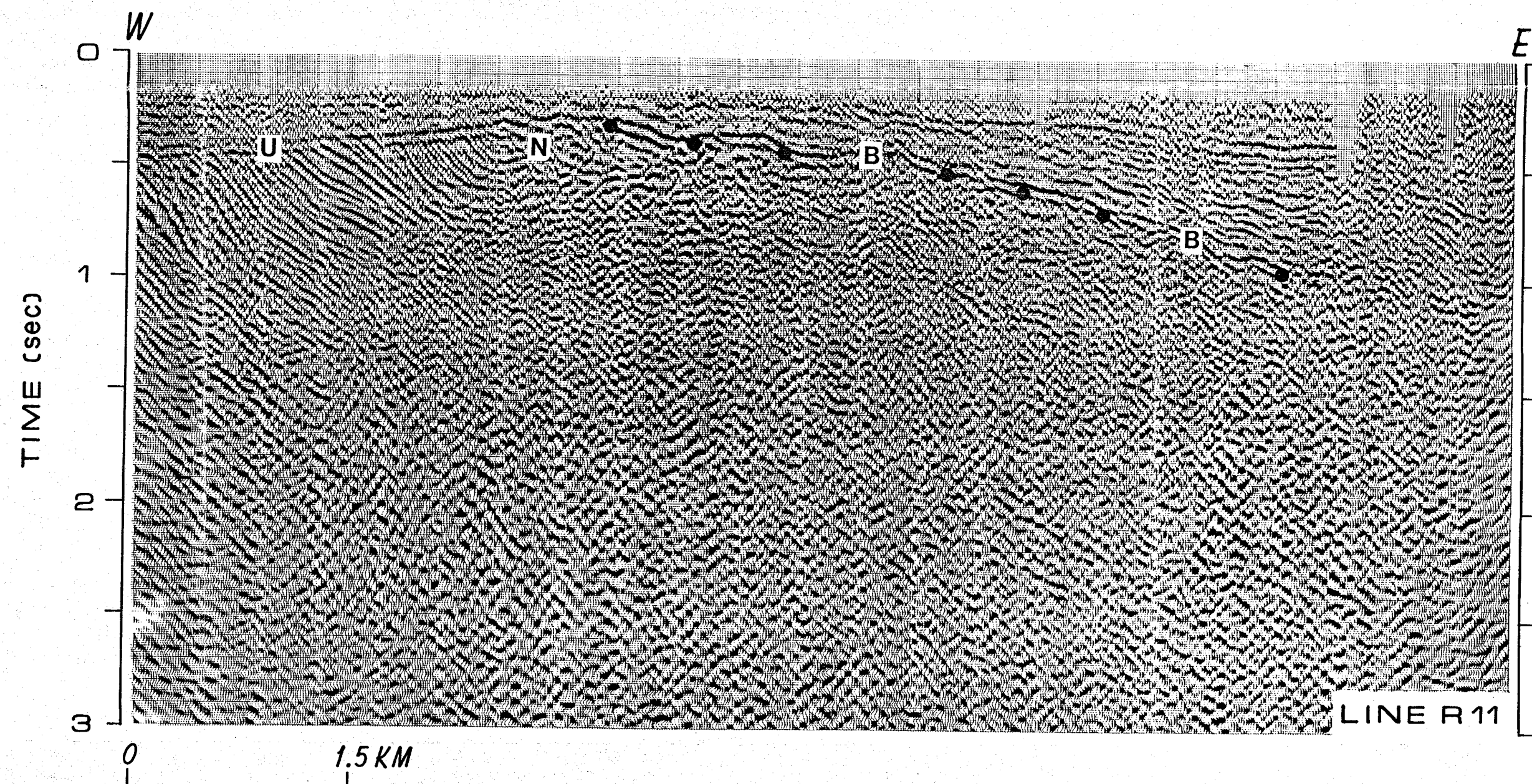
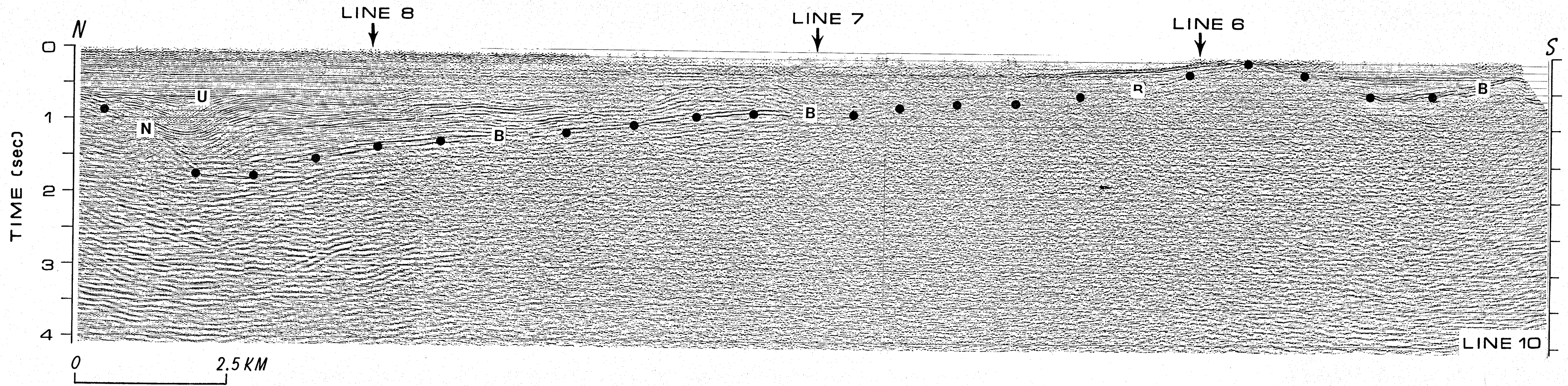
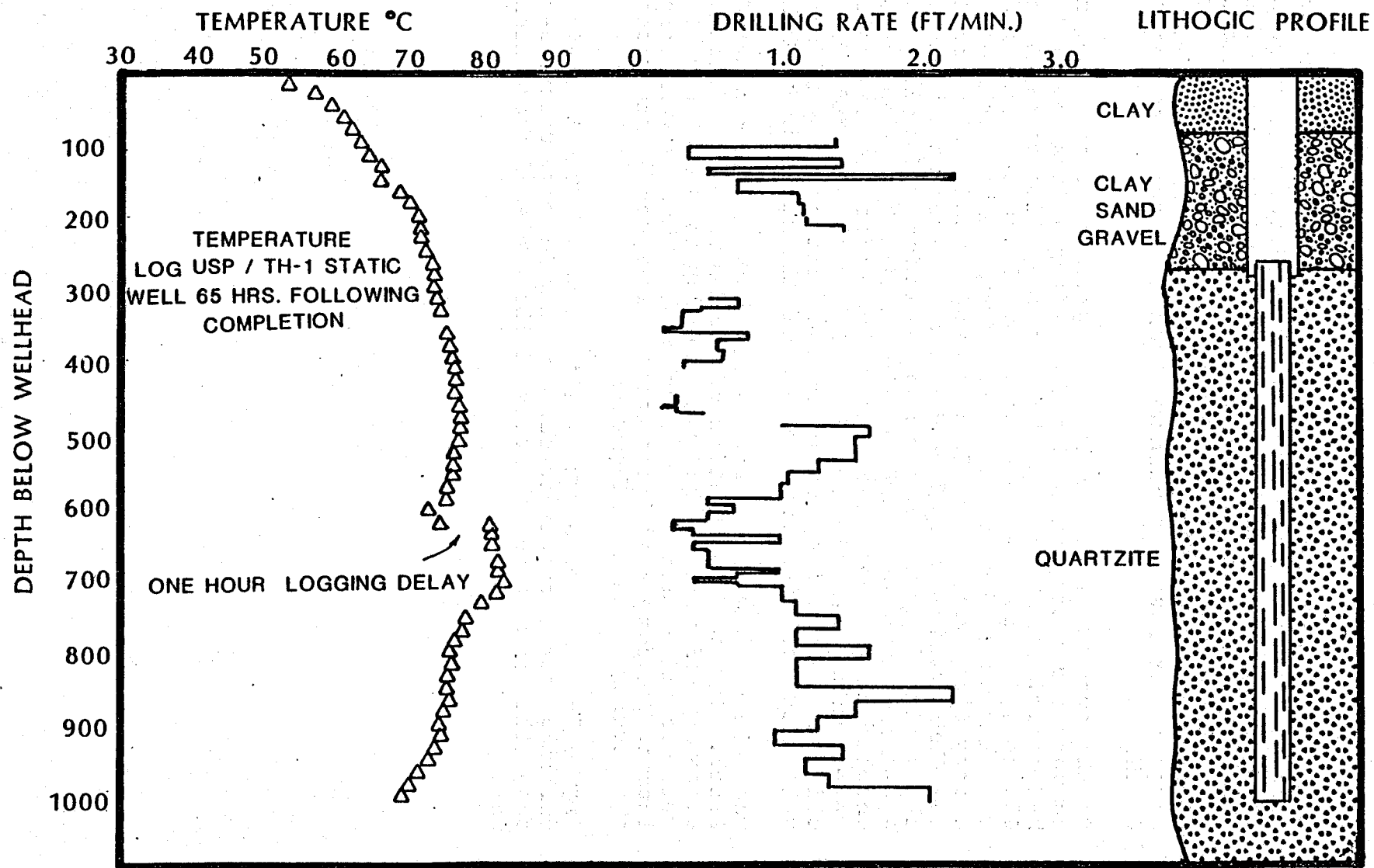


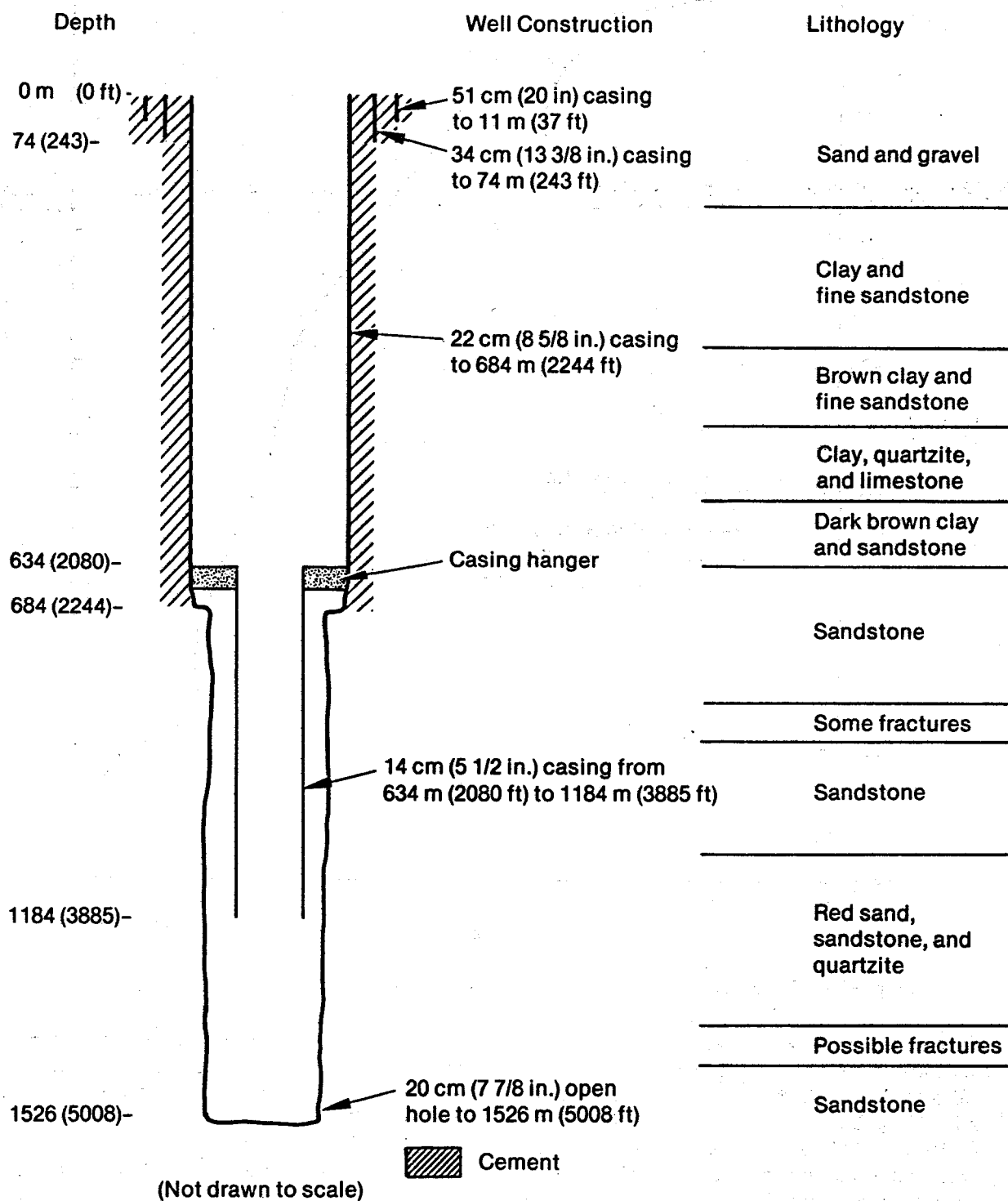
Plate 6. Seismic reflection lines R11 (bottom) and 10 (top) with interpretation. Location of intersecting lines shown with an arrow. B = sediment-basement reflector, N = normal fault, U = unconformity. Dots indicate sediment-basement contact.

FIGURE 5-1: Drilling Log - USP/TH-1



Temperature log , drilling rate and lithologic profile of test well USP/TH-1





(All depths referenced to Kelly Bushing)

INEL-A-18 622

Figure 34. Final well construction and lithology at Utah Roses production well.

\*\*\*\*\* WIN: 005288 \*\*\*\*\*

•&l6D  
•&a130M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@  
N 1456 ft W 1815 ft from SE CORNER of SECTION 33 T 7N R 1W BASE SL  
Elevation: feet  
•&d0DDRILLER ACTIVITIES:•&d@  
ACTIVITY # 1 WELL REPAIR  
DRILLER: WIDDISON TURBINE SERVICE LICENCE #: 533  
START DATE: 03/11/1996 COMPLETION DATE: 03/09/1997  
•&d0DBOREHOLE INFORMATION:•&d@  
Depth(ft) Diameter(in) Drilling Method Drilling Fluid  
From To  
0 640 16.0 CABLE TOOL REHAB OF OLD WELL  
•&d0DLITHOLOGY:•&d@  
Depth(ft) Lithologic Description  
Color Rock Type  
From To  
0 5  
TOP SOIL  
5 10 TOP SOIL  
HARD PAN  
10 18 HARD PAN  
BLUE CLAY  
18 24 WATER-BEARING,HIGH-PERMEABILITY,GRAVEL,COBBLES  
1-1/2"-3" FLOWED AROUND OUTSIDE 20"  
24 46 CLAY  
BLUE  
46 52 WATER-BEARING,GRAVEL  
2" INCREASED FLOW  
52 67 CLAY  
BLUE  
67 72 GRAVEL  
1-1/2" - 2"  
72 107 CLAY  
BLUE  
107 110 WATER-BEARING,GRAVEL  
FIRST FLOW IN 20" PIPE  
110 132 CLAY  
BROWN  
132 136 GRAVEL  
2"  
136 160 CLAY  
BROWN  
160 169 HARD  
WATER-BEARING,HIGH-PERMEABILITY,GRAVEL,COBBLES  
4"  
169 180 CLAY  
180 191 WATER-BEARING,HIGH-PERMEABILITY,GRAVEL,COBBLES  
4" MOST WATER-GREATEST PRESSURE  
191 200 WATER-BEARING,CLAY  
NOTE: WE SAW GRAVEL NOT CLAY HERE IN VIDEO LOG  
200 211 WATER-BEARING,HIGH-PERMEABILITY,GRAVEL,COBBLES  
4" LOWER PRESSURE  
211 255 WATER-BEARING,CLAY,GRAVEL  
255 259 WATER-BEARING,GRAVEL  
259 269 CLAY  
269 275 WATER-BEARING,GRAVEL,COBBLES  
4"  
275 279 CLAY  
279 295 WATER-BEARING,GRAVEL,COBBLES  
4"  
295 300 CLAY  
300 325 WATER-BEARING,GRAVEL  
325 335 CLAY  
BLUE  
335 371 CLAY  
BROWN  
371 389 CLAY,GRAVEL  
RED  
389 402 WATER-BEARING,GRAVEL  
WATER  
402 405 CLAY  
BROWN  
STICKY

405 411 WATER-BEARING, GRAVEL  
 411 436 CLAY  
 BROWN  
 436 440 WATER-BEARING, GRAVEL  
 440 445 CLAY  
 BROWN  
 445 460 CLAY  
 RED  
 460 465 WATER-BEARING, GRAVEL  
 465 473 CLAY  
 BROWN  
 473 480 WATER-BEARING, GRAVEL  
 480 501 CLAY  
 501 506 WATER-BEARING, SAND, GRAVEL  
 FINE GRAVEL LOOSE  
 506 512 CLAY  
 512 517 WATER-BEARING, GRAVEL  
 1-1/2" WATER  
 517 520 CLAY  
 520 525 WATER-BEARING, GRAVEL  
 525 530 CLAY  
 530 535 WATER-BEARING, GRAVEL, COBBLES  
 3"  
 535 561 CLAY  
 HARD WITH STREAKS OF GRAVEL  
 561 565 WATER-BEARING, GRAVEL, COBBLES  
 2-3" WATER  
 565 570 CLAY  
 570 574 WATER-BEARING  
 1-1/2"  
 574 590 CLAY  
 STICKY  
 590 593 WATER-BEARING, GRAVEL  
 3"  
 593 595 CLAY  
 595 600 WATER-BEARING, GRAVEL  
 600 618 CLAY  
 WITH SOME GRAVEL  
 618 622 WATER-BEARING, GRAVEL  
 1/2"  
 622 627 CLAY  
 STICKY  
 627 640

# CONGLOMERATE

## CONGLOMERATE

640 659 CLAY

## •&d0DWATER LEVEL DATA:•&d@

Date	Time	Water Level (feet) (-)above ground	Status
03/09/1997		-27.72	FLOWING

## •&d0DCONSTRUCTION - CASING:•&d@

Depth(ft) From	To	Material	Gage(in)	Diameter(in)
0	100	STEEL	.313	20.0
0	181	A53 GB	.250	14.0
0	635	STEEL	.313	16.0
181	182	14"X12" RED SD 40		
326	392	12"	.500	12.0
412	437		.500	12.0
447	462		.500	12.0
482	502		.500	12.0
542	566		.500	12.0
576	586		.500	12.0

## •&d0DCONSTRUCTION - SCREENS/PERFORATIONS:•&d@

Perf(in)	Screen Type/#	Depth(ft) From	To	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
		182	326	SCREEN	.035	12.0
304 SS		182	327	PERFORATION	.500	3.00
5,412		392	412	SCREEN	.035	12.0
304 SS		392	412	PERFORATION	.500	3.00
480		437	447	SCREEN	.035	12.0
304 SS		437	447	PERFORATION	.500	3.00
240						

304 SS	462	482	SCREEN	.035	12.0
304 SS	502	542	SCREEN	.035	12.0
304 SS	566	576	SCREEN	.035	12.0
304 SS	586	606	SCREEN	.035	12.0

•&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS•&d@

Depth(ft)	Material	Amount	Density(pcf)
From	To		
0	627	GRVL PACK #8-#18 CSSI	885

•&d0DWELL TESTS:•&d@

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
05/06/1997	STEP TEST	1.827	51.32	2
05/06/1997	STEP TEST	2.674	82.55	2
05/06/1997	STEP TEST	3.342	188.09	4
05/07/1997	LONG TERM TEST	2.674	106.52	48

•&d0DGENERAL COMMENTS:•&d@

CONSTRUCTION INFORMATION:

CASING (Contd)

606' - 627' .500 x 12"

1/2" steel plate welded in bottom of the pipe

PERFORATIONS (Contd)

462'-482' .500 x 3" Perforation

502'-542' .500 x 3" perforation

566'-576' .500 x 3" perforation

586'-606' .500 x 3" perforation

Well head configuraton: Steel cap and 8" valve

Casing Joint Type: Welded

Perforator used: Mills perf in old 16"

Access Port Provided: Yes

Filter pack: Gravel packed between the new casing and screen and the old casing

Well Development: SWL was 27.7' above GS DD taken from there

Pump: None yet

Comments: When we moved on site th SWL was about 24' as we worked on the well it began to flow. The flow now is approx 350 gpm/We reperforated the old 16" before the screens were installed. Approx 8,268 holes 1/2" x 3". The sand content now is unreadable.

Much less than 1 PPM

Additional data not available

\*\*\*\*\* WIN: 005291 \*\*\*\*\*

•&l6D  
•&a130M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@  
N 575 ft W 1168 ft from SE CORNER of SECTION 29 T 7N R 1W BASE SL  
Elevation: feet  
•&d0DDRILLER ACTIVITIES:•&d@  
ACTIVITY # 1 NEW WELL  
DRILLER: Robinson Drilling Company LICENCE #: 10  
START DATE: 05/22/1961 COMPLETION DATE: 08/02/1961  
•&d0DBOREHOLE INFORMATION:•&d@  
Depth(ft) Diameter(in) Drilling Method Drilling Fluid  
From To  
0 944 16 CABLE  
•&d0DLITHOLOGY:•&d@  
Depth(ft) Lithologic Description  
Color Rock Type  
From To  
0 1 OTHER  
BLACK SOIL  
1 5 WATER-BEARING,CLAY  
YELLOW  
5 15 SOME WATER  
CLAY,GRAVEL  
YELLOW  
15 18 CLAY  
YELLOW  
18 39 CLAY,BOULDERS  
39 70 CLAY,GRAVEL  
70 90 CLAY  
BLUE  
90 95 CLAY  
SANDY  
95 99 WATER-BEARING,GRAVEL  
MAKING WATER  
99 103 CLAY  
YELLOW  
103 108 GRAVEL  
108 118 CLAY,GRAVEL  
118 128 GRAVEL  
128 172 CLAY,GRAVEL  
172 180 CLAY  
YELLOW  
180 188 GRAVEL  
188 200 CLAY  
200 206 CLAY,SAND,BOULDERS  
206 215 GRAVEL,COBBLES  
215 227 CLAY,GRAVEL  
227 235 WATER-BEARING,GRAVEL  
LARGE - LOTS OF WATER  
235 237 CLAY  
237 247 GRAVEL  
247 283 CLAY,GRAVEL  
283 286 GRAVEL  
286 297 CLAY,GRAVEL  
297 315 CLAY,GRAVEL  
FINE  
315 317 CLAY  
YELLOW  
317 323 OTHER  
QUARTZITE  
QUARTZITE  
323 327 CLAY,GRAVEL  
SMALL  
327 332 OTHER  
QUARTZITE  
QUARTZITE  
332 341 CLAY,GRAVEL  
YELLOW  
YELLOW CLAY, FINE GRAVEL  
341 343 CLAY  
YELLOW  
343 345  
HARD STREAK  
345 350 CLAY  
YELLOW  
350 360 CLAY,GRAVEL

		LARGE GRAVEL
360	365	CLAY
		CLAY W/HARD STREAKS
365	367	
		HARD
367	374	CLAY, GRAVEL
		HARD FORMATION W/CLAY
374	378	CLAY, GRAVEL
		SMALL GRAVEL
378	381	OTHER
QUARTZITE		
		HARD STREAK, QUARTZITE
381	385	OTHER
LIME		
		LIME SHARP
385	389	CLAY, GRAVEL
		CEMENTED GRAVEL
389	393	OTHER
ROCK		
		CEMENTED ROCK
393	398	OTHER
LIME		
398	400	CLAY, GRAVEL
400	405	CLAY, GRAVEL, OTHER
CONGLOMERATE		
405	409	CLAY, OTHER
CONGLOMERATE		
		CONGLOMERATE - NO WATER
409	419	CLAY, GRAVEL
		CLAY AND GRAVEL MIXED - NO WATER
419	424	CLAY, GRAVEL
YELLOW		
		SMALL AMOUNT OF GRAVEL
424	430	CLAY, GRAVEL
YELLOW		
		LOT OF GRAVEL - NO WATER
430	439	CLAY, GRAVEL
YELLOW		
439	444	OTHER
CONGLOMERATE		
		HARD CONGLOMERATE
444	460	CLAY, GRAVEL
YELLOW		
460	472	CLAY, GRAVEL
		FINE GRAVEL - NO SHOW WATER
472	485	CLAY
BROWN		
		STICKY
485	488	CLAY, GRAVEL
RED		
488	498	CLAY, GRAVEL
YELLOW		
498	510	CLAY, GRAVEL
510	520	CLAY
YELLOW		
		STICKY
520	527	CLAY, GRAVEL
YELLOW		
527	534	CLAY, GRAVEL
		FINE GRAVEL
534	535	GRAVEL
		HARD CEMENTED GRAVEL
535	550	CLAY, GRAVEL
YELLOW		
550	589	CLAY, GRAVEL
		FINE GRAVEL
589	594	CLAY
YELLOW		
		STICKY
594	609	CLAY, GRAVEL
YELLOW		
		LARGE GRAVEL
609	614	CLAY, GRAVEL, OTHER
QUARTZ		
		[EA GRAVEL - SHARP
614	617	GRAVEL, OTHER
QUARTZ		
		HARD QUARTZ - NO WATER
617	647	CLAY, GRAVEL
YELLOW		

647	650	CLAY, GRAVEL
		FINE GRAVEL
650	740	CLAY
YELLOW		
740	780	CLAY, GRAVEL
YELLOW		
780	793	CLAY
YELLOW		
793	820	CLAY, GRAVEL
YELLOW		
820	839	CLAY, GRAVEL
RED		
839	841	CLAY, GRAVEL
YELLOW		
841	875	CLAY, GRAVEL
YELLOW		
875	890	CLAY, SAND
YELLOW		
890	895	CLAY, GRAVEL
YELLOW		
895	943	CLAY, SAND
YELLOW		
943	944	CLAY, GRAVEL
YELLOW		

\*\*\*\*\* WIN: 006293 \*\*\*\*\*

•&l6D  
•&a130M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@

S 2556 ft W 407 ft from NE CORNER of SECTION 21 T 6N R 2W BASE SL

Elevation: feet

•&d0DDRILLER ACTIVITIES:•&d@

ACTIVITY # 1 NEW WELL

DRILLER: STODDARD DRILLING, G J

LICENCE #: 41

START DATE: 11/12/1983 COMPLETION DATE: 11/16/1983

•&d0DBOREHOLE INFORMATION:•&d@

Depth(ft) Diameter(in) Drilling Method Drilling Fluid  
From To

0 535 2.00 ROTARY

•&d0DLITHOLOGY:•&d@

Depth(ft) Lithologic Description

Color Rock Type

From To

0	168	CLAY
168	175	SAND
175	200	CLAY
200	221	GRAVEL
		PEA GRAVEL
221	252	CLAY
252	273	SAND
273	286	CLAY
286	302	SAND
302	310	CLAY
310	335	GRAVEL
		PEA GRAVEL
335	399	CLAY
399	421	GRAVEL
		PEA GRAVEL
421	434	CLAY
434	476	GRAVEL
		PEA GRAVEL
476	499	CLAY
499	509	SAND, GRAVEL
		PEA GRAVEL
509	519	CLAY
519	535	SAND
		PEA GRAVEL

•&d0DWATER LEVEL DATA:•&d@

Date	Time	Water Level (feet)	Status
		(-)above ground	
11/16/1983		20.00	STATIC

•&d0DCONSTRUCTION - CASING:•&d@

Depth(ft)	Material	Gage(in)	Diameter(in)
From	To		
0	535	.250	2.00

•&d0DCONSTRUCTION - SCREENS/PERFORATIONS:•&d@

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/#	Perf.	
From	To		

525	535	SCREEN	2.00
-----	-----	--------	------

SS

•&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS:•&d@

Depth(ft)	Material	Amount	Density(pcf)
From	To		
0	20	MUD	

•&d0DGENERAL COMMENTS:•&d@

CONSTRUCTION INFORMATION:

Screens: Johnson Well Screens/Stainless steel

Additional data not available



\*\*\*\*\* WIN: 006892 \*\*\*\*\*

•&l6D  
•&a130M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@

S 2867 ft W 1752 ft from NE CORNER of SECTION 30 T 7N R 1W BASE SL

Elevation: feet

•&d0DDRILLER ACTIVITIES:•&d@

ACTIVITY # 1 NEW WELL

DRILLER: WATER WELL SERVICES

LICENCE #: 493

START DATE: 07/21/1994 COMPLETION DATE: 10/27/1994

•&d0DBOREHOLE INFORMATION:•&d@

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 170	8.00	CABLE	WATER

•&d0DLITHOLOGY:•&d@

Depth(ft)	Lithologic Description
Color	Rock Type

From To	
0 5	
TOP SOIL	
5 30	CLAY
BROWN	
30 60	CLAY
GREY	
60 70	CLAY
BROWN	
70 100	CLAY, GRAVEL
BROWN	
100 110	CLAY, SAND, GRAVEL
BROWN	
110 125	CLAY, GRAVEL
BROWN	
125 135	CLAY
BROWN	
135 140	CLAY, GRAVEL
GREY	
140 170	OTHER
BLACK	SHALE/CLAY

•&d0DWATER LEVEL DATA:•&d@

Date	Time	Water Level (feet)	Status
		(-)above ground	
10/27/1994		.00	FLOWING

•&d0DCONSTRUCTION - CASING:•&d@

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 165	STEEL	.250	8.00

•&d0DCONSTRUCTION - SCREENS/PERFORATIONS:•&d@

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From To			
70 85	PERFORATION	.250	3.00
7/1 FT			
95 105	PERFORATION	.250	3.00
7/1 FT			

•&d0DWELL TESTS:•&d@

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
10/21/1994	AIR JET	.134	12	4
10/21/1994	BAILER	.134	12	4

•&d0DGENERAL COMMENTS:•&d@

CONSTRUCTION INFORMATION:  
Well head configuration: Flanged  
Casing Joint Type: Weld  
Perforator used: Mills  
filter Pack: No data  
Pump: No data  
Well disinfected: No data  
Comments: No data  
Additional data not available

\*\*\*\*\* WIN: 007269 \*\*\*\*\*

•&l6D  
•&a130M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@

S 1120 ft W 430 ft from NE CORNER of SECTION 27 T 6N R 3W BASE SL

Elevation: feet

•&d0DDRILLER ACTIVITIES:•&d@

ACTIVITY # 1 NEW WELL

DRILLER: STODDARD DRILLING, G J

LICENCE #: 41

START DATE: 07/21/1983 COMPLETION DATE: 07/23/1983

•&d0DBOREHOLE INFORMATION:•&d@

Depth(ft) Diameter(in) Drilling Method Drilling Fluid  
From To

0 522 2.00 ROTARY

•&d0DLITHOLOGY:•&d@

Depth(ft) Lithologic Description  
Color Rock Type

From	To	
0	63	CLAY, SAND
63	84	CLAY
84	96	SAND
96	215	CLAY
215	236	SAND
236	263	CLAY
263	294	SAND
294	370	CLAY
370	383	SAND
383	438	CLAY
438	443	SAND
443	450	CLAY
450	465	SAND
465	496	CLAY
496	505	SAND
505	512	CLAY
512	522	GRAVEL

PEA

•&d0DWATER LEVEL DATA:•&d@

Date	Time	Water Level (feet)	Status
		(-)above ground	
07/23/1983		20.00	STATIC

•&d0DCONSTRUCTION - CASING:•&d@

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 522	NEW		2.00

•&d0DCONSTRUCTION - SCREENS/PERFORATIONS:•&d@

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in) Screen Type/# Perf.			
From To			
512 522	SCREEN	40	2.00

JOHNSON SS

•&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS:•&d@

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 20	MUD		

\*\*\*\*\* WIN: 010954 \*\*\*\*\*

•&l6D  
•&a130M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@

N 12 ft W 2853 ft from E4 CORNER of SECTION 6 T 5N R 2W BASE SL

Elevation: feet

•&d0DDRILLER ACTIVITIES:•&d@

ACTIVITY # 1 WELL REPLACEMENT

DRILLER: UNZICKER & WELLS DRILLING CO INC

LICENCE #: 398

START DATE: 11/17/1995 COMPLETION DATE: 11/30/1995

•&d0DBOREHOLE INFORMATION:•&d@

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 640	8.00	MUD ROTARY	BENTONITE
640 1300	5.00	MUD ROTARY	BENTONITE

•&d0DLITHOLOGY:•&d@

Depth(ft) Lithologic Description  
Color Rock Type

From	To	
0	3	
SOIL		
3	11	SAND
11	73	CLAY
73	81	SAND
81	110	CLAY, SAND
110	120	SAND
120	160	CLAY
160	178	SAND
178	223	CLAY
223	241	SAND
241	273	CLAY
273	304	SAND
304	341	CLAY
341	350	SAND
350	360	CLAY
360	370	SAND
370	465	CLAY
465	493	SAND
493	525	CLAY
525	540	SAND
540	545	CLAY
545	555	SAND
555	565	WATER-BEARING, CLAY
565	592	WATER-BEARING, SAND
592	640	WATER-BEARING, CLAY
640	648	CLAY
648	655	WATER-BEARING, SAND
655	678	CLAY
678	686	SAND
686	700	CLAY
700	705	SAND
705	790	CLAY
790	820	SAND
820	831	CLAY
831	840	SAND
840	846	CLAY
846	862	SAND
862	955	CLAY
955	968	SAND
968	980	CLAY
980	989	WATER-BEARING, SAND
989	1058	CLAY
1058	1075	WATER-BEARING, SAND
1075	1081	CLAY
1081	1088	SAND
1088	1095	CLAY
1095	1115	WATER-BEARING, SAND
1115	1155	CLAY
1155	1165	WATER-BEARING, SAND
1165	1185	CLAY
1185	1196	SAND
1196	1198	CLAY
1198	1203	SAND
1203	1208	CLAY
1208	1216	SAND
1216	1221	WATER-BEARING, CLAY, SAND, GRAVEL
1221	1250	SAND

1250 1255 CLAY  
1255 1270 SAND  
1270 1278 CLAY  
1278 1285 SAND  
1285 1300 CLAY

•&d0DWATER LEVEL DATA:•&d@

Date	Time	Water Level (feet) (-)above ground	Status
11/30/1995		-43.89	FLOWING

•&d0DCONSTRUCTION - CASING:•&d@

Depth(ft) From	Material	Gage(in) To	Diameter(in)
0 624	STEEL	.250	5.00
614 1243	STEEL	.250	2.50

•&d0DCONSTRUCTION - SCREENS/PERFORATIONS:•&d@

Depth(ft) Perf(in)	Screen(S) or Perforation(P) Screen Type/#	Slot/Perf. siz	Screen Diam/Length
1212 1222	SCREEN	.300	.100

HUSTON SS

•&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS:•&d@

Depth(ft) From	Material	Amount	Density(pcf)
0 40	CEMENT	6	

•&d0DGENERAL COMMENTS:•&d@

OLD WELL THAT WAS REPLACED, WAS PUMPED FULL TO THE SURFACE WITH  
NEET CEMENT AND ABANDONED 25 CU FEET OF NEET CEMENT AT 15 LBS PER  
GAL WAS USED.  
ADDITIONAL DATA NOT AVAILABLE

\*\*\*\*\* WIN: 011405 \*\*\*\*\*

•&l6D  
•&al30M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@

N 541 ft E 1481 ft from SW CORNER of SECTION 17 T 7N R 1W BASE SL

Elevation: feet

•&d0DDRILLER ACTIVITIES:•&d@

ACTIVITY # 1 NEW WELL

DRILLER: B & L Drilling

LICENCE #: 295

START DATE: 07/01/1972 COMPLETION DATE: 05/10/1973

•&d0DBOREHOLE INFORMATION:•&d@

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 180	6	ROTARY	

•&d0DLITHOLOGY:•&d@

Depth(ft) Lithologic Description

Color Rock Type

From	To	
0	15	SAND, GRAVEL
15	20	SAND, BOULDERS
20	70	BOULDERS
		HARD ROCK
70	80	SAND, GRAVEL
80	90	SAND
90	180	BOULDERS
		HARD ROCK

•&d0DWATER LEVEL DATA:•&d@

Date	Time	Water Level (feet)	Status
		(-)above ground	
05/10/1973		3.00	STATIC

•&d0DCONSTRUCTION - CASING:•&d@

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 90	NEW	.250	4

•&d0DCONSTRUCTION - SCREENS/PERFORATIONS:•&d@

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/#	Perf.	
From To			
70 90	PERFORATION	.25	8

35

•&d0DWATER QUALITY DATA AVAILABLE•&d@

\*\*\*\*\* WIN: 011406 \*\*\*\*\*

•&l6D  
•&a130M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@

S 190 ft W 870 ft from NE CORNER of SECTION 19 T 7N R 1W BASE SL

Elevation: feet

•&d0DDRILLER ACTIVITIES:•&d@

ACTIVITY # 1 NEW WELL

DRILLER: Intermountain Drilling Corp Inc

LICENCE #: 200

START DATE: 01/19/1972 COMPLETION DATE: 01/23/1972

•&d0DBOREHOLE INFORMATION:•&d@

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			

0	116	4	ROTARY
---	-----	---	--------

•&d0DLITHOLOGY:•&d@

Depth(ft) Lithologic Description

Color Rock Type

From	To	
------	----	--

0	19	CLAY
---	----	------

19	26	GRAVEL
----	----	--------

26	63	GRAVEL
----	----	--------

		GRAVEL STRINGERS
--	--	------------------

63	74	OTHER
----	----	-------

CONGLOMERATE

74	87	CLAY
----	----	------

87	103	GRAVEL
----	-----	--------

103	108	CLAY
-----	-----	------

108	113	GRAVEL
-----	-----	--------

113	116	OTHER
-----	-----	-------

CONGLOMERATE

•&d0DWATER LEVEL DATA:•&d@

Date	Time	Water Level (feet)	Status
		(-)above ground	

02/	/1972		
-----	-------	--	--

		6.00	
--	--	------	--

			STATIC
--	--	--	--------

•&d0DCONSTRUCTION - CASING:•&d@

Depth(ft)	Material
-----------	----------

Gage(in)	Diameter(in)
----------	--------------

From To	
---------	--

0	116
---	-----

4
---

•&d0DCONSTRUCTION - SCREENS/PERFORATIONS:•&d@

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
-----------	-----------------------------	----------------	--------------------

Perf(in) Screen Type/# Perf.

From To	
---------	--

76	116
----	-----

PERFORATION

35

•&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS:•&d@

Depth(ft)	Material
-----------	----------

Amount
--------

Density(pcf)
--------------

From To	
---------	--

0	10
---	----

021450

35-4012

**LOCATION:**

N 4318 ft W 1091 ft from SE CORNER of SECTION 31 T 7N R 3W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

DRILLER: Stoddard, Wesley

LICENSE #: 62

START DATE: 12/10/1968 COMPLETION DATE: 06/12/1969

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 1002	10	ROTARY	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 50	CLAY
50 260	CLAY, SILT
260 310	CLAY, SILT, SAND
310 355	CLAY
355 414	CLAY, SILT
414 564	CLAY, SILT, SAND
564 575	SAND
575 654	CLAY
654 678	SAND
678 741	CLAY
741 750	SAND
750 772	CLAY
772 798	SAND
798 896	CLAY
896 915	CLAY, OTHER
HARDPAN	
915 920	GRAVEL
920 1002	OTHER
	CONGLOMERATE, AND HARDPAN

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
06/12/1969		-25.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 10		.375	50
0 20		.312	14
0 595		.312	10

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 595	10" CASING		
595 920	GRAVEL		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
06/12/1969	ARTESIAN FLOW	.167		
06/12/1969	PUMP	.256	200	10

021465

35-5871

**LOCATION:**

N 142 ft E 592 ft from S4 CORNER of SECTION 16 T 7N R 2W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 WELL ABANDONMENT

DRILLER: STODDARD DRILLING, G J

LICENSE #: 41

START DATE: / / COMPLETION DATE: / /

ACTIVITY # 2 NEW WELL

DRILLER: STODDARD DRILLING, G J

LICENSE #: 41

START DATE: 08/26/1968 COMPLETION DATE: 08/30/1968

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 1176	2	ROTARY	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 55	SAND
55 120	CLAY
120 132	SAND
132 152	CLAY
152 167	SAND
167 180	CLAY
180 189	SAND
189 193	CLAY
193 203	SAND
203 211	CLAY
211 222	SAND
222 233	CLAY
233 260	SAND
260 268	CLAY
268 280	SAND
280 296	CLAY
296 300	SAND
300 340	CLAY
340 357	SAND
357 362	CLAY
362 369	SAND
369 410	CLAY
410 423	SAND
423 442	CLAY
442 475	SAND
475 502	CLAY
502 512	SAND
512 620	CLAY, SAND
620 668	CLAY
668 677	SAND
677 984	CLAY
984 987	SAND
987 1053	CLAY
1053 1070	SAND
1070 1152	CLAY
1152 1159	SAND
1159 1161	CLAY
1161 1176	SAND, GRAVEL
	PEA GRAVEL

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 1176			2

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
08/30/1968	ARTESIAN FLOW	.094		

**GENERAL COMMENTS:**

\*ABANDONMENT RECEIVED 5/30/03

EXISTING WELL DETAILS

Well Driller's Report Available: Yes

Well Depth: 1176 Feet Well Diameter: 2 Inches

Nature of Use: Dom. Irr. Stk. Oth.



Casing Type: Steel  
Filter Pack: No  
Screen/Perforation Interval: 1166-1176  
Depth of Surface Seal: 20 Feet  
Flowing Well: Yes  
ABANDONMENT DETAILS  
Date of Abandonment: 5/22/03  
Reason for Abandonment: Casing Rusted Out  
Method of Abandonment: Pumped 50 Ves Back Down Well to Kill The Flow.  
ABANDONMENT MATERIAL DETAILS  
Depth: 2' to 12' Abandonment Material: Cement Quantity: Portland  
Grout Weight: No Data  
Abandoned Well Replaced With A New Well: Yes  
Location: 50 Feet North & 20 Feet East from the abandoned well.  
Location Description: 2 Miles West of Smith & Edwards  
Additional Information Not Available

021483

35-4934

**LOCATION:**

S 545 ft E 173 ft from N4 CORNER of SECTION 28 T 7N R 2W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

DRILLER: STODDARD DRILLING, G J

LICENSE #: 41

START DATE: 06/01/1972 COMPLETION DATE: 06/23/1972

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 1019	2	ROTARY	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 15	SAND
15 118	CLAY, SAND
118 226	SAND
226 232	CLAY
232 240	SAND
240 290	CLAY
290 300	SAND
300 315	CLAY
315 358	SAND
358 425	CLAY
425 438	SAND
438 473	CLAY
473 492	SAND
492 504	CLAY
504 520	SAND
520 523	CLAY
523 526	SAND
526 546	CLAY
546 551	SAND
551 567	CLAY
567 577	SAND
577 604	CLAY
604 609	SAND
609 745	CLAY
745 747	OTHER
HARDPAN	
747 767	CLAY
767 778	SAND
778 794	CLAY
794 802	SAND
802 865	CLAY
865 877	SAND
877 956	CLAY
956 967	SAND
967 970	CLAY
970 974	SAND
974 1009	CLAY
1009 1019	SAND

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 957			2

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From To			
0 1019	SCREEN	60	1.25

021486

35-2151

**LOCATION:**

S 2534 ft W 1332 ft from NE CORNER of SECTION 26 T 7N R 2W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 WELL REPLACEMENT

DRILLER: Stoddard Drillers Inc

LICENSE #: 42

START DATE: 11/06/1964 COMPLETION DATE: 11/18/1964

ACTIVITY # 2 WELL REPAIR

DRILLER: Stoddard Drillers Inc

LICENSE #: 42

START DATE: 09/22/1966 COMPLETION DATE: 09/23/1966

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 604	2	JETTED	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 2	OTHER
TOPSOIL	
2 10	CLAY
10 15	SAND
15 52	CLAY
52 64	SAND
64 70	CLAY
70 106	SAND
106 140	CLAY
140 151	SAND
151 195	CLAY
195 212	SAND
212 280	CLAY
280 290	SAND
290 298	CLAY
298 309	SAND
309 430	CLAY
430 435	SAND
435 522	CLAY
522 527	GRAVEL
527 565	SAND
565 604	OTHER

HARDPAN

WITH LAYERS OF SAND

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
11/18/1964		(-)above ground -26.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 520			2
520 584			1.25

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From To			
584 604	SCREEN	80	1.25

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
11/18/1964	ARTESIAN FLOW	.011		

**GENERAL COMMENTS:**

The well screen had to be placed to a deeper water sand, because of bad water. The results were fair

021497

35-2218

**LOCATION:**

N 415 ft W 430 ft from SE CORNER of SECTION 26 T 7N R 2W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 WELL REPLACEMENT

DRILLER: Taylor, Edwin Quinton

LICENSE #: 193

START DATE: 05/16/1965 COMPLETION DATE: 06/11/1965

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 683	2.50	JETTED	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 2	OTHER
TOPSOIL	
2 42	CLAY,SAND
42 357	CLAY
BLUE GREY	
357 413	SILT,SAND
413 552	CLAY
552 600	CLAY,SAND
	TITLY CEMENTED 1-2 FT STRATA OF SAND STONE INTERMIXED
600 663	CLAY,SAND
	STK.
663 670	SAND
	SEEMED TO BE GREADING INTO COURSER MATERIAL
670 680	SAND,GRAVEL
680 683	WATER-BEARING,COBBLES,BOULDERS

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
06/11/1965		-20.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 663			2.5

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From To			
663 683	SCREEN	80	1.50

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 6	CEMENT		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
06/11/1965	ARTESIAN FLOW	.011		

021498

35-4419

**LOCATION:**

N 381 ft W 521 ft from SE CORNER of SECTION 25 T 7N R 2W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

DRILLER: Robinson Drilling Company

LICENSE #: 10

START DATE: 08/28/1969 COMPLETION DATE: 10/10/1969

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 515	8	CABLE	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 14	CLAY
BROWN	
14 65	CLAY
BLUE	
65 107	CLAY
BROWN	
107 129	CLAY
BLUE	
129 132	WATER-BEARING, SAND, GRAVEL
132 155	CLAY
BLUE	
155 163	WATER-BEARING, SAND, GRAVEL
163 233	CLAY, GRAVEL
233 277	CLAY
GREY	
277 316	CLAY, GRAVEL
316 318	WATER-BEARING, SAND, GRAVEL
318 342	CLAY, GRAVEL
342 353	CLAY, SAND, GRAVEL
353 381	CLAY, GRAVEL
381 384	SAND, GRAVEL
384 402	CLAY, GRAVEL
402 408	SAND
408 416	OTHER
CONGLOMERATE	
416 420	CLAY, GRAVEL
420 492	OTHER
CONGLOMERATE	
492 515	CLAY, GRAVEL

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
10/04/1969		-8.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 510		.250	8

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From To			
155 163	PERFORATION	.25	2
54			
301 319	PERFORATION	.25	2
114			
381 384	PERFORATION	.25	2
24			
410 510	PERFORATION	.25	2
600			

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
10/04/1969	ARTESIAN FLOW	.501		

021501  
35-1457

**LOCATION:**

S 280 ft E 613 ft from NW CORNER of SECTION 32 T 7N R 2W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

DRILLER: Taylor, Edwin Quinton

LICENSE #: 193

START DATE: 09/20/1963 COMPLETION DATE: 09/20/1963

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 840	2	JETTED	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 21	CLAY, SILT
21 42	CLAY
BLACK	
42 63	CLAY, SAND
63 84	CLAY
84 168	CLAY, SILT
168 189	SILT
189 210	CLAY, SAND
	QUICK SAND
210 231	CLAY, SILT
231 252	CLAY, SAND
252 294	CLAY
294 315	CLAY, SAND
BLUE	
	VERY SOFT
315 420	CLAY
	SOFT
420 441	CLAY, SILT
441 462	CLAY, SAND
462 483	CLAY, SILT
483 504	CLAY, SAND
504 525	SILT
	QUICK SAND
525 546	CLAY, SAND
546 651	CLAY, SILT
561 725	CLAY
725 819	CLAY, SILT
	MUDDY
819 840	WATER-BEARING, CLAY, SAND

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
09/20/1963		10.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 819			2
819 840			1.25

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From To			
819 840	SCREEN	6	1.25
SLOTTED			

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
09/20/1963	ARTESIAN FLOW	.009		

021523

35-1263

**LOCATION:**

N 1219 ft E 90 ft from S4 CORNER of SECTION 32 T 7N R 2W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

START DATE: 04/14/1955 COMPLETION DATE: 04/16/1955

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 875	2		

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 10	CLAY
10 30	SAND
30 70	CLAY
70 80	SAND
80 160	CLAY
160 170	SAND
170 210	CLAY
210 230	SAND
230 305	CLAY
305 315	SAND
315 370	CLAY
370 380	SAND
380 565	CLAY
565 572	SAND
572 600	CLAY
600 608	SAND
608 770	CLAY
770 780	OTHER STREAKS
780 796	CLAY
796 807	SAND
807 816	CLAY
816 825	SAND
825 835	CLAY
835 842	SAND
842 856	CLAY
856 876	SAND

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
121 755	BLACK STEEL	1.25	2

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From To			
0 861	PERFORATION		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
04/14/1955	FLOWING	.111		

021530

35-430

**LOCATION:**

N 524 ft E 1759 ft from SW CORNER of SECTION 36 T 7N R 2W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

START DATE: 10/04/1947 COMPLETION DATE: 10/09/1947

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 693	2		

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 55	CLAY
55 63	SAND
63 108	CLAY
108 130	SAND
130 156	CLAY
156 164	SAND
164 200	CLAY
200 208	SAND
208 240	CLAY
240 255	SAND
255 260	CLAY
260 275	SAND
275 315	CLAY
315 330	SAND
330 340	CLAY
340 350	GRAVEL
350 500	CLAY
500 520	SAND
520 530	GRAVEL
530 557	CLAY
557 563	GRAVEL
563 590	CLAY
590 600	SAND
600 655	CLAY
655 680	GRAVEL
	CEMENTED
680 693	GRAVEL
	COURSE

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 693	BLACK STEEL		2

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
10/09/1947	FLOWING	.123		



021580

35-312

**LOCATION:**

S 663 ft W 110 ft from N4 CORNER of SECTION 23 T 6N R 3W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

START DATE: 09/10/1945 COMPLETION DATE: 09/16/1945

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 753	2		

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 6	CLAY
6 11	SAND
11 101	CLAY
101 121	SAND
121 185	CLAY
185 199	SAND
199 228	CLAY
228 254	SAND
254 289	OTHER
STREAKS	
289 299	SAND
299 451	OTHER
STREAKS	
451 456	SAND
456 474	OTHER
STREAKS	
474 492	SAND
	FINE SAND WITH CLAY STREAKS
492 517	CLAY
517 529	SAND
529 590	OTHER
STREAKS	
590 600	SAND
600 618	CLAY
618 627	SAND
627 737	CLAY
737 753	SAND

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 753	BLACK STEEL		2

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From To			
0 517	PERFORATION		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
09/16/1945	ARTESIAN FLOW	.045		

021592

35-940

**LOCATION:**

S 125 ft W 1125 ft from NE CORNER of SECTION 19 T 6N R 3W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

START DATE: 04/01/1957 COMPLETION DATE: 04/11/1957

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 229	6		

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 2	OTHER
TOPSOIL	
2 10	CLAY
	SANDY
10 36	CLAY
36 37	WATER-BEARING, GRAVEL
37 78	CLAY
BLACK	
78 86	SILT
BROWN	
86 112	CLAY
GREY	
112 115	WATER-BEARING, CLAY
GREEN	
115 150	CLAY
LIGHT GREEN	
150 157	WATER-BEARING, GRAVEL
157 186	CLAY
DARK GREY	
186 188	SAND
188 197	CLAY
197 210	WATER-BEARING, GRAVEL
210 213	CLAY
213 219	WATER-BEARING, GRAVEL
219 222	CLAY
222 227	SAND
	W/ CUBED ROCKS
227 229	OTHER
	SOILD ROCK

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 229			6

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/#	Perf.	
From To			
150 197		PERFORATION	
197 213		PERFORATION	
213 222		PERFORATIO	

021593

35-4652

**LOCATION:**

S 1195 ft W 1367 ft from NE CORNER of SECTION 22 T 6N R 3W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

DRILLER: B & L Drilling

START DATE: 11/09/1973

COMPLETION DATE: 11/12/1973

LICENSE #: 295

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 520	2	ROTARY	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 10	CLAY
10 175	SAND
175 190	SAND
	ROCK
190 300	SAND
300 315	SAND
	ROCK
315 330	CLAY
330 340	SAND
	ROCK
340 345	SAND
345 502	CLAY
502 518	WATER-BEARING, SAND
	ROCK
518 520	CLAY

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
11/12/1973		-6.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 518			2

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From To			
502 518	PERFORATION	.062	2

45 TORCH

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 18	GROUT		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
11/09/1973	ARTESIAN FLOW	.045		

021619

35-710

**LOCATION:**

S 945 ft E 722 ft from NW CORNER of SECTION 1 T 6N R 2W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

START DATE: 05/22/1954 COMPLETION DATE: 05/23/1954

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 720	2		

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 6	CLAY
6 30	GRAVEL
60 80	CLAY
80 85	SAND
85 110	CLAY
110 120	SAND
120 130	CLAY
130 135	SAND
135 172	CLAY
172 180	SAND
180 190	CLAY
190 195	SAND
195 240	CLAY
240 260	SAND
260 265	CLAY
265 280	SAND
280 320	CLAY
320 330	SAND
330 350	CLAY
350 375	SAND
375 380	CLAY
380 390	SAND
390 420	CLAY
420 435	SAND
435 515	CLAY
515 525	SAND
525 573	CLAY
573 580	SAND
580 651	CLAY
651 655	SAND
655 720	GRAVEL
	HARD STREAKS

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 720	BLACK STEEL		2

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From To			
0 647	PERFORATION		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
05/23/1954	FLOWING	.045		

021626

35-249

**LOCATION:**

N 663 ft W 2490 ft from E4 CORNER of SECTION 5 T 6N R 2W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL  
START DATE: 09/21/1943 COMPLETION DATE: 09/05/1943  
ACTIVITY # 2 WELL DEEPENING  
START DATE: 11/23/1956 COMPLETION DATE: 11/28/1956

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 658	2		
658 871	2		

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color From To	Rock Type
0 5	OTHER

SOIL

5	10	CLAY
10	27	SAND
27	63	CLAY
63	72	SAND
72	94	CLAY
94	105	SAND
105	146	CLAY
146	158	SAND
158	189	CLAY, SAND
189	210	SAND
210	215	CLAY
215	230	SAND
230	316	CLAY
316	346	SAND
346	399	CLAY, SAND
399	410	CLAY
410	425	SAND
425	451	CLAY
451	462	SAND
462	480	CLAY
480	503	SAND
503	587	CLAY
587	595	SAND
595	640	CLAY
640	658	SAND
658	660	CLAY
660	680	SAND
680	707	CLAY
707	715	SAND
715	728	CLAY
728	733	SAND
733	834	CLAY
834	838	SAND
838	847	CLAY
847	856	SAND
856	858	CLAY
858	871	SAND

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 650			2
658 871		1.25	2

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in) Screen Type/#	Perf.		
From To			
640 653	PERFORATION		
658 861	PERFORATION		

STRAINER

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
09/05/1943	FLOWING	.069		
11/28/1956	FLOWING	.045		

021777

35-4603

**LOCATION:**

S 1233 ft E 266 ft from NW CORNER of SECTION 7 T 6N R 2W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

DRILLER: Stoddard Drillers Inc

LICENSE #: 42

START DATE: 02/10/1974 COMPLETION DATE: 02/10/1974

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 1000	4	ROTARY	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 8	OTHER
TOPSOIL	
8 18	CLAY
18 32	SAND
32 52	CLAY, OTHER
SS	
52 76	SAND, OTHER
CS	
76 86	CLAY, OTHER
SS	
86 94	SAND
94 111	CLAY
111 113	SAND
113 137	CLAY, OTHER
SS	
137 161	SAND
161 168	CLAY
168 180	SAND, OTHER
CS	
180 203	CLAY
203 210	CLAY, SAND
210 224	SAND
224 230	CLAY
230 241	SAND
241 255	CLAY
255 263	SAND, OTHER
CS	
263 298	SAND
298 337	CLAY
337 344	SAND
344 350	CLAY
350 360	SAND, OTHER
CS	
360 365	CLAY, SAND
365 396	CLAY
396 405	CLAY, OTHER
SS	
405 408	SAND
408 416	CLAY
416 428	SAND
428 444	CLAY
444 446	SAND
446 450	CLAY, OTHER
SS	
450 467	SAND
467 470	CLAY
470 497	SAND
497 512	CLAY, OTHER
SS	
512 520	SAND
520 531	CLAY, SAND
531 537	SAND
537 552	CLAY
552 571	SAND
	FINE
571 597	CLAY
597 618	SAND, OTHER
CS	
618 642	CLAY

	642	656	CLAY, OTHER
SS	656	667	SAND
	667	684	CLAY, SAND
	684	714	CLAY
	714	722	SAND
	722	724	SAND, OTHER
CS	724	734	CLAY, OTHER
SS	734	781	CLAY
	781	796	CLAY, SAND
	796	807	SAND
	807	837	CLAY, OTHER
SS			HARD CAPS
	837	859	CLAY, SAND
			CLAY STREAKS
	859	862	CLAY
	862	866	SAND, OTHER
CS	866	874	CLAY
	874	879	SAND, OTHER
CS			FINE
	879	882	CLAY
	882	888	SAND
	888	891	CLAY
	891	898	CLAY, SAND
			CLAY STREAKS
	898	918	CLAY
	918	925	SAND, GRAVEL
	925	927	CLAY
	927	935	CLAY, SAND
			FINE SAND STREAKS
	935	948	CLAY
	948	982	CLAY
			HARD CAPS
	982	1000	SAND

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
02/10/1974		-30.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 347			4
347 832			3
832 990			2

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in) Screen Type/# Perf.			
From To			
990 1000	SCREEN	40	2.37

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
02/10/1974	ARTESIAN FLOW	.156		

021847

35-904

**LOCATION:**

N 200 ft W 715 ft from SE CORNER of SECTION 22 T 6N R 2W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

START DATE: 11/29/1956 COMPLETION DATE: 12/18/1956

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 943	2		

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 35	SAND
35 180	CLAY
180 190	SAND
190 270	CLAY
270 285	GRAVEL
285 375	CLAY
375 395	SAND
395 430	CLAY
430 440	SAND
440 460	CLAY
460 480	SAND
480 495	CLAY
495 530	SAND
530 550	CLAY
550 560	SAND
560 620	CLAY
620 630	SAND
630 640	CLAY
640 652	SAND
652 700	CLAY
700 714	SAND
714 725	CLAY
725 755	SAND
755 800	CLAY
800 830	CLAY, SAND
830 928	CLAY
928 943	SAND

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 665	BLACK STEEL	1.25	2

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From To			
0 933	SCREEN		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
12/18/1956	ARTESIAN FLOW	.045		



021911

35-517

**LOCATION:**

S 2200 ft E 1425 ft from NW CORNER of SECTION 27 T 6N R 2W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

START DATE: 10/01/1949 COMPLETION DATE: 10/06/1949

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 913	2		

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 40	SAND
40 80	CLAY
80 100	SAND
100 245	CLAY
245 255	SAND
255 300	CLAY
300 320	SAND
320 385	CLAY
385 400	SAND
400 502	CLAY
502 520	SAND
520 548	CLAY
548 560	SAND
560 600	CLAY
600 608	SAND
608 640	CLAY
640 650	SAND
650 714	CLAY
714 731	SAND
731 740	CLAY
740 750	SAND
750 901	CLAY
901 903	CLAY, OTHER
HARDPAN	
903 913	SAND

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 913	BLACK STEEL	1.25	2

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From To			
0 903	PERFORATION		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
10/06/1949	ARTESIAN FLOW	.033		

021929

35-505

**LOCATION:**

N 144 ft W 159 ft from S4 CORNER of SECTION 28 T 6N R 2W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

START DATE: 08/23/1949 COMPLETION DATE: 08/27/1949

ACTIVITY # 2 WELL DEEPENING

DRILLER: Stoddard Drillers Inc

LICENSE #: 42

START DATE: 06/30/1960 COMPLETION DATE: 07/02/1960

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 717	2		
717 961	2	JETTED	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 40	SAND
40 100	CLAY
100 120	SAND
120 130	CLAY
130 160	SAND
160 250	CLAY
250 290	SAND
290 330	CLAY
330 350	SAND
350 380	CLAY
380 390	SAND
390 550	CLAY
550 570	SAND
570 640	CLAY
640 653	SAND
653 668	CLAY
668 674	SAND
674 690	CLAY
690 708	SAND
708 710	CLAY
710 717	SAND
717 840	SAND
840 900	CLAY
900 920	SAND
920 945	CLAY
945 961	WATER-BEARING, SAND

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
07/02/1960		-30.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 717	BLACK STEEL PIPE		2
717 961			1.25

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in) Screen Type/#	Perf.		
From To			
0 702	PERFORATION		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
08/27/1949	ARTESIAN FLOW	.038		
07/02/1960	ARTESIAN FLOW	.067		

022836

35-1963

**LOCATION:**

N 1422 ft W 2375 ft from SE CORNER of SECTION 6 T 6N R 1W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

START DATE: 02/ /1935 COMPLETION DATE: 03/ /1935

**LITHOLOGY:**

Color	Depth(ft) From	Lithologic Description To Rock Type
	1	3 OTHER
BLACK		SOIL
	3	60 CLAY
RED		
	60	62 GRAVEL
BLUE		
	62	150 CLAY
GRAY		
	150	152 SAND
	152	280 CLAY
GRAY		
	280	290 SAND
	290	325 CLAY
GRAY		
	325	335 SAND
	335	357 CLAY
GRAY		
	357	365 SAND
	365	380 CLAY
GRAY		
	380	395 SAND, GRAVEL
		PEA
	395	415 CLAY
GRAY		
	415	425 SAND, GRAVEL
		PEA
	425	520 CLAY
GRAY		
	520	524 GRAVEL
		PEA
	524	618 CLAY
LIGHT GRAY		
	618	619 GRAVEL
		PEA
	619	620 CLAY
	620	622 GRAVEL
		PEA
	622	630 CLAY
GRAY		
	630	632 SAND
	632	652 CLAY
GRAY		
	652	653 SAND
RED		
	653	654 CLAY
GRAY		
	654	656 SAND
RED		
	656	678 CLAY
GRAY		
	678	690 SAND, GRAVEL
		PEA
	690	695 CLAY
RED		
	695	700 GRAVEL
RED		
	700	704 PEA
		GRAVEL
		LARGE

**WATER LEVEL DATA:**

Date	Time	Water Level (feet) (-)above ground	Status
02/ /1935		.00	FLOWING

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
617 704	IRON PIPE	.25	3

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/#	Perf.	
From To			
357 397	PERFORATION	2	
410 430	PERFORATION	2	
510 530	PERFORATION	2	

022872

35-4990

**LOCATION:**

S 870 ft E 659 ft from NW CORNER of SECTION 26 T 5N R 1W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

DRILLER: Robinson Drilling Company

LICENSE #: 10

START DATE: 08/21/1978 COMPLETION DATE: 04/10/1979

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 800	10	CABLE	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 5	OTHER
	TOP SOIL
5 92	GRAVEL, COBBLES
92 206	SAND, BOULDERS
206 254	CLAY, BOULDERS
254 271	SAND, BOULDERS
271 279	CLAY, SAND
279 370	CLAY, SAND, BOULDERS
370 375	CLAY, SAND
375 430	CLAY, SAND, BOULDERS
430 440	WATER-BEARING, GRAVEL
440 468	SAND
468 493	CLAY
BROWN	
493 525	BOULDERS
525 560	CLAY, BOULDERS
560 740	CLAY, SAND
740 762	CLAY
YELLOW	
762 770	SAND
770 775	OTHER
	HARD ROCK
775 800	SAND
	HARD SAND

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
03/13/1979		230.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 27		.25	16
0 256		.25	10
0 498		.25	8
490 647		.25	6
580 800		.25	4

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From To			
430 440	PERFORATION	.25	2
80 720 800	PERFORATION	.25	2
160 720 800	SCREEN	.75	4

KELLEY PIPE

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 27	PIPE & BENTONITE CLAY		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
04/10/1979	PUMP	.156	131	40

022890

35-2084

**LOCATION:**

N 2236 ft W 1243 ft from SE CORNER of SECTION 7 T 5N R 2W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 WELL REPLACEMENT

DRILLER: Stoddard Drillers Inc

LICENSE #: 42

START DATE: 08/09/1968 COMPLETION DATE: 08/15/1968

ACTIVITY # 2 WELL REPAIR

DRILLER: Stoddard, George T. "Tom"

LICENSE #: 321

START DATE: 10/21/1978 COMPLETION DATE: 10/22/1978

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 1005	2	JETTED	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 2	OTHER
TOPSOIL	
2 34	SAND
34 85	CLAY
85 96	SAND
96 146	CLAY
146 157	SAND
157 182	CLAY
182 194	SAND
194 222	CLAY
222 233	SAND
233 268	CLAY
268 346	SAND
346 389	CLAY
389 404	SAND
404 416	CLAY
416 444	SAND
444 512	CLAY
512 534	SAND
534 566	CLAY
566 584	SAND
584 624	CLAY
624 630	SAND
630 635	CLAY
635 645	SAND
645 674	CLAY
674 715	GRAVEL
715 740	CLAY
740 754	SAND
754 800	CLAY
800 813	SAND
813 954	CLAY
954 960	SAND
960 995	CLAY
995 1005	SAND

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
08/15/1968		-25.00	

ADDITIONAL DATA AVAILABLE, USE OTHER PRINT OPTION

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 803		.25	2
0 1005		1.25	2
803 995		.25	1.25

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From To			
995 1005	SCREEN	.035	1.25

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
08/15/1968	ARTESIAN	.049		
11/10/1978	ARTESIAN	.027		

**GENERAL COMMENTS:**

washed and back flushed well. Before 4 GPM, After 12 GPM

WIN 023128  
A24881

**LOCATION:**

S 641 ft E 1433 ft from N4 CORNER of SECTION 6 T 6N R 1W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

DRILLER: LANG EXPLORATORY DRILLING INC

LICENSE #: 568

START DATE: 11/28/2000 COMPLETION DATE: 01/07/2001

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 20	46	CONVENTIONAL MUD	BENTONITE
20 50	38	CONVENTIONAL MUD	BENTONITE
50 1320	24	FLOODED REVERSE	BENTONITE MUD POLYME

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 25	CLAY
BROWN	
25 85	SOFT AND STICKY CLAY WATER-BEARING, CLAY, SAND, GRAVEL
GREY/RED	
85 120	CALCAREOUS CLAY, MEDIUM TO COARSE SAND CLAY
GREY/RED	
120 265	CALCAREOUS CLAY, SOFT AND STICKY WATER-BEARING, CLAY, SAND, GRAVEL
GREY/RED	
265 300	CALCAREOUS CLAY, MEDIUM TO COARSE SAND CLAY, SAND
YELLOW BRN	
300 305	CALCAREOUS CLAY, SOME COARSE SAND WATER-BEARING, SAND
BROWN	
305 490	VERY COARSE SAND WATER-BEARING, CLAY, SAND
YELLOW BRN	
490 500	CALCAREOUS CLAY, MEDIUM TO COARSE SAND CLAY
LIGHT BRN	
500 525	CALCAREOUS CLAY, SOFT AND STICKY CLAY
DARK GRAY	
525 550	CALCAREOUS CLAY, SOFT AND STICKY WATER-BEARING, CLAY, SAND, GRAVEL
LIGHT BROWN	
550 570	CALCAREOUS CLAY, COARSE SAND TO PEBBLES CLAY, SAND
LIGHT BROWN	
570 575	CALCAREOUS CLAY, SOME COARSE SAND WATER-BEARING, SILT, SAND
BROWN	
575 595	MEDIUM TO COARSE PEBBLES CLAY, SAND
LIGHT BROWN	
595 1320	CALCAREOUS CLAY, SOME COARSE SAND WATER-BEARING, CLAY, SAND, GRAVEL
LIGHT BROWN	
	FINE TO COARSE PEBBLES, CLAY COMPRISES LESS THAN 20%

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
01/07/2001		61.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 20	STEEL	.50	40
0 50	STEEL	.50	30
660 740	STEEL	.375	16
750 760	STEEL	.375	16
800 830	STEEL	.375	16
940 950	STEEL	.375	16



990	1020	STEEL	.375	16
+2.5	610	STEEL	.375	16
1120	1130	STEEL	.375	16
1280	1301	STEEL	.375	16

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Perf(in)	Screen Type/#	Depth(ft) From To	Screen(S) or Perforation(P) Perf.	Slot/Perf. siz	Screen Diam/Length
WIRE WRAP		610 660	PERFORATION	.050	16
WIRE WRAP		740 750	PERFORATION	.050	16

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft) From To	Material	Amount	Density(pcf)
0 550	CEMENT QUICKRETE CO	16 LB MX	
550 553	3/8" HOLE PLUG	BAROID	500
553 555	10X20 GRAVEL	8 50# BG	400
555 1320	8X12 GRAVEL 126,000LBS		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
01/07/2001	REVERSE AIR LIFT	1.114	11	

**GENERAL COMMENTS:**

CONSTRUCTION INFORMATION:  
 Well Head Configuration: Steel Cap  
 Surface Seal: yes  
 Depth: 555 feet  
 Drive Shoe: no  
 Material Placement Method: trimmed from 555 to surface  
 ADDITIONAL DATA NOT AVAILABLE

025491

35-367

**LOCATION:**

N 300 ft W 100 ft from E4 CORNER of SECTION 35 T 7N R 3W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 WELL ABANDONMENT

DRILLER: STODDARD DRILLING, G J

LICENSE #: 41

START DATE: / / COMPLETION DATE: / /

ACTIVITY # 2 WELL REPLACEMENT

DRILLER: STODDARD DRILLING, G J

LICENSE #: 41

START DATE: 06/21/2002 COMPLETION DATE: 06/24/2002

**BOREHOLE INFORMATION:**

Depth(ft) From	To	Diameter(in)	Drilling Method	Drilling Fluid
0	30	6.5	MUD ROTARY	BENTONITE
30	482	4.5	MUD ROTARY	BENTONITE

**LITHOLOGY:**

Depth(ft) Color	Lithologic Description Rock Type	
From	To	
0	120	CLAY, SILT, SAND
GRAY		
		MOSTLY CLAY
120	150	WATER-BEARING, HIGH-PERMEABILITY, SAND
GRAY		
		SOME WAS COARSE
150	195	CLAY
GRAY		
		STICKY
195	197	OTHER
GRAY		
		HARD PAN
197	205	CLAY
GRAY		
		HARD CLAY
205	240	WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL
GRAY		
		COARSE SAND & PEA GRAVEL
240	262	CLAY
GRAY		
		HARD CLAY
262	267	SAND
GRAY		
		FINE SAND
267	278	CLAY
GRAY		
		HARD
278	293	WATER-BEARING, HIGH-PERMEABILITY, SILT, SAND
GRAY		
		COARSE SAND & PEA GRAVEL
293	314	
GRAY		
		HARD
314	321	WATER-BEARING, HIGH-PERMEABILITY, SAND
GRAY		
		COARSE SAND
321	334	CLAY
GRAY		
		SOFT CLAY
334	368	WATER-BEARING, HIGH-PERMEABILITY, SAND
GRAY		
		COARSE SAND (REAL GOOD)
368	430	CLAY
GRAY		
		STICKY
430	437	WATER-BEARING, HIGH-PERMEABILITY, SAND
GRAY		
		COARSE SAND
437	458	CLAY
GRAY		
		STICKY
458	472	WATER-BEARING, HIGH-PERMEABILITY, SAND
GRAY		
		COARSE SAND (REAL GOOD)
472	482	CLAY
GRAY		
		HARD

**WATER LEVEL DATA:**

Date	Time	Water Level (feet) (-)above ground	Status
06/24/2002		-11.55	FLOWING

**CONSTRUCTION - CASING:**

Depth(ft) From	Depth(ft) To	Material	Gage(in)	Diameter(in)
472	482	GAL STEEL SCH 40		2
+1.8	462	PVC SCH 40		2

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Perf(in)	Depth(ft) From	Depth(ft) To	Screen(S) or Perforation(P) Screen Type/# Perf.	Slot/Perf. siz	Screen Diam/Length
	462	472	SCREEN	.050	2

STAINLESS

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft) From	Depth(ft) To	Material	Amount	Density(pcf)
0	30	3/8 HOLE PLUG	6 BAGS	

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
06/24/2002	AIR LIFT	.067		8

**GENERAL COMMENTS:**

CONSTRUCTION INFORMATION  
Well Head Configuration: 2" gate vavle  
Casing joint type: glue  
Perforator: no  
CASING  
Bottom of steel pipe welded  
Surface seal: yes, 30'  
Drive shoe: no  
Surface seal placement method: from top  
PUMP  
no pump  
Well disinfected: yes  
COMMENTS  
No problems  
Additional data not available.

000052

**LOCATION:**

N 40 ft W 1280 ft from E4 CORNER of SECTION 27 T 1S R 1W BASE SL  
Elevation: 4243.00 feet  
3500 S. 1300 W. WELL #1

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL  
DRILLER: Lee & Sons Drilling LICENSE #:  
11  
START DATE: 05/29/1974 COMPLETION DATE: 09/15/1974

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 990	16	CABLE	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 22	CLAY, SAND
	SANDY
22 60	CLAY, SILT
BLUE	
	SILTY
60 71	SAND, GRAVEL
71 98	CLAY, GRAVEL
	SILTY
98 114	SAND, GRAVEL
114 127	CLAY
GREY	
127 141	CLAY, GRAVEL
141 159	CLAY, SILT, SAND
	SILTY SANDY
159 169	CLAY
GREY	
	STICKY
169 173	SAND, GRAVEL
173 201	CLAY
DK. GREY	
201 220	SAND
	FINE TO COARSE
220 224	CLAY
GREY	
	STICKY
224 228	CLAY, SAND
	SANDY
228 250	SAND
	FINE TO COARSE
250 282	CLAY
GREY	
282 290	CLAY
GREEN	
290 294	SAND
294 318	CLAY
GREY	
318 330	CLAY, GRAVEL
330 341	SAND, GRAVEL
341 344	CLAY
	STICKY
344 352	SAND
352 420	CLAY
GREY	
420 432	CLAY, GRAVEL
432 453	SAND
	FINE TO COARSE
453 517	CLAY
	STICKY
517 530	CLAY, GRAVEL

530	559	CLAY
		STICKY
559	563	CLAY, SAND
		FINE TO COARSE
563	579	CLAY
		STICKY
579	597	CLAY, GRAVEL
597	600	CLAY
		STICKY
600	613	SAND, GRAVEL
613	639	CLAY
		STICKY
639	650	OTHER
CONGLOMERATE		
650	685	CLAY
		STICKY
685	689	CLAY, GRAVEL
689	699	CLAY, SAND
699	725	CLAY
		STICKY
725	731	CLAY, GRAVEL
731	736	CLAY
		STICKY
736	745	WATER-BEARING, CLAY, SAND, GRAVEL
745	806	CLAY
		STICKY
806	825	CLAY, SILT, SAND
		SILTY SANDY
825	841	SAND
		HEAVING
841	848	CLAY, GRAVEL
848	857	CLAY
		STICKY
857	866	SAND
		HEAVING
866	871	CLAY
		STICKY
871	886	SAND, GRAVEL
		80 TO 90% SAND
886	898	CLAY
		STICKY
898	902	SAND
		HEAVING
902	920	CLAY
		STICKY
920	928	CLAY, GRAVEL
928	932	SAND, GRAVEL
932	936	CLAY
		STICKY
936	944	CLAY, SAND
		SANDY
944	945	CLAY
		STICKY
945	952	CLAY, SAND
		SANDY
952	958	CLAY, SAND, GRAVEL
		SANDY
958	963	SAND
		SAND, FINE TO COARSE
963	971	CLAY
971	980	SAND
980	990	CLAY

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
09/13/1974		27.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
-----------	----------	----------	--------------

From	To			
0	30	NEW	.312	20
0	400	NEW	.375	16
380	990	NEW	.375	12

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Diam/Length	Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen
	Perf(in)	Screen Type/# Perf.		
	From	To		
544	579	613	PERFORATION	.25 1.5
176	639	650	PERFORATION	.25 1.5
144	736	745	PERFORATION	.25 1.5
192	920	932	PERFORATION	.25 1.5
48	954	957	PERFORATION	.25 1.5

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
09/13/1974	PUMP	3.621	150	40

**WATER QUALITY DATA AVAILABLE**

000058

**LOCATION:**

N 2665 ft W 70 ft from S4 CORNER of SECTION 20 T 1S R 1W BASE SL  
Elevation: 4240.00 feet  
2475 S. 3600 W. WELL # 5

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL  
DRILLER: LAYNE CHRISTENSEN COMPANY LICENSE #:  
188  
START DATE: 02/19/1965 COMPLETION DATE: 04/30/1965  
ACTIVITY # 2 WELL REPAIR  
DRILLER: PETERSEN BROTHERS DRILLING CO INC LICENSE #:  
249  
START DATE: 04/04/2001 COMPLETION DATE: 10/22/2001

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 916	16	CABLE	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color From To	Rock Type
0 3	OTHER
TOP SOIL	
3 13	CLAY
13 69	SAND
69 92	SAND, GRAVEL
92 123	CLAY
123 212	CLAY, SAND
212 230	WATER-BEARING, GRAVEL
230 290	CLAY
290 358	CLAY, GRAVEL
358 505	CLAY
505 530	SAND, GRAVEL
530 567	CLAY
567 586	SAND, GRAVEL
586 594	CLAY
594 612	SAND, GRAVEL
612 624	CLAY
624 660	SAND, GRAVEL
660 726	CLAY
726 737	SAND, GRAVEL
737 750	CLAY, SAND, GRAVEL
750 915	CLAY, SAND, GRAVEL
915 916	CLAY

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
04/30/1965		10.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 96	NEW	.312	20
0 916	NEW	.312	16

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen
Diam/Length	Perf(in) Screen Type/# Perf.		
From To			
607 612	PERFORATION	.25	2
619 665	PERFORATION	.25	2
726 737	PERFORATION	.25	2

80

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft) From To	Material	Amount	Density(pcf)
0 96	GRAVEL		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
04/30/1965	PUMP	3.119	87	79

**WATER QUALITY DATA AVAILABLE**

**GENERAL COMMENTS:**

\*Flowing Well - Type of control - Cap welded over end of 8" discharge pipe

\*WELL DRILLER'S REPORT RECEIVED 12-13-2001 FOR REPAIR BOREHOLE

0 to 916' Diameter: 16"

Method: Cable tool originally drilled by J.G. Lee 1965

Well rehabilitated by PBDC, Inc 2001

WELL LITHO

Refer to original driller's log

STATIC WATER LEVEL

4-23-2001 Static 12'

9-27-2001 Static 44'

Water level: Before Pump test 39'10"

Flowing: no

Method of measurement: Electric probe

Point of measurement: 18" above floor

Ground elevation: 4200

CASING

Note: This well rehabilitated with #304 SS screen and steel casing

0 to 253' A53-B new casing Diameter: 14" OD

253 to 566' A53-B new casing Diameter: 12" ID

583 to 602' A53-B new casing Diameter: 12" ID

665 to 720' A53-B new casing Diameter: 12" ID

905 to 913' A53-B new casing Diameter: 12" ID

SCREEN

566 to 583' Size: .065 Diameter: 12" Type: #304 Stainless

602 to 665' Size: .065 Diameter: 12" Type: #304 Stainless

720 to 905' Size: .065 Diameter: 12" Type: #304 Stainless

Note: reperfornated 566 to 583'

602 to 665'

720 to 905' (Mills)

Well Head Configuration: cap - inside pump house

Access Port: yes

Casing joint type: welded

Perforator: mills knife

Surface seal: refer to original driller into

0 to 913' Installed 6-9 colorado silica Quantity: 848 Cu.Ft.

(By PBDC Inc.)

WELL TESTS

Method: 8" water lube with 11" bowl

9-25-2001 Yield: 796 gpm Drawdown: 26' Time pumped: 8 hr.

9-26-2001 Yield: 1068 gpm Drawdown: 66' Time pumped: 8 hr.

10-01-2001 Yield: 1308 gpm Drawdown: 72' Time pumped: 8 hr.

10-02-2001 Yield: 1612 gpm Drawdown: 114' Time pumped: 8 hr.

NOTE: 24 hour pump test

Yield: 1402 gpm Drawdown: 109'

PUMP

Approx max pump rate: 1400 gpm

Well disinfected: yes

COMMENTS

Set up 36-L BE equipment - reporfornated - set new well screen with 12" and 14" steel casing between screen. Gravel packed with 6-9



colorado silica top to bottom. Pump tested up to 1650 gpm. Job took a long time to complete. Very difficult to set service equipment and rid of bailed cuttings.

NOTE: location description: 3600 west 2400 south, west side of road inside bldg.

Additional data not available.

000101

**LOCATION:**

N 2977 ft W 2929 ft from SE CORNER of SECTION 35 T 1S R 1W BASE SL  
Elevation: 4241.00 feet  
1000 W. 3800 S. WELL # 11

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL  
568 DRILLER: LANG EXPLORATORY DRILLING INC LICENSE #:  
START DATE: 02/16/1992 COMPLETION DATE: 03/06/1992  
ACTIVITY # 2 WELL REPAIR  
249 DRILLER: PETERSEN BROTHERS DRILLING CO INC LICENSE #:  
START DATE: 11/22/1999 COMPLETION DATE: 02/18/2000

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 980	29	ROTARY	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color From To	Rock Type
0 100	CLAY, SAND
100 130	SAND, GRAVEL
130 137	CLAY, SAND
137 180	SAND, GRAVEL
180 187	CLAY, SAND
187 189	CLAY
189 191	SAND, GRAVEL
191 195	CLAY
195 198	CLAY, SAND, GRAVEL
198 234	SAND, GRAVEL
234 350	CLAY, SAND, GRAVEL
350 378	SAND, GRAVEL
378 390	CLAY
390 419	SAND, GRAVEL
419 455	CLAY, SAND, GRAVEL
455 480	SAND, GRAVEL
480 490	CLAY
490 525	SAND, GRAVEL
525 530	CLAY
530 550	CLAY, SAND, GRAVEL
550 590	SAND, GRAVEL
590 645	CLAY, SAND, GRAVEL
645 710	SAND, GRAVEL
710 720	CLAY
720 725	SAND, GRAVEL
725 750	CLAY, SAND, GRAVEL
750 880	CLAY, SAND, GRAVEL
880 945	SAND, GRAVEL
945 975	CLAY, SAND, GRAVEL
975 980	CLAY

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
03/01/1992		(-) above ground -.50	

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
+2 395		.500	20
415 450		.500	20
470 490		.500	20
530 550		.500	20
590 645		.500	20
705 750		.500	20

760	795	.500	20
815	850	.500	20
870	885	.500	20
945	965	.500	20

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Diam/Length	Depth(ft) Perf(in)	Screen(S) or Perforation(P) Screen Type/#	Slot/Perf. siz	Screen
	From To	Perf.		
STAINLESS	395 415	SCREEN	.050	20
STAINLESS	450 470	SCREEN	.050	20
STAINLESS	490 530	SCREEN	.050	20
STAINLESS	550 590	SCREEN	.050	20
STAINLESS	645 705	SCREEN	.050	20
STAINLESS	750 760	SCREEN	.050	20
STAINLESS	795 815	SCREEN	.050	20
STAINLESS	850 870	SCREEN	.050	20
STAINLESS	885 945	SCREEN	.050	20

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft) From To	Material	Amount	Density(pcf)
0 112	CEMENT GROUT		
112 980	GRAVEL 8-12		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
03/06/1992	PUMP TEST	4.011		1.5
03/06/1992	PUMP TEST	6.907		4.0
03/06/1992	PUMP TEST	8.913	4.16	45

**WATER QUALITY DATA AVAILABLE**

**GENERAL COMMENTS:**

REPAIR WELL LOG RECIEVED: 03/20/2000  
 BOREHOLE: 0-945'; Diameter: 20"; Method: (Rehabilitation)  
 Fluid: none used  
 LITHO: (Refer to original Driller Log, Water Quality Good)  
 WATER LEVEL: Date: 02/03/2000  
 Level: 5 feet  
 Flowing: no  
 Method of Measurement: Tape Measure  
 Point of Measurement: Top of Steel Pump Head Base Plate  
 Height above Surface: no data  
 Temperature: no data  
 CONSTRUCTION INFORMATION:  
 CASING: 0-945'; Type: Refer to Drillers report when drilled  
 SCREEN: no data  
 Well Head Configuration: Covered w/plywood  
 Access Port: yes  
 Casing Joint Type: no data  
 Perforator Used: no data  
 FILTER PACK: (Refer to Drillers Report) Did not alter well in any way  
 WELL DEVELOPMENT: Date: 02/11/2000  
 Method: Pump Testing  
 Yield: 3000 GPM  
 Drawdown: 175 Feet  
 Time: 48 hours

PUMP: Water Lube Turbine

Horsepower: no data

Intake Depth: no data

Max Pump Rate: no data

Well Disinfected: yes

GENERAL COMMENTS: Pump was pulled (Water Lube Turbine) TV Logging performed- 36-L Cable Tool was set up along w/surg block tooling - well screen carefully surged, developed - removed approx 2 yards bentonite w/sand some colorado silica pack, set test pump, pumped up to 3000 gpm from 175', did not set customers pump.  
Additional data not available

000124

**LOCATION:**

N 647 ft W 525 ft from SE CORNER of SECTION 36 T 2S R 1W BASE SL Elevation:  
4404.00 feet  
COPPERVIEW WELL 8500 S. 70 W.

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL	
DRILLER: Robinson Drilling Company	LICENSE #: 10
START DATE: 10/12/1963	COMPLETION DATE: 11/30/1963
ACTIVITY # 2 WELL REPAIR	
DRILLER: Pump Service Inc.	LICENSE #: 345
START DATE: 07/11/1975	COMPLETION DATE: 07/11/1975
ACTIVITY # 3 WELL REPAIR	
DRILLER: NICKERSON COMPANY INC	LICENSE #: 678
START DATE: 01/13/1997	COMPLETION DATE: 01/17/1997

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From	To		
0	605	16	CABLE

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From	To
0	15 CLAY
	STUDY
15	58 SAND
	SMALL AMOUNT OF CLAY
58	70 SAND
	QUICK-SAND
70	83 CLAY, SAND
83	110 CLAY, SAND, GRAVEL
110	118 CLAY, SAND
118	132 CLAY
132	167 CLAY, SAND
167	210 OTHER
	CONGLOMERATE
210	250 CLAY, GRAVEL
250	265 GRAVEL
	2" DIAMETER
265	290 GRAVEL
	1/2" DIAMETER
290	298 CLAY
298	307 SAND
307	320 SAND, GRAVEL
320	362 GRAVEL
362	404 CLAY, GRAVEL
404	412 GRAVEL
412	442 CLAY
442	462 CLAY, GRAVEL
462	486 GRAVEL
486	488 CLAY
488	558 CLAY, GRAVEL
558	575 CLAY
575	578 GRAVEL
	1 1/2" DIAMETER
578	605 CLAY, GRAVEL
	TOTAL DEPTH

BLUE

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
11/20/1963		82.00	STATIC

ADDITIONAL DATA AVAILABLE, USE OTHER PRINT OPTION

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From	To		

0	40	.375	20
0	605	.313	16

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Screen Type/#	Depth(ft) Perf.	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length Perf(in)
	From To			
MILLS/480	200 280	PERFORATION	3	.375
552	320 412	PERFORATION	3	.375
696	442 558	PERFORATION	3	.375
150	575 600	PERFORATION	3	.375

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 40	20" CONDUCTOR & CEMENT		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
12/01/1963	PUMP	4.902	73	48

**WATER QUALITY DATA AVAILABLE**

**GENERAL COMMENTS:**

Sonar-Jet Cleaned - 07/11/1975  
 200-225' - Clay & gravel. Coarse sand, light crustations, gravel, rust scale to 1/4" thick.  
 230-280' - Clay & gravel. Coarse sand, light crustations, gravel, rust scale to 1/4" thick.  
 330-355' - Clay & gravel. Gravel to 1", coarse sand, perforation tubular crustations, rust scale 1/4" thick.  
 360-410' - Clay & gravel. Gravel 1/2". Tubular perforation crustation some coarse sand. Rust scale 1/4" thick.  
 450-550' - Clay & gravel. Clay balls 1/2" diameter, rocks. Tubular crustations to 1". Rust scale 1/4" thick.  
 578-588' - Clay & gravel. Coarse sand, crustations to 1/2" thick 1 1/2" diameter, rocks to 1/2". Rust scale 1/4" thick.  
 All runs showed heavy rust and black colored tubular scale and iron bacteria deposits. Some showing complete perforation imprints indicating near complete closure of some perf some partial  
 \*REPAIR REPORTED 1/24/97  
 Brush Well & Bail fill out  
 Additional data not available

000266

**LOCATION:**

N 64 ft W 1809 ft from SE CORNER of SECTION 31 T 3S R 1W BASE SL Elevation:  
4692.00 feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

START DATE: 01/31/1954 COMPLETION DATE: 02/12/1954

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 625	16		

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 5	OTHER TOP SOIL
5 138	SAND, GRAVEL
138 200	WATER-BEARING, GRAVEL
200 231	WATER-BEARING, GRAVEL
231 615	WATER-BEARING, CLAY, OTHER CLAY AND HARDPAN WITH SMALL WATER LENS ALL THE WAY FROM 231' TO 615'.

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
02/11/1954		132.00	

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 625	STEEL		16

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length	Perf(in)
Screen Type/#	Perf.			
From To				
138 200	PERFORATION			
231 615	PERFORATION			

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
02/11/1954	PUMP	2.897		

**WATER QUALITY DATA AVAILABLE**

**GENERAL COMMENTS:**

\*CONTROL - Well was equipped with cap to control flow.

000340

**LOCATION:**

S 2620 ft W 1900 ft from NE CORNER of SECTION 30 T 3S R 1W BASE SL Elevation:  
4687.00 feet  
1 MILE NORTH, 3 MILES WEST OF RIVERTON, UTAH

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL  
START DATE: 08/20/1956 COMPLETION DATE: 09/21/1956

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 700	20	CABLE	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 12	OTHER TOP SOIL
12 14	GRAVEL
14 37	CLAY
YELLOW 37 60	GRAVEL, BOULDERS BOULDERS 8"
60 109	WATER-BEARING, CLAY, GRAVEL, OTHER
YELLOW 109 126	CONGLOMERATE SAND, GRAVEL, BOULDERS BOULDERS 8" TIGHT
126 166	CLAY, GRAVEL GRAVEL 2"
166 175	CLAY
YELLOW 175 196	CLAY, GRAVEL GRAVEL 2"
196 212	CLAY
YELLOW 212 218	SAND, GRAVEL GRAVEL 1-1/2"
218 263	CLAY
YELLOW 263 266	OTHER CONGLOMERATE
266 325	CLAY
YELLOW 325 328	CLAY, GRAVEL GRAVEL 1-1/2"
328 390	CLAY
YELLOW 390 396	SAND, GRAVEL GRAVEL 2" TIGHT
396 402	CLAY, GRAVEL
402 700	CLAY
YELLOW	

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
09/21/1956		73.00	

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 536	KAI-WELL	10	20

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length	Perf(in)
Screen Type/#	Perf.			



	From	To			
	80	109	PERFORATION	.313	2.25
9 HOLES/8 IN					
	109	166	PERFORATION	.313	2.25
9 HOLES/4 IN					
	166	175	PERFORATION	.313	2.25
9 HOLES/8 IN					
	175	196	PERFORATION	.313	2.25
9 HOLES/4 IN					
	196	212	PERFORATION	.313	2.25
9 HOLES/8 IN					
	212	218	PERFORATION	.313	2.25
9 HOLES/4 IN					
	218	325	PERFORATION	.313	2.25
9 HOLES/8 IN					
	325	328	PERFORATION	.313	2.25
9 HOLES/4 IN					
	328	390	PERFORATION	.313	2.25
9 HOLES/8 IN					
	390	400	PERFORATION	.313	2.25
9 HOLES/4 IN					

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
09/23/1956	PUMP	2.451	137	16.3

**GENERAL COMMENTS:**

\*PERFORATIONS - 400 ft to 500 ft 9 holes per 8 inches.  
 \*TEST - Water level when first started test 73 ft. Draw down from standing level 140 ft. No. of gallons per minute when test first started 700 ft. no. of gallons per minute when test completed 1100ft. Draw down at completion of test 137 ft. Hours testing well 16-1/4.  
 \*CASING - Left casing at 536 feet. Drilled 20' open hole to 700 ft. Found hole open to 605 ft after pulling test pump.

000476

**LOCATION:**

N 113 ft W 786 ft from S4 CORNER of SECTION 32 T 3S R 1W BASE SL Elevation:  
4608.00 feet  
HAMILTON-SEAL WELL 134TH SOUTH 3500 W

**DRILLER ACTIVITIES:**

ACTIVITY # 1 WELL REPAIR  
DRILLER: WIDDISON TURBINE SERVICE, LLC LICENSE #: 533  
START DATE: 11/ /1988 COMPLETION DATE: 05/10/1989

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 670	12.8	CABLE	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 11	CLAY
11 40	CLAY, SAND
40 65	CLAY
	SANDY
65 70	CLAY
70 75	GRAVEL
75 120	CLAY
120 168	WATER-BEARING, CLAY, GRAVEL
	A LITTLE WATER @ 168'
168 180	SAND
180 200	GRAVEL
200 215	CLAY, GRAVEL
215 220	SAND, GRAVEL
220 242	SAND
242 255	CLAY, SAND
255 285	SAND
285 295	CLAY
295 310	GRAVEL
310 350	CLAY, GRAVEL
350 355	GRAVEL
355 405	CLAY, GRAVEL
405 472	CLAY, SAND
472 480	CLAY, SAND
WHITE	
	HARD
480 488	SAND
	FINE WATER SAND
488 525	CLAY, SAND
525 550	CLAY, GRAVEL
550 585	CLAY, SAND
585 590	SAND
590 600	CLAY
600 630	CLAY, SAND
630 642	CLAY
642 645	GRAVEL
645 670	CLAY, SAND

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
02/23/1989		146.92	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 643.4	PLAIN END		12

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length	Perf(in)
Screen Type/#	Perf.			

	From	To			
1200	320	470	PERFORATION	2.50	.250
MILLS/618	530	633	PERFORATION	2.50	.250

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
02/23/1989	PUMP	.735	35.12	1.5
02/23/1989	PUMP	1.330	55.55	1.5
02/23/1989	PUMP	2.262	100.17	24

**WATER QUALITY DATA AVAILABLE**

**GENERAL COMMENTS:**

\*DRILLED - This well was drilled on 12-23-54 by Robinson.  
 \*REPAIR - Reperforated and test pumped.

000477

**LOCATION:**

S 320 ft W 122 ft from NE CORNER of SECTION 31 T 3S R 1W BASE SL Elevation:  
4648.00 feet  
GARAMENDI WELL 126TH S. 40TH WEST

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL  
START DATE: 02/23/1963 COMPLETION DATE: 03/28/1963

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 700	12	CABLE	

**LITHOLOGY:**

Depth(ft)	Lithologic Description	
Color	Rock Type	
From To		
0 1	OTHER	
	TOP SOIL	
1 3	GRAVEL	
3 4	CLAY	
4 48	CLAY, GRAVEL, BOULDERS	
48 77	CLAY, BOULDERS	TAN
77 85	CLAY, GRAVEL	
	LITTLE CLAY	
85 104	CLAY, GRAVEL	
	HALF CLAY	
104 116	WATER-BEARING, GRAVEL	
116 156	CLAY, GRAVEL	
156 159	WATER-BEARING, GRAVEL	
159 222	CLAY, SAND, GRAVEL	RED
	RED SANDY CLAY, STREAKS OF GRAVEL	
222 227	GRAVEL	
227 360	CLAY, GRAVEL	
360 408	CLAY, SAND, GRAVEL	
	SANDY CLAY & GRAVEL	
408 455	CLAY, GRAVEL	
BROWN		
	BROWN CLAY & GRAVEL	
455 482	CLAY, GRAVEL	BRWN
& WHITE		
	BROWN & WHITE CLAY & GRAVEL	
482 496	CLAY, SAND, GRAVEL	
BROWN		
	SANDY BROWN CLAY & GRAVEL STICKY	
496 531	CLAY, GRAVEL	
BROWN		
	BROWN CLAY & GRAVEL	
531 596	CLAY, SAND, GRAVEL	
BROWN		
	SANDY BROWN CLAY & GRAVEL	
596 663	CLAY, GRAVEL	
BROWN		
	STICKY BROWN CLAY & GRAVEL	
663 700	CLAY, SAND, GRAVEL	
BROWN		
	STICKY BROWN CLAY & GRAVEL & SAND STICKY	

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
03/20/1963		80.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 50	NEW	3.30	20
0 700	NEW	3.30	12

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Screen Type/#	Depth(ft) From	Perf. To	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length Perf(in)
MILLS/320	140	160	PERFORATION	2.50	.438
288	212	220	PERFORATION	2.50	.438
128	266	274	PERFORATION	2.50	.438
96	300	306	PERFORATION	2.50	.438
244	400	414	PERFORATION	2.50	.438
96	482	488	PERFORATION	2.50	.438
96	598	604	PERFORATION	2.50	.438

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft) From	Material To	Amount	Density(pcf)
0	50		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
03/20/1963	PUMP	1.671	240	22

**WATER QUALITY DATA AVAILABLE**

000497

**LOCATION:**

S 530 ft W 2665 ft from E4 CORNER of SECTION 5 T 3S R 1W BASE SL Elevation:  
4595.00 feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

DRILLER: Robinson Drilling Company

LICENSE #: 10

START DATE: 11/16/1964 COMPLETION DATE: 01/06/1965

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 445	10	CABLE	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 6	CLAY, GRAVEL
6 12	GRAVEL
12 40	CLAY, SAND
BROWN	
40 67	CLAY
YELLOW	
67 200	OTHER
	CONGLOMERATE
200 217	WATER-BEARING, GRAVEL
217 229	CLAY, SAND, GRAVEL
229 250	OTHER
	CONGLOMERATE
250 260	CLAY, GRAVEL, OTHER
	CONGLOMERATE
260 290	OTHER
	CONGLOMERATE
290 292	CLAY
292 299	OTHER
	CONGLOMERATE
299 316	CLAY
316 360	OTHER
	CONGLOMERATE
360 363	CLAY
363 408	OTHER
	CONGLOMERATE
408 425	GRAVEL
440 445	OTHER
	CONGLOMERATE

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
01/06/1965		185.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 440		.250	10

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length	Perf(in)
Screen Type/#	Perf.			
From To				
200 440	PERFORATION	2	.313	

MILLS/10

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
01/06/1965	PUMP	1.404	17	18

000504

**LOCATION:**

ft E 2500 ft from W4 CORNER of SECTION 7 T 3S R 1W BASE SL Elevation:  
4751.00 feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

DRILLER: Robinson Drilling Company

LICENSE #: 10

START DATE: 10/10/1975 COMPLETION DATE: 03/13/1976

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From	To		
0	700	16	CABLE

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From	To
0	3 SAND, GRAVEL
3	37 SAND, GRAVEL, OTHER COBBLES
37	41 CLAY
41	65 CLAY, GRAVEL
65	80 SAND, GRAVEL, OTHER COBBLES
80	82 CLAY, GRAVEL
82	83 SAND
83	97 OTHER CONGLOMERATE
97	110 SAND, GRAVEL, OTHER COBBLES
110	130 OTHER
130	150 CLAY
150	219 CLAY, GRAVEL
219	221 SAND, GRAVEL
221	233 CLAY, BOULDERS
233	277 CLAY, GRAVEL, OTHER COBBLES
277	290 CLAY, SAND, GRAVEL
290	304 CLAY, SAND, GRAVEL, OTHER COBBLES
304	346 CLAY, GRAVEL
346	393 CLAY, GRAVEL, OTHER COBBLES
393	432 CLAY, GRAVEL
432	472 SAND, GRAVEL
472	488 CLAY, GRAVEL, OTHER COBBLES
488	521 OTHER CONGLOMERATE
521	541 CLAY, GRAVEL
541	570 OTHER CONGLOMERATE
570	580 CLAY, BOULDERS
580	647 OTHER CONGLOMERATE
647	662 CLAY, OTHER CONGLOMERATE
662	664 SAND, GRAVEL
664	670 CLAY, GRAVEL
670	695 OTHER CONGLOMERATE
695	700 CLAY, GRAVEL

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-) above ground	
02/09/1976		190.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 20	NEW	.250	20
0 680	NEW	.250	16

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Screen Type/#	Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length	Perf(in)
	From To				
MILLS/112	242 256	PERFORATION	.375	2.50	
632	260 339	PERFORATION	.375	2.50	
384	344 392	PERFORATION	.372	2.50	
208	432 458	PERFORATION	.375	2.50	
32	469 473	PERFORATION	.375	2.50	
480	480 498	PERFORATION	.375	2.50	
264	516 549	PERFORATION	.375	2.50	
280	555 590	PERFORATION	.375	2.50	
120	610 625	PERFORATION	.375	2.50	
32	636 640	PERFORATION	.375	2.50	

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 20	20" PIPE & BENT CLAY		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
02/09/1976	PUMP	.891	60	10
02/09/1976	PUMP	2.362	160	15

**GENERAL COMMENTS:**

\*PERFORATIONS - (Cont.) 656 ft. to 675 ft. .375" by 2.50" 152 perf.



000506

**LOCATION:**

S 678 ft E 316 ft from W4 CORNER of SECTION 7 T 3S R 1W BASE SL Elevation:  
4805.00 feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 WELL REPAIR

DRILLER: PETERSEN BROTHERS DRILLING CO INC

LICENSE #: 249

START DATE: 08/03/1990 COMPLETION DATE: 11/19/1990

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From	To		
0	700	16	CABLE

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From	To
0	3 SAND, GRAVEL
3	37 SAND, GRAVEL, OTHER COBBLES
37	41 CLAY
41	65 CLAY, GRAVEL
65	80 SAND, GRAVEL, OTHER COBBLES
80	82 CLAY, GRAVEL
82	83 SAND
83	97 OTHER CONGLOMERATE
97	110 SAND, GRAVEL, OTHER COBBLES
110	130 OTHER CONGLOMERATE
130	150 CLAY
150	219 CLAY, GRAVEL
219	221 SAND, GRAVEL
221	233 CLAY, BOULDERS
233	277 CLAY, GRAVEL, OTHER COBBLES
277	290 CLAY, SAND, GRAVEL
290	304 CLAY, SAND, GRAVEL, OTHER COBBLES
304	346 CLAY, GRAVEL
346	393 CLAY, GRAVEL, OTHER COBBLES
393	432 CLAY, GRAVEL
432	472 SAND, GRAVEL
472	488 CLAY, GRAVEL, OTHER COBBLES
488	521 OTHER CONGLOMERATE
521	541 CLAY, GRAVEL
541	570 OTHER CONGLOMERATE
570	580 CLAY, BOULDERS
580	647 OTHER CONGLOMERATE
647	662 CLAY, OTHER CONGLOMERATE
662	664 SAND, GRAVEL
664	670 CLAY, GRAVEL
670	695 OTHER
695	700 CLAY, GRAVEL

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
10/01/1990		261.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 242	NEW	.250	14

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Screen Type/#	Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length	Perf(in)
	From To				
MILLS/112	242 256	PERFORATION	.375	2.5	
632	260 339	PERFORATION	.375	2.5	
384	344 392	PERFORATION	.375	2.5	
208	432 458	PERFORATION	.375	2.5	
32	469 473	PERFORATION	.375	2.5	

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 700	GRAVEL (SIZE: 1/4)		

**GENERAL COMMENTS:**

\*ORIGINAL WELL - When work was started on 8-3-90 the 12" casing was already in well - then by Peterson Bros. Drilling 14" casing was installed from 0' to 242' to mate to the existing 12" casing - then 1/4' gravel was then placed between 14" casing and 12" casing from top to bottom - then well was surged and developed and much sand was removed.

Also a TV survey was performed and mill slot perforations were located from 300' to 618' in 12" casing.

The 12" casing was installed by others prior to Peterson Bros. Drilling coming onto this well.

\*CONSTRUCTION - Gravel was placed 0' to 700' or behind 14" and 12" casing that was installed inside 16" casing.

000515

**LOCATION:**

N 35 ft E 35 ft from SW CORNER of SECTION 9 T 3S R 1W BASE SL Elevation:  
4595.00 feet  
10200 SO. 5200 WEST

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL  
START DATE: 03/24/1955 COMPLETION DATE: 05/02/1955

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 472	16		

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 3	OTHER TOP SOIL
3 10	SAND
10 55	GRAVEL
55 100	CLAY
100 190	GRAVEL
190 218	WATER-BEARING, SAND, GRAVEL
218 222	CLAY
222 234	GRAVEL
234 240	SAND FINE SAND
240 253	GRAVEL
253 268	GRAVEL PEA GRAVEL
268 276	CLAY SANDY CLAY
276 295	SAND, GRAVEL
295 300	CLAY
300 320	GRAVEL
320 438	OTHER CONGLOMERATE
438 472	CLAY STICKY CLAY

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 472	STEEL		16

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length	Perf(in)
Screen Type/#	Perf.			
From To				
190 471	PERFORATION			

**GENERAL COMMENTS:**

\*CONTROL - Well was equipped with cap to control flow.

000543

**LOCATION:**

S 1100 ft E 150 ft from NW CORNER of SECTION 14 T 3S R 1W BASE SL Elevation:  
4429.00 feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

DRILLER: Mosley, Glen

LICENSE #: 254

START DATE: 02/10/1977 COMPLETION DATE: 04/20/1977

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 395	8	CABLE	

**LITHOLOGY:**

Depth(ft)	Lithologic Description	
Color	Rock Type	
From To		
0 40	SAND	
40 80	CLAY	BLUE
80 87	WATER-BEARING, OTHER	
	SOME WATER	
87 97	CLAY	RED
97 125	CLAY, OTHER	RED
	HARDPAN	
125 130	CLAY, OTHER	RED
	HARDPAN	
130 135	WATER-BEARING, SAND, GRAVEL	
	SOME WATER	
135 165	OTHER	
	HARDPAN	
165 180	SAND, GRAVEL	
	LOOSE SAND & GRAVEL	
180 222	CLAY, OTHER	RED
	GRAVEL & SMALL ROCK	
222 245	SAND, OTHER	
	HARDPAN	
245 250	CLAY, SAND	
250 255	CLAY, SAND	
255 260	OTHER	
	HARDPAN: CEMENTED BOULDERS	
260 265	OTHER	
	HARDPAN: CEMENTED BOULDERS	
265 305	OTHER	
	IN & OUT OF CEMENTED LEDGES IN BETWEEN HARDPAN	
305 325	OTHER	
	HARDPAN	
325 330	CLAY	
330 340	CLAY, SAND	
340 350	CLAY, SAND	
350 395	OTHER	
	IN & OUT OF ROCK LEDGES, CLAY IN BETWEEN	

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
04/20/1977		60.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 287		.313	8
287 395		.250	6

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length	Perf(in)
Screen Type/#	Perf.			
From To				

270	395	PERFORATION	.250	4
TORCH, 9/FT				

**GENERAL COMMENTS:**

\*CONSTRUCTION - 8" pipe over laps 6" pipe 6 ft.

\*DRILLING - Glen Mosley sent in a letter: I sent in the log on Edward J. Fraughton's well. They tested the well & it didn't produce any water at 220 ft. so I had to deepen the well to 395. There are two well logs in the file and they have been combined in the well database.

000637

**LOCATION:**

S 295 ft E 612 ft from NW CORNER of SECTION 25 T 3S R 1W BASE SL Elevation:  
4400.00 feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

DRILLER: Robinson Drilling Company

LICENSE #: 10

START DATE: 01/12/1965 COMPLETION DATE: 02/18/1965

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 465	6	CABLE	

**LITHOLOGY:**

Depth(ft)	Lithologic Description	
Color	Rock Type	
From To		
0 6	CLAY, SAND	
6 52	CLAY	GRAY
52 54	WATER-BEARING, SAND	
	MAKING WATER	
54 108	CLAY	BLUE
108 192	SAND, GRAVEL	
192 195	CLAY	
195 275	CLAY, SAND	
275 286	SAND, GRAVEL	
286 325	CLAY, SAND	
325 330	GRAVEL	
330 370	SAND	
370 380	CLAY	
YELLOW		
380 427	CLAY, SAND	
427 430	OTHER	
	CONGLOMERATE	
430 465	SAND, GRAVEL	
	TOTAL DEPTH	

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
02/18/1965		50.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 20		.250	8
0 427		.250	6
420 465		.250	5

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length	Perf(in)
Screen Type/#	Perf.			
From To				
440 465	PERFORATION	.188	12	

TORCH/100

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
02/18/1965	BAILER	.045	4	2

000677

**LOCATION:**

S 1270 ft E 1800 ft from NW CORNER of SECTION 36 T 2S R 1W BASE SL Elevation:  
4361.00 feet  
OAK STREET WELL

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL  
DRILLER: Lee & Sons Drilling LICENSE #: 11  
START DATE: 04/11/1973 COMPLETION DATE: 07/04/1973

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 701	16	CABLE	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 65	CLAY,SAND
BROWN	
65 249	CLAY,SAND, GRAVEL
BROWN	
249 254	CLAY
	STICKY
254 339	CLAY, GRAVEL
	STICKY
339 355	CLAY
	STICKY
355 457	CLAY, GRAVEL
457 545	CLAY
	STICKY
545 701	CLAY, GRAVEL
BROWN	

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
07/04/1973		73.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 100	NEW	.375	20
0 701	NEW	.375	16

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length	Perf(in)
Screen Type/#	Perf.			
From To				
200 545	PERFORATION	3		.250
MILLS/3450				

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 150	CEMENT		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
07/04/1973	PUMP	4.456	40	44

**WATER QUALITY DATA AVAILABLE**

000679

**LOCATION:**

N 1222 ft W 900 ft from S4 CORNER of SECTION 12 T 3S R 2W BASE SL Elevation:  
4886.00 feet  
INTERSTATE BRICK 9780 SO. 5200 WEST, WEST JORDAN

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL  
DRILLER: Robinson Drilling Company LICENSE #: 10  
START DATE: 06/07/1971 COMPLETION DATE: 09/07/1971

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 647	10	CABLE	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 20	GRAVEL
20 29	CLAY, GRAVEL
29 112	GRAVEL
112 116	SAND
116 120	GRAVEL
120 129	CLAY
129 205	GRAVEL
205 210	WATER-BEARING, OTHER
	CONGLOMERATE, WATER LEVEL 200 FT.
210 255	GRAVEL
255 420	CLAY, GRAVEL
420 445	CLAY, GRAVEL, OTHER
	CONGLOMERATE
445 463	GRAVEL, OTHER
	CONGLOMERATE
463 465	GRAVEL
465 500	OTHER
	CONGLOMERATE
500 550	GRAVEL
550 565	CLAY, SAND
565 595	SAND
595 647	SAND, GRAVEL

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-) above ground	
09/01/1971		200.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 100	NEW	.313	16
0 427	NEW	.307	10
412 637	NEW	.279	8

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length	Perf(in)
Screen Type/#	Perf.			
From To				
350 410	PERFORATION	2.50		.250
MILLS/300				
427 550	PERFORATION	2.50		.250
492				
590 637	PERFORATION	2.50		.250
188				

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 100	BENTONITE CLAY		



000729

**LOCATION:**

N 1555 ft W 310 ft from E4 CORNER of SECTION 5 T 1S R 1W BASE SL  
Elevation: 4223.00 feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL  
START DATE: 03/18/1958 COMPLETION DATE: 04/20/1958

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 660	4		

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color From To	Rock Type
0 6	CLAY
6 11	SAND
11 41	CLAY
41 56	SAND
56 60	CLAY
60 68	SAND
68 128	CLAY
128 132	SAND
132 157	CLAY
157 162	SAND
162 192	CLAY
192 196	SAND
196 210	CLAY
210 220	SAND
220 245	CLAY
245 293	SAND
293 305	CLAY
305 320	SAND
320 385	CLAY
385 390	SAND
390 410	CLAY
410 413	SAND
413 437	CLAY
437 444	SAND
444 494	CLAY
494 497	CLAY
497 527	SAND
527 537	CLAY
537 562	SAND
562 566	CLAY
566 594	SAND
594 596	CLAY
596 614	SAND
614 617	CLAY
617 632	SAND
632 634	CLAY
634 650	CLAY
650 660	WATER-BEARING, SAND

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
04/20/1958		-10.00	FLOWING

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 660	BLACK PIPE		4

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen
Diam/Length	Perf(in)	Screen Type/#	Perf.

From	To	
640	660	PERFORATION

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
04/20/1958		.167		

000858

**LOCATION:**

S 820 ft E 2455 ft from NW CORNER of SECTION 12 T 1S R 1W BASE SL  
Elevation: 4227.00 feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL  
START DATE: 07/22/1939 COMPLETION DATE: 08/19/1939

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 640	3		
640 1020	2		

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 3	GRAVEL
	GRAVEL FILL
3 90	CLAY
90 105	SAND
	HARD CEMENTED SAND
105 160	CLAY
160 165	WATER-BEARING, SAND
	SAND AND VERY SMALL STREAM OF WATER
165 520	CLAY, SAND
	CEMENTED SAND
520 528	SAND
	COARSE SAND
528 1008	WATER-BEARING, CLAY, SAND
	580' SMALL STREAM OF WATER
1008 1020	GRAVEL

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
08/19/1939		-26.00	FLOWING

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 640			3
640 1020			2

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
08/19/1939		.078		

**GENERAL COMMENTS:**

\*CONTROL - Well was equipped with valve and piped into building to control flow.

000860

**LOCATION:**

N 903 ft E 1330 ft from W4 CORNER of SECTION 12 T 1S R 1W BASE SL  
Elevation: 4225.00 feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL  
START DATE: 04/30/1953 COMPLETION DATE: 06/06/1953

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 1170	10		

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color From To	Rock Type
0 20	OTHER
	TOP SOIL
20 133	CLAY
BLUE	
133 167	SAND
167 203	CLAY, SAND
203 219	SAND
219 224	CLAY
224 270	CLAY
	SANDY CLAY
270 370	CLAY
BLUE	
370 405	CLAY
405 409	CLAY, SAND
409 414	CLAY
414 439	SAND
439 473	CLAY, SAND
473 485	SAND
485 547	CLAY, SAND
547 612	CLAY
612 616	CLAY
	SANDY CLAY
616 620	WATER-BEARING, SAND
	WATER SAND
620 675	CLAY
675 706	CLAY
	SANDY CLAY
706 738	GRAVEL
	FINE GRAVEL
738 900	CLAY
BLUE	
900 920	WATER-BEARING, GRAVEL
	FINE WATER GRAVEL
920 933	WATER-BEARING, SAND
933 1130	WATER-BEARING, SAND, GRAVEL
	FINE GRAVEL
1130 1161	CLAY
1161 1163	WATER-BEARING, SAND
1163 1168	CLAY
1168 1170	OTHER
	SHALE

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 1170	STEEL		10

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen
Diam/Length	Perf(in)	Screen Type/#	Perf.
From To			
900 1170	PERFORATION		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
06/06/1953		.334		

000863

**LOCATION:**

S 159 ft W 1322 ft from N4 CORNER of SECTION 13 T 1S R 1W BASE SL  
Elevation: 4225.00 feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL  
START DATE: 05/23/1942 COMPLETION DATE: 06/25/1942

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 815	4		

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color From To	Rock Type
0 200	CLAY
200 210	GRAVEL
	COARSE GRAVEL
210 229	CLAY
229 240	SAND
	FINE SAND
240 265	GRAVEL
265 300	CLAY
300 305	OTHER
	HARDPAN
305 328	SAND
328 360	OTHER
	HARDPAN
360 370	CLAY
370 410	SAND
	QUICKSAND
410 425	GRAVEL
425 439	OTHER
	HARDPAN
439 474	CLAY
474 496	SAND
496 529	CLAY
529 541	GRAVEL
541 551	CLAY
551 573	SAND
	FINE SAND
573 585	OTHER
	HARDPAN
585 595	SAND
595 625	CLAY
625 650	WATER-BEARING, SAND
	WATER BEARING SAND
650 680	CLAY
680 690	OTHER
	HARDPAN
690 702	CLAY
702 722	SAND
722 805	CLAY
805 825	WATER-BEARING, SAND
	WATER BEARING SAND

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 815	BLACK		4

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
06/25/1942		.234		

000902

**LOCATION:**

N 1638 ft W 592 ft from S4 CORNER of SECTION 15 T 1S R 1W BASE SL  
Elevation: 4231.00 feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL  
DRILLER: Robinson Drilling Company LICENSE #:  
10  
START DATE: 06/17/1975 COMPLETION DATE: 03/27/1976

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 960	8	CABLE	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 2	OTHER
	TOP SOIL
2 12	CLAY, SAND
12 13	WATER-BEARING, SAND
13 93	CLAY
93 108	SAND
108 118	CLAY
118 138	SAND
138 277	CLAY
277 306	SAND
306 337	CLAY
337 349	CLAY, GRAVEL
	FINE GRAVELS
349 380	SAND
380 472	CLAY
472 475	SAND, GRAVEL
	FINE GRAVELS
475 501	SAND
501 508	CLAY
508 510	GRAVEL
	FINE GRAVELS
510 518	CLAY
518 552	SAND
552 605	CLAY
605 608	SAND
608 635	CLAY
635 648	SAND
648 655	GRAVEL
	FINE
655 665	CLAY
665 677	SAND, GRAVEL
	FINE GRAVELS
677 728	CLAY
728 748	SAND
748 773	CLAY
773 780	SAND
780 788	CLAY
788 795	SAND
795 802	CLAY
BLUE	
802 813	SAND
813 853	CLAY
853 868	SAND
868 882	CLAY
BROWN	
882 890	SAND
890 902	CLAY, SAND
902 912	SAND
912 918	CLAY
BLUE	

918	927	SAND
927	928	CLAY, SAND
928	930	SAND
930	938	CLAY, SAND
938	950	SAND, GRAVEL
		FINE GRAVELS
950	960	SAND

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
03/27/1976		(-)above ground -4.62	

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 50	NEW	.250	16
0 670	NEW	.250	10
0 932	NEW	.250	8
898 958	NEW	.250	6

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen
Diam/Length	Perf(in) Screen Type/# Perf.		
From To			
625 665	PERFORATION		
MILLS/80			
252			
898 958	PERFORATION		

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 50	16" PIPE & BENT CLAY		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
03/27/1976	ARTESIAN FLOW	.022		

**GENERAL COMMENTS:**

\*CONTROL - Well was equipped with cap to control flow.



001219

**LOCATION:**

N 1250 ft W 1120 ft from SE CORNER of SECTION 25 T 2S R 1W BASE SL Elevation:  
4379.00 feet  
PARK STREET FLOW MATCH

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL  
DRILLER: COMER DRILLING COMPANY LICENSE #: 5  
START DATE: 07/26/1966 COMPLETION DATE: 09/29/1966

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 792	16	CABLE	

**LITHOLOGY:**

Depth(ft)	Lithologic Description	
Color	Rock Type	
From To		
0 22	OTHER	
SOIL		
22 67	CLAY, SAND	
67 82	SAND, GRAVEL	
82 105	CLAY, SAND	
105 145	SAND, GRAVEL	
	CEMENTED	
145 200	SAND, GRAVEL	
200 253	CLAY	TAN
253 260	OTHER	
HARDPAN		
260 305	CLAY, OTHER	
HARDPAN		
	NARROW LAYERS	
305 385	SAND, GRAVEL	
385 475	CLAY, SAND, GRAVEL	
	CLAY STICKY - LAYERS - GRAY SAND	
475 522	CLAY, GRAVEL	
	GRAVEL NARROW STRATAS	
522 528	CLAY, GRAVEL	
	MIXED	
528 536	CLAY	
	STICKY	
536 539	CLAY, GRAVEL	
	MIXED	
539 578	CLAY	TAN
578 590	CLAY, GRAVEL	
	MIXED	
590 593	SAND, GRAVEL	
593 619	CLAY	TAN
619 623	CLAY, GRAVEL	
	MIXED	
623 636	SAND, GRAVEL	
636 690	CLAY, GRAVEL	
690 696	SAND, GRAVEL	
696 708	CLAY	TAN
708 717	CLAY, GRAVEL	
	MIXED	
717 721	CLAY, SAND	TAN
721 726	CLAY, GRAVEL	
	MIXED	
726 732	CLAY	
732 739	SAND, GRAVEL	
739 762	CLAY, GRAVEL	
	LAYERS	
762 767	SAND, GRAVEL	
767 792	CLAY, GRAVEL	
	STREAKS	

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
09/29/1966		86.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 60	NEW	.312	20
0 782	NEW	.312	16

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Screen Type/#	Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length Perf(in)
	From To			
96	588 593	PERFORATION	.375	2.5
180	622 636	PERFORATION	.375	2.5
110	670 696	PERFORATION	.375	2.5
120	732 739	PERFORATION	.375	2.5
96	762 767	PERFORATION	.375	2.5

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
09/29/1966	PUMP	1.270	162	4

\*\*\*\*\* WIN: 001264 \*\*\*\*\*

7&l6D

7&a130M

Division of Water Rights Well

Data

7&d0DLOCATION:7&d@

N 1052 ft E 2464 ft from SW CORNER of SECTION 13 T 2S R 2W BASE  
SL Elevation: 4775.00 feet  
WELL 6200 S. AND 5200 W.

7&d0DDRILLER ACTIVITIES:7&d@

ACTIVITY # 1 NEW WELL  
DRILLER: Robinson Drilling Company

LICENCE #: 10

START DATE: 07/20/1972 COMPLETION DATE: 04/20/1973

ACTIVITY # 2 WELL REPAIR

DRILLER: WIDDISON TURBINE SERVICE

LICENCE #: 533

START DATE: 09/17/1993 COMPLETION DATE: 11/04/1993

7&d0DBOREHOLE INFORMATION:7&d@

Depth(ft)		Diameter(in)	Drilling Method	Drilling Fluid
From	To			
0	86	20.0	CABLE TOOL	NONE
86	1232	16.0	CABLE TOOL	NONE
1232	1385	12.0	CABLE TOOL	NONE

7&d0DLITHOLOGY:7&d@

Depth(ft) Lithologic Description  
Color Rock Type

From	To	Rock Type
0	3	OTHER
SOIL		
3	4	CLAY
4	20	SAND, GRAVEL
20	65	SAND
65	77	CLAY
77	105	CLAY, GRAVEL
105	165	CLAY
165	280	WATER-BEARING, CLAY, SAND, GRAVEL SMALL AMOUNT OF WATER
280	307	CLAY, SAND
307	320	SAND, GRAVEL
320	340	CLAY, SAND
340	345	CLAY, SAND, GRAVEL
345	422	CLAY, SAND
422	456	CLAY, SAND, GRAVEL
456	470	SAND
470	575	CLAY
RED		
575	720	CLAY, SAND
720	722	GRAVEL FINE
722	803	CLAY, SAND, GRAVEL
803	807	GRAVEL FINE
807	953	CLAY, GRAVEL
953	956	GRAVEL FINE
956	1006	CLAY, SAND, GRAVEL
1006	1028	CLAY
RED		
1028	1040	CLAY FINE

1040 1147 CLAY

BLUE

1147 1153 SAND

1153 1170 CLAY

BLUE

1170 1225 CLAY, GRAVEL

BLUE

1225 1275 CLAY

GREY

1275 1323 CLAY, SAND, GRAVEL

1323 1385 CLAY

7&d0DWATER LEVEL DATA:7&d@

Date	Time	Water Level (feet) (-)above ground	Status
------	------	---------------------------------------	--------

04/13/1973		136.00	STATIC
------------	--	--------	--------

ADDITIONAL DATA AVAILABLE, USE OTHER PRINT OPTION

7&d0DCONSTRUCTION - CASING:7&d@

Depth(ft) From	Material To	Gage(in)	Diameter(in)
0	86 NEW	.312	20
0	1232 NEW	.312	16
1130	1295 NEW	.312	12

7&d0DCONSTRUCTION - SCREENS/PERFORATIONS:7&d@

Diam/Length	Depth(ft) Perf(in)	Screen(S) or Perforation(P) Screen Type/# Perf.	Slot/Perf. siz	Screen
78	307	320 PERFORATION	.312	2.5
30	340	345 PERFORATION	.312	2.5
198	422	455 PERFORATION	.312	2.5
60	720	730 PERFORATION	.312	2.5
24	803	807 PERFORATION	.312	2.5
18	933	956 PERFORATION	.312	2.5
72	1028	1040 PERFORATION	.312	2.5

7&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS7&d@

Depth(ft) From	Material To	Amount	Density(pcf)
0	86 BENTONITE CLAY		
1230	1385 SMALL GRAVEL		

7&d0DWELL TESTS:7&d@

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
04/13/1976	PUMP	.446	119	
04/13/1976	PUMP	.535	134	
04/13/1976	PUMP	.691	153	
10/19/1993	STEP TEST	1.337	242.1	12
10/19/1993	STEP TEST PUMP	1.114	107.7	1

7&d0DWATER QUALITY DATA AVAILABLE7&d@

7&d0DGENERAL COMMENTS:7&d@

CONSTRUCTION INFORMATION:

Well Head Configuration: Submersible discharge head on top of casing

Casing Joint Type: Welded Perforator used: Mills

Screen/Perforations:

307 to 320 Size: .313 2.50 6 per foot (Old) P  
344 to 349 .313 2.50 6 per foot (Old) P  
425 to 455 .313 2.50 6 per foot (Old) P  
720 to 730 .313 2.50 6 per foot (Old) P  
803 to 807 .313 2.50 6 per foot (Old) P  
953 to 956 .313 2.50 6 per foot (Old) P

Well Development: A Pump test was done by Widdison

10-20-93 Constant rate test Yield: 500 GPM Drawdown: 187.20 ft  
Time: 24 hours

Pump: Goulds Bus 8RJLC 5 stg Horsepower: 60 Hp Intake Depth: 485 ft

max pump rate: 450 gpm Well disinfected: Yes

Comments: We added 286' of perforations to this well from 720' to  
1006' redeveloped it and performed a pump test. We then installed  
a new sub pump in the well. The sand content of the water at 500 gpm  
is 3.6PPM I have copied most of the data from the org log where it  
was wrong (noted). 2 seperate video logs were done on the well.

SCREEN/PERFORATIONS: CONTINUED::::::::::::::::::

1030 to 1040 .313 2.50 6 per foot (Old) P

720 to 1006 .250 2.50 12 per foot These are the new ones we did  
8 per round and 9" vertical  
spacing

Note: the depth of these perforations were verified by the video log.

001763

**LOCATION:**

N 341 ft E 720 ft from W4 CORNER of SECTION 24 T 2S R 1W BASE SL Elevation:  
4314.00 feet  
6400 S. 600 W.

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

DRILLER: Lee & Sons Drilling

LICENSE #: 11

START DATE: 06/15/1965 COMPLETION DATE: 08/06/1965

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From	To		
0	1000	20	CABLE

**LITHOLOGY:**

Depth(ft)	Lithologic Description	
Color	Rock Type	
From	To	
0	5	CLAY
BROWN		
5	25	SAND
BROWN		
25	52	CLAY
52	80	CLAY, GRAVEL
BROWN		
80	135	SAND, GRAVEL
135	156	CLAY
BROWN		
156	162	OTHER
CONGLOMERATE		
162	173	CLAY
BROWN		
173	181	OTHER
CONGLOMERATE		
181	237	SAND, GRAVEL
237	285	WATER-BEARING, CLAY, SAND, GRAVEL
BROWN		
		VERY SANDY
285	345	CLAY
BROWN		
345	382	CLAY
BROWN		
		SANDY
382	430	CLAY
BROWN		
430	547	CLAY, SAND, GRAVEL
BROWN		
547	607	CLAY, GRAVEL
BROWN		
607	638	CLAY
TAN		
638	645	CLAY, GRAVEL
		HARD - WATER RAISED
645	659	CLAY
TAN		
		STICKY
659	666	CLAY, GRAVEL
		HARD
666	680	CLAY
		STICKY
680	685	CLAY, GRAVEL
		HARD
685	695	CLAY
TAN		
		STICKY
695	715	CLAY, GRAVEL
		HARD
715	735	CLAY

		STICKY
735	767	CLAY, GRAVEL
767	820	CLAY
		STICKY
820	834	CLAY, GRAVEL
834	1000	CLAY
		STICKY

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 351	NEW	.375	20
331 1000	NEW	.375	16

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Screen Type/#	Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length	Perf(in)
	From To				
	638 715	PERFORATION	.375	2.5	
770	735 769	PERFORATION	.375	2.5	
340	820 835	PERFORATION	3.75	2.5	
150					

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
08/06/1965	PUMP	4.156	79	45

\*\*\*\*\* WIN: 001791 \*\*\*\*\*

7&l6D

7&a130M

Division of Water Rights Well

Data \_\_\_\_\_

7&d0DLOCATION:7&d@

S 723 ft W 1275 ft from NE CORNER of SECTION 9 T 3S R 1E BASE SL  
Elevation: 4798.00 feet  
1855 E. 9515 S. WHITE CITY

7&d0DDRILLER ACTIVITIES:7&d@

ACTIVITY # 1 NEW WELL

DRILLER: Lee & Sons Drilling

LICENCE #: 11

START DATE: 12/03/1981 COMPLETION DATE: 04/13/1982

7&d0DBOREHOLE INFORMATION:7&d@

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 950	20	CABLE	

7&d0DLITHOLOGY:7&d@

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 60	SAND, GRAVEL
60 158	SAND
158 160	CLAY, SAND
160 250	SAND, GRAVEL
250 395	SAND, GRAVEL
395 426	SAND
426 434	CLAY, SAND
434 448	WATER-BEARING, SAND, GRAVEL
	FIRST WATER
448 466	SAND
466 493	CLAY
BROWN	
493 553	SAND
553 570	SAND, GRAVEL
570 638	SAND, GRAVEL, BOULDERS
638 652	CLAY, SAND
652 655	CLAY
BROWN	
655 712	CLAY, SAND, GRAVEL
712 725	CLAY, SAND
725 780	OTHER
CONGLOMERATE	
780 823	SAND, GRAVEL, BOULDERS
823 876	OTHER
CONGLOMERATE	
876 950	CLAY, OTHER
CONGLOMERATE	
	STREAKS OF CLAY

7&d0DWATER LEVEL DATA:7&d@

Date	Time	Water Level (feet)	Status
		(-)above ground	
04/13/1982		430.00	STATIC

7&d0DCONSTRUCTION - CASING:7&d@

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 206	NEW	.312	24
0 950	NEW	.375	20



7&d0DCONSTRUCTION - SCREENS/PERFORATIONS:7&d@

Perf(in)	Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Screen Type/#	From	To	Perf.	
979	570	638	PERFORATION	.25 3
820	655	712	PERFORATION	.25 3
2808	730	925	PERFORATION	.25 3

7&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS7&d@

Depth(ft)	Material	Amount	Density(pcf)
From	To		
0	350	BENONITE &CEMENT GROUT	

7&d0DWELL TESTS:7&d@

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
04/13/1982	PUMP	6.787	44	89

7&d0DWATER QUALITY DATA AVAILABLE7&d@

7&d0DGENERAL COMMENTS:7&d@

\*PERFORATIONS - 12 Holes around every 10"

001873

**LOCATION:**

S 261 ft E 1963 ft from W4 CORNER of SECTION 11 T 2S R 1W BASE SL Elevation:  
4260.00 feet  
SHAW

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

DRILLER: Lee & Sons Drilling

LICENSE #: 11

START DATE: 10/13/1983 COMPLETION DATE: 02/10/1984

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 995	12	CABLE	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 13	CLAY
13 120	SAND, GRAVEL
120 160	SAND, GRAVEL
	GOOD
160 206	CLAY
206 228	SAND
	CEMENTED
228 258	GRAVEL
	GOOD
258 274	SAND
274 286	CLAY
	STICKY
286 293	GRAVEL
293 298	CLAY
298 308	GRAVEL
308 320	CLAY
	STICKY
320 322	SAND
322 342	WATER-BEARING, CLAY, GRAVEL
	WATER BEARING
342 358	GRAVEL
358 367	CLAY, GRAVEL
367 381	GRAVEL
381 394	CLAY
	STICKY
394 399	GRAVEL
399 407	CLAY
	STICKY
407 422	SAND, GRAVEL
	DIRTY
422 429	CLAY, SAND
	MOSTLY SAND
429 450	SAND, GRAVEL
450 458	SAND, GRAVEL
	SOME GRAVEL
458 469	SAND, GRAVEL
469 471	CLAY
471 491	SAND, GRAVEL
491 509	CLAY
	STICKY
509 526	SAND, GRAVEL
526 534	CLAY
534 541	CLAY, GRAVEL
541 614	SAND, GRAVEL
614 617	CLAY
	STICKY CLAY
617 623	CLAY, GRAVEL
623 625	SAND, GRAVEL
	FINE SAND
625 633	SAND

633	635	SAND, GRAVEL
635	642	CLAY, GRAVEL
642	995	CLAY
		STICKY CLAY

**WATER LEVEL DATA:**

Date	Time	Water Level (feet) (-) above ground	Status
02/09/1984		.00	FLOWING

**CONSTRUCTION - CASING:**

Depth(ft) From	Depth(ft) To	Material	Gage(in)	Diameter(in)
0	113	NEW	.250	20
0	515	NEW	.375	16
500	957	NEW	.330	12

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Screen Type/#	Depth(ft) From	Depth(ft) To	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length Perf(in)
	325	381	PERFORATION	.25	1.5
	394	399	PERFORATION	.25	1.5
	430	448	PERFORATION	.25	1.5
	463	490	PERFORATION	.25	1.5
	517	623	PERFORATION	.25	1.5

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft) From	Depth(ft) To	Material	Amount	Density(pcf)
0	113	CEMENT GROUT		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
02/09/1984	PUMP	3.529	177	69

**WATER QUALITY DATA AVAILABLE**

\*\*\*\*\* WIN: 001999 \*\*\*\*\*

7&l6D

7&a130M

Division of Water Rights Well

Data \_\_\_\_\_

7&d0DLOCATION:7&d@

S 1880 ft E 960 ft from NW CORNER of SECTION 24 T 1S R 1W BASE SL  
Elevation: 4230.00 feet  
BOLINDER WELL #2

7&d0DDRILLER ACTIVITIES:7&d@

ACTIVITY # 1 NEW WELL

DRILLER: Lee & Sons Drilling

LICENCE #: 11

START DATE: 10/14/1975 COMPLETION DATE: 03/24/1976

ACTIVITY # 2 WELL REPAIR

DRILLER: PETERSEN BROTHERS DRILLING CO INC

LICENCE #: 249

START DATE: 11/25/1988 COMPLETION DATE: 02/01/1989

7&d0DBOREHOLE INFORMATION:7&d@

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 1088	16	CABLE	

7&d0DLITHOLOGY:7&d@

Color	Depth(ft)	Lithologic Description
From To	Rock Type	
0 7	CLAY	
BROWN		
7 55	CLAY, SAND	
BLUE		
55 80	CLAY	
BLUE		
80 157	CLAY, SAND	
BLUE		
157 162	OTHER	
CONGLOMERATE		
162 174	CLAY, SAND	
	COARSE SAND	
174 200	SAND	
	CEMENTED	
200 215	CLAY	
BLUE		
215 260	CLAY, SAND	
260 276	SAND	
	CEMENTED	
276 279	CLAY	
BLUE		
279 285	GRAVEL	
	CEMENTED	
285 376	CLAY, SAND	
GREY		
376 402	CLAY	
BROWN		
402 417	CLAY, SAND	
	FINE SAND	
417 455	CLAY	
RED		
455 467	CLAY, SAND	
BROWN		
467 503	CLAY	
GREY		
	STICKY	
503 510	CLAY, SAND	

510 531 COARSE SAND  
 GREY 531 540 CLAY, SAND  
 540 702 OTHER  
 HARDPAN 540 702 CLAY  
 BROWN/GREY  
 702 713 STICKY  
 713 820 GRAVEL, COBBLES  
 BROWN/GREY 713 820 CLAY  
 820 970 CLAY, GRAVEL, COBBLES  
 SOME GRAVEL  
 970 1050 CLAY  
 BROWN/GREY  
 1050 1063 STICKY  
 1063 1088 GRAVEL, COBBLES  
 CLAY  
 GREY

7&d0DWATER LEVEL DATA:7&d@

Date	Time	Water Level (feet)	Status
		(-)above ground	
03/24/1976		250.00	FLOWING

ADDITIONAL DATA AVAILABLE, USE OTHER PRINT OPTION

7&d0DCONSTRUCTION - CASING:7&d@

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 733	NEW	.375	16
718 1044	NEW	.375	12
1025 1088	NEW	.365	10

7&d0DCONSTRUCTION - SCREENS/PERFORATIONS:7&d@

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in) Screen Type/# Perf.			
From To			
163 168	PERFORATION	.125	2
40 180 206	PERFORATION	.125	2
208 267 281	PERFORATION	.125	2
32 286 292	PERFORATION	.125	2
64 527 538	PERFORATION	.125	2
48 702 705	PERFORATION	.125	2
824 835	PERFORATION	.125	2
859 878	PERFORATION	.125	2
893 927	PERFORATION	.125	2
1041 1071	PERFORATION	.125	2

7&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS7&d@

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 100	CEMENT		

7&d0DWELL TESTS:7&d@

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
03/24/1976	PUMP	1.876	75	15
01/30/1989	PUMP	.501	135	8

7&d0DWATER QUALITY DATA AVAILABLE7&d@

7&d0DGENERAL COMMENTS:7&d@

Note: 11-25-88 pump was pulled- heavy well brush was run to bottom of 16" casing. Well began to flow. Well flowed approx 35 GPM. Then brushing was completed to bottom 1080'. Well was surged very easy for 28 hours. Pump was set and test was performed up to 461 GPM w/165' pumping level. However water would not clear up. Wethen run TV camera down along side of pump-located dirty perforations-and filled with pea gravel and cement plug.

NOTE:

Located with TV camera on 12-19-88:

16" cas 163' to 168'  
          180' to 206'  
          267' to 281'  
          286' to 292'  
          527' to 538'  
          702' to 705'  
12" cas 824' to 835'  
          859' to 878'  
          893' to 927'  
10" cas 1041' to 1071'

NOTE: TV camera was run down along side of test pump to bottom (1071') - and then test pump was started and camera was pulled up slowly and dirty perforated zones were located. Then well was filled with pea gravel - then cement plug was set on top of gravel. Finally well was plugged back to 800'. Final test pump was 225 GPM w/136' pumping level.

////////////////////////////////////  
////////////////////////////////////  
002003

**LOCATION:**

N 1145 ft E 400 ft from SW CORNER of SECTION 2 T 2S R 2W BASE SL  
Elevation: 4690.00 feet

**OWNER(S) :**

OWNER: Kearns Improvement District  
ADDRESS: 5350 West 5400 South, P.O. Box 18608  
CITY: Kearns STATE: UT ZIP: 84118  
REMARKS: 8019681011

**DRILLER ACTIVITIES:**

ACTIVITY # 1 TEST WELL  
DRILLER: LANG EXPLORATORY DRILLING INC LICENSE #:  
568  
START DATE: 02/24/1993 COMPLETION DATE: 03/20/1993

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 50	25	MUD ROTARY CONVENTIO	BENTONITE
50 1215	19	MUD ROTARY REVERSE	BENTONITE

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color From To	Rock Type
0 90	SAND, GRAVEL
BROWN 90 137	CLAY
BROWN 137 144	CLAY, SILT, SAND
BROWN 144 148	CLAY
BROWN 148 160	SILT, SAND, GRAVEL
BROWN 160 164	CLAY
BROWN 164 178	CLAY, SILT, SAND, GRAVEL
BROWN 178 184	CLAY
BROWN 184 282	CLAY, SILT, SAND, GRAVEL
BROWN 282 466	CLAY
BROWN 466 474	CLAY, SILT, SAND, GRAVEL
BROWN 474 480	CLAY
BROWN 480 492	CLAY, SILT, SAND
BROWN 492 498	CLAY
BROWN 498 502	CLAY, SILT, SAND, GRAVEL
BROWN 502 512	CLAY
BROWN 512 530	CLAY, SILT, SAND, GRAVEL
BROWN 530 538	CLAY
BROWN 538 554	CLAY, SILT, SAND, GRAVEL
BROWN 554 660	CLAY
BROWN	

660	672	CLAY, SILT, SAND, GRAVEL
BROWN		
672	684	CLAY
BROWN		
684	700	CLAY, SILT, SAND, GRAVEL
BROWN		
700	784	CLAY
BROWN		
784	798	CLAY, SILT, SAND, GRAVEL
BROWN		
798	836	CLAY
BROWN		
836	1215	SILT, SAND, GRAVEL
BROWN		SILTY/SAND/GRV
		VOLCANIC GRAVEL

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
03/21/1993		430.00	

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 50	ASIM-A53 LOW CAR STE	.375	20.0
+2 862	ASIM-A53 LOW CAR STE	.330	12.0
1202 1212	ASIM-A53 L CARB STEL	.330	12.0

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen
Diam/Length	Perf(in) Screen Type/# Perf.		
From To			
2 265	PERFORATION	.154	2.00
862 1202	PERFORATION	.060	12.0

T & C PIPE

WIRE WRAP LC

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 145	PORTLAND CEMENT GROUT	725	16
145 800	3/8 PEA GRAVEL	27	
800 1215	8X12 CO SILICA SAND		

**WATER QUALITY DATA AVAILABLE**

**GENERAL COMMENTS:**

CONSTRUCTION: Well Head Config: 12" pipe-2" high welded cap  
 Casing Joint Type: Butt Weld  
 No Well Development data  
 No Pump data



002005

**LOCATION:**

N 3550 ft E 1650 ft from SW CORNER of SECTION 25 T 1S R 1W BASE SL  
Elevation: 4235.00 feet  
DAVIS WELL 500 W. 3000 S.

**DRILLER ACTIVITIES:**

471	ACTIVITY # 1 WELL REPLACEMENT DRILLER: BEYLIK DRILLING INC	LICENSE #:
11	START DATE: 12/05/1996 COMPLETION DATE: / / ACTIVITY # 2 NEW WELL DRILLER: Lee & Sons Drilling	LICENSE #:
471	START DATE: 05/01/1967 COMPLETION DATE: 07/14/1967 ACTIVITY # 3 WELL ABANDONMENT DRILLER: BEYLIK DRILLING INC	LICENSE #:
249	START DATE: 10/13/1996 COMPLETION DATE: 10/30/1996 ACTIVITY # 4 WELL REPAIR DRILLER: PETERSEN BROTHERS DRILLING CO INC	LICENSE #:
	START DATE: 06/10/1997 COMPLETION DATE: 07/21/1997	

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From	To		
0	1000	16	CABLE

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From	To
0	25 CLAY,SAND
25	82 CLAY,SAND
BLUE	
82	94 CLAY, GRAVEL
94	126 CLAY
BLUE	
126	140 CLAY, GRAVEL
140	180 CLAY
BLUE	
180	208 CLAY, SAND
BROWN	
208	216 CLAY, SAND, GRAVEL
	VERY SANDY
216	247 CLAY, SAND
BROWN	
247	255 CLAY
GREEN	
255	270 CLAY
BROWN	
270	283 CLAY, GRAVEL
BLUE	
283	308 CLAY
BLUE	
308	342 CLAY, SAND
BLUE	
342	348 CLAY, SAND
GREY	
348	358 CLAY
BROWN	
358	364 CLAY
RED	
364	425 CLAY, GRAVEL
RED	
425	435 CLAY
BROWN	
435	452 CLAY, SAND, GRAVEL
BROWN	

452	467	SAND, GRAVEL
467	490	CLAY
GREY		
490	510	CLAY
GREEN		
510	545	CLAY
BLACK		
545	560	CLAY, GRAVEL
BROWN		
560	577	CLAY, SAND, GRAVEL
577	585	SAND
RED		
585	591	SAND, GRAVEL
591	595	CLAY, SAND
595	640	CLAY, GRAVEL
BROWN		
640	655	SAND, GRAVEL
655	680	CLAY
BROWM		
680	690	CLAY, GRAVEL
BROWN		
690	728	CLAY, SAND
GREY		
728	742	CLAY
BROWN		
742	763	SAND, GRAVEL
		SAME GRAVEL
763	765	CLAY
BROWN		
765	776	SAND, GRAVEL
776	787	CLAY
BROWN		
787	798	SAND, GRAVEL
798	825	CLAY
BLUE		
825	853	CLAY, GRAVEL
BLUE		
853	895	CLAY
BLUE		
895	903	SAND
GREY		
903	924	CLAY
BLUE		
924	970	CLAY, SAND
GREY		
970	1000	CLAY, GRAVEL
BROWN		

**WATER LEVEL DATA:**

Date	Time	Water Level (feet) (-)above ground	Status
07/14/1967		.00	FLOWING

**CONSTRUCTION - CASING:**

Depth(ft) From	To	Material	Gage(in)	Diameter(in)
0	101	NEW	.375	20
0	701	NEW	.312	16
680	1000	NEW	.312	12

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Diam/Length	Depth(ft) From	Screen(S) or Perforation(P) To	Screen Type/#	Perf.	Slot/Perf. siz	Screen
108	214	220	PERFORATION		.25	1.50
276	440	445	PERFORATION		.25	1.50
180	550	560	PERFORATION		.25	1.50

50	588	592	PERFORATION	.25	1.50
288	642	658	PERFORATION	.25	1.50

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 150	CEMENT GROUT		

**WATER QUALITY DATA AVAILABLE**

**GENERAL COMMENTS:**

ABANDONMENT REPORTED 2/7/97:  
BOREHOLE:  
0-950' 17-1/2" diameter Reverse Circulation w/water  
LITHO:  
50-55 clay/rock/gray clay  
55-75 clay/gray clay  
75-85 clay/rock/gray clay  
85-90 clay/gravel/rock/gray clay  
90-130 gravel/rock  
130-140 clay/gravel/rock/gray clay  
140-145 clay/gravel/rock/gray clay  
145-150 clay/gravel/brown clay  
150-155 clay/gravel/rock/brown clay  
155-160 clay/gravel/brown clay  
160-165 clay/gravel/brown & gray clay  
165-175 clay/gravel/brown & gray clay  
175-180 clay/gravel/rock  
180-215 clay/rocks  
215-225 clay  
225-235 clay/gray clay  
235-245 gravel/rocks  
245-260 gravel/rocks  
260-285 clay/rocks/gray clay  
285-305 clay/gray clay  
305-310 clay/rocks/sandy/little bit of clay  
310-315 sand/gravel/rocks  
315-325 clay/sand/gravel/rocks  
325-350 clay  
350-365 clay/gravel/rocks  
365-370 clay/rocks  
370-390 clay/gravel/rocks  
390-400 gravel/rocks  
400-415 clay/gravel/rocks  
415-435 clay/rocks  
435-445 clay/gravel/rocks  
445-470 gravel/rocks  
470-505 clay/gravel/rocks  
505-545 clay/rocks  
545-570 clay/gravel/rocks  
570-580 clay/gravel  
580-605 clay  
605-615 clay/gravel/rocks  
615-625 gravel/rocks  
625-630 clay/sand  
630-650 clay/gray clay  
650-655 clay/gravel/rocks  
655-665 clay  
665-685 clay/sand/gravel  
685-695 gravel/rocks  
695-770 clay  
770-795 clay  
795-840 clay/gravel/sand, gravel and little clay  
840-900 clay/sand/gravel  
900-910 sand/gravel/rocks  
910-950 sand/gravel/rocks

Static Water Level: No data  
ABANDONMENT MATERIAL:  
0 to T.D. Abandoned bore with 10 sack slurry  
Comments: Dave in from lost hole due to Artesian Zone in 100 ft -  
130 ft. region  
Additional data not available  
\*REPLACEMENT WELL DRILLED 12/5/96 REPORTED: 2/7/97 "DAVIS WELL"  
Start Date: 12/5/96  
Completion Date: no data  
BOREHOLE:  
0-55' 48" diameter Auger  
55-405' 34" reverse/bentonite-driscopac  
405-1004' 22" Reverse/Bentonite-driscopac  
LITHO:  
50-85 clay  
85-90 clay/sand/gravel  
90-120 clay  
120-125 clay/sand/gravel  
125-135 sand/gravel  
135-145 clay/gravel/rock  
145-155 clay/sand/gravel  
155-170 clay/sand  
170-195 clay  
195-215 sand/gravel  
215-220 clay/sand  
220-245 clay/gravel  
245-255 clay  
255-260 clay/rock  
260-275 clay  
275-280 clay/sand  
280-300 clay/sand  
300-305 clay/gravel/rock  
305-310 gravel  
310-315 clay  
315-320 clay/sand/gravel  
320-325 clay/sand  
325-340 clay  
340-350 clay/gravel  
350-355 clay  
355-365 clay/sand  
365-375 clay/gravel  
375-390 clay  
390-400 clay/sand  
400-420 clay/sand  
420-460 clay/sand/cobbles  
460-465 clay/cobbles  
465-530 clay  
530-560 clay/gravel  
560-580 clay/gravel  
580-590 clay/sand  
590-645 sand/gravel  
645-670 clay/sand/gravel  
670-710 clay  
710-725 clay/sand  
725-740 clay  
740-770 clay/sand  
770-795 clay  
795-805 clay/sand  
805-820 clay  
820-830 clay/sand  
830-935 clay  
935-950 clay/sand  
950-985 clay/sand  
985-990 clay/brown and gray clay  
990-995 clay/gray clay  
995-1015 clay  
STATIC WATER LEVEL:  
January 9, 1997  
Water level: Surface  
Flowing: Yes

Method of measurement: No data  
Point of measurement: Ground level  
Height above surface: N/A  
Temperature: no data  
CONSTRUCTION INFORMATION:  
CASING:  
+2-405' A53B .375" x 24"  
371-418' A53B .375" x 16"  
458-529' A53B .375" x 16"  
579-599' A53B .375" x 16"  
650-740' A53B .375" x 16"  
771-791' A53B .375" x 16"  
801-992 A53B .375" x 16"  
994-1004' A53B .375" x 16"  
SCREEN:  
418-458 .050" X 16" Stainless continuous wire  
529-579 .050" x 16" stainless continuous wire  
599-650 .050" x 16" stainless continuous wire  
740-771 .050" x 16" stainless continuous wire  
791-801 .050" x 16" stainless continuous wire  
922-994 .050" x 16" stainless continuous wire  
FILTER PACK:  
0-405 grout 10 sack slurry  
405-1004 8 x 16" colorado silica  
Well head configuration: Standard  
Casing Joint Type: Welded  
Perforator used: No  
Access Port Provided: No  
Well Development: 1/18/97 Pump 3900 GPM Drawdown: 149.2'  
Time pumped: 29 hours  
Additional data not available  
\*REPAIR WELL REPORTED 07/28/1997  
LITHO: No data  
STATIC WATER LEVEL: Flowing  
Water level:Artesian  
Date:07/21/1997  
CASING: no data  
SCREEN: no data  
FILTER: no data  
WELL HEAD CONFIGURATION: 20" Pump Well Head (BOLTED)  
Access Port Provided: yes  
WELL DEVELOPMENT: Date:07/21/1997  
Mehtod: Customers 200 HP Pump  
Yeild: 3500  
Units: GPM  
Drawdown: 80'  
PUMP: 200 HP Hitatchi  
Horsepower: 200  
Intake depth: 350 ft  
Max pump Rate: 3500 GPM  
Well disinfected: Yes  
GENERAL COMMENTS: 200 HP pump was pulled- 36-L cable tool rig set up  
surged developed customers pump set back in well and started.  
additional data not available

002017

**LOCATION:**

S 1691 ft W 2217 ft from NE CORNER of SECTION 25 T 1S R 1W BASE SL  
Elevation: 4240.00 feet  
265 W. 2975 S. WELL

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL  
START DATE: 07/09/1953 COMPLETION DATE: 02/10/1954

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From	To		
0	967	12	

**LITHOLOGY:**

Color	Depth(ft)	Lithologic Description	
	From	To	Rock Type
	0	10	CLAY
DARK	10	25	CLAY, SAND
GREY	25	68	CLAY, SAND
BLACK	68	70	WATER-BEARING, GRAVEL
	70	84	CLAY
BLACK	84	90	CLAY, SAND
	90	140	SILT
GREY	140	180	CLAY, SAND
	180	195	SAND
DK GREY	195	210	CLAY
GREY	210	225	SILT
GREY	225	266	CLAY
GREY	266	290	CLAY, SAND
GREY			SAND LENSES
	290	322	CLAY
BLUE	322	327	SILT
GREY	327	330	CLAY
BLUE	330	345	SILT
GREY	345	347	WATER-BEARING, GRAVEL
	347	374	SILT
GREY	374	376	SAND, GRAVEL
			COARSE SAND
	376	380	CLAY
BLUE	380	390	CLAY
RED/GREY	390	395	CLAY
GREY	395	420	CLAY
BRN/GREY	420	440	CLAY
GREY	440	448	SAND
			COARSE SAND
	448	458	CLAY
GREY			

458	464	SAND
		COARSE SAND
464	472	CLAY
GREY		
472	476	SAND
GREY		
476	495	CLAY
GRN/GREY		
495	515	CLAY
GREY		
515	535	SAND
GREY		
535	565	CLAY
565	600	SAND, GRAVEL
		SAND & SOME GRAVEL
600	610	OTHER
CONGLOMERATE		
610	640	CLAY
GREY		
640	670	CLAY
BROWN		
670	690	CLAY, SAND
GREY		
690	700	SAND
GREY		
700	705	CLAY
GREY		
705	727	SAND, GRAVEL
727	730	CLAY
GREY		
730	746	SAND, GRAVEL
		FINE GRAVEL
746	747	CLAY
RED		
747	754	SAND, GRAVEL
		FINE GRAVEL
754	756	OTHER
CONGLOMERATE		
756	766	CLAY
GREY		
766	770	GRAVEL
		SMALL GRAVEL
770	779	CLAY
GREY		
779	788	SAND
		COARSE SAND
788	794	CLAY, SAND
		COARSE SAND
794	907	CLAY
GREY		
907	937	SAND
		COARSE SAND
937	939	GRAVEL
		FINE GRAVEL
939	945	SAND
		COARSE SAND
945	948	CLAY
948	950	SAND
950	952	CLAY
952	963	WATER-BEARING, GRAVEL
		SMALL WATER
963	967	CLAY
GREY		

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen
Diam/Length	Perf(in)	Screen Type/#	Perf.
From	To		
700	747	PERFORATION	12
737	739	PERFORATION	12

747	756	PERFORATION	8
766	770	PERFORATION	8
952	965	PERFORATION	8

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
02/10/1954	PUMP	.713		



002020

**LOCATION:**

N 214 ft W 444 ft from S4 CORNER of SECTION 3 T 2S R 1W BASE SL Elevation:  
4291.00 feet  
OFFICE WELL 20"

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL  
START DATE: 10/24/1966 COMPLETION DATE: 02/04/1967

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 641	20	CABLE	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 25	CLAY
25 30	GRAVEL
30 60	CLAY
60 103	SAND, GRAVEL
103 148	CLAY
148 160	GRAVEL
160 327	CLAY
327 328	GRAVEL
328 368	CLAY
368 373	GRAVEL
373 392	CLAY
392 397	GRAVEL
397 424	CLAY
424 427	GRAVEL
427 449	CLAY
449 475	GRAVEL
475 490	CLAY
490 493	GRAVEL
493 515	CLAY
515 516	GRAVEL
516 517	CLAY
517 548	GRAVEL
548 575	CLAY
575 590	GRAVEL
590 602	CLAY
602 619	GRAVEL
619 630	CLAY
630 633	GRAVEL
633 641	CLAY

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
02/ /1967		17.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 641	NEW	.375	20

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length	Perf(in)
Screen Type/#	Perf.			
From To				
368 373	PERFORATION	.5	2.5	
70				
392 397	PERFORATION	.5	2.5	
70				
424 427	PERFORATION	.5	2.5	
42				

364	449	475	PERFORATION	.5	2.5
42	490	493	PERFORATION	.5	2.5
14	515	516	PERFORATION	.5	2.5
434	517	548	PERFORATION	.5	2.5
210	575	590	PERFORATION	.5	2.5
238	602	619	PERFORATION	.5	2.5
42	630	633	PERFORATION	.5	2.5

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft) From	Material To	Amount	Density(pcf)
0	50 BENTONITE AND CEMENT		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
02/ /1967	PUMP	3.425	59	68

**WATER QUALITY DATA AVAILABLE**

**GENERAL COMMENTS:**

\*ELECTRIC LOG MADE BY USGS  
 \*SURFACE SEAL - TO 50+ FEET. Material used in seal 24" conductor pipe with bentonite and cement.  
 \*UNUSABLE WATER - Yes. Strong Cl present - 60-130'. Sealed off strata with casing and bentonite

002024

**LOCATION:**

S 145 ft E 569 ft from NW CORNER of SECTION 24 T 2S R 2W BASE SL  
Elevation: 4814.00 feet  
HIGH ZONE EAST

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL  
DRILLER: Lee & Sons Drilling LICENSE #:  
11  
START DATE: 08/15/1974 COMPLETION DATE: 12/21/1974

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 1107	16	CABLE	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 41	GRAVEL
41 1005	CLAY, GRAVEL
BROWN 1005 1045	CLAY, GRAVEL
WHITE 1045 1107	CLAY, GRAVEL
GREY	

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
12/21/1974		158.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 100	NEW	.375	20
0 1107	NEW	.375	16

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen
Diam/Length	Perf(in) Screen Type/# Perf.		
From To			
750 1107	PERFORATION	.375	1.5

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 100	CEMENT GROUT		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
12/21/1974	PUMP	.742	124	26

**WATER QUALITY DATA AVAILABLE**

002027

**LOCATION:**

S 691 ft W 666 ft from N4 CORNER of SECTION 17 T 2S R 1W BASE SL Elevation:  
4559.00 feet  
WHITE WELL #1

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL  
DRILLER: Lee & Sons Drilling LICENSE #: 11  
START DATE: 10/17/1977 COMPLETION DATE: 12/14/1977

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 600	12	CABLE	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 35	CLAY, GRAVEL
35 106	CLAY, SAND
106 120	CLAY, GRAVEL
120 136	CLAY
136 180	CLAY, GRAVEL
180 205	CLAY
205 240	CLAY, SAND, GRAVEL
240 265	CLAY, SAND
265 272	SAND
272 290	CLAY, SAND
290 295	CLAY
BROWN	
295 316	CLAY, SAND
316 345	SAND
345 374	CLAY
	STICKY
374 380	CLAY, SAND
380 386	CLAY
	STICKY
386 396	SAND
396 422	CLAY
	STICKY
422 426	CLAY, SAND, GRAVEL
426 452	CLAY, SAND
452 464	CLAY, GRAVEL
	STICKY W/P GRAVEL
464 471	CLAY
	STICKY
471 510	CLAY, GRAVEL
	STICKY W/P GRAVEL
510 515	CLAY
	STICKY
515 546	CLAY, SAND, GRAVEL
	SANDY W/P GRAVEL
546 560	CLAY
	STICKY
560 575	CLAY, SAND
575 600	CLAY
	STICKY

BLUE

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
12/08/1977		142.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 67	NEW	.375	16
0 600	NEW	.375	12

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Screen Type/#	Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length	Perf(in)
	From	To			
	340	370	PERFORATION	.25	1.5
	400	425	PERFORATION	.25	1.5
	450	550	PERFORATION	.25	1.5

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From	To		
0	100	CEMENT GROUT	

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
12/08/1977	PUMP	.680	101	41

002029

**LOCATION:**

S 142 ft E 753 ft from W4 CORNER of SECTION 18 T 2S R 1W BASE SL Elevation:  
4643.00 feet  
KEARNS WELL

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

DRILLER: Lee & Sons Drilling

LICENSE #: 11

START DATE: 05/30/1976 COMPLETION DATE: 09/01/1978

**BOREHOLE INFORMATION:**

Depth(ft)		Diameter(in)	Drilling Method	Drilling Fluid
From	To			
0	950	20	CABLE	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type

From	To	
0	16	CLAY, SAND
16	46	GRAVEL
46	72	CLAY
72	81	CLAY, SAND
81	95	CLAY, SAND, GRAVEL
95	105	CLAY, SAND
105	133	CLAY
133	160	SAND
160	195	CLAY, SAND, GRAVEL
195	262	CLAY, SAND, GRAVEL
262	272	CLAY
BROWN		
272	283	CLAY, GRAVEL
283	300	CLAY
		STICKY
300	336	CLAY, SAND
336	361	CLAY
		STICKY
361	369	CLAY, SAND, GRAVEL
369	410	CLAY
		STICKY
410	430	CLAY
430	458	CLAY
458	470	SAND
470	475	CLAY
BROWN		
		STICKY
475	480	CLAY, GRAVEL
		PEA GRAVEL
480	512	CLAY
512	521	CLAY, GRAVEL
BROWN		
521	577	CLAY
		STICKY
577	593	OTHER
CONGLOMERATE		
593	595	CLAY
		STICKY
595	605	OTHER
CONGLOMERATE		
605	658	CLAY
		STICKY
658	687	SAND, GRAVEL
687	775	CLAY
BROWN		
775	815	CLAY, SAND
815	822	CLAY
		STICKY
822	874	CLAY, GRAVEL
BROWN		

BROWN CLAY WITH STREAKS OF GRAVEL  
874 950 CLAY  
BROWN

**WATER LEVEL DATA:**

Date	Time	Water Level (feet) (-)above ground	Status
09/01/1978		126.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft) From	Depth(ft) To	Material	Gage(in)	Diameter(in)
0	106	NEW	.375	24
0	903	NEW	.375	20

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Screen Type/#	Depth(ft) From	Depth(ft) To	Screen(S) or Perforation(P) Perf.	Slot/Perf. siz	Screen Diam/Length	Perf(in)
4300	175	605	PERFORATION	.25		3
520	822	874	PERFORATION	.25		3

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
09/01/1978	PUMP	2.019	68	47

**WATER QUALITY DATA AVAILABLE**

002055

**LOCATION:**

N 75 ft W 40 ft from E4 CORNER of SECTION 2 T 3S R 2W BASE SL Elevation:  
4857.00 feet  
WELL #3 5600 W. 9000 S.

**DRILLER ACTIVITIES:**

ACTIVITY # 1 WELL REPAIR  
DRILLER: NICKERSON COMPANY INC LICENSE #: 678  
START DATE: / / COMPLETION DATE: / /  
ACTIVITY # 2 NEW WELL  
DRILLER: Lee & Sons Drilling LICENSE #: 11  
START DATE: 07/09/1973 COMPLETION DATE: 11/19/1973

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 735	16	CABLE	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 620	CLAY, GRAVEL, BOULDERS
BROWN	
620 720	OTHER
CONGLOMERATE	
720 735	CLAY
BROWN	STICKY

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
11/16/1973		184.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 100	NEW	.375	20
0 544	NEW	.375	16
525 620	NEW	.375	12

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length	Perf(in)
Screen Type/#	Perf.			
From To				
225 525	PERFORATION	.375		1.5
544 620	PERFORATION	.375		1.5

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 100	CEMENT GROUT		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
11/16/1973	PUMP	4.456	30	24

**WATER QUALITY DATA AVAILABLE**



002057

**LOCATION:**

S 1090 ft E 400 ft from N4 CORNER of SECTION 2 T 3S R 2W BASE SL Elevation:  
4893.00 feet  
BARNEYS CREEK WELL; 8600 S. 5900 W.

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

DRILLER: Lee & Sons Drilling

LICENSE #: 11

START DATE: 06/11/1972 COMPLETION DATE: 07/06/1972

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 600	16	CABLE	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 20	CLAY
BROWN	
20 35	CLAY, GRAVEL
35 55	OTHER
CONGLOMERATE	
55 113	CLAY, GRAVEL
113 122	WATER-BEARING, GRAVEL
122 142	CLAY, GRAVEL
142 225	CLAY
BROWN	
225 255	OTHER
CONGLOMERATE	
255 262	WATER-BEARING, GRAVEL
262 285	CLAY
BROWN	
285 293	CLAY, GRAVEL
293 339	WATER-BEARING, GRAVEL
339 341	SAND
FINE	
341 397	CLAY, GRAVEL
397 410	CLAY
410 448	CLAY
BROWN	
448 480	CLAY
480 518	CLAY
STICKY	
518 533	CLAY
BROWN	
533 534	SAND
COARSE	
534 600	CLAY
BROWN	

BLUE

BLUE  
GREY

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 600	NEW	.312	16
0 1000	NEW	.312	20

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length	Perf(in)
Screen Type/#	Perf.			
From To				
240 262	PERFORATION	.375	1.5	
293 337	PERFORATION	.375	1.5	

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 100	CEMENT GROUT		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
07/06/1972	PUMP	2.658	115	60

**WATER QUALITY DATA AVAILABLE**

002256

**LOCATION:**

S 970 ft W 1265 ft from NE CORNER of SECTION 4 T 3S R 1W BASE SL Elevation:  
4450.00 feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL  
DRILLER: LANG EXPLORATORY DRILLING INC LICENSE #: 568  
START DATE: 04/05/1993 COMPLETION DATE: 04/15/1993  
ACTIVITY # 2 WELL REPLACEMENT  
DRILLER: LANG EXPLORATORY DRILLING INC LICENSE #: 568  
START DATE: 11/30/1993 COMPLETION DATE: 12/10/1993

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 20	23	MUD ROTARY	BENTONITE MUD
20 170	15	MUD ROTARY	BENTONITE MUD
170 513	8	MUD ROTARY	BENTONITE MUD

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color From To	Rock Type
0 15	CLAY
15 60	SAND, GRAVEL, COBBLES
60 85	CLAY, GRAVEL
85 105	GRAVEL
105 112	SAND, GRAVEL
112 180	CLAY, SAND, GRAVEL
BROWN 180 475	CLAY, GRAVEL
	5-10% CLAY
475 500	CLAY, GRAVEL
	75% CLAY
500 800	CLAY

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
04/12/1993		54.00	

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 20	LOW CAR/ASTM A53	.250	16.0
+18 170	ASTM-A53	.330	8.00
170 176	ASTM-A53	.250	5.00
196 211	ASTM-A53	.250	5.00
241 251	ASTM-A53	.250	5.00
326 376	ASTM-A53	.250	5.00
431 441	ASTM-A53	.250	5.00
471 491	ASTM-A53	.250	5.00

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length	Perf(in)
Screen Type/# From To				
176 196	PERFORATION	.025	5.00	
211 241	PERFORATION	.025	5.00	
251 326	PERFORATION	.025	5.00	
376 431	PERFORATION	.025	5.00	
441 471	PERFORATION	.025	5.00	

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 170	CEMENT GROUT	1200	16
170 513	NATURAL GRAVEL PACK		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
04/14/1993	C/R PUMP TEST	1.114	19	24

**GENERAL COMMENTS:**

BOREHOLE: 513 - 800 6-3/4" Mud Rotary Bentonite Mud  
CONSTRUCTION: L/C-Low Carbon  
Well Head Configuration: Locking Well Cap  
Casing Joint type: Butt Weld  
FILTER PACK: Cement grout-1,200 gallons 16 lbs/gallon  
Well disinfected upon completion: Yes  
No other data available

\*WELL LOG FOR ABANDONMENT WAS RECEIVED 3-23-87

Start: 2-6-87 Completed: 2-26-87  
Depth: 0 to 400' Diameter: 12" Method: cable

**WELL LOG**

0 to 18' clay, tan  
18 to 52' clay, tan, sandy  
52 to 65' clay, gravel  
65 to 203' clay, hard  
203 to 207' sand  
207 to 210' clay  
210 to 215' sand  
215 to 228' clay, sticky  
228 to 243' clay, sandy  
243 to 254' sand  
254 to 278' clay  
278 to 281' sand  
281 to 303' clay, sticky  
303 to 335' clay, red  
335 to 366' clay, gray  
366 to 400' clay, sticky brown

**CASING**

0 to 371' Diameter: 12" Gage: .330 Welded  
Perf/Screen: no  
Well gravel packed: no  
Surface seal: no  
Well produced no water  
Pump test: no  
Abandoned well.  
Additional data not available.

003766

**LOCATION:**

S 873 ft W 629 ft from NE CORNER of SECTION 11 T 1S R 1W BASE SL  
Elevation: 4224.00 feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL  
START DATE: 03/26/1969 COMPLETION DATE: 11/01/1969

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From	To		
0	1580	12	CABLE

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From	To
0	7 CLAY, SILT, SAND, GRAVEL FILL
7	122 CLAY, SAND
122	147 SAND
147	178 CLAY
178	188 SAND
188	333 CLAY
BLUE	
333	358 CLAY
RED	
358	385 CLAY, SAND
BLUE	
385	424 CLAY
RED	
424	528
528	554 SAND
554	560 CLAY
560	594 SAND
594	618 CLAY
618	632 SAND
632	642 CLAY
642	650 SAND
	COARSE
650	693 CLAY, SAND
693	700 SAND
700	710 SAND, GRAVEL
710	736 CLAY
736	740 SAND
740	751 CLAY
751	755 SAND
755	768 CLAY
768	777 SAND
	COARSE
777	820 CLAY, SAND
820	823 SAND
823	966 CLAY, SAND
966	983 SAND
983	997 CLAY, SAND
997	1000 SAND, GRAVEL
	1/4" DIAMETER
1000	1053 CLAY, SAND, GRAVEL
1053	1057 SAND
1057	1098 CLAY
BLUE	
1098	1110 SAND
1110	1138 CLAY
BLUE	
1140	1152 CLAY
1152	1166 SAND
1166	1176 CLAY
1176	1200 SAND
1200	1202 GRAVEL

1" DIAMETER

1202	1209	CLAY
RED		
1240	1243	CLAY
RED		
1243	1262	CLAY
BLUE		
1262	1265	CLAY
RED		
1265	1317	CLAY
BLUE		
1317	1330	SAND
1330	1348	SAND
RED		
1348	1388	SAND
1388	1428	CLAY
BLUE		
1428	1430	SAND
1430	1528	CLAY, SAND
BLUE		
1528	1532	SAND, GRAVEL
		1" DIAMETER
1532	1542	SAND
1542	1580	CLAY
BLUE		

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
11/01/1969		2.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 60	NEW	.312	16
0 946		.312	12
0 1247		.277	10
1481 1576			7

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen
Diam/Length	Perf(in) Screen Type/# Perf.		
From To			
1491 1576	PERFORATION	.063	8

TORCH

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 60	BENTONITE		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
11/01/1969	ARTESIAN	.045		

**WATER QUALITY DATA AVAILABLE**

001439

**LOCATION:**

S 540 ft W 2217 ft from E4 CORNER of SECTION 1 T 2S R 1W BASE SL Elevation:  
4255.00 feet  
4515 SOUTH 300 WEST - 4500 SOUTH WELL

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 772	16	CABLE	

**LITHOLOGY:**

Depth(ft)	Lithologic Description	
Color	Rock Type	
From To		
0 4	SILT, SAND	
4 10	SAND	
10 22	SAND	
22 27	WATER-BEARING, GRAVEL	
27 32	CLAY	BLUE
32 48	SAND	
48 66	CLAY	BLUE
66 75	CLAY	BLUE
75 81	SAND	
81 115	CLAY	BLUE
115 120	SAND	
	HEAVING	
120 127	CLAY	GREY
127 135	GRAVEL	
MULTI-COLOR		
135 139	CLAY	BLUE
139 144	SAND, GRAVEL	
144 145	CLAY	GREY
145 159	SAND, GRAVEL	
159 162	BOULDERS	
	HARD	
162 184	CLAY, GRAVEL	
184 211	CLAY, OTHER	
BENTON. SHALE		
	BENTONITIC SHALE	
211 214	GRAVEL	
214 263	CLAY	BLUE
263 304	SAND, GRAVEL	
304 314	CLAY	
YELLOW		
314 316	SAND	
	HEAVING	
316 346	CLAY	BLUE
346 352	CLAY	
BROWN		
352 360	CLAY, BOULDERS	
YELLOW		
360 371	SAND, BOULDERS	
371 385	GRAVEL	
	CONCRETED	
385 405	SAND, GRAVEL	
405 448	CLAY	BLUE

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
06/16/1960		4.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 203		.312	16
140 597		.312	12.7
570 747		.312	10.7

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Screen Type/#	Depth(ft) From	Screen(S) or Perforation(P) To	Slot/Perf. siz	Screen Diam/Length	Perf(in)
324	615	642	PERFORATION	.375	3
936	660	738	PERFORATION	.75	3

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
06/16/1960	PUMP	1.203	28.5	.5
06/16/1960	PUMP	1.424	30	1
06/16/1960	PUMP	2.373	42	32

**WATER QUALITY DATA AVAILABLE**



////////////////////////////////////

017420

**LOCATION:**

N 1740 ft W 1150 ft from SE CORNER of SECTION 2 T 1N R 2W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL  
DRILLER: ZIMMERMAN, MIKE (WELL SERVICE) LICENSE #:  
527  
START DATE: 05/05/1998 COMPLETION DATE: 06/17/1998

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From	To		
0	50	10	CASING HAMMER
50	590	6	CASING HAMMER

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From	To
0	10 CLAY, SILT
BRN	
	WET
10	15 CLAY, SILT
TAN	
15	66 WATER-BEARING, CLAY, SAND
GRAY	
66	81 WATER-BEARING, SAND
BRN	
81	111 LOW-PERMEABILITY, CLAY
GRAY	
111	120 WATER-BEARING, CLAY, SAND
BRN	
120	122 WATER-BEARING, CLAY, SAND, GRAVEL
BRN	
	SOME GRAVEL
122	136 WATER-BEARING, CLAY, SAND
GRAY	
136	160 WATER-BEARING, SILT, SAND
GRAY	
160	168 LOW-PERMEABILITY, CLAY
GRAY	
168	224 CLAY, SILT, SAND
	IN LAYERS
224	300 WATER-BEARING, CLAY, SILT, SAND
GRAY	
	MOSTLEY CLAY WITH INTERBEDDED SANDS
300	310 WATER-BEARING, SILT, SAND
	MED, SOME COARSE SAND @ 320-324, SWITCH TO WATER
310	324 WATER-BEARING, SAND
GRAY	
324	341 WATER-BEARING, CLAY, SAND
341	350 WATER-BEARING, LOW-PERMEABILITY, CLAY
GRAY	
350	370 WATER-BEARING, CLAY, SAND
GRAY	
	INTERBEDDED SAND
370	383 WATER-BEARING, CLAY, SAND
	INTERBEDDED CLAYS
383	423 WATER-BEARING, CLAY, SAND
	INTERBEDDED SANDS
423	440 LOW-PERMEABILITY, CLAY
GRAY	
440	501 WATER-BEARING, CLAY, SILT, SAND
GRAY	
	460' SWITCH TO MUD
501	504 WATER-BEARING, SAND
GRAY	

504	511	LOW-PERMEABILITY,CLAY
GRAY		
511	517	WATER-BEARING,CLAY,SAND
GRAY		
517	525	LOW-PERMEABILITY,CLAY
GRAY		
525	536	WATER-BEARING,SAND
GRAY		
		MED TO COARSE SANDS
536	543	LOW-PERMEABILITY,CLAY
GRAY		
543	546	WATER-BEARING,SAND
546	565	CLAY
GREEN		
565	583	SAND
GRAY		
583	590	LOW-PERMEABILITY,CLAY
GREEN		

**WATER LEVEL DATA:**

Date	Time	Water Level (feet) (-)above ground	Status
06/17/1998		.00	FLOWING

**CONSTRUCTION - CASING:**

Depth(ft) From	To	Material	Gage(in)	Diameter(in)
0	48	STEEL WWIP	.250	10
2	560	STEEL A53B	.250	6.62

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft) Diam/Length	Screen(S) or Perforation(P) Perf(in)	Screen Type/#	Slot/Perf. siz	Screen
From	To			
318	322	PERFORATION	.250	1
1 ROW 6 FT				
525	533	PERFORATION	.250	1
1 ROW 6 FT				

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft) From	To	Material	Amount	Density(pcf)
0	50	CEMENT SLURRY (BAGS)		94

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
05/20/1998	AIR LIFT	.178		5

**GENERAL COMMENTS:**

Borehole:  
 0 to 50 10" casing hammer, air rotary  
 50 to 590 6" casing hammer, air & mud  
 CONSTRUCTION INFORMATION:  
 Well head Configuration: flange  
 Casing Joint type: Weld  
 Perforator used: Holte Air perforater  
 Filter Pack:  
 Quantity of material: 11 bags/ 94 lbs 16 gal H2O  
 Very sandy well. flows 12 gpm  
 ADDITIONAL DATA NOT AVAILABLE

024407

**LOCATION:**

S 2351 ft W 2443 ft from N4 CORNER of SECTION 22 T 1S R 1W BASE SL  
Elevation: feet

**OWNER(S) :**

OWNER: Grange Hunter Improvement District  
ADDRESS: 2888 South 3600 West  
CITY: West Valley City STATE: UT ZIP: 84170  
REMARKS: 8019683551Dannie Pollock

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL  
DRILLER: LAYNE CHRISTENSEN COMPANY LICENSE #:  
188  
START DATE: 09/27/2001 COMPLETION DATE: 10/11/2001

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 17	48	AUGER	NONE
17 50	30	AUGER	WATER
50 1025	14.7	REVERSE ROTARY	BENTONITE/WATER

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color From To	Rock Type
0 2	LOW-PERMEABILITY, CLAY
GRAY	
2 50	STIFF, STICKY CLAY WATER-BEARING, LOW-PERMEABILITY, CLAY, SILT, SAND
GRAY	
50 120	INTERBEDDED SILTS, CLAYS AND SANDS LOW-PERMEABILITY
GRAY	
120 140	FINE GRAINED, SILTY (30%) SANDS. UNCONSOLIDATED HIGH-PERMEABILITY, SAND, GRAVEL
GRAY	
140 145	MED TO COARSE GRAINED SAND WITH GRAVEL LOW-PERMEABILITY, CLAY, SAND
GRAY	
145 155	COARSE SAND TO GRAVEL WITH 15% CLAY LOW-PERMEABILITY, CLAY, SAND
GRAY	
155 160	80% CLAY WITH 20% COARSE SAND HIGH-PERMEABILITY, SAND, GRAVEL
GRAY	
160 175	COARSE SAND LOW-PERMEABILITY, CLAY, SILT, SAND
GRAY	
175 185	SILTY TO SANDY CLAY LOW-PERMEABILITY, CLAY
DARK GRAY	
185 195	HIGH-PERMEABILITY, SAND
GRAY	
195 225	VERY COARSE GRAINED SAND LOW-PERMEABILITY, CLAY, SILT
GRAY	
225 260	SILTY CLAY TO CLAY HIGH-PERMEABILITY, SAND, GRAVEL
GRAY	
260 295	VERY COARSE SAND WITH 10% GRAVEL LOW-PERMEABILITY, CLAY
GRAY	
295 300	HIGH-PERMEABILITY, SAND
GRAY	
300 310	VERY COARSE SAND LOW-PERMEABILITY, CLAY, SAND
GRAY	

		CLAY WITH 20% COARSE SAND
310	320	HIGH-PERMEABILITY, SAND
GRAY		
		COARSE SAND
320	325	LOW-PERMEABILITY, CLAY
GRAY		
325	330	HIGH-PERMEABILITY, SAND, GRAVEL
GRAY		
		COARSE SAND TO GRAVEL
330	350	LOW-PERMEABILITY, CLAY
GRAY		
350	375	HIGH-PERMEABILITY, SAND, GRAVEL
GRAY		
		COARSE SAND WITH 30% SMALL GRAVEL
375	380	LOW-PERMEABILITY, CLAY
GRAY		
380	385	HIGH-PERMEABILITY, SAND
GRAY		
		MED TO COARSE SAND
385	475	LOW-PERMEABILITY, CLAY, GRAVEL
GRAY		
		CLAY WITH GRAVEL ZONES
475	500	HIGH-PERMEABILITY, SAND
GRAY		
		COARSE SAND, MINOR (5%) CLAY
500	565	CLAY, SILT
BROWN/YELLOW		
		CLAY, PALE GREEN CAST
565	575	HIGH-PERMEABILITY, SAND
GRAY		
		VERY COARSE SAND
575	595	LOW-PERMEABILITY, CLAY
TAN		
595	600	HIGH-PERMEABILITY, SAND
GRAY		
		COARSE SAND
600	605	LOW-PERMEABILITY, CLAY
TAN/BROWN		
605	610	HIGH-PERMEABILITY, SAND
GRAY		
		MED COARSE SAND
610	630	LOW-PERMEABILITY, CLAY, SAND
GRAY		
		CLAY WITH 20% SAND
630	645	HIGH-PERMEABILITY, SAND
GRAY		
		COARSE TO VERY COARSE SAND
645	650	LOW-PERMEABILITY, CLAY
TAN		
650	685	HIGH-PERMEABILITY, SAND
GRAY		
		COARSE TO VERY COARSE SAND
685	690	LOW-PERMEABILITY, CLAY
TAN		
690	695	HIGH-PERMEABILITY, SAND
GRAY		
		COARSE SAND, MINOR GRAVEL
695	700	LOW-PERMEABILITY, CLAY
GRAY		
700	705	HIGH-PERMEABILITY
GRAY		
		MED-COARSE SAND
705	760	CLAY, SILT
TAN		
		CLAY, MINOR RED STAINING 715-720'
760	800	HIGH-PERMEABILITY, SAND
GRAY		
		MED-COARSE SAND, COARSENS DOWNWARD
800	845	LOW-PERMEABILITY, CLAY
TAN		

		CLAY, RED STAINING 825-830'
845	920	HIGH-PERMEABILITY, GRAVEL, COBBLES
GRAY		
		VERY COARSE SANDS GRADING TO SMALL GRAVEL
920	930	LOW-PERMEABILITY, CLAY
GRAY		
930	935	HIGH-PERMEABILITY, SAND, GRAVEL
GRAY		
		VERY COARSE SAND TO GRAVEL
935	945	LOW-PERMEABILITY, CLAY
LT. GRAY		
945	950	HIGH-PERMEABILITY, SAND
GRAY		
		VERY COARSE SAND
950	960	LOW-PERMEABILITY, CLAY
GRAY		
960	1015	HIGH-PERMEABILITY, SAND, GRAVEL
GRAY		
		VERY COARSE SAND WITH INCREASING GRAVEL DOWN
1015	1025	LOW-PERMEABILITY, CLAY, GRAVEL
GRAY		
		CLAY LIKE GRAVEL

**WATER LEVEL DATA:**

Date	Time	Water Level (feet) (-)above ground	Status
10/11/2001		7.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft) From To	Material	Gage(in)	Diameter(in)
0 17	A53B	.5	36
0 50	A53B	.312	16
1 230	A53B	.280	6
251 309	A53B	.280	6
330 344	A53B	.280	6
365 470	A53B	.280	6
491 552	A53B	.280	6
573 623	A53B	.280	6
686 747	A53B	.280	6
789 838	A53B	.280	6

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Diam/Length	Depth(ft) From To	Screen(S) or Perforation(P) Screen Type/# Perf.	Slot/Perf. siz	Screen
	230 251	PERFORATION	.058	2.5
20 SLOTS/FT	309 330	PERFORATION	.058	2.5
20 SLOTS/FT	344 365	PERFORATION	.058	2.5
20 SLOTS/FT	470 491	PERFORATION	.058	2.5
20 SLOTS/FT	552 573	PERFORATION	.058	2.5
20 SLOTS/FT	623 686	PERFORATION	.058	2.5
20 SLOTS/FT	747 789	PERFORATION	.058	2.5
20 SLOTS/FT	838 859	PERFORATION	.058	2.5
20 SLOTS/FT	900 921	PERFORATION	.058	2.5
20 SLOTS/FT	950 1013	PERFORATION	.058	2.5

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft) From To	Material	Amount	Density(pcf)
----------------------	----------	--------	--------------

0 220 NEAT CEMENT 33 YD  
220 1025 3/8" WASHED PEA GRAVEL 10 YD

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
10/06/2001	AIR LIFT	1.114		

**GENERAL COMMENTS:**

CONSTRUCTION INFORMATION

Well Head Configuration: Welded cap

Casing joint type: welded

Perforator: no data

Surface seal: yes, 50'

Surface seal placement method: gravity

SURFACE SEAL

0 TO 220' Grout density: 6 gal/sack 15#

WELL TESTS

Yield: Est 500 gpm

COMMENTS

Each perforated zone was pumped for 12 hours. Discharge from each zone was monitored for EC, Ph, Temp, Turbidity and chlorine. Water samples were taken at the end of each test for further analysis. Additional data not available.

024281

**LOCATION:**

N 975 ft E 540 ft from W4 CORNER of SECTION 32 T 1N R 2W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 WELL ABANDONMENT  
527 DRILLER: ZIMMERMAN, MIKE (WELL SERVICE) LICENSE #:  
START DATE: 07/30/2001 COMPLETION DATE: 07/30/2001  
ACTIVITY # 2 WELL REPLACEMENT  
727 DRILLER: ZIMMERMAN, MIKE WELL SERVICE LICENSE #:  
START DATE: 10/12/2001 COMPLETION DATE: 01/24/2002

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 35	10	CABLE TOOL	WATER
35 509	6	CABLE TOOL	WATER

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color From To	Rock Type
0 2	OTHER
ROAD BASE FILL	
2 3	OTHER
BLACK	TOPSOIL
3 7	WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL
TAN	
7 24	SMALL AMOUNT WATER @ 5 TO 7' CLAY, SILT
GRAY	
24 29	WATER-BEARING, HIGH-PERMEABILITY
GRAY	
29 47	LOW-PERMEABILITY, CLAY, SILT, SAND
GRAY	
47 52	WATER-BEARING, SAND, GRAVEL
52 55	CLAY
BROWN	
55 64	SAND
GRAY	
64 90	LOW-PERMEABILITY, SILT, SAND
GRAY	
90 96	WATER-BEARING, HIGH-PERMEABILITY, SAND
BROWN	
96 103	LOW-PERMEABILITY, CLAY, SILT, SAND
BROWN	
103 113	WATER-BEARING, HIGH-PERMEABILITY, SILT, SAND
BROWN	
113 125	LOW-PERMEABILITY, CLAY, SILT
	TAN TO 121' GRAY TO 125', 5% GRAVELS 1/4", 95% MEDIUM TO FINE SAND
125 150	WATER-BEARING, SAND, GRAVEL
OLIVE	
150 170	CLAY, SILT, SAND
BROWN	
170 174	SILT, SAND
BROWN	
174 180	WATER-BEARING, SAND
BROWN	
	COARSE SAND
180 188	SILT, SAND
BROWN	
188 207	CLAY
GRAY/BROWN	
	GRAY TO 198' BROWN TO 207'
207 219	SILT, SAND
TAN	

219	232	CLAY
GRAY		
232	237	WATER-BEARING, SAND
GRAY		
237	241	CLAY
BROWN		
241	274	WATER-BEARING, SAND, GRAVEL
BROWN		
		HEAVING SANDS
274	287	CLAY
BROWN		
287	300	SAND, GRAVEL
BROWN		
300	303	CLAY
BROWN		
303	317	SILT, SAND, GRAVEL
BROWN		
		THIN LAYERS SAND
317	325	SILT
GRAY/GREEN		
325	347	SILT, SAND, GRAVEL
GRAY		
347	382	SILT
GRAY/BROWN		
		BROWN CLAY 347 TO 358', GRAY CLAY 358 TO 382'
382	397	CLAY, SILT, SAND
BROWN		
397	414	CLAY, SILT
GRAY		
414	417	SAND
GRAY		
417	440	CLAY, SILT
GRAY		
440	443	SAND
GRAY		
443	447	CLAY
GRAY		
447	451	SAND
DARK BROWN		
		VERY FINE SAND
451	464	CLAY, SILT
GRAY		
464	467	SAND
GRAY		
467	495	CLAY, SILT
GRAY		
495	508	WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL
GRAY		
		20%, 1/4" GRAVEL, 40% COARSE SAND, 40% MED TO FINE SAND
508	509	CLAY
GRAY		

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
01/24/2002		1.50	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
497 492	STEEL A53B	.250	5
507 509	STEEL A53B	.250	5
+1.5 498	STEEL A53B	.250	6

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen
Diam/Length	Perf(in) Screen Type/# Perf.		
From To			
497 507	SCREEN	.015	5

JOHNSON 304



**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From	To		
0	5	3/8" BENTONITE CHIP	4 BAGS
5	35	PORTLAND CEMENT	28 BAGS

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
01/23/2002	BAIL	.134	20	2

**GENERAL COMMENTS:**

\*ABANDONMENT REPORT RECIEVED 8/13/2001 (for previous POD)  
Driller's Report Available: yes  
Well Depth: 339'  
Diameter: 3"  
Flowing: yes  
Date of Abandonment: 7/30/2001  
Reason: Leaking around casing  
METHOD  
Pressure grouted from surface  
MATERIAL DETAILS  
0 to 339' Neat Cement, 22 cubic feet Grout Weight: 6 gallons/C.F.  
Abandoned well will be replaced at later date  
Additional data not available.

\*WELL DRILLER'S REPORT FOR REPLACEMENT RECEIVED 1-31-2002  
CONSTRUCTION INFORMATION  
SCREEN: Johnson Stainless steel 304  
Well Head Configuration: welded to bolted flange  
Casing joint type: welded  
Surface seal: yes, 35'  
Drive shoe: yes  
Surface seal placement method: pressure grout via tremmie pipe  
SURFACE SEAL  
Grout density:  
0 to 5' 4, 50# bags  
5 to 35' 28, 94# bags, 3 bags mix 6 gal water per bag  
COMMENTS  
Telescoping screw installed 6" casing pulled back 10'. 10" surface casing removed as grout seal installed.  
Additional data not available.

006351

**LOCATION:**

N 405 ft W 1200 ft from E4 CORNER of SECTION 27 T 1S R 1W BASE SL  
Elevation: 4242.00 feet  
REPLACEMENT PRODUCTION WELL # 12

**OWNER(S) :**

OWNER: Granger-Hunter Improvement  
ADDRESS: 3146 West 3500 South  
CITY: West Valley STATE: UT ZIP: 84170-11  
REMARKS: 10 P. O. Box 701110

**DRILLER ACTIVITIES:**

ACTIVITY # 1 WELL REPLACEMENT  
DRILLER: LAYNE CHRISTENSEN COMPANY LICENSE #:  
188  
START DATE: 04/19/1994 COMPLETION DATE: 05/17/1994

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 50	40.0	AUGER	NONE
50 1000	28.0	REV CIRC ROTARY	WATER/POLYMER

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color From To	Rock Type
0 90	LOW-PERMEABILITY, CLAY, SAND, COBBLES
90 160	WATER-BEARING, LOW-PERMEABILITY, CLAY, OTHER LIMESTONE
160 260	WATER-BEARING, LOW-PERMEABILITY, CLAY, OTHER LS/SILTSTONE
260 285	WATER-BEARING, LOW-PERMEABILITY, CLAY GREY
285 295	WATER-BEARING, LOW-PERMEABILITY, CLAY, SAND, GRAVEL
295 555	WATER-BEARING, LOW-PERMEABILITY, CLAY, SAND CLAY WITH LITTLE SAND
555 595	WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL
595 610	WATER-BEARING, LOW-PERMEABILITY, CLAY, SAND CLAY WITH LITTLE SAND
610 675	WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL
675 785	WATER-BEARING, LOW-PERMEABILITY, CLAY, SAND CLAY WITH LITTLE SAND
785 845	WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL
845 850	WATER-BEARING, LOW-PERMEABILITY, CLAY, GRAVEL CLAY WITH LITTLE GRAVEL
850 875	WATER-BEARING, HIGH-PERMEABILITY, CLAY, SAND, GRAVEL GRAVEL SAND W/TRACE OF SAND
875 905	WATER-BEARING, HIGH-PERMEABILITY, CLAY, SAND, GRAVEL MORE CLAY SOME SAND & GRAVEL
905 920	WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL, COBBLES
920 925	WATER-BEARING, LOW-PERMEABILITY, CLAY, GRAVEL CLAY/GRAVEL
925 975	WATER-BEARING, CLAY, SAND, GRAVEL FINE GRAVEL WITH SAND
975 1000	WATER-BEARING, CLAY ALL CLAY

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
05/12/1994		25.70	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 40	STEEL ASTM A53B	.375	42.0
0 250	STEEL ASTM A53B	.375	30.0
0 570	STEEL ASTM A53B	.500	20.0

610	630	STEEL ASTM A53B	.500	20.0
650	710	STEEL ASTM A53B	.500	20.0
730	800	STEEL ASTM A53B	.500	20.0
880	910	STEEL ASTM A53B	.500	20.0

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Diam/Length	Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen
	Perf(in)	Screen Type/# Perf.		
	From	To		
HOUSTON WW	570	610	SCREEN	.040 20.0
HOUSTON WW	630	650	SCREEN	.040 20.0
HOUSTON WW	710	730	SCREEN	.040 20.0
HOUSTON WW	800	880	SCREEN	.040 20.0
HOUSTON WW	910	950	SCREEN	.040 20.0
HOUSTON WW	950	970	SCREEN	.375 20.0
ST ASTM A53B				

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From	To		
0	115 CEMENT GROUT	7	
115	550 3/8" GRAVEL FORMATION	50	
550	1000 CO SILICA SAND 10/16	48	

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
05/13/1994	VERT TURB PUMP	3.119	131	4.5
05/13/1994	VERT TURB PUMP	4.300	204	3.00
05/14/1994	VERT TURB PUMP	5.392	284	3.50
05/14/1994	VERT TURB PUMP	5.882	318	3.50

**GENERAL COMMENTS:**

CONSTRUCTION INFORMATION:

Well head configuration: Capped Access Port: No  
 Casing Joint Type: Beveled Pipe (Welded) Perforator used: None  
 Pump: No data  
 Comments: no data  
 Additional data not available

026977

**LOCATION:**

N 2500 ft E 200 ft from SW CORNER of SECTION 26 T 1S R 1W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL  
DRILLER: ZIMMERMAN, MIKE WELL SERVICE LLC LICENSE #:  
747  
START DATE: 03/31/2003 COMPLETION DATE: 04/19/2003

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 35	14	AIR DA	FOAM WATER
35 420	10	AIR DA	FOAM WATER
420 753	8	AIR DA	FOAM WATER

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color From To	Rock Type
BROWN 0 4	CLAY
4 17	TOP SOIL
17 23	SILT, SAND
TAN 23 38	CLAY
GRAY 38 46	CLAY, SILT
GRAY 46 63	SILTY CLAY
GRAY 63 78	CLAY
GRAY 78 87	WATER-BEARING, SAND, GRAVEL
GRAY 87 97	SMALL LIGHT GRAVEL
97 110	CLAY
110 114	WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL
114 117	GRAVEL TO 1/4"
117 126	WATER-BEARING, SAND
126 135	COURSE SAND
135 141	WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL
141 146	GRAVELS TO 1/2
146 149	CLAY, GRAVEL
149 155	WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL
GRAY 155 157	ABOUT 80% SAND
157 159	WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL
GRAY 159 167	40% COURSE SAND
167 179	CLAY
179 191	WATER-BEARING, LOW-PERMEABILITY, CLAY, SILT, SAND
191 197	WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL
197 229	SOME GRAVEL
229 247	WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL
247 251	COURSE SAND GRAVELS TO 1/2"
	WATER-BEARING, HIGH-PERMEABILITY, SILT, SAND

		MOSTLY GRAVEL
251	261	WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL
		COURSE SAND, LITTLE GRAVEL
261	270	WATER-BEARING, HIGH-PERMEABILITY, SILT
		FINE SAND
270	274	CLAY
GRAY		
274	283	WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL
		SOME GRAVEL LOT OF WATER
283	296	CLAY
GRAY		
296	324	WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL
		COURSE SAND SOME GRAVEL
324	336	WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL
		GRAVELS TO 1/2"
336	349	WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL
		LARGE GRAVELS SANDY TO 1"
349	353	CLAY
GRAY		
353	356	WATER-BEARING, HIGH-PERMEABILITY, SAND
356	366	WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL
		SAND WITH SOME GRAVELS FLOWING SAND
366	371	CLAY
GRAY		
371	380	WATER-BEARING, HIGH-PERMEABILITY, SAND
		FINE SAND
380	383	CLAY
GRAY		
383	390	WATER-BEARING, HIGH-PERMEABILITY, SAND
		FINE SAND
390	394	WATER-BEARING, LOW-PERMEABILITY, CLAY, SILT
GRAY		
394	399	WATER-BEARING, HIGH-PERMEABILITY, SAND
399	408	CLAY
GRAY		
408	413	SAND
413	425	WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL
		COARSE GRAVELS 1" TO 10" STOP @ 420' REDUCE TO 8" AND MUD DRILLING 120'
		OF HEAVE IN 10" CASING.
425	440	WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL
		GRAVEL TO 3/8
440	472	CLAY
GRAY		
		HARD
472	491	CLAY
GRAY		
		SOFTER
491	498	WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL
		GRAVELS TO 1/4'
498	505	CLAY
GRAY		
505	522	WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL
		SMALL GRAVELS TO 1/4"
522	556	CLAY
GRAY		
		HARD
556	568	WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL
		COURSE TO MEDIUM
568	573	CLAY
GRAY		
		HARD
573	583	WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL
		COARSE SAND GRAVELS TO 3/8"
583	585	CLAY
GRAY		
585	600	WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL
		SAND, SOME GRAVELS COURSE SAND
600	617	WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL
		GRAVELS TO 3/8 COARSE SAND

617	631	CLAY
GRAY		
		HARD
631	633	CLAY
GRAY		
		SOFTER
633	637	CLAY
		HARD
637	646	WATER-BEARING, HIGH-PERMEABILITY, SAND
646	648	SAND
GRAY		
648	657	WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL VERY SMALL GRAVELS
657	663	CLAY
663	677	WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL SMALL GRAVELS SAND
677	680	CLAY
680	692	WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL GRAVELS TO 1/4"
692	694	WATER-BEARING, LOW-PERMEABILITY, CLAY, GRAVEL
GRAY		
694	699	SAND, GRAVEL GRAVELS TP 4"
699	710	CLAY
GRAY		
		HARD STICKY
710	722	CLAY
BROWN/TAN		
		SOFTER
722	730	WATER-BEARING, HIGH-PERMEABILITY, SAND FINE SAND
730	733	WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL COARSE SAND, GRAVELS TO 1/4"
733	746	WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL COARSE SAND GRAVELS TO 3/8"
746	753	CLAY
GRAY		

**WATER LEVEL DATA:**

Date	Time	Water Level (feet) (-)above ground	Status
04/19/2003		23.20	

**CONSTRUCTION - CASING:**

Depth(ft) From	To	Material	Gage(in)	Diameter(in)
392	753		322	8
+1.5	420	A53B STEEL	365	10

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Diam/Length	Depth(ft) Perf(in)	Screen(S) or Perforation(P) Screen Type/# Perf.	Slot/Perf. siz	Screen
	From To			
	420 440	PERFORATION	.25	1
8				
	492 498	PERFORATION	.25	1
8				
	573 583	PERFORATION	.25	1
8				
	600 613	PERFORATION	.25	1
8				
	680 700	PERFORATION	.25	1
8				
	733 746	PERFORATION	.25	1
7				

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft) From	To	Material	Amount	Density(pcf)
0	35	CETCO MEDIUM CHIPS	30	50

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
04/23/2003	PUMP	1.225	73	8

**GENERAL COMMENTS:**

## CONSTRUCTION INFORMATION

Well Head Configuration: Temporary Welded Cap

Casing Joint Type: No Data

Perforator Used: Holte Star

Surface Seal: Yes

Depth of Surface Seal: 35 feet

Drive shoe: Yes

Surface Seal Placement Method: Free Full Chips

Well Disinfected: Yes

Comments: Cut 8" casing off at 392' BGS, started mud drilling at 420' advanced 8" casing during drilling, sand was accuring up to 120 inside 10" when drilling with air.

Locatiuon: West Valley City

Additional Information Not Available

# REPORT OF WELL DRILLER

## STATE OF UTAH

Application No. 88-59-01 Tw  
 Claim No. \_\_\_\_\_  
 Coordinate No. \_\_\_\_\_

GENERAL STATEMENT: Report of well driller is hereby made and filed with the State Engineer, in accordance with the laws of Utah. This report shall be filed with the State Engineer within 30 days after the completion or abandonment of the well. Failure to file this report constitutes a misdemeanor.

(1) WELL OWNER: KENRIS IMPROVEMENT DISTRICT  
5350 W. 5400 S. KENRIS

(2) LOCATION OF WELL:  
 Ground Water Basin \_\_\_\_\_  
 (leave blank)  
70 feet East 120 feet from SW Corner  
7 feet North 2 feet from 1 SLBM (strike  
 W. 1/2 Sec. 1) (if not needed)

(3) NATURE OF WORK (check): New Well ☒  
 Deepening ☐ Repair ☐ Abandon ☐  
 Abandonment, describe material and procedure: \_\_\_\_\_

(4) NATURE OF USE (check): Industrial ☐ Municipal ☐ Stockwater ☐  
 Mining ☐ Other ☐ Test Well ☒

(5) TYPE OF CONSTRUCTION (check):  
 dug ☒ Jetted ☐  
 driven ☐ Bored ☐

(6) CASING SCHEDULE: Threaded ☐ Welded ☒  
6 1/4" Diam. from +2 feet to 600 feet Gage. 250  
 " Diam. from \_\_\_\_\_ feet to \_\_\_\_\_ feet Gage. \_\_\_\_\_  
 " Diam. from \_\_\_\_\_ feet to \_\_\_\_\_ feet Gage. \_\_\_\_\_  
☐ Reject ☐ Used ☐

(7) PERFORATIONS: Perforated? Yes ☒ No ☐  
 Perforator used MILCO  
 Perforations 18" inches by 2 1/2 inches  
600 perforations from \_\_\_\_\_ feet to 340 feet  
250 perforations from 440 feet to 600 feet  
 " perforations from \_\_\_\_\_ feet to \_\_\_\_\_ feet  
 " perforations from \_\_\_\_\_ feet to \_\_\_\_\_ feet  
 " perforations from \_\_\_\_\_ feet to \_\_\_\_\_ feet

(8) SCREENS: Well screen installed? Yes ☐ No ☒  
 Manufacturer's Name \_\_\_\_\_ Model No. \_\_\_\_\_  
 Slot size \_\_\_\_\_ Set from \_\_\_\_\_ ft. to \_\_\_\_\_  
 Slot size \_\_\_\_\_ Set from \_\_\_\_\_ ft. to \_\_\_\_\_

(9) CONSTRUCTION:  
 All gravel packed? Yes ☒ No ☐ Size of gravel 3/8"  
 Placed from 100 feet to 1000 feet  
 Surface seal provided? Yes ☒ No ☐  
 What depth? 100' feet  
 Used in seal Grout  
 Strata contain unusable water? Yes ☐ No ☒  
 Water? \_\_\_\_\_ Depth of strata \_\_\_\_\_  
 Sealing strata off \_\_\_\_\_

(10) WATER LEVELS:  
 Static level 120 feet below land surface Date 4-5-88  
 Pressure \_\_\_\_\_ feet above land surface Date \_\_\_\_\_

(11) RECEIVED: (11) FLOWING WELL:  
 Controlled by (check) Valve ☐  
 Cap ☐ Plug ☐ No Control ☐  
 Does well leak around casing? Yes ☐ No ☐

(12) WELL TESTS: Drawdown is the distance in feet the water level is lowered below static level.

Was a pump test made? Yes ☐ No ☐ If so, by whom? S-D  
 Yield: 175 gal/min. with 180 feet drawdown after 4 hours  
Ave Development

Bailer test \_\_\_\_\_ gal/min. with \_\_\_\_\_ feet drawdown after \_\_\_\_\_  
 Arterial flow \_\_\_\_\_  
 Temperature of water \_\_\_\_\_ Was a chemical analysis made? No ☐ Yes ☐

(13) WELL LOG: Diameter of well 12 1/4 inches  
 Depth drilled 1000 feet. Depth of completed well 600 feet

NOTE: Place an "X" in the space or combination of spaces needed to designate the material or combination of materials encountered in each depth interval. Under headings make as desirable notes as to occurrence of water and the type, size, nature, etc., of material encountered in each depth interval. Use additional sheet if needed.

DEPTH		MATERIAL										REMARKS
From	To	Clay	Silt	Sand	Gravel	Cobbles	Boulders	Hardpan	Conglomeratic	Bedrock	Other	
0	33			X	X	X						
33	51	X										
51	56			X	X	X						
56	107	X										
107	141	X		X	X							
141	150	X	X									
150	155		X	X								
155	183	X										
183	191			X								
191	197			X	X	X						
197	267	X		X	X							
267	297	X										
297	311	X			X							
311	345			X	X							water
345	435	X			X							
435	463			X	X	X						water
463	473	X			X							
473	497			X	X	X						water
497	507	X			X							
507	515					X						water
515	555	X			X	X						
555	570			X	X							water
570	655	X		X								
655	680	X		X	X							
680	780	X										
780	855	X			X							
855	885	X	X									
885	900	X										
900	905	X			X							
905	1000	X										
1000	1000	X			X							

Work started 3-8 1988 Completed 4-5

(14) PUMP: Manufacturer's Name \_\_\_\_\_

Type \_\_\_\_\_ Depth to pump or bowline \_\_\_\_\_

Well Driller's Statement:

This well was drilled under my supervision, and this report is true to the best of my knowledge and belief.

Name Steve Demmer (Person, firm, or corporation) (Type or print)

Address 1000 W 3800 S

(Signed) Jay A. Ott (Well Driller)

License No. 514 Date 4-20





000024  
59-394

**LOCATION:**

S 1841 ft W 2177 ft from NE CORNER of SECTION 5 T 3S R 2W BASE  
SL Elevation: 5399.00 feet  
WELL #1 (WEST)

**DRILLER ACTIVITIES:**

ACTIVITY # 1 WELL REPAIR  
DRILLER: NICKERSON CO., INC.  
LICENSE #: 741  
START DATE: / / COMPLETION DATE: / /  
ACTIVITY # 2 NEW WELL  
START DATE: 02/14/1945 COMPLETION DATE: / /

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From	To		
0	1275	20	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From	To
0	125 CLAY, OTHER
ANDESITE	
125	200 CLAY
ANDESITE	
200	300 SAND, OTHER
MARL	
300	350 GRAVEL, OTHER
ANDESITE	
350	375 CLAY, GRAVEL, OTHER
ANDESITE	
375	400 CLAY
400	500 CLAY, SAND, OTHER
ANDESITE	
500	538 OTHER
BRECCIA	
538	620 CLAY, OTHER
ANDESITE	
620	750 OTHER
MARL	
750	800 OTHER
MARL	
800	900 CLAY
900	1018 CLAY
LT TAN	
1018	1035 CLAY, SAND
1035	1050 CLAY, OTHER
TAN/LT GRN	VOLCANIC ASH
1050	1105 CLAY, SAND, OTHER
WHITE	VOLCANIC ASH
1105	1120 CLAY
TAN TO BRN	
1120	1160 CLAY, OTHER
MARL	
1160	1275 CLAY
BRN/LT CRM	

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
------	------	--------------------	--------

07/21/1945 (-)above ground  
139.00 STATIC

**CONSTRUCTION - CASING:**

Depth(ft) From To	Material	Gage(in)	Diameter(in)
0 644	STOVEPIPE	.25	20
600 948	SCREW	.375	12.5
948 1219	STOVEPIPE	.25	10

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft) Diam/Length	Screen(S) or Perforation(P) Perf(in)	Screen Type/#	Slot/Perf. siz	Screen
From To				
149 1218		PERFORATION		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time
Pumped (hrs)				
07/21/1945	PUMPED	1.159		
07/22/1945		.000		
07/23/1945		.000		
07/24/1945		.000		

**WATER QUALITY DATA AVAILABLE**

**GENERAL COMMENTS:**

\*HOLE STOPPED IN LIGHT BROWN CLAY MARL  
\*Depth to water bearing stratum - indefinite - water first  
encountered  
at 159'

000031

59-394

**LOCATION:**

S 1260 ft W 744 ft from NE CORNER of SECTION 5 T 3S R 2W BASE  
SL Elevation: 5388.00 feet  
WELL #2 (EAST)

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL  
START DATE: 08/24/1944 COMPLETION DATE: 05/12/1947

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 1200	20		

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 72	SAND, OTHER
LT TAN	MARL
72 120	SAND, OTHER
LT TAN	MARL
120 175	CLAY
LT TAN	
175 200	CLAY
LT TAN	
200 240	CLAY, SAND
LT TAN	
240 285	SAND, OTHER
LIGHT	MARL
290 310	CLAY, SAND, GRAVEL
LIGHT	
310 320	OTHER
LT TO DARK	ANDESITE
320 395	CLAY, SAND, GRAVEL
TAN	
395 420	CLAY
TAN	
420 430	OTHER
TAN	MARL
430 460	CLAY
TAN	
460 705	OTHER
CHALKY	PEBBLES
705 805	OTHER
PALE BLUE	MUD
805 915	CLAY, OTHER
GREENISH	VOLCANIC ASH
915 920	BOULDERS
DARK	
920 930	SAND, OTHER
VOLCANIC ASH	
930 940	CLAY, OTHER
LT COLORED	MARL
940 965	GRAVEL, BOULDERS
965 975	GRAVEL, BOULDERS
975 980	CLAY, OTHER
MARL	
980 985	SAND
GREEN/BLUE	
985 990	

**WATER QUALITY DATA AVAILABLE**

\*\*\*\*\* WIN: 000053 \*\*\*\*\*

7&l6D

7&a130M

Division of Water Rights Well

Data \_\_\_\_\_

7&d0DLOCATION:7&d@

N 158 ft W 158 ft from SE CORNER of SECTION 33 T 1S R 1W BASE SL  
Elevation: 4269.00 feet  
4100 S. 2200 W. WELL #2

7&d0DDRILLER ACTIVITIES:7&d@

ACTIVITY # 1 NEW WELL

START DATE: / / COMPLETION DATE: 08/15/1960

ACTIVITY # 2 WELL REPLACEMENT

DRILLER: ZIM INDUSTRIES INC

LICENCE #: 697

START DATE: 04/14/1998 COMPLETION DATE: 01/24/1999

7&d0DBOREHOLE INFORMATION:7&d@

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 886	16	CABLE	

7&d0DLITHOLOGY:7&d@

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 2	OTHER
TOP SOIL	
2 20	CLAY, GRAVEL
BROWN	
20 75	CLAY, SAND, GRAVEL
GREY	
75 92	CLAY, SAND, GRAVEL
BROWN	
92 110	SAND, GRAVEL
110 185	CLAY, SAND
GREY	
185 240	CLAY, GRAVEL
BROWN	
240 290	CLAY
GREY	
290 295	SAND, GRAVEL
295 355	CLAY, GRAVEL
BROWN	
355 460	CLAY, SAND, GRAVEL
TAN	
460 490	CLAY, GRAVEL
RED	
490 545	CLAY, SAND
RED	
545 560	CLAY, GRAVEL
TAN	
560 638	CLAY, SAND
TAN	
638 645	GRAVEL
645 664	CLAY
RED	
664 689	SAND
689 700	SAND, GRAVEL
700 730	CLAY
RED	
730 746	OTHER
CONGLOMERATE	
746 755	GRAVEL

755 812 CLAY, GRAVEL  
TAN  
812 820 CLAY, SAND  
TAN  
820 828 CLAY  
STICKY  
828 840 CLAY, GRAVEL  
840 847 OTHER  
CONGLOMERATE  
847 855 CLAY  
855 875 CLAY  
TAN  
875 886 GRAVEL

7&d0DCONSTRUCTION - CASING:7&d@

Depth(ft)	Material	Gage(in)	Diameter(in)
From	To		
0	451	.312	16
440	886	.312	12

7&d0DCONSTRUCTION - SCREENS/PERFORATIONS:7&d@

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From	To		
638	645 PERFORATION	.375	2.5
730	740 PERFORATION	.375	2.5
746	755 PERFORATION	.375	2.5
805	812 PERFORATION	.375	2.5
840	847 PERFORATION	.375	2.5
875	886 PERFORATION	.375	2.5

7&d0DWELL TESTS:7&d@

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
08/15/1960	ARTESIAN FLOW	.223		
08/15/1960	PUMP	1.762	25	50

7&d0DGENERAL COMMENTS:7&d@

\*WATER QUALITY - Good  
drillers activity:  
depth: 0-40 0-1020  
borehole: 42 30  
method: auger reverse air rotary  
fluid: bentonite bentonite, barite  
well log:  
depth:  
40-50 clay, cobbles sticky black sticky clay w/ small cobb  
50-60 clay medium black medium black clay  
60-65 clay, sand sandy black sandy clay  
65-97 sand, gra, cob course brown cobbles, sand and gravel  
97-99 sand course brown course sand  
99-120 gravel, cobb course brown small cobbles and gravel  
120-127 clay sticky brown brown clay  
127-135 sand, gra, cob course brown cobbles, sand and gravel  
135-155 clay, sand sandy brown sand and clay  
155-160 sand, gra, cob course brown cobbles, sand and gravel  
160-175 clay, sand sandy brown sandy clay  
175-200 sand, gravel course brown gravel and sand  
200-215 clay, silt medium brown silty clay  
215-277 clay sticky brown sticky clay  
277-285 cobbles course brown cobbles  
285-290 clay, cobbles course brown clay with cobbles  
290-295 clay, sand sandy brown sandy clay  
295-305 cl, si, sa, cob sandy brown silty sandy clay with cobb  
305-330 sand, gra, cob course brown sand, gravel and cobbles

330-345	cl,si,sa,gra	medium	brown	silty clay with gravel
345-365	clay	sticky	brown	soft sticky clay
365-380	sand,gra,cob	course	brown	cobbles,sand and gravel
380-390	sand,gravel	course	brown	sand and gravel
390-395	cobbles,boul	course	brown	big cobbles and boulders
395-410	clay,silt	sticky	brown	silty clay
410-415	clay	sticky	brown	soft brown clay
415-430	clay,silt	sticky	brown	silty clay
430-445	clay,silt	sticky	brown	dense silty clay
445-450	clay	sticky	brown	sticky brown clay
450-465	clay,gravel	medium	brown	brown clay with some grave
465-470	clay,gravel	medium	brown	brown dense gravel with cl
470-475	clay,gra,cob	course	brown	cobbles,gravel,clay
475-480	clay,gravel	course	brown	gravel and clay
480-485	clay,gravel	course	brown	gravel and clay streaks
485-490	gravel,cobbl	course	brown	gravel and small cobbles
490-495	gravel,cobbl	course	brown	small gravel and cobbles
495-510	sand,gravel	course	red	gravel and red sandstone
510-515	cl,si,sa,cob	course	red	red sandy clay with cobble
515-520	clay,cobbles	course	red	red clay with a few cobble
520-530	clay,cobbles	course	red	red clay with cobbles
530-535	clay	sticky	brown	soft clay
535-560	clay,gravel	course	brown	clay and gravel
560-575	clay	sticky	brown	clay
575-595	clay,gravel	course	brown	clay and gravel
595-605	clay,gravel	course	brown	hard clay and gravel
605-610	cobbles	course	brown	cobbles
610-620	clay,gravel	course	brown	soft clay and gravel
620-625	boulder	course	brown	big boulders
625-630	gravel	course	brown	gravel
630-640	clay,gravel	course	red	gravel and red clay
640-645	clay	sticky	red	red clay
645-650	clay,cobbles	course	red	red clay and cobbles
650-655	gravel,cobbl	course	red	small gravel and cobbles
655-665	gravel,cobbl	course	red	gravel and cobbles
665-670	clay,gra,cob	course	red	gravel,cobbles and red cla
670-680	clay,cobbles	course	red	cobbles and clay
680-685	clay	sticky	red	red clay
685-690	clay,cobbles	course	red	red clay and cobbles
690-695	clay,cobbles	course	red	hard red clay and cobbles
695-735	clay,cobbles	course	brown	clay with cobbles
735-755	gravel,cobbl	course	brown	gravel with cobbles
755-770	clay,cobbles	course	brown	clay and gravel
770-790	gravel,cobbl	course	brown	gravel and cobbles
790-795	clay,gravel	course	brown	hard clay and gravel
795-800	clay	sticky	brown	hard clay
800-815	gravel	course	brown	gravel and cobbles
815-835	clay	sticky	brown	hard clay
835-840	gravel	course	brown	gravel and small pebbles
840-845	gravel,cobbl	course	brown	gravel and 1 1/2"cobbls
845-850	clay,cobbles	sticky	brown	brown clay and cobbles
850-855	clay	sticky	brown	brown clay
855-860	clay	sticky	red	red sticky clay
860-870	clay	sticky	red	dense red sticky clay
870-880	clay,gravel	sticky	red	hard red sticky clay w/gra
880-885	clay	sticky	red	red sticky clay
885-905	clay	sticky	red	sticky red clay
905-915	clay,gravel	sticky	red	sticky red clay w/some peb
915-925	clay	sticky	red	sticky red clay
925-930	clay	sticky	red	clay hard
930-940	clay,cobbles	sticky	red	clay rock
940-945	clay	sticky	red	clay
945-980	clay,silt	sticky	red	clay mud

980-985 gravel course red gravel  
 985-990 gravel course red gravel  
 990-1005 other course red rock  
 static water level: 01-19-1999  
 water level: 26ft  
 flowing: no  
 method of measurement: sounder  
 point of measurement: top of casing  
 height above surface: 1ft  
 temperature: no data available  
 casing:  
 depth: 0-40 astm a53gr.b .375 36  
 0-480 " " .375 20  
 500-590 " " " "  
 630-650 " " " "  
 670-730 " " " "  
 770-810 " " " "  
 850-860 " " " "  
 880-980 " " " "  
 1000-1010 " " " "  
 screen:  
 depth: 480-500 .050 20 wire wound 304 s.s.  
 590-630 .050 20 " "  
 650-670 .050 20 " "  
 730-770 .050 20 " "  
 810-850 .050 20 " "  
 860-880 .050 20 " "  
 980-1000 .050 20 " "  
 filter pack:  
 depth: 0-400 11 bag sand slurry cement grout 41c.y. 6gal.wate  
 400-1010 colorado 83tons 8-12col.  
 0-40 23sk neat cement (conductor) 9c.y. 6gal.wate  
 well development:  
 1-19-99 constant rate 1500 gpm 218 24hr.  
 CONSTRUCTION INFORMATION:  
 well head configuration: steel plate welded at surface  
 casing joint type: butt weld  
 perforator used: screen  
 access port provided: no



000063

59-5491

**LOCATION:**

N 2374 ft E 0 ft from S4 CORNER of SECTION 19 T 1S R 1W BASE  
SL Elevation: 4240.00 feet  
4400 W. 2400 S. WELL #9

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL  
DRILLER: Lee & Sons Drilling  
LICENSE #: 11  
START DATE: 06/19/1962 COMPLETION DATE: 09/01/1962

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 1200	12	CABLE	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color From To	Rock Type
TAN 0 22	CLAY, SAND
BLUE 22 64	CLAY, SAND
BLUE 64 86	CLAY
BLUE 86 94	CLAY, SAND
BROWN 94 135	CLAY, SAND
BLUE 135 175	CLAY, SAND
BROWN 175 205	CLAY, SAND
GREY 205 220	CLAY, SAND
BLUE 220 235	CLAY, SAND
BROWN 235 253	CLAY, SAND
253 265	CLAY STICKY
TAN 265 322	CLAY, SAND
322 360	CLAY, GRAVEL
360 397	CLAY, SAND
TAN 397 401	CLAY
BLUE 401 452	CLAY, SAND
TAN 452 556	CLAY, GRAVEL
556 561	WATER-BEARING, GRAVEL
561 565	CLAY, GRAVEL
565 581	CLAY, GRAVEL
581 633	CLAY, GRAVEL HARD
633 640	OTHER
CONGLOMERATE 640 720	CLAY, SAND, GRAVEL
720 825	CLAY

		STICKY
825	838	CLAY, GRAVEL
		STICKY
838	873	CLAY, SAND
BLUE		
873	878	CLAY
BROWN		
		STICKY
878	890	CLAY, SAND
BLUE		
890	902	CLAY
BROWN		
		STICKY
902	913	CLAY
BLUE		
		STICKY
913	920	CLAY
BROWN		
		STICKY
920	1030	CLAY
BLUE		
		STICKY
1030	1150	OTHER
GREY		SHAPE
1150	1170	OTHER
BROWN		SHAPE
1170	1185	CLAY, SAND
1185	1190	CLAY
BLUE		
		STICKY
1190	1200	CLAY, SAND
BLUE		

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
09/01/1962		-4.16	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 966	NEW	.330	12
947 1200	NEW	.330	10

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen
Diam/Length	Perf(in) Screen Type/# Perf.		
From To			
452 720	PERFORATION	.25	2
1608			
825 838	PERFORATION	.25	2
78			

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 450	BENTONITE		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time
Pumped (hrs)				
09/01/1962	PUMP	4.452	84	183

\*\*\*\*\* WIN: 000067 \*\*\*\*\*

•&l6D  
•&a130M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@

N 100 ft W 2759 ft from E4 CORNER of SECTION 13 T 3N R 1W BASE SL

Elevation: feet

•&d0DDRILLER ACTIVITIES:•&d@

ACTIVITY # 1 NEW WELL

DRILLER: LANG EXPLORATORY DRILLING INC

LICENCE #: 568

START DATE: 12/09/1991 COMPLETION DATE: 01/11/1992

•&d0DBOREHOLE INFORMATION:•&d@

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 910	25	ROTARY	

•&d0DLITHOLOGY:•&d@

Depth(ft)	Lithologic Description
Color	Rock Type

From To	
0 110	SAND, GRAVEL
	EXTREME CAVING FROM 0 - 80
110 180	CLAY, SAND, GRAVEL
	SMOOTH, FAST PENETRATION FROM 80 - 420
180 290	SAND, GRAVEL, BOULDERS
290 300	CLAY, SAND, GRAVEL, BOULDERS
300 420	SAND, GRAVEL, BOULDERS
420 750	CLAY, SILT, SAND, GRAVEL, BOULDERS
	HARD & ROUGH FROM 420 - 210
750 810	CLAY, SILT, SAND, GRAVEL
810 910	CLAY

HARDPAN

•&d0DWATER LEVEL DATA:•&d@

Date	Time	Water Level (feet)	Status
		(-)above ground	
02/03/1992		- .50	

•&d0DCONSTRUCTION - CASING:•&d@

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 48		.50	36
+3 195		.375	20
395 450		.375	16
520 565		.375	16
610 750		.375	16

•&d0DCONSTRUCTION - SCREENS/PERFORATIONS:•&d@

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From To			
195 395	SCREEN	80	16
STNLS. STEEL			
450 520	SCREEN	80	16
STNLS. STEEL			
565 610	SCREEN	80	16
STNLS. STEEL			

•&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS:•&d@

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 145	CEMENT GROUT		
145 910	GRAVEL 6 - 9		

•&d0DWELL TESTS:•&d@

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
02/03/1992	ARTESIAN FLOW	1.114		
02/03/1992	PUMP TEST	5.657	70.24	3
02/03/1992	PUMP TEST	6.689	91.38	2
02/03/1992	PUMP TEST	7.823	122.40	3

WIN 000079  
Fox (18)  
GSR1970 (c-2-2)9bdb-1 (Hercules)

**LOCATION:**

S 1400 ft E 1615 ft from NW CORNER of SECTION 9 T 2S R  
2W BASE SL Elevation: 4876.00 feet  
BLDG 8603

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL  
START DATE: 04/18/1940 COMPLETION DATE: 04/22/1940

**BOREHOLE INFORMATION:**

	Depth(ft)	Diameter(in)	Drilling Method	Drilling
Fluid	From To			
	0 515	10		

**LITHOLOGY:**

Color	Depth(ft)	Lithologic Description
	From To	Rock Type
	0 75	CLAY, SAND
YELLOW	75 95	CLAY
BROWN	95 130	CLAY, SAND
YELLOW	130 168	CLAY, SAND
	168 180	WATER-BEARING, CLAY
RED	180 203	CLAY, SAND
YELLOW	203 235	CLAY
YELLOW		STICKY CLAY
	235 260	CLAY
GREY	260 305	CLAY
YELLOW	305 330	CLAY, SAND, GRAVEL
YELLOW	330 340	GRAVEL
	340 393	SAND, GRAVEL
YELLOW	393 397	CLAY
YELLOW		STICKY CLAY
	397 423	SAND
	423 448	SAND
BLUE	448 480	SAND
GREY	480 515	OTHER
BLUE		SHALE

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
04/22/1940		157.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 480		10	

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz
Screen Diam/Length	Perf(in)	Screen Type/# Perf.
From To		
0 300	PERFORATION	

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From To			
480 515	GRAVEL		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)
Time Pumped (hrs)			
04/22/1940	PUMP	.167	

**WATER QUALITY DATA AVAILABLE**

\*\*\*\*\* WIN: 000102 \*\*\*\*\*

•&l6D  
•&a130M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@

N 1000 ft W 990 ft from SE CORNER of SECTION 30 T 2N R 1E BASE SL

Elevation: feet

•&d0DDRILLER ACTIVITIES:•&d@

ACTIVITY # 1 NEW WELL

DRILLER: LANG EXPLORATORY DRILLING INC

LICENCE #: 568

START DATE: 07/04/1991 COMPLETION DATE: 03/15/1992

•&d0DBOREHOLE INFORMATION:•&d@

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 1000	20	ROTARY	

•&d0DLITHOLOGY:•&d@

Depth(ft)	Lithologic Description
Color	Rock Type

From	To	
0	35	SAND
35	195	CLAY,SAND
195	235	CLAY
235	245	SAND
245	435	CLAY
435	475	SILT,SAND
475	515	CLAY,SAND
515	530	SAND,GRAVEL
530	572	CLAY,SILT
572	815	GRAVEL
815	875	CLAY
875	970	GRAVEL
970	1000	CLAY,SAND

•&d0DWATER LEVEL DATA:•&d@

Date	Time	Water Level (feet)	Status
		(-)above ground	
03/16/1992		524.00	

•&d0DCONSTRUCTION - CASING:•&d@

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 50		.50	48
0 584		.375	24
0 670		.50	36
584 672		.375	22
797 897		.375	20
959 989		.375	20

•&d0DCONSTRUCTION - SCREENS/PERFORATIONS:•&d@

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		

	From To		
	672 797	SCREEN	80 20
WIREWRAP	897 960	SCREEN	80 20
WIREWRAP			

•&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS:•&d@

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 590	CEMENT GROUT		
590 1000	GRAVEL PACKED-1/4X3/8		

\*\*\*\*\* WIN: 000137 \*\*\*\*\*

7&l6D

7&a130M

Division of Water Rights Well

Data

7&d0DLOCATION:7&d@

N 1130 ft E 146 ft from SW CORNER of SECTION 3 T 3S R 1E BASE SL

Elevation: 4798.00 feet

7&d0DDRILLER ACTIVITIES:7&d@

ACTIVITY # 1 NEW WELL

DRILLER: LANG EXPLORATORY DRILLING INC

LICENCE #: 568

START DATE: 02/27/1992 COMPLETION DATE: 04/03/1992

7&d0DBOREHOLE INFORMATION:7&d@

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 1010	29	ROTARY	

7&d0DLITHOLOGY:7&d@

Depth(ft)	Lithologic Description
Color	Rock Type

From	To	
0	5	SAND,BOULDERS
5	40	SAND
40	90	SAND,GRAVEL
90	125	CLAY,SAND,GRAVEL
125	415	SAND,GRAVEL
		CEMENTED 345-415
415	427	CLAY
427	470	SAND,GRAVEL
		CEMENTED
470	480	CLAY,SILT
480	490	CLAY,SAND
490	495	CLAY
495	500	SAND,GRAVEL
500	530	CLAY
530	675	CLAY,SAND,GRAVEL
675	700	CLAY
700	750	CLAY,SAND
750	815	CLAY,SAND,GRAVEL
815	870	SAND,GRAVEL
870	1010	CLAY,SAND,GRAVEL

7&d0DWATER LEVEL DATA:7&d@

Date	Time	Water Level (feet)	Status
		(-)above ground	
04/03/1992		448.00	STATIC

7&d0DCONSTRUCTION - CASING:7&d@

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 40		.375	36
+2 560		.375	20
770 870		.375	20
960 1000		.375	20

7&d0DCONSTRUCTION - SCREENS/PERFORATIONS:7&d@

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		

From	To		
560	770	SCREEN	.060 20
WIRE WRAP			
870	960	SCREEN	.060 20
WIRE WRAP			

7&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS7&d@

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 420	NEAT CEMENT GROUT		
420 1010	GRAVEL SIZE 8 X 12		

7&d0DWELL TESTS:7&d@

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
04/15/1992	PUMP TEST	6.689	66	39.6

7&d0DWATER QUALITY DATA AVAILABLE7&d@



WIN 000427

Fox (16)

GSR1970 (c-1-2)21adb-1 (kennecott)

**LOCATION:**

N 1013 ft W 1074 ft from E4 CORNER of SECTION 21 T 1S R  
2W BASE SL Elevation: 4230.00 feet  
WELL # 11

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

START DATE: 05/03/1949 COMPLETION DATE: 08/30/1949

ACTIVITY # 2 NEW WELL

DRILLER: NICKERSON COMPANY INC

LICENSE #: 678

START DATE: 09/25/1995 COMPLETION DATE: 10/06/1995

**BOREHOLE INFORMATION:**

	Depth(ft)	Diameter(in)	Drilling Method	Drilling
Fluid	From	To		
	0	524	20	

**LITHOLOGY:**

	Depth(ft)	Lithologic Description	
Color	From	To	Rock Type
	0	32	CLAY
BLUE	32	38	WATER-BEARING, CLAY, GRAVEL
BLUE	38	50	WATER BEARING GRAVEL TO 1 - 1/2" CLAY
GREY	50	80	CLAY
GREY & BROWN	80	84	WATER-BEARING, CLAY, GRAVEL
	84	124	WATER BEARING GRAVEL TO 1" CLAY
BROWN	124	130	WATER-BEARING, CLAY, GRAVEL
	130	148	WATER BEARING BROWN CLAY AND GRAVEL (SMALL AMOUNT OF GRAVEL)
BROWN	148	152	CLAY
	152	170	WATER-BEARING, SAND, GRAVEL
	170	180	WATER BEARING SAND AND GRAVEL
	180	230	CLAY, GRAVEL
	230	240	WATER BEARING GRAVEL (1" TO 6")
	240	276	WATER-BEARING, CLAY, GRAVEL
	276	312	WATER AT ALL TIMES
HARDPAN	312	320	CLAY, GRAVEL
	320	326	CEMENTED GRAVEL
BROWN	320	326	GRAVEL (1/4" TO 1")
	320	326	WATER-BEARING, GRAVEL
	320	326	WATER BEARING GRAVEL (1/4" TO 4")

326	330	OTHER
HARD FORMATION		
330	336	HARD FORMATION CLAY, GRAVEL
BROWN		
336	340	WATER-BEARING, GRAVEL WATER BEARING GRAVEL (1/4" TO 2")
340	348	OTHER
TIGHT FORMATIO		
348	368	TIGHT FORMATION CLAY, GRAVEL
BROWN		
368	380	SOFT BROWN CLAY CLAY
BROWN		
380	408	SOFT BROWN CLAY WATER-BEARING, GRAVEL WATER BEARING GRAVEL (1/4" TO 2")
408	416	CLAY, GRAVEL
BROWN		
416	420	BROWN CLAY AND GRAVEL (1/4" TO 1/2") OTHER
HARDPAN		
420	424	CLAY, GRAVEL
BROWN		
424	426	GRAVEL 1/4" TO 1" CLAY, GRAVEL
BROWN		
426	428	SMALL AMOUNT OF GRAVEL CLAY, GRAVEL
BROWN		
428	460	GRAVEL (1/4" TO 2") CLAY, GRAVEL
460	464	GRAVEL
464	475	LOOSE GRAVEL CLAY, GRAVEL LOOSE GRAVEL AND SMALL AMOUNT OF CLAY
475	480	CLAY, GRAVEL
BROWN		
480	516	GRAVEL (1/4" TO BOULDER) EMBEDDED IN BROWN CLAY SAND, GRAVEL GRAVEL (1/4" TO LARGE)
516	518	CLAY, GRAVEL
BROWN		
518	520	HARD BROWN CLAY AND VERY FINE GRAVEL (1/4" TO 1") CLAY, GRAVEL
BROWN		
520	524	GRAVEL (LARGE) OTHER
SOLID LIME		

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
09/01/1949		53.00	

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 516	STOVE PIPE	.25	20

**CONSTRUCTION - SCREENS/PERFORATIONS:**

	Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz
Screen Diam/Length	Perf(in)	Screen Type/#	Perf.
	From	To	
4	380	416	PERFORATION .625
		300	

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From	To		
422	524	PLUGGED	

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)
Time Pumped (hrs)			
09/01/1949	FLOWING	.715	
09/01/1949	PUMPED	2.048	

**WATER QUALITY DATA AVAILABLE****GENERAL COMMENTS:**

As above stated, the well was drilled to a depth of 524' and the water therefrom was found to be unfit for the purposes for which it was appropriated. The well was then plugged from depth of 524' to depth of 422' in the following manner:  
It was first cemented from 524' to 460' with 200 sacks of cement placed under 600 lbs pressure. Casing was then perforated from 460' to 440', 5/8" x 4" - 10 per round every foot. It was then cemented from 460' to 422' with 125 sacks of cement, placed under 125 lbs pressure. That pressure was read as last sacks were being placed. After the above plugging there was no flow from the well. The casing was then perforated from 380' to 416' - 5/8" x 4" - 10 per round every foot as above stated, after which the well yielded a gravity flow of 203 g.p.m. After sand pumping for 2 1/2 days, the gravity yield became 321 g.p.m. with static head of 24'8". Presently the gravity yield is about 400 g.p.m. The water yielded by the well after the aforesaid plugging was found to be suitable for the purposes for which it was appropriated.

\*REPORT RECEIVED 1/16/96

VIDEO/BRUSH & BAIL

**COMMENTS:**

Video well to 405' 9-25-95

Brush well 4 hours 10-5-95

bail 13' of fill 10-5-95

video well to 418' 10-6-95

NO other work done on well other than pull and reinstall

pump by

Nickerson Company

Additional data not available

\*\*\*\*\* WIN: 000681 \*\*\*\*\*

7&l6D

7&a130M

Division of Water Rights Well

Data

7&d0DLOCATION:7&d@

S 2347 ft E 1149 ft from NW CORNER of SECTION 14 T 3S R 2W BASE SL  
Elevation: 5020.00 feet  
WELL # 60

7&d0DDRILLER ACTIVITIES:7&d@

ACTIVITY # 1 WELL REPAIR

START DATE: / / COMPLETION DATE: / /

ACTIVITY # 2 NEW WELL

DRILLER: Lee & Sons Drilling

LICENCE #: 11

START DATE: / / COMPLETION DATE: 07/13/1962

7&d0DBOREHOLE INFORMATION:7&d@

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 1000	12	CABLE	

7&d0DLITHOLOGY:7&d@

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 1	OTHER TOP SOIL
1 75	GRAVEL SOME CLAY, SANDY
75 380	CLAY, GRAVEL
380 645	WATER-BEARING, GRAVEL
645 1000	CLAY, GRAVEL

7&d0DWATER LEVEL DATA:7&d@

Date	Time	Water Level (feet)	Status
		(-)above ground	
07/13/1962		326.00	STATIC

7&d0DCONSTRUCTION - CASING:7&d@

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 812	NEW	.330	12
800 1000	NEW	.330	10

7&d0DCONSTRUCTION - SCREENS/PERFORATIONS:7&d@

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in) Screen Type/# Perf.			
From To			
430 645	PERFORATION	.375	2

MILLS/1505

7&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS7&d@

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 25	CEMENT		

7&d0DWELL TESTS:7&d@

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
07/13/1962	PUMP	4.218	45	100

7&d0DWATER QUALITY DATA AVAILABLE7&d@

\*\*\*\*\* WIN: 000720 \*\*\*\*\*

•&l6D  
•&a130M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@

S 2247 ft E 3842 ft from NW CORNER of SECTION 8 T 4N R 1W BASE SL

Elevation: feet

•&d0DDRILLER ACTIVITIES:•&d@

ACTIVITY # 1 NEW WELL

DRILLER: AAA Drilling

LICENCE #: 531

START DATE: 03/17/1956 COMPLETION DATE: 09/11/1956

ACTIVITY # 2 WELL REPAIR

DRILLER: WIDDISON TURBINE SERVICE

LICENCE #: 533

START DATE: 04/12/1992 COMPLETION DATE: 05/09/1992

•&d0DBOREHOLE INFORMATION:•&d@

Depth(ft) Diameter(in) Drilling Method Drilling Fluid

From To

0 802 12 CABLE

•&d0DLITHOLOGY:•&d@

Depth(ft) Lithologic Description

Color Rock Type

From To

0 4 OTHER

TOP SOIL

4 22 CLAY

YELLOW

YELLOW

22 40 CLAY

BROWN

BROWN

40 55 SAND

55 240 CLAY

BLUE

BLUE

240 245 SAND

245 257 CLAY

BLUE

BLUE

257 260 SAND

260 265 CLAY

BLUE

BLUE

265 310 SAND

310 365 CLAY

BLUE

BLUE

365 392 SAND

392 401 CLAY

BROWN

BROWN

401 440 CLAY

GRAY

GRAY

440 445 SAND

HARD SAND

445 450 CLAY

GRAY

GRAY

450 495 CLAY

BROWN

BROWN

495 507 SAND

HARD SAND

507 526

SANDY SHALE

SANDY SHALE

526 536 SAND

HARD SAND

536 540

RED

SHALE

RED SHALE

540 548 CLAY

BROWN

BROWN

548 553 SAND

553 557 CLAY

BLUE

BLUE

557 560 SAND  
HARD SAND  
560 562 CLAY,SAND  
562 594 SAND  
EXTRA HARD SAND  
594 597 CLAY  
BLUE

597 620 BLUE  
SAND  
HARD SAND  
620 625 CLAY  
625 633 SAND  
HARD SAND  
633 635 CLAY  
BLUE

635 700 BLUE  
SAND  
HARD SAND  
700 736 GRAVEL  
736 739 CLAY,GRAVEL  
739 745 GRAVEL  
745 760 SAND,GRAVEL  
FINE GRAVEL  
760 768 GRAVEL  
768 775 CLAY  
BROWN

775 802 BROWN  
CLAY  
BLUE

•&d0DWATER LEVEL DATA:•&d@

Date	Time	Water Level (feet) (-)above ground	Status
04/29/1992		381.55	STATIC

•&d0DCONSTRUCTION - CASING:•&d@

Depth(ft) From To	Material	Gage(in)	Diameter(in)
0 280		.313	20
249 462		.313	18
429 596		.313	16
567 802		.313	12

•&d0DCONSTRUCTION - SCREENS/PERFORATIONS:•&d@

Depth(ft) From To	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
645 687	PERFORATION	.313	2.5

502 SEE COM.

•&d0DWELL TESTS:•&d@

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
05/09/1992	PUMP TEST	2.005		3.32
05/09/1992	PUMP TEST	3.899		7.80
05/09/1992	PUMP TEST	6.016		17.3
05/09/1992	PUMP TEST	6.907		22.7

•&d0DGENERAL COMMENTS:•&d@

\*CASING -  
new perforations - from 645 to 687' 502 perf. size .313 x 2.5"  
old perforations - 691 to 733' ?  
738 to 744' ?  
750 to 766' ?

\*SCREENS - Driller note: "We bailed the well out to 795'. The depth of the casing and the perfs. were taken from the video log done on the well."

\*WELL TESTS - ALSO - pump test yield 2600 gpm with 18.05' drawdown after 39 hours  
The approval for repair was evidently never requested or authorized  
Weber Regional Engineer said it was OK.

\*\*\*\*\* WIN: 000742 \*\*\*\*\*

7&l6D

7&a130M

Division of Water Rights Well

Data

7&d0DLOCATION:7&d@

S 2000 ft E 100 ft from NW CORNER of SECTION 6 T 1S R 1W BASE SL  
Elevation: 4224.00 feet

7&d0DDRILLER ACTIVITIES:7&d@

ACTIVITY # 1 NEW WELL

DRILLER: PETERSEN BROTHERS DRILLING CO INC

LICENCE #: 249

START DATE: 12/ /1972 COMPLETION DATE: 01/ /1973

7&d0DBOREHOLE INFORMATION:7&d@

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From	To		
0	793	12	ROTARY

7&d0DLITHOLOGY:7&d@

Depth(ft)	Lithologic Description
Color	Rock Type
From	To
0	4 CLAY, SAND
	FILL
4	18 CLAY
BROWN	
18	23 CLAY, SAND
23	49 CLAY, GRAVEL
BLUE	
49	60 CLAY
BLUE	
60	85 CLAY, SAND
BROWN	
85	137 CLAY, SAND
	SANDY CLAY
137	175 CLAY
	CLAY & SAND LAKE BOTTOM
175	273 WATER-BEARING, CLAY, SAND, GRAVEL
	GRAVEL VERY SMALL WATER
273	296 CLAY
	BAD SMELL
296	300 WATER-BEARING, SAND
	WATER - BAD SMELL
300	359 CLAY, SAND
359	365 WATER-BEARING, SAND
	SOME CLAY
365	399 CLAY, SAND
BROWN	
399	440 WATER-BEARING, CLAY, SAND, GRAVEL
	SOME WATER
440	466 CLAY, SAND, GRAVEL
	HARD TIGHT
466	483 WATER-BEARING, SAND
BLUE	
	FINE BLUE WATER
483	575 CLAY, SAND, GRAVEL
	LENZED OUT ALL COLORS
575	632 CLAY
BLUE & GRAY	
	BLUE & GRAY STICKY
632	637 WATER-BEARING, SAND
BLUE	
	BLUE WATER

637	671	CLAY
		STREAKS OF SAND
671	676	WATER-BEARING, SAND
BLUE		BLUE WATER
676	701	CLAY
BROWN		
701	711	CLAY
GRAY		
		STICKY
711	714	WATER-BEARING, GRAVEL
		PERFORATE
714	715	CLAY
715	733	WATER-BEARING, GRAVEL
		PERFORATE
733	740	SAND
		FINE
740	751	WATER-BEARING, GRAVEL
		PERFORATE
751	775	CLAY
775	780	SAND
		NO PERFORATIONS
780	787	WATER-BEARING, GRAVEL
		PERFORATE
787	793	CLAY

7&d0DWATER LEVEL DATA:7&d@

Date	Time	Water Level (feet)	Status
		(-)above ground	
01/31/1973		-23.10	

7&d0DCONSTRUCTION - CASING:7&d@

Depth(ft)	Material	Gage(in)	Diameter(in)
From	To		
0	454 NEW	.250	12
0	791 NEW	.250	10

7&d0DCONSTRUCTION - SCREENS/PERFORATIONS:7&d@

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From	To		
711	787 PERFORATION	.375	4

MILLS/500

7&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS7&d@

Depth(ft)	Material	Amount	Density(pcf)
From	To		
0	454 12" CONDUCTOR		

7&d0DWELL TESTS:7&d@

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
01/31/1973	ARTESIAN FLOW	.279		

7&d0DGENERAL COMMENTS:7&d@

\*CONTROL - Well was equipped with valve to control flow.



WIN 000860

GSR1970 (c-1-1)12bdb-1 (American foundary and machine)

**LOCATION:**

N 903 ft E 1330 ft from W4 CORNER of SECTION 12 T 1S R  
1W BASE SL Elevation: 4225.00 feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

START DATE: 04/30/1953

COMPLETION DATE: 06/06/1953

**BOREHOLE INFORMATION:**

	Depth(ft)	Diameter(in)	Drilling Method	Drilling
Fluid	From To			
	0 1170	10		

**LITHOLOGY:**

	Depth(ft)	Lithologic Description
Color	From To	Rock Type
	0 20	OTHER
		TOP SOIL
	20 133	CLAY
BLUE	133 167	SAND
	167 203	CLAY, SAND
	203 219	SAND
	219 224	CLAY
	224 270	CLAY
		SANDY CLAY
	270 370	CLAY
BLUE	370 405	CLAY
	405 409	CLAY, SAND
	409 414	CLAY
	414 439	SAND
	439 473	CLAY, SAND
	473 485	SAND
	485 547	CLAY, SAND
	547 612	CLAY
	612 616	CLAY
		SANDY CLAY
	616 620	WATER-BEARING, SAND
		WATER SAND
	620 675	CLAY
	675 706	CLAY
		SANDY CLAY
	706 738	GRAVEL
		FINE GRAVEL
	738 900	CLAY
BLUE	900 920	WATER-BEARING, GRAVEL
		FINE WATER GRAVEL
	920 933	WATER-BEARING, SAND
	933 1130	WATER-BEARING, SAND, GRAVEL
		FINE GRAVEL
	1130 1161	CLAY
	1161 1163	WATER-BEARING, SAND
	1163 1168	CLAY
	1168 1170	OTHER
		SHAPE

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 1170	STEEL		10

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz
Screen Diam/Length	Perf(in) Screen Type/# Perf.	
From To		
900 1170	PERFORATION	

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)
Time Pumped (hrs)			
06/06/1953		.334	

\*\*\*\*\* WIN: 001125 \*\*\*\*\*

7&l6D

7&a130M

Division of Water Rights Well

Data \_\_\_\_\_

7&d0DLOCATION:7&d@

N 3509 ft W 2542 ft from SE CORNER of SECTION 31 T 1N R 1E BASE  
SL Elevation: 4600.00 feet  
DEEP WELL #1

7&d0DDRILLER ACTIVITIES:7&d@

ACTIVITY # 1 NEW WELL

START DATE: 04/10/1950 COMPLETION DATE: 04/29/1950

7&d0DBOREHOLE INFORMATION:7&d@

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From	To		
0	710	12	

7&d0DLITHOLOGY:7&d@

Depth(ft)	Lithologic Description
Color	Rock Type

From	To	
0	18	SAND, GRAVEL
18	45	SAND, GRAVEL
		FINE SAND W/GRAVEL
45	65	SAND
		FINE SAND
65	80	CLAY, GRAVEL
		GRAVEL W/CLAY
80	84	WATER-BEARING, SAND
		FINE SAND
84	100	CLAY, GRAVEL
		GRAVEL IN CLAY
100	205	GRAVEL, OTHER
ROCK		
		DRY GRAVEL & ROCK
205	224	CLAY, GRAVEL
		GRAVEL IN CLAY
224	255	CLAY, GRAVEL
		FINE GRAVEL IN CLAY
255	280	CLAY
BROWN		
280	325	CLAY, SAND
		STREAKED SANDY CLAY
325	404	GRAVEL
		CEMENTED
404	411	CLAY
411	440	CLAY, GRAVEL
		GRAVEL IN CLAY
440	443	CLAY
443	465	WATER-BEARING, GRAVEL
465	492	CLAY, GRAVEL
		GRAVEL IN CLAY
492	500	WATER-BEARING, GRAVEL
500	516	CLAY, GRAVEL
		GRAVEL IN CLAY
516	535	WATER-BEARING, GRAVEL
535	540	GRAVEL
		CEMENTED
540	630	CLAY, GRAVEL
		HARD CLAY W/GRAVEL
630	660	WATER-BEARING, GRAVEL
		GOOD WATER

660	665	SAND
		FINE SAND
665	680	SAND
680	710	OTHER

BEDROCK

7&d0DWATER LEVEL DATA:7&d@

Date	Time	Water Level (feet) (-)above ground	Status
04/29/1950		405.00	STATIC

7&d0DCONSTRUCTION - CASING:7&d@

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 540		.250	12
540 710		.250	10

7&d0DCONSTRUCTION - SCREENS/PERFORATIONS:7&d@

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen
Diam/Length	Perf(in)	Screen Type/#	Perf.
From To			
443 465		PERFORATION	
492 500		PERFORATION	
516 535		PERFORATION	
530 560		PERFORATION	
630 660		PERFORATION	

7&d0DWELL TESTS:7&d@

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time
Pumped (hrs)				

04/29/1950	PUMP	.446		
------------	------	------	--	--

7&d0DWATER QUALITY DATA AVAILABLE7&d@

7&d0DGENERAL COMMENTS:7&d@

\*WATER BEARING STRATUM - 443-465, 492-500, 530-560, 630-660,  
516-535

\*CASING - 180' OF T & C

\*\*\*\*\* WIN: 001264 \*\*\*\*\*

7&l6D

7&a130M

Division of Water Rights Well

Data

7&d0DLOCATION:7&d@

N 1052 ft E 2464 ft from SW CORNER of SECTION 13 T 2S R 2W BASE  
SL Elevation: 4775.00 feet  
WELL 6200 S. AND 5200 W.

7&d0DDRILLER ACTIVITIES:7&d@

ACTIVITY # 1 NEW WELL  
DRILLER: Robinson Drilling Company

LICENCE #: 10

START DATE: 07/20/1972 COMPLETION DATE: 04/20/1973

ACTIVITY # 2 WELL REPAIR

DRILLER: WIDDISON TURBINE SERVICE

LICENCE #: 533

START DATE: 09/17/1993 COMPLETION DATE: 11/04/1993

7&d0DBOREHOLE INFORMATION:7&d@

Depth(ft)		Diameter(in)	Drilling Method	Drilling Fluid
From	To			
0	86	20.0	CABLE TOOL	NONE
86	1232	16.0	CABLE TOOL	NONE
1232	1385	12.0	CABLE TOOL	NONE

7&d0DLITHOLOGY:7&d@

Depth(ft) Lithologic Description  
Color Rock Type

From	To	
0	3	OTHER
SOIL		
3	4	CLAY
4	20	SAND, GRAVEL
20	65	SAND
65	77	CLAY
77	105	CLAY, GRAVEL
105	165	CLAY
165	280	WATER-BEARING, CLAY, SAND, GRAVEL SMALL AMOUNT OF WATER
280	307	CLAY, SAND
307	320	SAND, GRAVEL
320	340	CLAY, SAND
340	345	CLAY, SAND, GRAVEL
345	422	CLAY, SAND
422	456	CLAY, SAND, GRAVEL
456	470	SAND
470	575	CLAY
RED		
575	720	CLAY, SAND
720	722	GRAVEL FINE
722	803	CLAY, SAND, GRAVEL
803	807	GRAVEL FINE
807	953	CLAY, GRAVEL
953	956	GRAVEL FINE
956	1006	CLAY, SAND, GRAVEL
1006	1028	CLAY
RED		
1028	1040	CLAY FINE

1040 1147 CLAY

BLUE

1147 1153 SAND

1153 1170 CLAY

BLUE

1170 1225 CLAY, GRAVEL

BLUE

1225 1275 CLAY

GREY

1275 1323 CLAY, SAND, GRAVEL

1323 1385 CLAY

7&d0DWATER LEVEL DATA:7&d@

Date	Time	Water Level (feet) (-)above ground	Status
------	------	---------------------------------------	--------

04/13/1973		136.00	STATIC
------------	--	--------	--------

ADDITIONAL DATA AVAILABLE, USE OTHER PRINT OPTION

7&d0DCONSTRUCTION - CASING:7&d@

Depth(ft) From	Material To	Gage(in)	Diameter(in)
0	86 NEW	.312	20
0	1232 NEW	.312	16
1130	1295 NEW	.312	12

7&d0DCONSTRUCTION - SCREENS/PERFORATIONS:7&d@

Diam/Length	Depth(ft) Perf(in)	Screen(S) or Perforation(P) Screen Type/# Perf.	Slot/Perf. siz	Screen
78	307	320 PERFORATION	.312	2.5
30	340	345 PERFORATION	.312	2.5
198	422	455 PERFORATION	.312	2.5
60	720	730 PERFORATION	.312	2.5
24	803	807 PERFORATION	.312	2.5
18	933	956 PERFORATION	.312	2.5
72	1028	1040 PERFORATION	.312	2.5

7&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS7&d@

Depth(ft) From	Material To	Amount	Density(pcf)
0	86 BENTONITE CLAY		
1230	1385 SMALL GRAVEL		

7&d0DWELL TESTS:7&d@

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
04/13/1976	PUMP	.446	119	
04/13/1976	PUMP	.535	134	
04/13/1976	PUMP	.691	153	
10/19/1993	STEP TEST	1.337	242.1	12
10/19/1993	STEP TEST PUMP	1.114	107.7	1

7&d0DWATER QUALITY DATA AVAILABLE7&d@

7&d0DGENERAL COMMENTS:7&d@

CONSTRUCTION INFORMATION:

Well Head Configuration: Submersible discharge head on top of casing

Casing Joint Type: Welded Perforator used: Mills

Screen/Perforations:

307 to 320 Size: .313 2.50 6 per foot (Old) P  
344 to 349 .313 2.50 6 per foot (Old) P  
425 to 455 .313 2.50 6 per foot (Old) P  
720 to 730 .313 2.50 6 per foot (Old) P  
803 to 807 .313 2.50 6 per foot (Old) P  
953 to 956 .313 2.50 6 per foot (Old) P

Well Development: A Pump test was done by Widdison

10-20-93 Constant rate test Yield: 500 GPM Drawdown: 187.20 ft  
Time: 24 hours

Pump: Goulds Bus 8RJLC 5 stg Horsepower: 60 Hp Intake Depth: 485 ft

max pump rate: 450 gpm Well disinfected: Yes

Comments: We added 286' of perforations to this well from 720' to  
1006' redeveloped it and performed a pump test. We then installed  
a new sub pump in the well. The sand content of the water at 500 gpm  
is 3.6PPM I have copied most of the data from the org log where it  
was wrong (noted). 2 seperate video logs were done on the well.

SCREEN/PERFORATIONS: CONTINUED::::::::::::::::::

1030 to 1040 .313 2.50 6 per foot (Old) P

720 to 1006 .250 2.50 12 per foot These are the new ones we did  
8 per round and 9" vertical  
spacing

Note: the depth of these perforations were verified by the video log.

\*\*\*\*\* WIN: 001265 \*\*\*\*\*

**Utah Division of Water Rights**

Water Well Log

**LOCATION:**

S 1200 ft W 600 ft from NE CORNER of SECTION 23 T 4S R 1W BASE  
SL Elevation: 4800.00 feet  
WELL 3

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL  
DRILLER: Lee & Sons Drilling  
LICENSE #: 11  
START DATE: 11/28/1972 COMPLETION DATE: 04/05/1973  
ACTIVITY # 2 WELL DEEPENING  
DRILLER: PETERSEN BROTHERS DRILLING CO INC  
LICENSE #: 249  
START DATE: 12/ /1979 COMPLETION DATE: 03/ /1980  
ACTIVITY # 3 NEW WELL  
DRILLER: ADVANCED DRILLING INCORPORATED  
LICENSE #: 451  
START DATE: 05/08/1996 COMPLETION DATE: 11/20/1996

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From	To		
0	650	16	CABLE
650	920	16	CABLE

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From	To
0	112 CLAY, GRAVEL, BOULDERS
112	275 GRAVEL DRY
275	650 WATER-BEARING, CLAY, GRAVEL
650	661 CLAY, GRAVEL BROWN
661	667 GRAVEL
667	684 CLAY, GRAVEL STICKY - LIGHT
684	689 CLAY, GRAVEL DENSE
689	724 GRAVEL BROWN
724	773 CLAY, COBBLES 1 1/2" TO 3" COBBLES
773	775 CLAY DENSE
775	783 CLAY, COBBLES HARD TIGHT
783	786 CLAY, GRAVEL MORRE GRAVEL THAN CLAY
786	824 CLAY, GRAVEL SMALL GRAVEL
824	835 CLAY, GRAVEL
835	857 CLAY, SAND, GRAVEL
857	864 CLAY, GRAVEL, COBBLES, BOULDERS
864	889 CLAY, GRAVEL
889	920 CLAY, GRAVEL, COBBLES 1" LARGER



**WATER LEVEL DATA:**

Date	Time	Water Level (feet) (-)above ground	Status
04/05/1973		350.00	STATIC

ADDITIONAL DATA AVAILABLE, USE OTHER PRINT OPTION

**CONSTRUCTION - CASING:**

Depth(ft) From To	Material	Gage(in)	Diameter(in)
0 100	NEW	.312	20
0 650	NEW	.312	16
640 845		.250	8

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft) Diam/Length	Screen(S) or Perforation(P) Perf(in) Screen Type/#	Slot/Perf. siz	Screen
2750 365 640	PERFORATION	.375	3
868 890	SCREEN	40	8

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft) From To	Material	Amount	Density(pcf)
0 150	CEMENT GROUT		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
03/ /1980	PUMP	.446	250	8

**GENERAL COMMENTS:**

\*WELL was drilled to 920' then backfilled to 845'. 30' of 8" screen installed. Blank pipe overlaps into 16" casing. All of 12" casing removed.

\*DIAMETER OF WELL - 16", 12" & 8"

\*WELL DRILLED 5/8/96 THRU 11/20/96 REPORTED: JANUARY 21, 1997

BOREHOLE:

0-1330 15' mud rotary bentonite & polymer

1330-1900 8.75" Reverse Rotary w/water

LITHO:

0-340 low permeable/clay/silt/sand/gravel/cobbles/alluvium/tan/very little clay

340-1090 low permeable/clay/silt/sand/gravel/cobbles/alluvium/tan/clay continously increasing-mostly clay at 1064

1090-1290 Permeable: High/M/quartzite/tan & gray/pulverized-weak cementing

1290-1400 Permeable: High/M/limestone/gray/fractured

1400-1900 Permeable: High/M/quartzite/gray/pulverized/weak cementing

Geophysical log available from driller 0'-1300'

STATIC WATER LEVEL:

Date: 11/20/96 Water Level: 126'7" Flowing: No

Method of measurement: Sounder

Point of measurement: TOC

Height above surface: NO data

Temperature: No data

CONSTRUCTION INFORMATION:

Casing:

0-40 steel .250 x 16"  
+2-1095 steel sch 40 10"  
1290-1330 steel sch 40 10"  
1303-1529 alternating 6" casing 21' +6" ss screen 20'  
1869-1890 steel sch 40 6"  
Screen Perforations:  
1095-1290 50 slot 10" stainless Steel  
1529-1869 50 slot 6" ss  
Filter Pack:  
0-40 neat cement around 16" surface casing 5.2 gal/sack  
0-200 neat cement from top of surface casing to 200' 5.2 gal/sack  
1310-1330 neat cement at the bottom of 10" casing 5.2 gal/sack  
Well head configuration: Welded plate on top of 10"  
Casing Joint type: Welded  
Perforator used: No data  
Additional data not available

\*\*\*\*\* WIN: 001295 \*\*\*\*\*

7&l6D

7&a130M

Division of Water Rights Well

Data

7&d0DLOCATION:7&d@

N 685 ft E 670 ft from S4 CORNER of SECTION 10 T 3S R 1E BASE SL  
Elevation: 5004.00 feet

7&d0DDRILLER ACTIVITIES:7&d@

ACTIVITY # 1 NEW WELL

DRILLER: Mussleman, Andrew R.

LICENCE #: 523

START DATE: 01/03/1988 COMPLETION DATE: 06/01/1992

7&d0DBOREHOLE INFORMATION:7&d@

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From	To		
0	1508	16.0	ROTARY

7&d0DLITHOLOGY:7&d@

Depth(ft)	Lithologic Description
Color	Rock Type
From	To
0	38 OTHER
TOP SOIL	
38	160 CLAY, COBBLES
160	230 CLAY, SAND
230	440 CLAY, SAND, GRAVEL
440	525 SAND, GRAVEL
525	580 OTHER
580	600 CLAY, SAND
600	605 CLAY, SAND, GRAVEL
605	645 SILT
645	675 SILT, SAND, GRAVEL
675	744 COBBLES, OTHER
744	765 SILT, SAND, GRAVEL
765	842 CLAY, COBBLES
842	850 SAND, GRAVEL
850	972 COBBLES, OTHER
972	1100 CLAY, COBBLES
1100	1180 SILT, SAND, GRAVEL, COBBLES
1180	1220 CLAY, SILT
	60% CLAY
1220	1508 CLAY, SILT, SAND
	90% CLAY

7&d0DWATER LEVEL DATA:7&d@

Date	Time	Water Level (feet)	Status
		(-)above ground	
01/03/1988		561.00	STATIC

7&d0DCONSTRUCTION - CASING:7&d@

Depth(ft)	Material	Gage(in)	Diameter(in)
From	To		
0	604 NEW	.380	16.0
604	1300 NEW	.250	8.00
1300	1508 NEW	.250	6.00

7&d0DCONSTRUCTION - SCREENS/PERFORATIONS:7&d@

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From	To		
130	604 PERFORATION	.125	3.00
FACOTRY CUT			
508	1300 PERFORATION	.125	3.00
FACTORY CUT			

\*\*\*\*\* WIN: 001297 \*\*\*\*\*

7&l6D

7&a130M

Division of Water Rights Well

Data \_\_\_\_\_

7&d0DLOCATION:7&d@

S 2370 ft E 190 ft from N4 CORNER of SECTION 10 T 3S R 1E BASE SL  
Elevation: 4948.00 feet

7&d0DDRILLER ACTIVITIES:7&d@

ACTIVITY # 1 NEW WELL

DRILLER: LANG EXPLORATORY DRILLING INC

LICENCE #: 568

START DATE: 07/06/1991 COMPLETION DATE: 08/06/1991

7&d0DBOREHOLE INFORMATION:7&d@

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From	To		
0	960	20	ROTARY

7&d0DLITHOLOGY:7&d@

Depth(ft)	Lithologic Description
Color	Rock Type
From	To
0	15 SAND, COBBLES
15	110 SAND, COBBLES
110	115 CLAY
115	310 SAND, GRAVEL
310	370 CLAY, SAND, GRAVEL, COBBLES
370	430 SAND, GRAVEL
430	600 CLAY, SAND, GRAVEL
600	630 SAND
630	640 CLAY
640	660 SAND, GRAVEL
660	690 CLAY, SAND, GRAVEL
690	710 SAND, GRAVEL, COBBLES
710	780 CLAY, SAND, GRAVEL
780	850 CLAY
850	960 CLAY, SAND, GRAVEL
	HARD ROCK

7&d0DWATER LEVEL DATA:7&d@

Date	Time	Water Level (feet)	Status
		(-)above ground	
07/25/1991		492.00	STATIC

ADDITIONAL DATA AVAILABLE, USE OTHER PRINT OPTION

7&d0DCONSTRUCTION - CASING:7&d@

Depth(ft)	Material	Gage(in)	Diameter(in)
From	To		
0	35	.375	32
+3	610	.375	20
630	650	.375	20
750	870	.375	20

7&d0DCONSTRUCTION - SCREENS/PERFORATIONS:7&d@

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From	To		
610	630 SCREEN	.050	20
JOHNSON HI			
650	750 SCREEN	.050	20
JOHNSON HI			
870	950 SCREEN	.050	20
JOHNSON HI			

7&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS7&d@

Depth(ft)	Material	Amount	Density(pcf)
From	To		
0	220	BENTONITE, NEAT CEMENT	
220	960	8-12, 6-9 SIZE GRAVEL	

7&d0DWELL TESTS:7&d@

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
/ /	PUMP	1.203	22.67	1.5
/ /	PUMP	2.270	45.18	3
/ /	PUMP	3.291	76.42	5
/ /	PUMP	4.456	107.05	7
/ /	PUMP	5.096	129.40	9

7&d0DWATER QUALITY DATA AVAILABLE7&d@

\*\*\*\*\* WIN: 001359 \*\*\*\*\*

7&l6D

7&a130M

Division of Water Rights Well

Data

7&d0DLOCATION:7&d@

N 525 ft E 1000 ft from SW CORNER of SECTION 21 T 2S R 1E BASE SL  
Elevation: 4467.00 feet  
1500 EAST 7000 SOUTH - RESERVOIR WELL

7&d0DDRILLER ACTIVITIES:7&d@

ACTIVITY # 1 NEW WELL

START DATE: 05/14/1951 COMPLETION DATE: 08/24/1951

ACTIVITY # 2 WELL REPAIR

DRILLER: PETERSEN BROTHERS DRILLING CO INC

LICENCE #: 249

START DATE: 09/10/1990 COMPLETION DATE: 03/27/1991

7&d0DBOREHOLE INFORMATION:7&d@

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 695	16	CABLE	

7&d0DLITHOLOGY:7&d@

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 40	SAND
40 45	CLAY
BROWN	
45 75	CLAY, SAND
BLUE	
75 85	OTHER
CONGLOMERATE	
85 98	CLAY, BOULDERS BOULDERS IN CLAY
98 114	WATER-BEARING, GRAVEL
114 125	CLAY, SAND
125 154	SAND FINE SAND
154 170	WATER-BEARING, GRAVEL FINE GRAVEL
170 190	OTHER
CONGLOMERATE	
190 204	WATER-BEARING, GRAVEL
204 214	OTHER
CONGLOMERATE	
214 225	WATER-BEARING, GRAVEL
225 258	OTHER
CONGLOMERATE	
258 285	CLAY
GREY	
285 289	WATER-BEARING, GRAVEL GOOD WATER
289 293	SAND FINE SAND
293 310	OTHER
CONGLOMERATE	
	HARD CONGLOMERATE
310 315	OTHER
CONGLOMERATE	
315 324	WATER-BEARING, SAND, GRAVEL FINE GRAVEL
324 355	CLAY, OTHER
ROCK	

			FINE ROCK IN CLAY
355	385		CLAY
BLUE			
385	390		CLAY, SAND
YELLOW			
390	411		WATER-BEARING, SAND
			MIXED SAND
411	473		GRAVEL
			CEMENTED FINE GRAVEL
473	477		CLAY
BROWN			
477	478		WATER-BEARING, GRAVEL
478	519		CLAY
			HARD CONGLOMERATE
519	552		CLAY, GRAVEL
			GRAVEL IN STICKY CLAY
552	560		OTHER
CONGLOMERATE			
560	566		WATER-BEARING, CLAY, GRAVEL
566	571		OTHER
CONGLOMERATE			
571	580		CLAY
580	589		OTHER
CONGLOMERATE			
			HARD CONGLOMERATE
589	593		CLAY
593	604		OTHER
CONGLOMERATE			
604	611		CLAY
611	615		OTHER
CONGLOMERATE			
615	623		CLAY
623	643		OTHER
CONGLOMERATE			
			VERY HARD CONGLOMERATE
643	646		CLAY
			STICKY CLAY
646	648		OTHER
CONGLOMERATE			
648	651		CLAY
			STICKY CLAY
651	654		OTHER
CONGLOMERATE			
654	655		CLAY
655	674		OTHER
CONGLOMERATE			
674	680		CLAY
680	695		OTHER
CONGLOMERATE			

CONGLOMERATE OR BED ROCK

7&d0DWATER LEVEL DATA:7&d@

Date	Time	Water Level (feet)	Status
		(-)above ground	
08/24/1951		76.00	STATIC

ADDITIONAL DATA AVAILABLE, USE OTHER PRINT OPTION

7&d0DCONSTRUCTION - CASING:7&d@

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 285			16
0 310		.312	16
285 506			12

7&d0DCONSTRUCTION - SCREENS/PERFORATIONS:7&d@

Perf(in)	Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
	From	To		
	98	114		PERFORATION
	154	225		PERFORATION
	285	289		PERFORATION
	315	324		PERFORATION
	320	329		PERFORATION
150				
	390	411		PERFORATION
	394	416		PERFORATION
300				
	477	478		PERFORATION
	482	495		PERFORATION
180				

7&d0DWELL TESTS:7&d@

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
08/24/1951	PUMP	1.335		
03/20/1991	PUMP	3.342	14	12
03/20/1991	PUMP	4.011	19	12

7&d0DWATER QUALITY DATA AVAILABLE7&d@



\*\*\*\*\* WIN: 001364 \*\*\*\*\*

•&l6D  
•&a130M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@  
S 800 ft E 1000 ft from NW CORNER of SECTION 21 T 8S R 3E BASE SL  
Elevation: feet  
•&d0DDRILLER ACTIVITIES:•&d@  
ACTIVITY # 1 NEW WELL  
DRILLER: BASIN & RANGE DRILLING CO LICENCE #: 354  
START DATE: 10/25/1992 COMPLETION DATE: 11/11/1992  
•&d0DBOREHOLE INFORMATION:•&d@  
Depth(ft) Diameter(in) Drilling Method Drilling Fluid  
From To  
0 292 8 CABLE  
•&d0DLITHOLOGY:•&d@  
Depth(ft) Lithologic Description  
Color Rock Type  
From To  
0 4 CLAY  
TAN T.S.  
4 25 SAND, GRAVEL, OTHER  
TAN COBBLES  
25 44 SAND, GRAVEL  
TAN  
44 61 SAND  
TAN  
61 71 SAND, GRAVEL  
TAN  
71 110 SAND  
GRAY  
110 120 SILT  
GRAY  
120 220 CLAY  
GRAY  
220 225 CLAY, GRAVEL  
GRAVE 0.24"  
225 233 CLAY  
GRAY  
233 264 SILT  
GRAY  
264 270 SAND  
HARD CEMENTED  
270 286 SAND, GRAVEL, OTHER  
CONGLOMERATE  
SMALL GRAV.  
286 292 WATER-BEARING, BOULDERS, OTHER  
CONGLOMERATE  
LOTS OF WATER  
•&d0DWATER LEVEL DATA:•&d@  
Date Time Water Level (feet) Status  
(-)above ground  
11/12/1992 136.00 STATIC  
•&d0DCONSTRUCTION - CASING:•&d@  
Depth(ft) Material Gage(in) Diameter(in)  
From To  
+1.7 289.8 NEW .322 8  
•&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS:•&d@  
Depth(ft) Material Amount Density(pcf)  
From To  
0 100 BENTONITE  
•&d0DWELL TESTS:•&d@  
Date Test Method Yield (CFS) Drawdown (ft) Time Pumped (hrs)  
11/12/1992 PUMP .038 8  
•&d0DGENERAL COMMENTS:•&d@  
\*TYPE OF WATER: surface  
\*METHOD OF SEALING OFF STRATA: Surface casing & bentonite. Surface casing pulled after well was test pumped.  
\*PUMP TEST - Drawdown unknown.

WIN 001498

GSR1970 (d-2-1)2bbb-1 (County water system)

**LOCATION:**

S 365 ft E 40 ft from NW CORNER of SECTION 2 T 2S R  
1E BASE SL Elevation: 4665.00 feet  
WELL #1 4171 S. 2700 E.

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

START DATE: 02/12/1951 COMPLETION DATE: 03/01/1951

**BOREHOLE INFORMATION:**

	Depth(ft)	Diameter(in)	Drilling Method	Drilling
Fluid	From To			
	0 400	12		

**LITHOLOGY:**

	Depth(ft)	Lithologic Description
Color	From To	Rock Type
	0 2	OTHER
TOP SOIL	2 90	OTHER
CONGLOMERATE	90 97	OTHER
RED	97 118	CONGLOMERATE
	118 167	CLAY
	167 171	OTHER
CONGLOMERATE	171 258	CLAY
	258 265	OTHER
HARDPAN	265 268	OTHER
	268 277	WATER-BEARING, GRAVEL
	277 285	CLAY, SAND
CONGLOMERATE	285 298	OTHER
	298 304	SAND, GRAVEL
	304 310	CLAY
CONGLOMERATE	310 319	OTHER
	319 353	GRAVEL
CONGLOMERATE	353 358	OTHER
	358 367	WATER-BEARING, GRAVEL
CONGLOMERATE	367 374	OTHER
	374 377	WATER-BEARING, GRAVEL
	377 398	CLAY
	398 400	WATER-BEARING, GRAVEL
BEDROCK		OTHER

**CONSTRUCTION - CASING:**

	Depth(ft)	Material	Gage(in)	Diameter(in)
	From To			
	0 400			12

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Screen Diam/Length	Depth(ft) From To	Screen(S) or Perforation(P) Perf(in)	Slot/Perf. siz Screen Type/# Perf.
	260	268	PERFORATION
	285	298	PERFORATION
	310	367	PERFORATION
	377	397	PERFORATION

**WATER QUALITY DATA AVAILABLE**

001543  
57-2389

**LOCATION:**

S 1498 ft W 229 ft from NE CORNER of SECTION 3 T 2S R 1E BASE  
SL Elevation: 4630.00 feet  
WELL #14 4280 S. 2700 E.

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL  
START DATE: 03/27/1961 COMPLETION DATE: 05/06/1961

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 470	16	CABLE	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 3	OTHER
TOP SOIL	
3 35	CLAY
GREY	
35 48	OTHER
CONGLOMERATE	
48 70	CLAY
BROWN	
70 90	OTHER
CONGLOMERATE	
90 92	CLAY
BROWN	
92 120	OTHER
CONGLOMERATE	
120 123	CLAY
BROWN	
123 165	OTHER
CONGLOMERATE	
165 167	SAND
167 251	OTHER
CONGLOMERATE	
251 265	WATER-BEARING, GRAVEL
	FINE WATER GRAVEL
265 277	OTHER
CONGLOMERATE	
277 291	CLAY
BROWN	
291 310	CLAY, BOULDERS
310 373	WATER-BEARING, GRAVEL
373 380	CLAY
380 416	WATER-BEARING, GRAVEL
416 420	CLAY
420 428	WATER-BEARING, GRAVEL
428 430	CLAY
430 442	WATER-BEARING, GRAVEL
442 450	CLAY
450 456	WATER-BEARING, GRAVEL
456 457	CLAY
457 467	WATER-BEARING, GRAVEL
467 470	BOULDERS

**WATER LEVEL DATA:**

Date	Time	Water Level (feet) (-)above ground	Status
05/06/1961		236.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft) From	Material To	Gage(in)	Diameter(in)
0	470 NEW	.312	16

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft) Diam/Length	Screen(S) or Perforation(P) Perf(in)	Screen Type/#	Slot/Perf. siz	Screen
From	To			
310	467	PERFORATION	.312	2

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
05/06/1961	PUMP	3.409	46	10

**WATER QUALITY DATA AVAILABLE**

001656  
57-4420

**LOCATION:**

S 90 ft E 740 ft from NW CORNER of SECTION 22 T 2S R 1E BASE  
SL Elevation: 4449.11 feet  
WELL 1078 2080 E. 6200 S.

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL  
START DATE: 07/26/1934 COMPLETION DATE: 08/14/1934  
ACTIVITY # 2 WELL REPAIR  
DRILLER: WIDDISON TURBINE SERVICE, LLC  
LICENSE #: 533  
START DATE: 01/07/2000 COMPLETION DATE: 05/15/2000

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From	To		
0	500	20	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From	To
0	11 CLAY, GRAVEL, BOULDERS
11	16 CLAY
YELLOW	
16	32 CLAY, GRAVEL
YELLOW	
32	40 1 & 4" GRAVEL; CLAY-HARD GRAVEL, BOULDERS
40	60 2 & 6" GRAVEL CLAY, SAND
BROWN	
60	98 WATER-BEARING, GRAVEL, BOULDERS
98	126 1 & 4" GRAVEL-BOULDERS-TIGHT WATER-BEARING, GRAVEL GRAVEL CEMENTED
126	170 CLAY, SAND
BROWN	
170	200 CLAY, GRAVEL
YELLOW	
200	215 SOME GRAVEL CLAY
YELLOW	
215	250 CLAY VERY HARD WATER-BEARING, CLAY, GRAVEL, BOULDERS
250	275 1/2 & 4" GRAVEL GRAVEL
275	290 1/2 & 6" GRAVEL TIGHT CLAY, GRAVEL, BOULDERS
290	313 1/2 & 6" GRAVEL GRAVEL, BOULDERS
313	320 1/2 & 6" GRAVEL CLAY
BROWN	
320	338 CLAY, GRAVEL, BOULDERS
338	353 1/2 & 6" GRAVEL, SOME CLAY CLAY, GRAVEL, BOULDERS
353	371 1 & 6 GRAVEL; CLAY-CEMENTED CLAY
BROWN	

371	468	CLAY, GRAVEL, BOULDERS
		1 & 6" GRAVEL; CLAY TIGHT
468	482	CLAY
BROWN		
		CLAY-HARD
482	500	CLAY
GREY & YELL		
		CLAY-VERY HARD

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
08/14/1934		72.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 500			20

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen
Diam/Length	Perf(in)	Screen Type/#	Perf.
From To			
100 124		PERFORATION	
217 313		PERFORATION	
320 354		PERFORATION	
368 486		PERFORATION	

**WATER QUALITY DATA AVAILABLE**

**GENERAL COMMENTS:**

WELL DRILLER'S REPORT FOR REPAIR RECEIVED 8-24-2000  
 Start: 1-7-2000 Completed: 5-15-2000  
 This well was drilled in August 1934 by Rosco Moss Co. There was no surface casing used when the well was drilled. The well was perforated as follows: 100-124, 217-313, 320-354, 368-486.  
 Some time in the 1970's the casing started to fall apart and JS Lee was hired to run new casing inside.  
 WELL LOG  
 18" od pre slotted pipe was run in the well from 0' to 500'. It was blank from 0' to 90' and slotted all the rest of the way to 500'.  
 In recent years the City has developed a problem. The well is now high in nitrates. They installed 4 treatment system but more was needed. It was decided that since there was no surface seal and that the perforations were so high in the well coming in at the 100' to 124' level. This is the point that we got involved.  
 First, we pulled the existing pump from the well. Next we backfilled the well from 500' up to 70'. We were able to perforate through both strings of casing. Both the 20" and the 18" at 70' we encountered cement between the two strings of pipe that JS Lee had installed. At this point we decided to pressure grout the well. 21 cubic yards of sand mix grout were placed in the well and then the well was sealed in and the grout was pumped up to 500 PSI. Now the volume of the 18" pipe was 10.5 yards this was filled and the rest of the grout (10 yards) was pumped out into the formation. This provided a very good seal of these areas. After the grout set up it was drilled out of the well down to the 160' level. This drilling of the grout was very hard and took over 45 days to do. After that the pea gravel that we had used to backfill the well was bailed out of the well. We then redeveloped the well and a test pump was done. We found that we had shut off approx 1/3 of the water that we had before. A new

pump was designed and installed in the well and it was put back in production.

#### CASING

0 to 90' .250 wall 18" Wall thick: .250" Nom. Diameter: 18 od  
Above installed in the 1970's.

70 to 160' We perforated the casing and installed a grout seal approx  
10 cu. yds. of grout went into the formation.

#### SCREEN/PERF

90' to 500' 1/4" slotted 18"

Well Head Configuration: Sub pump head

Access Port: yes

Casing joint type: Welded

Perforator used: Mills

Surface seal: yes

Depth of seal: 70-160'

Surface seal placement method: Press grout from inside casing through  
perfs.

#### WELL TESTS

04-2000 Method: Pump test Yield: 2401 gpm Drawdown: 56'

Time pumped: 12 hours

04-2000 Method: Pump test Yield: 2109 gpm Drawdown: 25.92'

Time pumped: 14 hours

The well was pumping approx 3100 gpm before this work with the same  
Drawdown.

#### PUMP

Description: Goulds 14RJHC-2 F

Horsepower: 200

Approx max pump rate: 2100 gpm

Well disinfected: yes

#### COMMENTS

We had some difficulty in cleaning out the grout from the well bore  
but after that all went well and we were able to improve the water  
quality.

Additional data not available.



001659  
57-4035

**LOCATION:**

S 185 ft W 1580 ft from N4 CORNER of SECTION 16 T 2S R 1E BASE  
SL Elevation: 4356.00 feet  
WELL 1650 5400 E. EDGEWOOD

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL  
START DATE: 06/25/1956 COMPLETION DATE: 08/13/1956  
ACTIVITY # 2 WELL REPAIR  
DRILLER: NICKERSON CO., INC.  
LICENSE #: 741  
START DATE: 05/14/2002 COMPLETION DATE: 05/30/2002

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From	To		
0	604	20	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From	To
0	4 OTHER
TOP SOIL	
4	23 SAND, GRAVEL GRAVEL 3"
23	38 CLAY, SAND, GRAVEL, BOULDERS
38	55 CLAY, GRAVEL
BLUE	
	SOME GRAVEL
55	83 GRAVEL GRAVEL 1"
83	100 GRAVEL, BOULDERS BOULDERS 5"
100	133 CLAY
YELLOW	
133	183 CLAY
BLUE	
183	241 SAND, GRAVEL, BOULDERS SMALL BOULDERS
241	253 CLAY
BROWN	
253	305 SAND, GRAVEL, BOULDERS
305	329 CLAY
GREY	
329	355 CLAY, GRAVEL GRAVEL 1 1/2"
355	395 SAND, GRAVEL, BOULDERS BOULDERS 5"
395	481 CLAY
BLUE	
481	499 SAND, GRAVEL GRAVEL 2"
499	505 CLAY
YELLOW	
505	529 SAND, GRAVEL GRAVEL 3"
529	541 SAND, GRAVEL GRAVEL 8"

541	545	CLAY
YELLOW		
545	555	SAND, GRAVEL, BOULDERS
		BOULDERS 6"
555	559	CLAY
YELLOW		
559	585	CLAY, SAND, GRAVEL
		CLAY TIGHT
585	604	CLAY, GRAVEL
YELLOW		
		SOME GRAVEL (HARD)

**WATER LEVEL DATA:**

Date	Time	Water Level (feet) (-)above ground	Status
08/13/1956		7.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft) From	Material To	Gage(in)	Diameter(in)
0	40		24
0	604		20

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
08/13/1956	PUMP	5.566	75	85.5

**WATER QUALITY DATA AVAILABLE**

**GENERAL COMMENTS:**

\*WELL DRILLER'S REPORT FOR REPAIR RECEIVED 6-3-2002

WATER LEVEL  
5-14-2002 Level: 30.5'

Flowing: no

Method of measurement: cable counter

Point of measurement: top of casing

PUMP

Description: 12" 7 stage

Horsepower: 125

Pump intake depth: 120'

Approx max pump rate: 1000 gpm

Well disinfected: yes

COMMENTS

Brush well 6 hrs. Bailed out well to 603'

Additional data not available.

\*\*\*\*\* WIN: 001760 \*\*\*\*\*

7&l6D

7&a130M

Division of Water Rights Well

Data \_\_\_\_\_

7&d0DLOCATION:7&d@

N 340 ft E 82 ft from W4 CORNER of SECTION 32 T 2S R 1E BASE SL  
Elevation: 4491.00 feet  
8201 S. 700 E.

7&d0DDRILLER ACTIVITIES:7&d@

ACTIVITY # 1 NEW WELL

START DATE: 05/24/1960

COMPLETION DATE: 09/10/1960

7&d0DBOREHOLE INFORMATION:7&d@

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From	To		
0	1007	20	CABLE

7&d0DLITHOLOGY:7&d@

Depth(ft)	Lithologic Description
Color	Rock Type
From	To

0	2	OTHER
SOIL		
2	5	CLAY, SAND
5	16	CLAY
GREY		
16	34	CLAY, GRAVEL
		2" GRAVEL
34	42	GRAVEL
		2" GRAVEL
42	60	CLAY, SAND
		HARD
60	80	CLAY, SAND, GRAVEL
		GRAVEL 1"
80	143	GRAVEL, BOULDERS
		HARD CEMENTED
143	170	CLAY, GRAVEL
		1/2" GRAVEL
170	190	SAND
		HARD CEMENTED
190	204	CLAY, GRAVEL
		1" GRAVEL
204	232	CLAY, SAND
		LITTLE CLAY
232	240	CLAY, GRAVEL
		1/2" GRAVEL
240	265	SAND
		HARD AND CEMENTED
265	276	CLAY
BROWN		
		STICKY AND BROWN
276	350	GRAVEL, OTHER
350	360	CLAY, GRAVEL
		1" GRAVEL
360	388	GRAVEL, OTHER
		HARD
388	410	CLAY, GRAVEL
410	428	CLAY
		STICKY
428	455	CLAY
		HARD
455	495	CLAY, GRAVEL

		2" GRAVEL
495	500	CLAY, GRAVEL
		IN LAYERS 2"
500	578	GRAVEL
		CEMENTED 1/2"
578	588	CLAY, GRAVEL
		1/2" GRAVEL
588	604	CLAY
		STICKY
604	616	CLAY, GRAVEL
		CEMENTED 2"
616	622	CLAY
		STICKY
622	630	CLAY, GRAVEL
		2" GRAVEL
630	648	CLAY
		STICKY CLAY
648	662	CLAY, GRAVEL
		1" GRAVEL
662	675	CLAY
		STICKY
675	684	CLAY, GRAVEL
		CLAY AND LITTLE GRAVEL
684	692	SAND, GRAVEL
		HARD CEMENTED SAND AND GRAVEL
692	715	OTHER
CONGLOMERATE		
715	739	CLAY, GRAVEL
		CLAY AND LITTLE GRAVEL 1"
739	745	GRAVEL
		HARD CEMENTED GRAVEL 3"
745	764	CLAY
		STICKY CLAY
764	775	GRAVEL
		CEMENTED GRAVEL 3"
775	785	OTHER
CONGLOMERATE		
785	798	GRAVEL
		CEMENTED GRAVEL 3"
798	822	CLAY, GRAVEL
		CLAY AND LITTLE GRAVEL 1"
822	833	GRAVEL
		CEMENTED GRAVEL 3"
833	838	CLAY, GRAVEL
BLUE		
		CLAY AND LITTLE GRAVEL (BLUE) 1/2"
838	865	CLAY
		STICKY CLAY
865	886	CLAY, GRAVEL
		HARD CLAY AND GRAVEL 1"
886	888	SAND
		CEMENTED SAND
888	905	CLAY
		TOUGH STICKY CLAY
905	918	CLAY, GRAVEL
		CEMENTED GRAVEL, LITTLE CLAY 3"
918	935	CLAY, SAND
		STICKY CLAY, CEMENTED SAND
935	955	CLAY
YELLOW		
		TOUGH STICKY CLAY (YELLOW)
955	960	CLAY, GRAVEL
		GRAVEL 1"

960 972 CLAY  
 TOUGH STICKY CLAY  
 972 980 CLAY, GRAVEL  
 CLAY AND GRAVEL 1"  
 980 996 CLAY, GRAVEL  
 CEMENTED GRAVEL AND LITTLE CLAY 3"  
 996 1007 CLAY  
 STICKY CLAY

7&d0DWATER LEVEL DATA:7&d@

Date	Time	Water Level (feet) (-)above ground	Status
09/10/1960		155.00	STATIC

7&d0DCONSTRUCTION - CASING:7&d@

Depth(ft) From	Material To	Gage(in)	Diameter(in)
0	306	.312	20
296	1007	.312	16

7&d0DCONSTRUCTION - SCREENS/PERFORATIONS:7&d@

Perf(in)	Screen Type/#	Depth(ft) From	Screen(S) or Perforation(P) To	Slot/Perf. siz	Screen Diam/Length
		475	588	PERFORATION	.50 4.5
1356		604	616	PERFORATION	.5 4.5
144		622	630	PERFORATION	.5 4.5
96		648	662	PERFORATION	.5 4.5
168		675	745	PERFORATION	.5 4.5
840		764	833	PERFORATION	.5 4.5
828		865	886	PERFORATION	.5 4.5
252		905	920	PERFORATION	.5 4.5
180		955	960	PERFORATION	.5 4.5
60		960	996	PERFORATION	.5 4.5
432					

7&d0DWELL TESTS:7&d@

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
09/10/1960	PUMP	2.340	120	35

7&d0DWATER QUALITY DATA AVAILABLE7&d@

\*\*\*\*\* WIN: 001779 \*\*\*\*\*

7&l6D

7&a130M

Division of Water Rights Well

Data \_\_\_\_\_

7&d0DLOCATION:7&d@

N 80 ft E 952 ft from SW CORNER of SECTION 34 T 2S R 1E BASE SL  
Elevation: 4742.00 feet  
8699 S. 2091 E

7&d0DDRILLER ACTIVITIES:7&d@

ACTIVITY # 1 NEW WELL

DRILLER: Lee & Sons Drilling

LICENCE #: 11

START DATE: 01/04/1980 COMPLETION DATE: 05/27/1980

7&d0DBOREHOLE INFORMATION:7&d@

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 875	20	CABLE	

7&d0DLITHOLOGY:7&d@

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 1	OTHER
TOP SOIL	
1 5	SAND, BOULDERS
5 12	CLAY
12 55	SAND
55 84	CLAY, SAND
84 94	SAND
94 240	SAND, GRAVEL
240 288	SAND, GRAVEL, BOULDERS
288 290	CLAY
BLUE	
290 318	SAND, GRAVEL
318 382	OTHER
CONGLOMERATE	
382 390	CLAY, SAND
390 421	SAND
FINE	
	FINE
421 461	WATER-BEARING, SAND, GRAVEL
	FIRST WATER
461 504	CLAY, SAND
504 515	SAND, GRAVEL
515 565	SAND
565 588	SAND, GRAVEL
588 595	CLAY
BROWN	
595 623	SAND, GRAVEL, BOULDERS
623 643	CLAY, GRAVEL
643 650	GRAVEL, BOULDERS
650 679	SAND
679 703	CLAY, SAND, GRAVEL
703 715	SAND, GRAVEL
715 740	CLAY
GREY	
740 775	CLAY, SAND, GRAVEL
775 803	SAND, GRAVEL
803 847	SAND, GRAVEL, BOULDERS
847 875	OTHER
CONGLOMERATE	

7&d0DWATER LEVEL DATA:7&d@

Date	Time	Water Level (feet) (-)above ground	Status
05/27/1980		375.00	STATIC

7&d0DCONSTRUCTION - CASING:7&d@

Depth(ft) From	Material To	Gage(in)	Diameter(in)
0	120 NEW	.375	24
0	772 NEW	.375	20

7&d0DCONSTRUCTION - SCREENS/PERFORATIONS:7&d@

Depth(ft) Perf(in)	Screen Type/# Screen	Screen(S) or Perforation(P) Type/# Perf.	Slot/Perf. siz	Screen Diam/Length
435	461	PERFORATION	.25	3
595	650	PERFORATION	.25	3
740	762	PERFORATION	.25	3
762	845	SCREEN	100	18

STAINLESS

7&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS7&d@

Depth(ft) From	Material To	Amount	Density(pcf)
0	120 CEMENT		

7&d0DWELL TESTS:7&d@

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
05/27/1980	PUMP	6.738	69	132

7&d0DWATER QUALITY DATA AVAILABLE7&d@

\*\*\*\*\* WIN: 001791 \*\*\*\*\*

7&l6D

7&a130M

Division of Water Rights Well

Data \_\_\_\_\_

7&d0DLOCATION:7&d@

S 723 ft W 1275 ft from NE CORNER of SECTION 9 T 3S R 1E BASE SL  
Elevation: 4798.00 feet  
1855 E. 9515 S. WHITE CITY

7&d0DDRILLER ACTIVITIES:7&d@

ACTIVITY # 1 NEW WELL

DRILLER: Lee & Sons Drilling

LICENCE #: 11

START DATE: 12/03/1981 COMPLETION DATE: 04/13/1982

7&d0DBOREHOLE INFORMATION:7&d@

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 950	20	CABLE	

7&d0DLITHOLOGY:7&d@

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 60	SAND, GRAVEL
60 158	SAND
158 160	CLAY, SAND
160 250	SAND, GRAVEL
250 395	SAND, GRAVEL
395 426	SAND
426 434	CLAY, SAND
434 448	WATER-BEARING, SAND, GRAVEL
	FIRST WATER
448 466	SAND
466 493	CLAY
BROWN	
493 553	SAND
553 570	SAND, GRAVEL
570 638	SAND, GRAVEL, BOULDERS
638 652	CLAY, SAND
652 655	CLAY
BROWN	
655 712	CLAY, SAND, GRAVEL
712 725	CLAY, SAND
725 780	OTHER
CONGLOMERATE	
780 823	SAND, GRAVEL, BOULDERS
823 876	OTHER
CONGLOMERATE	
876 950	CLAY, OTHER
CONGLOMERATE	
	STREAKS OF CLAY

7&d0DWATER LEVEL DATA:7&d@

Date	Time	Water Level (feet)	Status
		(-)above ground	
04/13/1982		430.00	STATIC

7&d0DCONSTRUCTION - CASING:7&d@

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 206	NEW	.312	24
0 950	NEW	.375	20



7&d0DCONSTRUCTION - SCREENS/PERFORATIONS:7&d@

Perf(in)	Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
	From	To		
979	570	638	PERFORATION	.25 3
820	655	712	PERFORATION	.25 3
2808	730	925	PERFORATION	.25 3

7&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS7&d@

Depth(ft)	Material	Amount	Density(pcf)
From	To		
0	350	BENONITE &CEMENT GROUT	

7&d0DWELL TESTS:7&d@

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
04/13/1982	PUMP	6.787	44	89

7&d0DWATER QUALITY DATA AVAILABLE7&d@

7&d0DGENERAL COMMENTS:7&d@

\*PERFORATIONS - 12 Holes around every 10"

\*\*\*\*\* WIN: 001809 \*\*\*\*\*

7&l6D

7&a130M

Division of Water Rights Well

Data \_\_\_\_\_

7&d0DLOCATION:7&d@

N 378 ft E 1440 ft from SW CORNER of SECTION 15 T 3S R 1E BASE SL  
Elevation: 4947.00 feet  
PEPPERWOOD WELL, 10800 S. 2200 E.

7&d0DDRILLER ACTIVITIES:7&d@

ACTIVITY # 1 TEST WELL

DRILLER: PETERSEN BROTHERS DRILLING CO INC

LICENCE #: 249

START DATE: 02/28/1972 COMPLETION DATE: 06/24/1972

ACTIVITY # 2 WELL REPLACEMENT

DRILLER: MIDWAY PEROFRATING

LICENCE #: 432

START DATE: 05/26/1995 COMPLETION DATE: 06/24/1995

7&d0DBOREHOLE INFORMATION:7&d@

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 640	12	CABLE	

7&d0DLITHOLOGY:7&d@

Color	Depth(ft)	Lithologic Description
From To	Rock Type	
0 4	OTHER	
TOP SOIL		
4 9	CLAY, SAND, GRAVEL	
LT. BROWN		
9 19	SAND, GRAVEL	
LT. BROWN		
19 41	CLAY, SAND, GRAVEL	
	STREAKS OF CLAY	
41 53	WATER-BEARING, CLAY	
GREY		
	WATER ON TOP 3	
53 67	CLAY, GRAVEL	
BROWN		
67 88	CLAY, GRAVEL	
GREY		
88 93	GRAVEL	
BROWN		
	NO WATER	
93 115	CLAY, GRAVEL	
BROWN		
	SOFT	
115 122	CLAY, GRAVEL	
GRAY		
	SMALL GRAVEL	
122 127	GRAVEL	
	NO WATER	
127 143	GRAVEL, COBBLES	
	NOT MUCH GRAVEL	
143 154	CLAY, SAND	
154 243	SAND, GRAVEL	
	NOT MUCH GRAVEL	
243 246	WATER-BEARING, GRAVEL	
	SOME WATER	
246 295	SAND	
BROWN		
295 298	CLAY	
BROWN		

298	322	SAND			
BROWN					
322	331	SAND, GRAVEL			
		SMALL GRAVEL - NO WATER			
331	406	CLAY, SAND, GRAVEL			
		MOSTLY CLAY - NO WATER			
406	443	SAND, GRAVEL			
		ANT GRAVEL, SOME SAND			
443	481	SAND, GRAVEL			
		NO WATER			
481	520	SAND, GRAVEL			
		NO WATER			
520	565	WATER-BEARING, SAND			
		SOME FINE SAND			
565	567	CLAY, GRAVEL			
567	570	WATER-BEARING, SAND			
		SOME WATER, LITTLE SAND			
570	586	CLAY, GRAVEL			
BROWN					
586	600	WATER-BEARING, CLAY, SAND, GRAVEL			
600	611	WATER-BEARING, SAND, GRAVEL			
		A LOT OF SAND			
611	612	WATER-BEARING, SAND			
		SOME SAND			
612	635	CLAY, GRAVEL			
635	640	WATER-BEARING, GRAVEL			
7&d0DWATER LEVEL DATA:7&d@					
	Date	Time	Water Level (feet)	Status	
			(-)above ground		
	06/	/1972	498.00	STATIC	
7&d0DCONSTRUCTION - CASING:7&d@					
	Depth(ft)	Material	Gage(in)	Diameter(in)	
	From To				
	0 100	NEW	.250	18	
	0 565	NEW	.250	12	
	555 640	NEW	.250	10	
7&d0DCONSTRUCTION - SCREENS/PERFORATIONS:7&d@					
	Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length	
Perf(in)	Screen Type/#	Perf.			
	From To				
	520 565	PERFORATION			
45					
	567 570	PERFORATION			
3					
	586 600	PERFORATION			
14					
	611 612	PERFORATION			
1					
	635 640	PERFORATION			
5					
7&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS7&d@					
	Depth(ft)	Material	Amount	Density(pcf)	
	From To				
	0 100	SURFACE CASING			
7&d0DWELL TESTS:7&d@					
	Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
	06/	/1972 PUMP	1.315	21	5
	06/	/1972 PUMP	1.373	22	5
	06/	/1972 PUMP	1.468	25	5
	06/	/1972 PUMP	1.916	33	5

7&d0DWATER QUALITY DATA AVAILABLE7&d0

7&d0DGENERAL COMMENTS:7&d0

\*REPLACEMENT WELL DRILLED 5/26/95 COMPLETED: 6/24/95

0-41 38" Static Reverse w/water  
41-935 30" Static Reverse w/water

LITHO:

0-35 sand/gravel/cobbles  
35-42 clay/sand/gravel w/10% clay  
42-48 clay/green  
48-65 sand/gravel  
65-70 sand  
70-93 sand & gravel  
93-106 gray/clay with sand layers  
106-130 sand & gravel  
130-135 sand w/small clay layers  
135-195 sand  
195-210 sand & gravel  
210-225 sand w/clay layers  
225-238 sand & gravel  
238-285 silica type sand  
285-308 gray & brown sandy clay  
308-350 coarse sand  
350-357 fine sand  
357-365 gray clay  
365-565 water sand & gravel w/granite boulders  
565-578 brown clay w/sand layers  
578-597 consolidated sand w/quartz  
597-608 sand & gravel  
608-610 sand w/clay layers  
610-650 sand & gravel  
650-665 sand  
665-670 sand & gravel  
670-705 silica type sand  
705-715 sand w/clay lenses  
715-740 brown clay  
740-750 green clay  
750-760 sand & gravel w/quartz  
760-763 brown clay  
763-768 sand w/clay lenses  
768-775 clay  
775-785 sand & pea gravel w/5% clay  
785-792 clay w/sand layers  
792-805 green sand w/green clay lenses  
805-873 sand & gravel  
873-874 green clay  
874-896 granite type sand  
896-902 granite sand w/clay layers  
902-910 sand & gravel w/some cobbles  
910-913 basalt boulders hard  
913-920 granite boulders w/sand  
920-934 basalt type bedrock hard

\*STATIC WATER LEVEL:

7/10/95

Water level: 530 feet

Flowing: No

Method of measurement: Electric Probe

Point of measurement: Ground level

Height above surface: N/A

\*CONSTRUCTION INFORMATION:

CASING:

+1-41 blank-a-53-b .375x32

+2-570 Blank-A-53-B .375x20

710-790 Blank-A-53-B .375x20  
910-930 Blank-A-53-B .375x20  
SCREEN:  
570-710 .080 x 20 Johnson XXHD Screen  
790-910 .045 x 20 Johnson XXHD Screen  
Well head configuration: Capped at \_2 feet w/3/8" cap  
Casing Joint Type: Weld Ring  
Access Port Provided: Yes  
Perforator used: No data  
FILTER PACK:  
0-260 Pure Neat Cement ASTM C-150 57 yds. 15.5 lbs. per gal  
260-265 Masonary Sand 1/2 yd  
265-750 4 x 8 mesh silica resources 45 yds  
750-930 8 x 16 mesh silica resources 23 yds  
\*PUMP: No data  
\*Well disinfected: No data  
Comments: No data  
Additional data not available

\*\*\*\*\* WIN: 001999 \*\*\*\*\*

7&l6D

7&a130M

Division of Water Rights Well

Data

7&d0DLOCATION:7&d@

S 1880 ft E 960 ft from NW CORNER of SECTION 24 T 1S R 1W BASE SL  
Elevation: 4230.00 feet  
BOLINDER WELL #2

7&d0DDRILLER ACTIVITIES:7&d@

ACTIVITY # 1 NEW WELL

DRILLER: Lee & Sons Drilling

LICENCE #: 11

START DATE: 10/14/1975 COMPLETION DATE: 03/24/1976

ACTIVITY # 2 WELL REPAIR

DRILLER: PETERSEN BROTHERS DRILLING CO INC

LICENCE #: 249

START DATE: 11/25/1988 COMPLETION DATE: 02/01/1989

7&d0DBOREHOLE INFORMATION:7&d@

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 1088	16	CABLE	

7&d0DLITHOLOGY:7&d@

Depth(ft)	Lithologic Description
Color	Rock Type
From To	

0	7	CLAY
BROWN		
7	55	CLAY, SAND
BLUE		
55	80	CLAY
BLUE		
80	157	CLAY, SAND
BLUE		
157	162	OTHER
CONGLOMERATE		
162	174	CLAY, SAND
		COARSE SAND
174	200	SAND
		CEMENTED
200	215	CLAY
BLUE		
215	260	CLAY, SAND
260	276	SAND
		CEMENTED
276	279	CLAY
BLUE		
279	285	GRAVEL
		CEMENTED
285	376	CLAY, SAND
GREY		
376	402	CLAY
BROWN		
402	417	CLAY, SAND
		FINE SAND
417	455	CLAY
RED		
455	467	CLAY, SAND
BROWN		
467	503	CLAY
GREY		
		STICKY
503	510	CLAY, SAND

510 531 COARSE SAND  
 GREY 531 540 CLAY, SAND  
 540 702 OTHER  
 HARDPAN  
 540 702 CLAY  
 BROWN/GREY  
 702 713 STICKY  
 713 820 GRAVEL, COBBLES  
 BROWN/GREY 820 970 CLAY  
 820 970 CLAY, GRAVEL, COBBLES  
 970 1050 SOME GRAVEL  
 BROWN/GREY 970 1050 CLAY  
 1050 1063 STICKY  
 1063 1088 GRAVEL, COBBLES  
 GREY 1063 1088 CLAY

7&d0DWATER LEVEL DATA:7&d@

Date	Time	Water Level (feet)	Status
		(-)above ground	
03/24/1976		250.00	FLOWING

ADDITIONAL DATA AVAILABLE, USE OTHER PRINT OPTION

7&d0DCONSTRUCTION - CASING:7&d@

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 733	NEW	.375	16
718 1044	NEW	.375	12
1025 1088	NEW	.365	10

7&d0DCONSTRUCTION - SCREENS/PERFORATIONS:7&d@

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in) Screen Type/# Perf.			
From To			
163 168	PERFORATION	.125	2
40 180 206	PERFORATION	.125	2
208 267 281	PERFORATION	.125	2
32 286 292	PERFORATION	.125	2
64 527 538	PERFORATION	.125	2
48 702 705	PERFORATION	.125	2
824 835	PERFORATION	.125	2
859 878	PERFORATION	.125	2
893 927	PERFORATION	.125	2
1041 1071	PERFORATION	.125	2

7&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS7&d@

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 100	CEMENT		

7&d0DWELL TESTS:7&d@

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
03/24/1976	PUMP	1.876	75	15
01/30/1989	PUMP	.501	135	8

7&d0DWATER QUALITY DATA AVAILABLE7&d@

7&d0DGENERAL COMMENTS:7&d@

Note: 11-25-88 pump was pulled- heavy well brush was run to bottom of 16" casing. Well began to flow. Well flowed approx 35 GPM. Then brushing was completed to bottom 1080'. Well was surged very easy for 28 hours. Pump was set and test was performed up to 461 GPM w/165' pumping level. However water would not clear up. Wethen run TV camera down along side of pump-located dirty perforations-and filled with pea gravel and cement plug.

NOTE:

Located with TV camera on 12-19-88:

16" cas 163' to 168'  
          180' to 206'  
          267' to 281'  
          286' to 292'  
          527' to 538'  
          702' to 705'  
12" cas 824' to 835'  
          859' to 878'  
          893' to 927'  
10" cas 1041' to 1071'

NOTE: TV camera was run down along side of test pump to bottom (1071') - and then test pump was started and camera was pulled up slowly and dirty perforated zones were located. Then well was filled with pea gravel - then cement plug was set on top of gravel. Finally well was plugged back to 800'. Final test pump was 225 GPM w/136' pumping level.



002125  
59-4754

**LOCATION:**

N 259 ft W 491 ft from E4 CORNER of SECTION 19 T 1S R 1W BASE  
SL Elevation: 4240.00 feet  
WEST VALLEY WELL, 2400 S. 4100 WEST

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL  
DRILLER: Robinson Drilling Company  
LICENSE #: 10  
START DATE: 06/02/1980 COMPLETION DATE: 02/04/1981

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 1473	10	CABLE	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 6	OTHER
FILL	
6 20	CLAY, SAND
20 66	SAND
66 156	CLAY, SAND
156 163	SAND, GRAVEL
	VERY FINE GRAVEL
163 198	CLAY, SAND
198 280	CLAY
BLUE/YEL/BRN	
280 430	CLAY, SAND
430 434	SAND, GRAVEL
	GRAVEL VERY FINE
434 548	CLAY, SAND
548 557	CLAY
557 560	SAND
	COARSE
560 762	CLAY, GRAVEL
	SMALL GRAVEL
762 798	CLAY, SAND
798 818	CLAY, GRAVEL
	GRAVEL 1/4" - 1/2" DIA.
818 850	SAND, GRAVEL
	SMALL GRAVEL
850 992	CLAY, GRAVEL
	1/4" - 1" GRAVEL
992 1012	SAND, GRAVEL
	FINE SAND & LITTLE GRAVEL
1012 1023	CLAY
BROWN	
1023 1032	SAND
	1/8" - 1" WASHED
1032 1061	CLAY, SAND, GRAVEL
	GRAVEL SMALL
1061 1084	CLAY
LT. BROWN	
	STICKY
1084 1086	GRAVEL
	1/4" - 1" WASHED

1086 1151 CLAY  
 BROWN  
 STICKY  
 1151 1191 CLAY, SAND  
 BLUE & GRAY  
 1191 1473 CLAY  
 WHITE, BROWN  
 WHITE, BROWN, BLUE, GRAY MIX & VERY STICKY

**WATER LEVEL DATA:**

Date	Time	Water Level (feet) (-)above ground	Status
01/30/1981		10.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft) From To	Material	Gage(in)	Diameter(in)
0 63	NEW	.250	16
0 480	NEW	.250	12
0 1050	NEW	.250	10

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Diam/Length	Depth(ft) From To	Screen(S) or Perforation(P) Screen Type/# Perf.	Slot/Perf. siz	Screen
130	798 818	PERFORATION	.375	2
572	850 992	PERFORATION	.375	2
60	1023 1034	PERFORATION	.375	2

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft) From To	Material	Amount	Density(pcf)
0 83	BENTONITE CLAY		
1046 1473	GRAVEL		

**WELL TESTS:**

Date Pumped (hrs)	Test Method	Yield (CFS)	Drawdown (ft)	Time
01/30/1981	PUMP	2.451	60	161

\*\*\*\*\* WIN: 002134 \*\*\*\*\*

7&l6D

7&a130M

Division of Water Rights Well

Data

7&d0DLOCATION:7&d@

S 1070 ft W 1135 ft from NE CORNER of SECTION 17 T 3S R 1E BASE SL  
Elevation: 4600.00 feet  
WELL #5

7&d0DDRILLER ACTIVITIES:7&d@

ACTIVITY # 1 WELL ABANDONMENT

DRILLER: WIDDISON TURBINE SERVICE

LICENCE #: 533

START DATE: / / COMPLETION DATE: / /

ACTIVITY # 2 NEW WELL

DRILLER: Lee & Sons Drilling

LICENCE #: 11

START DATE: 01/25/1972 COMPLETION DATE: 06/19/1972

7&d0DBOREHOLE INFORMATION:7&d@

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 1203	16	CABLE	

7&d0DLITHOLOGY:7&d@

Depth(ft)	Lithologic Description
Color	Rock Type

From To	
0 60	CLAY, SAND, GRAVEL
60 75	SAND
75 95	CLAY

BLUE

95 120	CLAY
--------	------

BROWN

120 135	CLAY, SAND, GRAVEL
---------	--------------------

BROWN

135 230	CLAY, SAND, GRAVEL
---------	--------------------

GREY

230 295	CLAY, SAND, GRAVEL
---------	--------------------

BROWN

295 365	SAND, GRAVEL
---------	--------------

365 425	CLAY
---------	------

BROWN

425 430	SAND, GRAVEL
	VERY DIRTY

430 500	CLAY, SAND, GRAVEL
---------	--------------------

BROWN

500 515	SAND
	COARSE

515 700	CLAY, SAND
---------	------------

BROWN

700 755	CLAY
---------	------

BROWN

755 815	CLAY, SAND, GRAVEL
	STICKY

BROWN

815 1203	CLAY
----------	------

BROWN

STICKY

7&d0DWATER LEVEL DATA:7&d@

Date	Time	Water Level (feet)	Status
		(-)above ground	
06/19/1972		180.00	STATIC

7&d0DCONSTRUCTION - CASING:7&d@

Depth(ft)	Material	Gage(in)	Diameter(in)
-----------	----------	----------	--------------

	From	To			
	0	105	NEW	.375	20
	0	665	NEW	.375	16
	660	1189	NEW	.375	12

7&d0DCONSTRUCTION - SCREENS/PERFORATIONS:7&d@

	Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/#	Perf.		
	From	To		
	300	365	PERFORATION	.312 3
725				
	720	1000	PERFORATION	.312 3
1680				

7&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS7&d@

	Depth(ft)	Material	Amount	Density(pcf)
	From	To		
	0	105	CEMENT	

7&d0DWELL TESTS:7&d@

	Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
	06/19/1972	PUMP	.916	67	30

\*\*\*\*\* WIN: 002927 \*\*\*\*\*

•&l6D  
•&a130M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@  
N 636 ft E 2492 ft from SW CORNER of SECTION 31 T 5N R 1W BASE SL  
Elevation: feet  
•&d0DDRILLER ACTIVITIES:•&d@  
ACTIVITY # 1 WELL DEEPENING  
DRILLER: PETERSEN BROTHERS DRILLING CO INC LICENCE #: 249  
START DATE: 04/12/1994 COMPLETION DATE: 05/09/1994  
•&d0DBOREHOLE INFORMATION:•&d@  
Depth(ft) Diameter(in) Drilling Method Drilling Fluid  
From To  
970 1288 16.0 CABLE TOOL NONE  
1288 1395 12.0 CABLE TOOL NONE  
•&d0DLITHOLOGY:•&d@  
Depth(ft) Lithologic Description  
Color Rock Type  
From To  
970 990 SILT,SAND,GRAVEL  
TAN/BROWN  
GRAVEL PACK FROM ORIGINAL DRILLED WELL  
990 1026 SILT,SAND,GRAVEL  
TAN/BROWN  
1/8" TO 3/8" GRAVELS  
1026 1044 GRAVEL,COBBLES,BOULDERS  
TAN/BROWN  
LARGE COBBLES AND GRAVELS (5 DAY PUMP TEST)  
1044 1109 GRAVEL,COBBLES,BOULDERS  
TAN/BROWN  
LARGE COBBLES AND GRAVELS (5 DAY PUMP TEST)  
1109 1112 CLAY,SAND,GRAVEL  
TAN/BROWN  
PEA GRAVELS  
1112 1143 CLAY,SAND  
FREE FLOWING SAND (HARD CLAY AREAS)  
1143 1193 CLAY,SAND  
VERY FIRM-CEMENTED  
1193 1200 CLAY,GRAVEL  
(5 DAY PUMP TEST)  
CASING JACKS VERY HARD USING 3100 PSI  
1200 1208 CLAY,SAND,GRAVEL  
TAN/BROWN  
ANT SIZE GRAVELS (USING 2800 PSI)  
1208 1242 WATER-BEARING,SAND,GRAVEL  
TAN/BROWN  
DRILLS EASY  
1242 1294 WATER-BEARING,GRAVEL,COBBLES,BOULDERS  
TAN/BROWN  
WATER ZONE (5 DAY PUMP TEST)  
1294 1365 CLAY  
BLUE/GREEN  
HARD AND STICKY  
1365 1389 CLAY  
BLUE/GREEN  
NO WATER  
1389 1395 CLAY,SAND  
BLUE/GREEN  
DECOMPOSED BAILED BLACK COLOR  
•&d0DWATER LEVEL DATA:•&d@  
Date Time Water Level (feet) Status  
(-)above ground  
05/09/1994 506.00 STATIC  
•&d0DCONSTRUCTION - CASING:•&d@  
Depth(ft) Material Gage(in) Diameter(in)  
From To  
0 496 A53B .375 20.0  
496 860 A53B .375 18.0  
860 1288 A53B .375 16.0  
1288 1363 A53B .375 12.0  
•&d0DCONSTRUCTION - SCREENS/PERFORATIONS:•&d@  
Depth(ft) Screen(S) or Perforation(P) Slot/Perf. siz Screen Diam/Length  
Perf(in) Screen Type/# Perf.  
From To  
1246 1286 PERFORATION .375 3.00  
12 PER ROUND  
•&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS•&d@

Depth(ft)	Material	Amount	Density(pcf)
From	To		
496	1000	GROUTED BEHIND 18" LNR	

•&d0DWELL TESTS:•&d@

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
03/01/1994		7.130	42	153

•&d0DGENERAL COMMENTS:•&d@

CONSTRUCTION INFORMATION:

Well head configuration: Installed 700 HP Submersible Pump 720'

Casing joint type: Welded Perforator used: 16" mills knife

Bottom Hole 1395' Note: cement plug set from 1363' up to 1355'

Filter Pack: Grouted behind 18" steel liner cement/sand/silica

Well Development: Method: 16" bowls - 12" column 750' setting

Pump: 700 HP Sub - 720' setting Pump Rate: 3200 GPM

Well disinfected: Yes

Comments: Ceiling of vault was shored up - 36-L B E cable tool

Method - 18" .250 wall 80' long liner was set in bottom to seal out

existing silica gravel pack - 16" casing was perforated 12" above

drive shoe for Zone water quality testing - Four zone testing

were performed - Casing was jacked in using scow for quality sampling of

formation.

Additional data not available

\*\*\*\*\* WIN: 003077 \*\*\*\*\*

•&l6D  
•&al30M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@  
S 1563 ft W 2013 ft from NE CORNER of SECTION 6 T 2N R 1E BASE SL  
Elevation: feet  
•&d0DDRILLER ACTIVITIES:•&d@  
ACTIVITY # 1 NEW WELL  
DRILLER: PETERSEN BROTHERS DRILLING CO INC LICENCE #: 249  
START DATE: 05/20/1986 COMPLETION DATE: 10/20/1986  
•&d0DBOREHOLE INFORMATION:•&d@  
Depth(ft) Diameter(in) Drilling Method Drilling Fluid  
From To  
0 593 16.0 CABLE  
•&d0DLITHOLOGY:•&d@  
Depth(ft) Lithologic Description  
Color Rock Type  
From To  
0 4 SILT,SAND,COBBLES,BOULDERS  
TOUGH  
4 11 CLAY,SAND,GRAVEL  
11 18 BOULDERS  
18 42 CLAY,GRAVEL,COBBLES,BOULDERS  
42 82 CLAY,SAND,GRAVEL,BOULDERS  
3/8" TO 4" DIAMETER  
82 86 CLAY,SILT,SAND,GRAVEL  
3/8" TO 1/2"  
86 97 CLAY,GRAVEL,COBBLES,BOULDERS  
97 110 CLAY,GRAVEL,COBBLES  
110 144 CLAY,BOULDERS  
144 160 CLAY,GRAVEL  
160 175 CLAY,GRAVEL  
BROWN  
175 210 BROWN 1/4" TO 1-1/2"  
CLAY,GRAVEL  
BROWN  
210 216 LOOSE-BROWN  
GRAVEL  
3/8 TO 3" DIA  
216 227 CLAY,GRAVEL  
HARD  
227 229 CLAY  
SOME SMALL GRAVEL  
229 277 GRAVEL,BOULDERS  
2" TO 6"-BOULDERS  
277 299 SAND,GRAVEL  
2" -  
299 419 CLAY,GRAVEL,BOULDERS  
GREY  
419 593 GREY IN COLOR-TOUGH  
CLAY,GRAVEL,COBBLES,BOULDERS  
HARD-OPEN HOLE  
NOTE: ROCKS ROLLED DENTS IN 16" CASING 12 TIMES-HAD TO SWEDGE OUT-  
PINCHED 16" DRIVE SHOE 4 TIMES-SHOE SPLIT-COULD NOT DRIVE BEYOND 445'  
•&d0DWATER LEVEL DATA:•&d@  
Date Time Water Level (feet) Status  
(-)above ground  
10/01/1986 9.00 STATIC  
•&d0DCONSTRUCTION - CASING:•&d@  
Depth(ft) Material Gage(in) Diameter(in)  
From To  
0 445 NEW .375 16.0  
430 500 NEW .312 14.0  
590 593 NEW .307 10.0  
•&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS•&d@  
Depth(ft) Material Amount Density(pcf)  
From To  
0 105 CEMENT  
•&d0DWELL TESTS:•&d@  
Date Test Method Yield (CFS) Drawdown (ft) Time Pumped (hrs)  
10/20/1986 PUMP 5.570 85 35  
•&d0DGENERAL COMMENTS:•&d@  
Perforations: Mills 3/8 x 3"  
Additional data not availalbe

\*\*\*\*\* WIN: 003100 \*\*\*\*\*

•&l6D  
•&a130M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@

N 1100 ft E 1160 ft from SW CORNER of SECTION 3 T 4N R 1W BASE SL

Elevation: feet

•&d0DDRILLER ACTIVITIES:•&d@

ACTIVITY # 1 WELL REPAIR

DRILLER: NICKERSON COMPANY INC

LICENCE #: 678

START DATE: / / COMPLETION DATE: / /

ACTIVITY # 2 NEW WELL

DRILLER: LAYNE CHRISTENSEN COMPANY

LICENCE #: 188

START DATE: 06/12/1986 COMPLETION DATE: 11/01/1986

•&d0DBOREHOLE INFORMATION:•&d@

Depth(ft) Diameter(in) Drilling Method Drilling Fluid

From To

0 964 16.0 ROTARY

•&d0DLITHOLOGY:•&d@

Depth(ft) Lithologic Description

Color Rock Type

From To

0 20 CLAY,SAND

20 232 CLAY

232 610 CLAY,SILT,SAND

VERY FINE SAND & SILT

610 655 CLAY

655 731 CLAY,SAND

731 886 GRAVEL

CEMENTED/FRACTURED

886 952 CLAY,SAND

952 964

CEMENTED/EXTREMELY HARD

•&d0DWATER LEVEL DATA:•&d@

Date Time Water Level (feet) Status

(-)above ground

10/26/1986 578.00 STATIC

•&d0DCONSTRUCTION - SCREENS/PERFORATIONS:•&d@

Depth(ft) Screen(S) or Perforation(P) Slot/Perf. siz Screen Diam/Length

Perf(in) Screen Type/# Perf.

From To

572 947 SCREEN .030 16.0

SS JOHNSON

•&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS:•&d@

Depth(ft) Material Amount Density(pcf)

From To

0 100 CEMENT

•&d0DWELL TESTS:•&d@

Date Test Method Yield (CFS) Drawdown (ft) Time Pumped (hrs)

11/01/1986 PUMP TEST 1.448 20 3.5

•&d0DGENERAL COMMENTS:•&d@

Additional data not available

\*REPAIR WELL LOG RECIEVED 05/11/1999

START: no data

FINISH: no data

BOREHOLE: no data

LITHO: no data

WATER LEVEL:

Date: 03/15/1999

Water Level: 581 feet

Flowing: No

Method of Measurement: video

PSI: no data

Point of Measurement:top of casing

Height above Ground: no data

Temperature: no data

CASING: no data

SCREEN: no data

Well Head configuration: no data

Casing Joint Type: no data

Perforator Used: no data

FILTER PACK: no data

WELL DEVELOPMENT: no data

PUMP: no data

COMMENTS: video Brushed well 8 hrs. Bailed well to 929' Re-video

Additional data not available



003163

**LOCATION:**

N 550 ft E 430 ft from S4 CORNER of SECTION 13 T 9S R 2E BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL  
DRILLER: DOXEY DRILLING  
START DATE: 01/29/1993

COMPLETION DATE: 06/01/1993

LICENSE #: 400

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 502	8.75	ROTARY/TRI-CONE BIT	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 5	OTHER
TOP SOIL	
	TOP SOIL
5 60	SAND, GRAVEL
60 75	SILT
75 110	SAND, GRAVEL, COBBLES
110 160	OTHER
HARD	CONGLOMERATE
	CONGLOMERATE (HARD)
160 175	WATER-BEARING, SAND, GRAVEL
175 185	CLAY
185 210	OTHER
CONGLOMERATE	
	CONGLOMERATE (HARD DRILLING)
210 215	CLAY
215 260	OTHER
CONGLOMERATE	
	CONGLOMERATE
260 267	CLAY
267 375	WATER-BEARING, OTHER
CONGLOMERATE	
	CONGLOMERATE
375 380	CLAY
380 394	OTHER
	VERY HARD
394 445	OTHER
	CONGLOMERATE
445 450	CLAY
450 500	WATER-BEARING, GRAVEL, COBBLES, OTHER
	WATER BEARING

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
05/12/1993		442.00	

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
+1.5 500	5" STEEL PRIME	.250	5.25

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From To			
160 175	PERFORATION	.125	.250
265 375	PERFORATION	.125	.250
394 445	PERFORATION	.125	.250
460 500	PERFORATION	.125	.250

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 502	SURFACE SEAL/GRAVEL		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
05/ /1993	BAIL, SWAB, SURGE	.033	20	
06/ /1993	PUMP TEST	.031	23	60

**GENERAL COMMENTS:**

CONSTRUCTION INFORMATION:

Well head Configuration; 5" well seal

FILTER PACK: Surface seal washed 1/4" gravel

No other data available

\*\*\*\*\* WIN: 003457 \*\*\*\*\*

•&l6D  
•&a130M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@  
S 1012 ft E 704 ft from N4 CORNER of SECTION 27 T 4N R 1W BASE SL  
Elevation: feet  
•&d0DDRILLER ACTIVITIES:•&d@  
ACTIVITY # 1 NEW WELL  
DRILLER: STODDARD DRILLING, G J LICENCE #: 41  
START DATE: 07/07/1993 COMPLETION DATE: 09/22/1993  
•&d0DBOREHOLE INFORMATION:•&d@  
Depth(ft) Diameter(in) Drilling Method Drilling Fluid  
From To  
0 997 8.75 ROTARY (MUD) BENTONITE  
•&d0DLITHOLOGY:•&d@  
Depth(ft) Lithologic Description  
Color Rock Type  
From To  
0 3 OTHER  
BLACK TOP SOIL  
TOP SOIL  
3 181 CLAY  
BROWN  
181 185 BROWN STICKY  
GRAY SAND, GRAVEL  
185 405 1" TO 3"  
BLUE CLAY  
405 412 BLUE STICKY  
RED SAND, GRAVEL  
412 445 CEMENTED SAND & GRAVEL (TIGHT)  
RED CLAY, GRAVEL  
445 451 CONGLOMERATE  
BLUE CLAY  
451 454 BLUE STICKY  
RED SAND, GRAVEL  
454 475 CEMENTED  
RED WATER-BEARING, LOW-PERMEABILITY, CLAY, GRAVEL  
475 580 CONGLOMERATE SOME WATER  
BROWN CLAY  
580 583 BROWN STICKY  
RED/BROWN WATER-BEARING, HIGH-PERMEABILITY, GRAVEL  
583 600 LOOSE 1/2 TO 2"  
BROWN CLAY, GRAVEL  
600 660 CONGLOMERATE  
BROWN WATER-BEARING, LOW-PERMEABILITY, SAND, GRAVEL  
660 679 CEMENTED  
RED/BROWN CLAY, SAND  
679 735 SOFT  
BROWN LOW-PERMEABILITY, GRAVEL  
735 786 CONGLOMERATE  
BROWN SAND  
786 789 CEMENTED  
BROWN CLAY  
789 797 BROWN  
BROWN CLAY, GRAVEL  
797 860 CONGLOMERATE  
BROWN CLAY  
860 875 BROWN  
BROWN WATER-BEARING, HIGH-PERMEABILITY, CLAY, SAND, GRAVEL

875 938 CONGLOMERATE  
BROWN CLAY

938 945 BROWN STICKY  
RED/BROWN WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL

945 967 1/2 TO 2"  
BROWN LOOSE  
CLAY

967 974 BROWN STICKY  
RED/BROWN WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL

974 980 1/2 TO 2"  
BROWN LOOSE  
CLAY

980 991 BROWN STICKY  
RED/BROWN WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL

991 997 1/2 TO 2" LOOSE  
BROWN CLAY, GRAVEL

CONGLOMERATE

•&d0DWATER LEVEL DATA:•&d@

Date	Time	Water Level (feet)	Status
09/22/1993		123.00	(-)above ground

•&d0DCONSTRUCTION - CASING:•&d@

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 630	BLACK PLAIN END	.277	8.00

•&d0DCONSTRUCTION - SCREENS/PERFORATIONS:•&d@

Perf(in)	Screen Type/#	Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
	From To				
	180 185		PERFORATION	.125	6.00
TORCH CUT					
	402 410		PERFORATION	.125	6.00
TORCH CUT					
	450 470		PERFORATION	.125	6.00
TORCH CUT					
	579 585		PERFORATION	.125	6.00
TORCH CUT					
	600 615		PERFORATION	.125	6.00
TORCH CUT					

•&d0DWELL TESTS:•&d@

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
09/20/1993	PUMPED W/AIR	.134	60	35

•&d0DGENERAL COMMENTS:•&d@

CONSTRUCTION INFORMATION:

Well head Configuration: Cap Casing Joint type: Welded

Perforator used: No

PUMP: Submersible 3" collum Pipe Horsepower: 10

Intake Depth: 357 feet Approx Pump Rate: 60 to 70 GPM

Well disinfected: Yes

No additional data available

Examined 12-10-68 KFC  
 Recorded: B. C. 12-19-68 T. B. KFC  
 Inspection Sheet 12-16-68 B.M.  
 Copied \_\_\_\_\_

# REPORT OF WELL DRILLER

## STATE OF UTAH

#3 266762 (55-742-7)  
 Application No. \_\_\_\_\_  
 Claim No. \_\_\_\_\_  
 Coordinate N (0-52) 27 cdb

GENERAL STATEMENT: Report of well driller is hereby made and filed with the State Engineer, in accordance with the laws of Utah. (This report shall be filed with the State Engineer within 30 days after the completion or abandonment of the well. Failure to file such reports constitutes a misdemeanor.)

(1) WELL OWNER:  
 Name LINDEN CITY  
 Address \_\_\_\_\_

(2) LOCATION OF WELL:  
 County UTAH Ground Water Basin \_\_\_\_\_ (leave blank)  
 North 1680 feet, East 1210 feet from N 1/4 Corner  
 South \_\_\_\_\_ West \_\_\_\_\_  
 of Section 27, T 5, R 2 E SLBM (strike  
 out words not needed) W. 1/4

(3) NATURE OF WORK (check): New Well ☒  
 Replacement Well ☐ Deepening ☐ Repair ☐ Abandon ☐  
 If abandonment, describe material and procedure: \_\_\_\_\_

(4) NATURE OF USE (check): Domestic ☐ Industrial ☐ Municipal ☒ Stockwater ☐  
 Irrigation ☐ Mining ☐ Other ☐ Test Well ☐

(5) TYPE OF CONSTRUCTION (check): Rotary ☐ Dug ☐ Jetted ☐  
 Cable ☒ Driven ☐ Bored ☐

(6) CASING SCHEDULE: Threaded ☐ Welded ☒  
20 " Diam. from 0 feet to 100-10 feet Gage 325  
16 " Diam. from 0 feet to 472-6 feet Gage 375  
 " Diam. from \_\_\_\_\_ feet to \_\_\_\_\_ feet Gage \_\_\_\_\_  
 New ☒ Reject ☐ Used ☐

(7) PERFORATIONS: Perforated? Yes ☒ No ☐  
 Type of perforator used MILLS KNIFE  
 Size of perforations 3/8 inches by 2 1/2 inches  
1100 perforations from 295 feet to 343 feet  
1235 perforations from 400 feet to 463 feet  
 \_\_\_\_\_ perforations from \_\_\_\_\_ feet to \_\_\_\_\_ feet  
 \_\_\_\_\_ perforations from \_\_\_\_\_ feet to \_\_\_\_\_ feet  
 \_\_\_\_\_ perforations from \_\_\_\_\_ feet to \_\_\_\_\_ feet

(8) SCREENS: Well screen installed? Yes ☐ No ☐  
 Manufacturer's Name \_\_\_\_\_  
 Type \_\_\_\_\_ Model No. \_\_\_\_\_  
 Diam. \_\_\_\_\_ Slot size \_\_\_\_\_ Set from \_\_\_\_\_ ft. to \_\_\_\_\_  
 Diam. \_\_\_\_\_ Slot size \_\_\_\_\_ Set from \_\_\_\_\_ ft. to \_\_\_\_\_

(9) CONSTRUCTION:  
 Was well gravel packed? Yes ☐ No ☐ Size of gravel: \_\_\_\_\_  
 Gravel placed from \_\_\_\_\_ feet to \_\_\_\_\_ feet  
 Was a surface seal provided? Yes ☐ No ☐  
 To what depth? \_\_\_\_\_ feet  
 Material used in seal: \_\_\_\_\_  
 Did any strata contain unusable water? Yes ☐ No ☐  
 Type of water: \_\_\_\_\_ Depth of strata \_\_\_\_\_  
 Method of sealing strata off: \_\_\_\_\_

Was surface casing used? Yes ☒ No ☐  
 Was it cemented in place? Yes ☒ No ☐

(10) WATER LEVELS:  
 Static level 206.8 feet below land surface Date \_\_\_\_\_  
 Artesian pressure \_\_\_\_\_ feet above land surface Date \_\_\_\_\_

LOG RECEIVED: (11) FLOWING WELL:  
 Controlled by (check) Valve ☐  
 Cap ☐ Plug ☐ No Control ☐  
 Does well leak around casing? Yes ☐ No ☐

(12) WELL TESTS: Drawdown is the distance in feet the water level is lowered below static level.

Was a pump test made? Yes ☒ No ☐ If so, by whom? COMER  
 Yield: 1800 gal./min. with 20.33 feet drawdown after 1 hours  
 " 2250 " 27.74 " 1 "  
 " 2700 " 30.91 " 21 "

Bailer test \_\_\_\_\_ gal./min. with \_\_\_\_\_ feet drawdown after \_\_\_\_\_ hours  
 Arterian flow \_\_\_\_\_ g.p.m. Date \_\_\_\_\_  
 Temperature of water \_\_\_\_\_ Was a chemical analysis made? No ☐ Yes ☐

(13) WELL LOG: Diameter of well 16 inches  
 Depth drilled 478 feet. Depth of completed well 478 feet.

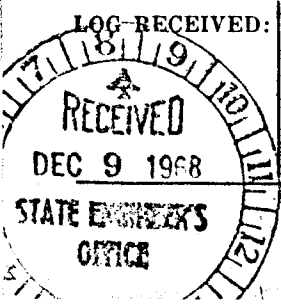
NOTE: Place an "X" in the space or combination of spaces needed to designate the material or combination of materials encountered in each depth interval. Under REMARKS make any desirable notes as to occurrence of water and the color, size, nature, etc., of material encountered in each depth interval. Use additional sheet if needed.

DEPTH		MATERIAL										REMARKS
From	To	Clay	Silt	Sand	Gravel	Cobbles	Boulders	Hardpan	Conglomerate	Bedrock	Other	
0	2				X							SOIL
2	36	X	X	X	X							TAN
36	78	X										BLUE
78	99	X										
99	216			X	X	X						WATER
216	231			X	X	X						MIXED
231	252	X		X								TAN
252	261	X										MIXED
261	270	X		X								WATER
270	283			X	X	X						MIXED
283	287	X		X								WATER
287	351			X	X	X						WATER
351	379	X		X			X					TAN
379	384			X	X	X						MIXED
384	389	X		X								WATER
389	396	X		X	X							MIXED
396	467			X	X	X						WATER
467	478			X								CEMENTED

Work started OCT 2, 1968 Completed NOV 15, 1968

(14) PUMP: \_\_\_\_\_  
 Manufacturer's Name \_\_\_\_\_  
 Type: \_\_\_\_\_ H. P. \_\_\_\_\_  
 Depth to pump or bowles \_\_\_\_\_ feet

Well Driller's Statement:  
 This well was drilled under my supervision, and this report is true to the best of my knowledge and belief.  
 Name ELDON COMER (Type or print)  
 Address LEHI, UTAH  
 (Signed) Eldon Comer (Well Driller)  
 License No. 5 Date DEC 5, 1968



\*\*\*\*\* WIN: 005288 \*\*\*\*\*

•&l6D  
•&a130M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@  
N 1456 ft W 1815 ft from SE CORNER of SECTION 33 T 7N R 1W BASE SL  
Elevation: feet  
•&d0DDRILLER ACTIVITIES:•&d@  
ACTIVITY # 1 WELL REPAIR  
DRILLER: WIDDISON TURBINE SERVICE LICENCE #: 533  
START DATE: 03/11/1996 COMPLETION DATE: 03/09/1997  
•&d0DBOREHOLE INFORMATION:•&d@  
Depth(ft) Diameter(in) Drilling Method Drilling Fluid  
From To  
0 640 16.0 CABLE TOOL REHAB OF OLD WELL  
•&d0DLITHOLOGY:•&d@  
Depth(ft) Lithologic Description  
Color Rock Type  
From To  
0 5  
TOP SOIL  
5 10 TOP SOIL  
HARD PAN  
10 18 HARD PAN  
BLUE CLAY  
18 24 WATER-BEARING,HIGH-PERMEABILITY,GRAVEL,COBBLES  
1-1/2"-3" FLOWED AROUND OUTSIDE 20"  
24 46 CLAY  
BLUE  
46 52 WATER-BEARING,GRAVEL  
2" INCREASED FLOW  
52 67 CLAY  
BLUE  
67 72 GRAVEL  
1-1/2" - 2"  
72 107 CLAY  
BLUE  
107 110 WATER-BEARING,GRAVEL  
FIRST FLOW IN 20" PIPE  
110 132 CLAY  
BROWN  
132 136 GRAVEL  
2"  
136 160 CLAY  
BROWN  
160 169 HARD  
WATER-BEARING,HIGH-PERMEABILITY,GRAVEL,COBBLES  
4"  
169 180 CLAY  
180 191 WATER-BEARING,HIGH-PERMEABILITY,GRAVEL,COBBLES  
4" MOST WATER-GREATEST PRESSURE  
191 200 WATER-BEARING,CLAY  
NOTE: WE SAW GRAVEL NOT CLAY HERE IN VIDEO LOG  
200 211 WATER-BEARING,HIGH-PERMEABILITY,GRAVEL,COBBLES  
4" LOWER PRESSURE  
211 255 WATER-BEARING,CLAY,GRAVEL  
255 259 WATER-BEARING,GRAVEL  
259 269 CLAY  
269 275 WATER-BEARING,GRAVEL,COBBLES  
4"  
275 279 CLAY  
279 295 WATER-BEARING,GRAVEL,COBBLES  
4"  
295 300 CLAY  
300 325 WATER-BEARING,GRAVEL  
325 335 CLAY  
BLUE  
335 371 CLAY  
BROWN  
371 389 CLAY,GRAVEL  
RED  
389 402 WATER-BEARING,GRAVEL  
WATER  
402 405 CLAY  
BROWN  
STICKY

405 411 WATER-BEARING, GRAVEL  
 411 436 CLAY  
 BROWN  
 436 440 WATER-BEARING, GRAVEL  
 440 445 CLAY  
 BROWN  
 445 460 CLAY  
 RED  
 460 465 WATER-BEARING, GRAVEL  
 465 473 CLAY  
 BROWN  
 473 480 WATER-BEARING, GRAVEL  
 480 501 CLAY  
 501 506 WATER-BEARING, SAND, GRAVEL  
 FINE GRAVEL LOOSE  
 506 512 CLAY  
 512 517 WATER-BEARING, GRAVEL  
 1-1/2" WATER  
 517 520 CLAY  
 520 525 WATER-BEARING, GRAVEL  
 525 530 CLAY  
 530 535 WATER-BEARING, GRAVEL, COBBLES  
 3"  
 535 561 CLAY  
 HARD WITH STREAKS OF GRAVEL  
 561 565 WATER-BEARING, GRAVEL, COBBLES  
 2-3" WATER  
 565 570 CLAY  
 570 574 WATER-BEARING  
 1-1/2"  
 574 590 CLAY  
 STICKY  
 590 593 WATER-BEARING, GRAVEL  
 3"  
 593 595 CLAY  
 595 600 WATER-BEARING, GRAVEL  
 600 618 CLAY  
 WITH SOME GRAVEL  
 618 622 WATER-BEARING, GRAVEL  
 1/2"  
 622 627 CLAY  
 STICKY  
 627 640

CONGLOMERATE

CONGLOMERATE

640 659 CLAY

•&d0DWATER LEVEL DATA:•&d@

Date	Time	Water Level (feet) (-)above ground	Status
03/09/1997		-27.72	FLOWING

•&d0DCONSTRUCTION - CASING:•&d@

Depth(ft)		Material	Gage(in)	Diameter(in)
From	To			
0	100	STEEL	.313	20.0
0	181	A53 GB	.250	14.0
0	635	STEEL	.313	16.0
181	182	14"X12" RED SD 40		
326	392	12"	.500	12.0
412	437		.500	12.0
447	462		.500	12.0
482	502		.500	12.0
542	566		.500	12.0
576	586		.500	12.0

•&d0DCONSTRUCTION - SCREENS/PERFORATIONS:•&d@

Perf(in)	Screen Type/#	Depth(ft)		Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
		From	To			
		182	326	SCREEN	.035	12.0
304 SS		182	327	PERFORATION	.500	3.00
5,412		392	412	SCREEN	.035	12.0
304 SS		392	412	PERFORATION	.500	3.00
480		437	447	SCREEN	.035	12.0
304 SS		437	447	PERFORATION	.500	3.00
240						

304 SS	462	482	SCREEN	.035	12.0
304 SS	502	542	SCREEN	.035	12.0
304 SS	566	576	SCREEN	.035	12.0
304 SS	586	606	SCREEN	.035	12.0

•&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS•&d@

Depth(ft)	Material	Amount	Density(pcf)
From	To		
0	627	GRVL PACK #8-#18 CSSI	885

•&d0DWELL TESTS:•&d@

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
05/06/1997	STEP TEST	1.827	51.32	2
05/06/1997	STEP TEST	2.674	82.55	2
05/06/1997	STEP TEST	3.342	188.09	4
05/07/1997	LONG TERM TEST	2.674	106.52	48

•&d0DGENERAL COMMENTS:•&d@

CONSTRUCTION INFORMATION:

CASING (Contd)

606' - 627' .500 x 12"

1/2" steel plate welded in bottom of the pipe

PERFORATIONS (Contd)

462'-482' .500 x 3" Perforation

502'-542' .500 x 3" perforation

566'-576' .500 x 3" perforation

586'-606' .500 x 3" perforation

Well head configuraton: Steel cap and 8" valve

Casing Joint Type: Welded

Perforator used: Mills perf in old 16"

Access Port Provided: Yes

Filter pack: Gravel packed between the new casing and screen and the old casing

Well Development: SWL was 27.7' above GS DD taken from there

Pump: None yet

Comments: When we moved on site th SWL was about 24' as we worked on the well it began to flow. The flow now is approx 350 gpm/We reperforated the old 16" before the screens were installed. Approx 8,268 holes 1/2" x 3". The sand content now is unreadable.

Much less than 1 PPM

Additional data not available



\*\*\*\*\* WIN: 005291 \*\*\*\*\*

•&l6D  
•&a130M

Division of Water Rights Well

Data\_\_\_\_\_

•&d0DLOCATION:•&d@  
N 575 ft W 1168 ft from SE CORNER of SECTION 29 T 7N R 1W BASE SL  
Elevation: feet  
•&d0DDRILLER ACTIVITIES:•&d@  
ACTIVITY # 1 NEW WELL  
DRILLER: Robinson Drilling Company LICENCE #: 10  
START DATE: 05/22/1961 COMPLETION DATE: 08/02/1961  
•&d0DBOREHOLE INFORMATION:•&d@  
Depth(ft) Diameter(in) Drilling Method Drilling Fluid  
From To  
0 944 16 CABLE  
•&d0DLITHOLOGY:•&d@  
Depth(ft) Lithologic Description  
Color Rock Type  
From To  
0 1 OTHER  
BLACK SOIL  
1 5 WATER-BEARING,CLAY  
YELLOW  
5 15 SOME WATER  
CLAY,GRAVEL  
YELLOW  
15 18 CLAY  
YELLOW  
18 39 CLAY,BOULDERS  
39 70 CLAY,GRAVEL  
70 90 CLAY  
BLUE  
90 95 CLAY  
SANDY  
95 99 WATER-BEARING,GRAVEL  
MAKING WATER  
99 103 CLAY  
YELLOW  
103 108 GRAVEL  
108 118 CLAY,GRAVEL  
118 128 GRAVEL  
128 172 CLAY,GRAVEL  
172 180 CLAY  
YELLOW  
180 188 GRAVEL  
188 200 CLAY  
200 206 CLAY,SAND,BOULDERS  
206 215 GRAVEL,COBBLES  
215 227 CLAY,GRAVEL  
227 235 WATER-BEARING,GRAVEL  
LARGE - LOTS OF WATER  
235 237 CLAY  
237 247 GRAVEL  
247 283 CLAY,GRAVEL  
283 286 GRAVEL  
286 297 CLAY,GRAVEL  
297 315 CLAY,GRAVEL  
FINE  
315 317 CLAY  
YELLOW  
317 323 OTHER  
QUARTZITE  
QUARTZITE  
323 327 CLAY,GRAVEL  
SMALL  
327 332 OTHER  
QUARTZITE  
QUARTZITE  
332 341 CLAY,GRAVEL  
YELLOW  
YELLOW CLAY, FINE GRAVEL  
341 343 CLAY  
YELLOW  
343 345  
HARD STREAK  
345 350 CLAY  
YELLOW  
350 360 CLAY,GRAVEL

		LARGE GRAVEL
360	365	CLAY
		CLAY W/HARD STREAKS
365	367	
		HARD
367	374	CLAY, GRAVEL
		HARD FORMATION W/CLAY
374	378	CLAY, GRAVEL
		SMALL GRAVEL
378	381	OTHER
QUARTZITE		
		HARD STREAK, QUARTZITE
381	385	OTHER
LIME		
		LIME SHARP
385	389	CLAY, GRAVEL
		CEMENTED GRAVEL
389	393	OTHER
ROCK		
		CEMENTED ROCK
393	398	OTHER
LIME		
398	400	CLAY, GRAVEL
400	405	CLAY, GRAVEL, OTHER
CONGLOMERATE		
405	409	CLAY, OTHER
CONGLOMERATE		
		CONGLOMERATE - NO WATER
409	419	CLAY, GRAVEL
		CLAY AND GRAVEL MIXED - NO WATER
419	424	CLAY, GRAVEL
YELLOW		
		SMALL AMOUNT OF GRAVEL
424	430	CLAY, GRAVEL
YELLOW		
		LOT OF GRAVEL - NO WATER
430	439	CLAY, GRAVEL
YELLOW		
439	444	OTHER
CONGLOMERATE		
		HARD CONGLOMERATE
444	460	CLAY, GRAVEL
YELLOW		
460	472	CLAY, GRAVEL
		FINE GRAVEL - NO SHOW WATER
472	485	CLAY
BROWN		
		STICKY
485	488	CLAY, GRAVEL
RED		
488	498	CLAY, GRAVEL
YELLOW		
498	510	CLAY, GRAVEL
510	520	CLAY
YELLOW		
		STICKY
520	527	CLAY, GRAVEL
YELLOW		
527	534	CLAY, GRAVEL
		FINE GRAVEL
534	535	GRAVEL
		HARD CEMENTED GRAVEL
535	550	CLAY, GRAVEL
YELLOW		
550	589	CLAY, GRAVEL
		FINE GRAVEL
589	594	CLAY
YELLOW		
		STICKY
594	609	CLAY, GRAVEL
YELLOW		
		LARGE GRAVEL
609	614	CLAY, GRAVEL, OTHER
QUARTZ		
		[EA GRAVEL - SHARP
614	617	GRAVEL, OTHER
QUARTZ		
		HARD QUARTZ - NO WATER
617	647	CLAY, GRAVEL
YELLOW		

647	650	CLAY, GRAVEL
		FINE GRAVEL
650	740	CLAY
YELLOW		
740	780	CLAY, GRAVEL
YELLOW		
780	793	CLAY
YELLOW		
793	820	CLAY, GRAVEL
YELLOW		
820	839	CLAY, GRAVEL
RED		
839	841	CLAY, GRAVEL
YELLOW		
841	875	CLAY, GRAVEL
YELLOW		
875	890	CLAY, SAND
YELLOW		
890	895	CLAY, GRAVEL
YELLOW		
895	943	CLAY, SAND
YELLOW		
943	944	CLAY, GRAVEL
YELLOW		

\*\*\*\*\* WIN: 006096 \*\*\*\*\*

•&l6D  
•&a130M

Division of Water Rights Well

Data

•&d0DLLOCATION:•&d@  
S 650 ft E 2550 ft from W4 CORNER of SECTION 22 T 5S R 1W BASE SL  
Elevation: feet  
•&d0DDRILLER ACTIVITIES:•&d@  
ACTIVITY # 1 NEW WELL  
DRILLER: ZIMMERMAN WELL SERVICE LICENCE #: 527  
START DATE: 04/22/1994 COMPLETION DATE: 05/09/1994  
•&d0DBOREHOLE INFORMATION:•&d@  
Depth(ft) Diameter(in) Drilling Method Drilling Fluid  
From To  
0 20 12.5 AIR ROTARY  
20 170 8.75 MUD ROTARY BENTONITE  
170 200 6.00 AIR ROTARY AIR/FOAM  
•&d0DLITHOLOGY:•&d@  
Depth(ft) Lithologic Description  
Color Rock Type  
From To  
0 4 OTHER  
TOP SOIL  
4 21 TOP SOIL  
BROWN CLAY,SAND,GRAVEL  
21 30 SOME GRAVEL  
BROWN SAND,GRAVEL  
30 35 GRAVEL  
35 41 CLAY,SAND,GRAVEL  
BROWN  
41 99 CLAY,SAND,GRAVEL  
BROWN  
99 170 VERY LITTLE CLAY  
GRAY OTHER  
LIMESTONE  
WEATHERED-CLAY INTERBEDDED  
170 200 OTHER  
GRAY LIMESTONE  
FRACTURED  
•&d0DWATER LEVEL DATA:•&d@  
Date Time Water Level (feet) Status  
(-)above ground  
05/09/1994 132.00 STATIC  
•&d0DCONSTRUCTION - CASING:•&d@  
Depth(ft) Material Gage(in) Diameter(in)  
From To  
0 170 A53A STEEL .250 6.00  
140 200 SCH 40 PVC .237 4.50  
•&d0DCONSTRUCTION - SCREENS/PERFORATIONS:•&d@  
Depth(ft) Screen(S) or Perforation(P) Slot/Perf. siz Screen Diam/Length  
Perf(in) Screen Type/# Perf.  
From To  
160 200 PERFORATION .125 4.00  
200 PERFS  
•&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS:•&d@  
Depth(ft) Material Amount Density(pcf)  
From To  
0 40 HOLE PLUG BENTONITE CH  
150 200 1/4 GRAVEL  
•&d0DWELL TESTS:•&d@  
Date Test Method Yield (CFS) Drawdown (ft) Time Pumped (hrs)  
05/09/1994 AIR LIFT .045  
•&d0DGENERAL COMMENTS:•&d@  
CONSTRUCTION INFORMATION:  
Well head configuration: Welded cap Access Port: No data  
Casing Joint Type: Weld steel Threaded PVC Perforator: Saw  
Pump: No data  
Comments: At time of development water tested for iron at 0.7 PPM  
PH 7.4, hardness 36 GPG  
Additional data not availabel

\*\*\*\*\* WIN: 006293 \*\*\*\*\*

•&l6D  
•&a130M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@

S 2556 ft W 407 ft from NE CORNER of SECTION 21 T 6N R 2W BASE SL

Elevation: feet

•&d0DDRILLER ACTIVITIES:•&d@

ACTIVITY # 1 NEW WELL

DRILLER: STODDARD DRILLING, G J

LICENCE #: 41

START DATE: 11/12/1983 COMPLETION DATE: 11/16/1983

•&d0DBOREHOLE INFORMATION:•&d@

Depth(ft) Diameter(in) Drilling Method Drilling Fluid  
From To

0 535 2.00 ROTARY

•&d0DLITHOLOGY:•&d@

Depth(ft) Lithologic Description  
Color Rock Type

From	To	
0	168	CLAY
168	175	SAND
175	200	CLAY
200	221	GRAVEL
		PEA GRAVEL
221	252	CLAY
252	273	SAND
273	286	CLAY
286	302	SAND
302	310	CLAY
310	335	GRAVEL
		PEA GRAVEL
335	399	CLAY
399	421	GRAVEL
		PEA GRAVEL
421	434	CLAY
434	476	GRAVEL
		PEA GRAVEL
476	499	CLAY
499	509	SAND, GRAVEL
		PEA GRAVEL
509	519	CLAY
519	535	SAND
		PEA GRAVEL

•&d0DWATER LEVEL DATA:•&d@

Date	Time	Water Level (feet)	Status
		(-)above ground	
11/16/1983		20.00	STATIC

•&d0DCONSTRUCTION - CASING:•&d@

Depth(ft)	Material	Gage(in)	Diameter(in)
From	To		
0	535	.250	2.00

•&d0DCONSTRUCTION - SCREENS/PERFORATIONS:•&d@

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/#	Perf.	

From	To		
525	535	SCREEN	2.00

SS

•&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS:•&d@

Depth(ft)	Material	Amount	Density(pcf)
From	To		
0	20	MUD	

•&d0DGENERAL COMMENTS:•&d@

CONSTRUCTION INFORMATION:

Screens: Johnson Well Screens/Stainless steel

Additional data not available

\*\*\*\*\* WIN: 006457 \*\*\*\*\*

7&l6D

7&a130M

Division of Water Rights Well

Data \_\_\_\_\_

7&d0DLOCATION:7&d@

N 2635 ft W 440 ft from S4 CORNER of SECTION 16 T 1S R 1W BASE SL  
Elevation: 4233.00 feet

7&d0DDRILLER ACTIVITIES:7&d@

ACTIVITY # 1 NEW WELL

DRILLER: Gardner Drilling Co., c/o St. Joseph Villa

LICENCE #: 63

START DATE: 03/04/1974 COMPLETION DATE: 06/11/1974

7&d0DBOREHOLE INFORMATION:7&d@

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From	To		
0	800	12	CABLE

7&d0DLITHOLOGY:7&d@

Color	Depth(ft)	Lithologic Description
	From	To
	0	1 OTHER
TOP SOIL	1	19 OTHER
HARDPAN	19	23 WATER-BEARING, SAND
	23	31 CLAY
BLUE		
	31	42 HARD WATER-BEARING, SAND
	42	48 OTHER
HARDPAN		
		SANDY
	48	55 WATER-BEARING, SAND
	55	61 CLAY
		SANDY
	61	66 WATER-BEARING, SAND
	66	70 OTHER
HARDPAN		
		SANDY
	70	73 CLAY
	73	79 WATER-BEARING, SAND
	79	95 CLAY
	95	106 WATER-BEARING, SAND, GRAVEL
	106	118 CLAY
	118	124 CLAY
		SANDY
	124	132 CLAY
	132	139 CLAY
		SANDY
	139	147 CLAY
	147	155 CLAY
	155	180 CLAY
		SANDY
	180	189 WATER-BEARING, SAND
	189	199 CLAY
	199	218 CLAY, SAND, GRAVEL
		1/4" GRAVEL
	218	221 WATER-BEARING, SAND
	221	240 CLAY, SAND
	240	248 CLAY
	248	256 CLAY, SAND, GRAVEL

		SMALL GRAVEL
256	260	WATER-BEARING, SAND
260	272	CLAY
		SANDY CLAY
272	275	WATER-BEARING, SAND, GRAVEL
		1/4" GRAVEL
275	305	CLAY, SAND
305	320	OTHER
CONGLOMERATE		
320	336	WATER-BEARING, SAND
336	353	CLAY, SAND, GRAVEL
		1/4" GRAVEL
353	362	CLAY
		STICKY
362	371	CLAY, SAND
		STICKY
371	390	CLAY
		STICKY
390	397	CLAY, SAND, GRAVEL
		1/4" GRAVEL
397	404	WATER-BEARING, SAND
404	421	CLAY, SAND
421	433	WATER-BEARING, SAND
433	448	WATER-BEARING, SAND, GRAVEL
		SAND - 80%
		GRAVEL 1/4"
448	480	CLAY
		SANDY
480	481	WATER-BEARING, GRAVEL
		GRAVEL 1/4" TO 1"
481	490	CLAY
490	492	WATER-BEARING, GRAVEL
		GRAVEL 1/4"
492	507	CLAY
		SANDY
507	508	WATER-BEARING, GRAVEL
		GRAVEL 1/4"
508	520	CLAY
		SANDY
520	521	WATER-BEARING, GRAVEL
		GRAVEL 1/4"
521	544	CLAY, SAND
		CLAY 10%
		SANDY 90%
544	569	CLAY
569	583	CLAY
		SANDY
583	604	WATER-BEARING, SAND, GRAVEL
		SAND 60%
		GRAVEL 1/4" - 40%
604	608	CLAY
		SANDY
608	637	WATER-BEARING, SAND
637	653	CLAY
		SANDY
653	672	WATER-BEARING, SAND
672	682	CLAY
		SANDY
682	687	WATER-BEARING, SAND
687	703	CLAY
703	705	WATER-BEARING, SAND
705	713	WATER-BEARING, GRAVEL
		1" GRAVEL

713	718	SAND, GRAVEL
		SAND 20%
		GRAVEL 80%
718	723	WATER-BEARING, GRAVEL
		GRAVEL 1"
723	738	CLAY
738	740	WATER-BEARING, GRAVEL
		GRAVEL 1"
740	744	CLAY
744	747	WATER-BEARING, GRAVEL
		GRAVEL 1"
747	755	CLAY
755	760	CLAY, SAND
760	763	SAND, GRAVEL
		SAND 70%
		GRAVEL 30%
763	773	SAND
		SANDY
773	779	WATER-BEARING, SAND
779	782	CLAY
782	783	WATER-BEARING, SAND, GRAVEL
783	800	CLAY
		SANDY

7&d0DCONSTRUCTION - CASING:7&d@

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 112	NEW	.312	16
0 200	NEW	.375	12
200 787	NEW	.330	12

7&d0DCONSTRUCTION - SCREENS/PERFORATIONS:7&d@

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in) Screen Type/# Perf.			
From To			
705 723	PERFORATION	.25	3
738 747	PERFORATION	.25	3

72

7&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS7&d@

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 180	CEMENT		

7&d0DWELL TESTS:7&d@

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
06/11/1974	ARTESIAN FLOW	.033		

7&d0DGENERAL COMMENTS:7&d@

\*787' of pipe. 13' of open hole at bottom. Plus 112' of 16" surface casing.  
 \*Well was disinfected with Wasaclor.



\*\*\*\*\* WIN: 006560 \*\*\*\*\*

7&l6D

7&a130M

Division of Water Rights Well

Data

7&d0DLOCATION:7&d@

S 1691 ft W 1860 ft from NE CORNER of SECTION 25 T 1S R 1W BASE SL

Elevation: 4241.00 feet

7&d0DDRILLER ACTIVITIES:7&d@

ACTIVITY # 1 NEW WELL

DRILLER: Lee & Sons Drilling

LICENCE #: 11

START DATE: 03/13/1973 COMPLETION DATE: 08/03/1973

7&d0DBOREHOLE INFORMATION:7&d@

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From	To		
0	1018	20	CABLE

7&d0DLITHOLOGY:7&d@

Depth(ft)	Lithologic Description
Color	Rock Type

From	To	
0	4	OTHER
TOP SOIL		
4	10	CLAY
10	12	SAND
12	72	CLAY
72	84	CLAY, SAND
84	100	SAND
100	185	CLAY, SAND
185	230	CLAY, SAND, GRAVEL
230	240	CLAY
240	242	SAND
242	257	GRAVEL
		GRAVEL (1/4 TO 1")
257	283	CLAY
283	291	CLAY, SAND
291	324	CLAY
324	329	GRAVEL
		GRAVEL (1/2 TO 4")
329	357	CLAY
357	398	CLAY, SAND
398	415	CLAY
415	418	SAND, GRAVEL
418	432	CLAY
432	447	CLAY, SAND
447	452	SAND
452	472	CLAY
472	485	CLAY, SAND
485	515	CLAY
515	521	SAND, GRAVEL
521	557	CLAY
557	598	CLAY, SAND, GRAVEL
598	606	CLAY
606	647	CLAY, SAND
647	652	SAND
		SAND - HARD
652	715	CLAY, SAND
715	718	CLAY, SAND
718	746	CLAY
		STICKY CLAY
746	795	CLAY, GRAVEL
		STICKY CLAY WITH GRAVEL STREAKS

795	798	CLAY
BLUE		
798	801	CLAY, GRAVEL PEA GRAVEL
801	809	WATER-BEARING, GRAVEL
809	883	CLAY STICKY CLAY
883	890	OTHER
CONGLOMERATE		
890	905	CLAY
TAN		
905	920	SAND, GRAVEL PEA GRAVEL
920	934	CLAY STICKY GRAY CLAY
934	937	SAND COARSE SAND
937	947	CLAY
GREY		
947	952	SAND, GRAVEL
952	995	CLAY STICKY CLAY
995	1009	SAND, GRAVEL PEA GRAVEL
1009	1018	CLAY

7&d0DWATER LEVEL DATA:7&d@

Date	Time	Water Level (feet) (-)above ground	Status
07/31/1973		.00	FLOWING

7&d0DCONSTRUCTION - CASING:7&d@

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 241	NEW	.375	20
220 868	NEW	.375	16
816 969	NEW	.375	12
858 1018	NEW	.365	10

7&d0DCONSTRUCTION - SCREENS/PERFORATIONS:7&d@

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in) Screen Type/# Perf.			
From To			
326 331	PERFORATION	.25	2.5
417 418	PERFORATION	.25	2.5
585 600	PERFORATION	.25	2.5
802 810	PERFORATION	.25	2.5

7&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS7&d@

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 100	CEMENT		

7&d0DWELL TESTS:7&d@

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
07/31/1973	FLOW	.267		
07/31/1973	PUMP	2.230	195	27

7&d0DWATER QUALITY DATA AVAILABLE7&d@

\*\*\*\*\* WIN: 006892 \*\*\*\*\*

•&l6D  
•&a130M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@

S 2867 ft W 1752 ft from NE CORNER of SECTION 30 T 7N R 1W BASE SL

Elevation: feet

•&d0DDRILLER ACTIVITIES:•&d@

ACTIVITY # 1 NEW WELL

DRILLER: WATER WELL SERVICES

LICENCE #: 493

START DATE: 07/21/1994 COMPLETION DATE: 10/27/1994

•&d0DBOREHOLE INFORMATION:•&d@

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 170	8.00	CABLE	WATER

•&d0DLITHOLOGY:•&d@

Depth(ft)	Lithologic Description
Color	Rock Type

From To	
0 5	
TOP SOIL	
5 30	CLAY
BROWN	
30 60	CLAY
GREY	
60 70	CLAY
BROWN	
70 100	CLAY, GRAVEL
BROWN	
100 110	CLAY, SAND, GRAVEL
BROWN	
110 125	CLAY, GRAVEL
BROWN	
125 135	CLAY
BROWN	
135 140	CLAY, GRAVEL
GREY	
140 170	OTHER
BLACK	SHALE/CLAY

•&d0DWATER LEVEL DATA:•&d@

Date	Time	Water Level (feet)	Status
		(-)above ground	
10/27/1994		.00	FLOWING

•&d0DCONSTRUCTION - CASING:•&d@

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 165	STEEL	.250	8.00

•&d0DCONSTRUCTION - SCREENS/PERFORATIONS:•&d@

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From To			
70 85	PERFORATION	.250	3.00
7/1 FT			
95 105	PERFORATION	.250	3.00
7/1 FT			

•&d0DWELL TESTS:•&d@

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
10/21/1994	AIR JET	.134	12	4
10/21/1994	BAILER	.134	12	4

•&d0DGENERAL COMMENTS:•&d@

CONSTRUCTION INFORMATION:  
Well head configuration: Flanged  
Casing Joint Type: Weld  
Perforator used: Mills  
filter Pack: No data  
Pump: No data  
Well disinfected: No data  
Comments: No data  
Additional data not available

\*\*\*\*\* WIN: 007269 \*\*\*\*\*

•&l6D  
•&a130M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@

S 1120 ft W 430 ft from NE CORNER of SECTION 27 T 6N R 3W BASE SL

Elevation: feet

•&d0DDRILLER ACTIVITIES:•&d@

ACTIVITY # 1 NEW WELL

DRILLER: STODDARD DRILLING, G J

LICENCE #: 41

START DATE: 07/21/1983 COMPLETION DATE: 07/23/1983

•&d0DBOREHOLE INFORMATION:•&d@

Depth(ft) Diameter(in) Drilling Method Drilling Fluid  
From To

0 522 2.00 ROTARY

•&d0DLITHOLOGY:•&d@

Depth(ft) Lithologic Description

Color Rock Type

From	To	
0	63	CLAY, SAND
63	84	CLAY
84	96	SAND
96	215	CLAY
215	236	SAND
236	263	CLAY
263	294	SAND
294	370	CLAY
370	383	SAND
383	438	CLAY
438	443	SAND
443	450	CLAY
450	465	SAND
465	496	CLAY
496	505	SAND
505	512	CLAY
512	522	GRAVEL

PEA

•&d0DWATER LEVEL DATA:•&d@

Date	Time	Water Level (feet)	Status
		(-)above ground	
07/23/1983		20.00	STATIC

•&d0DCONSTRUCTION - CASING:•&d@

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			

0 522 NEW 2.00

•&d0DCONSTRUCTION - SCREENS/PERFORATIONS:•&d@

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		

From To			
512 522	SCREEN	40	2.00

JOHNSON SS

•&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS:•&d@

Depth(ft)	Material	Amount	Density(pcf)
-----------	----------	--------	--------------

From To			
0 20	MUD		

\*\*\*\*\* WIN: 008281 \*\*\*\*\*

•&l6D  
•&a130M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@  
N 1900 ft E 600 ft from S4 CORNER of SECTION 32 T 8S R 1W BASE SL  
Elevation: feet  
•&d0DDRILLER ACTIVITIES:•&d@  
ACTIVITY # 1 NEW WELL  
DRILLER: STEPHENSON DRILLING LICENCE #: 106  
START DATE: 01/17/1995 COMPLETION DATE: 04/09/1995  
•&d0DBOREHOLE INFORMATION:•&d@  
Depth(ft) Diameter(in) Drilling Method Drilling Fluid  
From To  
0 45 20.0 CABLE TOOL WATER  
46 560 16.0 CABLE TOOL WATER  
561 675 8.00 CABLE TOOL WATER  
•&d0DLITHOLOGY:•&d@  
Depth(ft) Lithologic Description  
Color Rock Type  
From To  
0 11  
SURFACE  
11 157 SURFACE  
RED WATER-BEARING, LOW-PERMEABILITY, CLAY, SILT, SAND, GRAVEL  
RED CLAY  
MIXED SMALL GRAVEL/SAND/CLAY  
157 238 WATER-BEARING, LOW-PERMEABILITY, CLAY, SILT, SAND  
PINK  
PINK  
CLAY SHOWING GRAVEL-SAND MIXED  
238 549 WATER-BEARING, LOW-PERMEABILITY, CLAY, SILT, SAND, OTHER  
PINK  
PINK  
CLAY SHOWING SMALL GRAVEL-SAND MIXED  
549 560 OTHER  
BLUELINE  
BLUELINE  
FRACTURED BLUE LIME STONE  
560 616 OTHER  
BLUELINE  
BLULIME  
FRACTURED  
616 625 WATER-BEARING, LOW-PERMEABILITY  
BLUELINE  
BLUELINE  
FRACTURED  
625 648  
BLUELINE  
648 667 WATER-BEARING, HIGH-PERMEABILITY  
BLUELINE  
BLUELINE  
FRACTURED FORMATION WATER COOLER  
667 675 WATER-BEARING, HIGH-PERMEABILITY, CLAY  
LIME/RED  
LIME-DARK/RED CLAY  
FRACTURED FORMATION  
•&d0DWATER LEVEL DATA:•&d@  
Date Time Water Level (feet) Status  
(-)above ground  
04/05/1995 148.60  
•&d0DCONSTRUCTION - CASING:•&d@  
Depth(ft) Material Gage(in) Diameter(in)  
From To  
0 552 STEEL GRADE BA53 .375 15.5  
•&d0DCONSTRUCTION - SCREENS/PERFORATIONS:•&d@  
Depth(ft) Screen(S) or Perforation(P) Slot/Perf. siz Screen Diam/Length  
Perf(in) Screen Type/# Perf.  
From To  
180 550 PERFORATION .375 3.00  
185/8 PER RN  
•&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS:•&d@  
Depth(ft) Material Amount Density(pcf)  
From To  
0 45 CEMENT/SAND 10 BG MIX  
•&d0DWELL TESTS:•&d@  
Date Test Method Yield (CFS) Drawdown (ft) Time Pumped (hrs)

## •&amp;d0DGENERAL COMMENTS:•&amp;d@

## CONSTRUCTION INFORMATION:

Well head configuration: Pump Base

Casing Joint Type: Welded-3 Passes

Perforator used: mills

Access Port Provided: through pump base

Filter Pack: cement/sand 10 bag mix

Pump: No data

well disinfected: No data

Comments: No data

Additional data not available

\*\*\*\*\* WIN: 008841 \*\*\*\*\*

•&l6D  
•&a130M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@  
N 600 ft W 1325 ft from E4 CORNER of SECTION 26 T 4S R 1W BASE SL  
Elevation: feet  
•&d0DDRILLER ACTIVITIES:•&d@  
ACTIVITY # 1 NEW WELL  
DRILLER: Advanced Drilling Incorporated LICENCE #: 451  
START DATE: 05/09/1995 COMPLETION DATE: 08/25/1995  
•&d0DBOREHOLE INFORMATION:•&d@  
Depth(ft) Diameter(in) Drilling Method Drilling Fluid  
From To  
0 715 17.0 MUD ROTARY BENTONITE/BARITE  
715 1038 12.5 MUD ROTARY BENTONITE/BARITE  
•&d0DLITHOLOGY:•&d@  
Depth(ft) Lithologic Description  
Color Rock Type  
From To  
0 80 CLAY,SILT,SAND,GRAVEL,COBBLES  
LITTLE CLAY  
80 700 LOW-PERMEABILITY,CLAY,SILT,SAND,GRAVEL  
LITTLE GRAVEL  
700 1000 HIGH-PERMEABILITY,OTHER  
YELLOW/GRAY QUARTZITE  
QUARTZITE/YELLOW & GRAY/EXTREMELY FRACTURED  
1000 1038 LOW-PERMEABILITY,CLAY,OTHER  
YELLOW/GRAY QUARTZITE  
QUARTZITE/YELLOW & GRAY/FRACTURES FILLED WITH CLAY  
•&d0DWATER LEVEL DATA:•&d@  
Date Time Water Level (feet) Status  
(-)above ground  
06/12/1995 -184.8 FLOWING  
•&d0DCONSTRUCTION - CASING:•&d@  
Depth(ft) Material Gage(in) Diameter(in)  
From To  
0 20 STEEL .250 18.0  
1 711 STEEL .375 14.0  
690 710 STEEL .330 9.00  
1010 1030 STEEL .330 9.00  
•&d0DCONSTRUCTION - SCREENS/PERFORATIONS:•&d@  
Depth(ft) Screen(S) or Perforation(P) Slot/Perf. siz Screen Diam/Length  
Perf(in) Screen Type/# Perf.  
From To  
710 1010 PERFORATION 100 9.50  
STAINLESS  
•&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS:•&d@  
Depth(ft) Material Amount Density(pcf)  
From To  
0 20 CONCRETE 9  
0 711 NEAT CEMENT/11 LB/MUD  
•&d0DGENERAL COMMENTS:•&d@  
CONSTRUCTION INFORMATION:  
Well head configuration: Spool with 10", 4" & 2" valves  
Casing Joint Type: Welded  
Perforator used: No data  
Well Development:  
Method: Reverse circulation swab  
Flow: 500-1000 GPM  
Drawdown: -0-  
Time Pumped: 72  
Pump: No data  
well disinfected: No data  
Comments: No data  
Additional data not available

\*\*\*\*\* WIN: 010179 \*\*\*\*\*

7&l6D

7&a130M

Division of Water Rights Well

Data

7&d0DLOCATION:7&d@

N 230 ft W 170 ft from S4 CORNER of SECTION 11 T 1S R 2W BASE SL  
Elevation: 4227.00 feet

7&d0DDRILLER ACTIVITIES:7&d@

ACTIVITY # 1 NEW WELL

DRILLER: WEBBER DRILLING COMPANY

LICENCE #: 325

START DATE: 06/01/1986 COMPLETION DATE: 10/01/1986

7&d0DBOREHOLE INFORMATION:7&d@

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From	To		
0	400	16.0	CABLE TOOL

7&d0DLITHOLOGY:7&d@

Depth(ft)	Lithologic Description
Color	Rock Type
From	To
0	3 OTHER
TOP SOIL	
3	40 CLAY
40	45 SILT, SAND, GRAVEL
45	48 CLAY, GRAVEL
48	83 CLAY
83	89 SAND, GRAVEL
89	107 CLAY
107	110 CLAY, SAND
110	143 CLAY
143	148 SAND
148	159 CLAY, SAND
159	162 SAND
162	165 SAND, GRAVEL
165	182 SAND
182	193 CLAY, SAND
193	224 CLAY
224	225 SAND
225	237 SAND, GRAVEL, COBBLES, BOULDERS
237	259 CLAY, SAND, GRAVEL
259	264 SAND, GRAVEL
264	278 COBBLES
278	284 SAND, GRAVEL
284	302 CLAY, SAND
302	306 CLAY, SAND, GRAVEL
306	312 CLAY, GRAVEL
312	316 CLAY
316	340 CLAY, GRAVEL, OTHER

BEDROCK

7&d0DWATER LEVEL DATA:7&d@

Date	Time	Water Level (feet)	Status
		(-)above ground	
09/	/1986	-92.40	FLOWING

7&d0DCONSTRUCTION - CASING:7&d@

Depth(ft)	Material	Gage(in)	Diameter(in)
From	To		
0	360	NEW/WELDED	.375 16.0

7&d0DCONSTRUCTION - SCREENS/PERFORATIONS:7&d@

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From	To		



163	165	PERFORATION
224	232	PERFORATION
250	252	PERFORATION
259	278	PERFORATION
302	304	PERFORATION
340	400	PERFORATION

7&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS7&d@

Depth(ft)	Material	Amount	Density(pcf)
From	To		
0	100	CEMENT	

7&d0DWELL TESTS:7&d@

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
10/01/1986		4.679	0	22

7&d0DGENERAL COMMENTS:7&d@

Additional data not available

\*\*\*\*\* WIN: 010954 \*\*\*\*\*

•&l6D  
•&a130M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@

N 12 ft W 2853 ft from E4 CORNER of SECTION 6 T 5N R 2W BASE SL

Elevation: feet

•&d0DDRILLER ACTIVITIES:•&d@

ACTIVITY # 1 WELL REPLACEMENT

DRILLER: UNZICKER & WELLS DRILLING CO INC

LICENCE #: 398

START DATE: 11/17/1995 COMPLETION DATE: 11/30/1995

•&d0DBOREHOLE INFORMATION:•&d@

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 640	8.00	MUD ROTARY	BENTONITE
640 1300	5.00	MUD ROTARY	BENTONITE

•&d0DLITHOLOGY:•&d@

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 3	

SOIL

3	11	SAND
11	73	CLAY
73	81	SAND
81	110	CLAY, SAND
110	120	SAND
120	160	CLAY
160	178	SAND
178	223	CLAY
223	241	SAND
241	273	CLAY
273	304	SAND
304	341	CLAY
341	350	SAND
350	360	CLAY
360	370	SAND
370	465	CLAY
465	493	SAND
493	525	CLAY
525	540	SAND
540	545	CLAY
545	555	SAND
555	565	WATER-BEARING, CLAY
565	592	WATER-BEARING, SAND
592	640	WATER-BEARING, CLAY
640	648	CLAY
648	655	WATER-BEARING, SAND
655	678	CLAY
678	686	SAND
686	700	CLAY
700	705	SAND
705	790	CLAY
790	820	SAND
820	831	CLAY
831	840	SAND
840	846	CLAY
846	862	SAND
862	955	CLAY
955	968	SAND
968	980	CLAY
980	989	WATER-BEARING, SAND
989	1058	CLAY
1058	1075	WATER-BEARING, SAND
1075	1081	CLAY
1081	1088	SAND
1088	1095	CLAY
1095	1115	WATER-BEARING, SAND
1115	1155	CLAY
1155	1165	WATER-BEARING, SAND
1165	1185	CLAY
1185	1196	SAND
1196	1198	CLAY
1198	1203	SAND
1203	1208	CLAY
1208	1216	SAND
1216	1221	WATER-BEARING, CLAY, SAND, GRAVEL
1221	1250	SAND

1250 1255 CLAY  
1255 1270 SAND  
1270 1278 CLAY  
1278 1285 SAND  
1285 1300 CLAY

•&d0DWATER LEVEL DATA:•&d@

Date	Time	Water Level (feet) (-)above ground	Status
11/30/1995		-43.89	FLOWING

•&d0DCONSTRUCTION - CASING:•&d@

Depth(ft) From	Material	Gage(in) To	Diameter(in)
0 624	STEEL	.250	5.00
614 1243	STEEL	.250	2.50

•&d0DCONSTRUCTION - SCREENS/PERFORATIONS:•&d@

Depth(ft) Perf(in)	Screen(S) or Perforation(P) Screen Type/#	Slot/Perf. siz	Screen Diam/Length
1212 1222	SCREEN	.300	.100

HUSTON SS

•&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS:•&d@

Depth(ft) From	Material	Amount	Density(pcf)
0 40	CEMENT	6	

•&d0DGENERAL COMMENTS:•&d@

OLD WELL THAT WAS REPLACED, WAS PUMPED FULL TO THE SURFACE WITH  
NEET CEMENT AND ABANDONED 25 CU FEET OF NEET CEMENT AT 15 LBS PER  
GAL WAS USED.  
ADDITIONAL DATA NOT AVAILABLE

\*\*\*\*\* WIN: 011319 \*\*\*\*\*

•&l6D  
•&a130M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@  
S 2600 ft W 350 ft from NE CORNER of SECTION 32 T 8S R 1W BASE SL  
Elevation: feet  
•&d0DDRILLER ACTIVITIES:•&d@  
ACTIVITY # 1 NEW WELL  
DRILLER: STEPHENSON DRILLING LICENCE #: 106  
START DATE: 01/11/1996 COMPLETION DATE: 06/15/1996  
ACTIVITY # 2 WELL REPLACEMENT  
DRILLER: STEPHENSON DRILLING LICENCE #: 106  
START DATE: 08/05/1997 COMPLETION DATE: 11/30/1997  
•&d0DBOREHOLE INFORMATION:•&d@  
Depth(ft) Diameter(in) Drilling Method Drilling Fluid  
From To  
0 30 20.0 CABLE TOOL WATER  
31 675 16.0 CABLE TOOL WATER  
676 712 8.00 CABLE TOOL WATER  
•&d0DLITHOLOGY:•&d@  
Depth(ft) Lithologic Description  
Color Rock Type  
From To  
0 30 CLAY,SILT,SAND  
SURFACE  
30 70 CLAY,SILT,SAND,GRAVEL  
SMALL GRAVEL  
71 149 CLAY,SILT,GRAVEL  
PINK CLAY  
150 260 SMALL GRAVEL SHOWING  
BROWN WATER-BEARING,LOW-PERMEABILITY,CLAY,SAND,GRAVEL  
261 390 SMALL GRAVEL SHOWING WATER 135'  
BROWN WATER-BEARING,LOW-PERMEABILITY,CLAY,SAND,GRAVEL  
390 485 SMALL GRAVEL SHOWING WATER STRONGER  
BROWN WATER-BEARING,LOW-PERMEABILITY,CLAY,SAND,GRAVEL  
485 500 STRATIFIED LAYERS  
BROWN WATER-BEARING,LOW-PERMEABILITY,CLAY,GRAVEL  
500 540 WATER-BEARING,LOW-PERMEABILITY,CLAY,GRAVEL  
BROWN  
540 567 HARD PAN LAYERS GRAVEL  
BROWN WATER-BEARING,HIGH-PERMEABILITY,CLAY,GRAVEL  
567 672 WATER STRONGER  
WATER-BEARING,HIGH-PERMEABILITY,CLAY,GRAVEL  
CLAY STRATIFIED WITH GRAVEL LAYER  
673 710 LOW-PERMEABILITY,SAND  
BLACK/RED LIME  
CLAY AND LIMESTONE AND WATER  
•&d0DWATER LEVEL DATA:•&d@  
Date Time Water Level (feet) Status  
(-)above ground  
05/29/1996 135.00  
•&d0DCONSTRUCTION - CASING:•&d@  
Depth(ft) Material Gage(in) Diameter(in)  
From To  
0 672 16' A53B .375 15.5  
•&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS:•&d@  
Depth(ft) Material Amount Density(pcf)  
From To  
0 30 CEMENT 8  
•&d0DWELL TESTS:•&d@  
Date Test Method Yield (CFS) Drawdown (ft) Time Pumped (hrs)  
05/07/1996 LINE SHAFT PUMP 1300.0 280 24  
•&d0DGENERAL COMMENTS:•&d@  
CONSTRUCTION INFORMATION:  
Well head configuration: Pump Base  
casing Joint Type: Welded  
Perforator Used: Mills  
Screen/Perforations: 3/8 x 2" (No additional data available)

Additional data not available  
\*REPLACEMENT WELL: Log Recieve Date: 12/17/1997  
Start: 08/05/1997 Complete: 11/30/1997  
BOREHOLE: Depth: 0-30': Diameter: 20": Method: Cable Tool  
Drilling Fluid: water  
Depth: 31-700': Diameter: 16": Method: Cable Tool: Drilling Fluid:  
water  
LITHO: 0-8': Descriptions:surfaces  
9-22': Clay, sand, gravel, cobbles, boulder  
23-229': water, low, clay, silt, sand: Color: Lt. Brown: water 228'  
230-385': water, low, clay, gravel: Color: Lt. Brown: water showing  
386-460': clay, gravel: Color: Brown  
461-475': clay: Color: Brown  
476-673': clay, gravel: Color: brown: gravel showing  
674-700': clay, boulder: Color: brown: caly showing  
WATER LEVEL: Date: 11/30/1997  
Level: 226 feet  
Method of Measurement: Steel Tape  
Flowing: no data  
Point of Measurement: Top of Casing  
Height above surface: 1.5 feet  
Temperature: no data  
CONSTRUCTION INFORMATION:  
CASING: 0-684': 16" A 53 Grade B: .375x15.125"  
PERFS: 230-460': 3/8x3": TYPE: 8-115-920 (8 per rnd 115 rounds 20)  
Well Head Configuration: no data  
Casing Joint Type: Welded  
Perforator used: mills  
Access Port: no data  
FILTER PACK: 0-30': Cement: 10 bag mix  
WELL DEVELOPMENT:  
Date: 11/18/97  
Method: Line Shaft Pump  
Yield: 500  
Units: no data  
Drawdown: 450 feet  
Time Pumped: 24 Hrs.  
Additional data not available

\*\*\*\*\* WIN: 011382 \*\*\*\*\*

•&l6D  
•&al30M

Division of Water Rights Well

Data

**LOCATION:**

N 1300 ft W 150 ft from S4 CORNER of SECTION 7 T 9S R 2E BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL  
DRILLER: MILLER DRILLING  
START DATE: 02/28/1996

COMPLETION DATE: 03/04/1996

LICENSE #: 292

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 218	6.00	AIR ROTARY	AIR AND WATER

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 4	LOW-PERMEABILITY,CLAY
BROWN	
4 18	GRAVEL
TAN	
18 80	CLAY,SAND
TAN	
80 120	WATER-BEARING,HIGH-PERMEABILITY,SAND
TAN	
120 150	CLAY,SAND
TAN	
150 156	WATER-BEARING,SILT,SAND
TAN	
156 174	WATER-BEARING,SAND
RED	
174 218	LOW-PERMEABILITY,OTHER
NO WATER	BEDROCK

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
03/04/1996		26.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 151	STEEL	.250	6.00

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 20	BENTONITE DRY	1	

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
03/01/1996	AIR LIFT	.067		1

**GENERAL COMMENTS:**

CONSTRUCTION INFORMATION:  
Well head configuration: Pitless Adaptor  
Casing Joint Type: Welded  
perforator used: N/A  
Screen/perforations: no data  
Pump: Grundfos  
HP: 3/4  
Intake Depth: 130 feet  
approx pump rate: 20 gpm  
Well disinfected: No  
Additional data not available

\*\*\*\*\* WIN: 011405 \*\*\*\*\*

•&l6D  
•&al30M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@

N 541 ft E 1481 ft from SW CORNER of SECTION 17 T 7N R 1W BASE SL

Elevation: feet

•&d0DDRILLER ACTIVITIES:•&d@

ACTIVITY # 1 NEW WELL

DRILLER: B & L Drilling

LICENCE #: 295

START DATE: 07/01/1972 COMPLETION DATE: 05/10/1973

•&d0DBOREHOLE INFORMATION:•&d@

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			

0	180	6	ROTARY
---	-----	---	--------

•&d0DLITHOLOGY:•&d@

Depth(ft) Lithologic Description

Color Rock Type

From	To	
0	15	SAND, GRAVEL
15	20	SAND, BOULDERS
20	70	BOULDERS
		HARD ROCK
70	80	SAND, GRAVEL
80	90	SAND
90	180	BOULDERS
		HARD ROCK

•&d0DWATER LEVEL DATA:•&d@

Date	Time	Water Level (feet)	Status
		(-)above ground	
05/10/1973		3.00	STATIC

•&d0DCONSTRUCTION - CASING:•&d@

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0	90 NEW	.250	4

•&d0DCONSTRUCTION - SCREENS/PERFORATIONS:•&d@

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From To			
70	90 PERFORATION	.25	8

35

•&d0DWATER QUALITY DATA AVAILABLE•&d@

\*\*\*\*\* WIN: 011406 \*\*\*\*\*

•&l6D  
•&a130M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@

S 190 ft W 870 ft from NE CORNER of SECTION 19 T 7N R 1W BASE SL

Elevation: feet

•&d0DDRILLER ACTIVITIES:•&d@

ACTIVITY # 1 NEW WELL

DRILLER: Intermountain Drilling Corp Inc

LICENCE #: 200

START DATE: 01/19/1972 COMPLETION DATE: 01/23/1972

•&d0DBOREHOLE INFORMATION:•&d@

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 116	4	ROTARY	

•&d0DLITHOLOGY:•&d@

Depth(ft) Lithologic Description

Color Rock Type

From	To	
0	19	CLAY
19	26	GRAVEL
26	63	GRAVEL
		GRAVEL STRINGERS
63	74	OTHER

CONGLOMERATE

74	87	CLAY
87	103	GRAVEL
103	108	CLAY
108	113	GRAVEL
113	116	OTHER

CONGLOMERATE

•&d0DWATER LEVEL DATA:•&d@

Date	Time	Water Level (feet)	Status
		(-)above ground	
02/ /1972		6.00	STATIC

•&d0DCONSTRUCTION - CASING:•&d@

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 116			4

•&d0DCONSTRUCTION - SCREENS/PERFORATIONS:•&d@

Depth(ft) Screen(S) or Perforation(P) Slot/Perf. siz Screen Diam/Length  
Perf(in) Screen Type/# Perf.

From	To	
76	116	PERFORATION

35

•&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS•&d@

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 10			



011537

**LOCATION:**

S 400 ft W 2200 ft from NE CORNER of SECTION 15 T 9S R 2E BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL  
DRILLER: DOXEY DRILLING  
START DATE: 03/01/1996

LICENSE #: 400

COMPLETION DATE: 03/07/1996

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 265	9.00	ROTARY TRI-CONE	WATER-QUIK GEL BAROI

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 3	OTHER
DARK BROWN	TOP SOIL
	TOP SOIL
3 7	WATER-BEARING, HIGH-PERMEABILITY, SAND
7 19	CLAY
TAN	
19 21	HIGH-PERMEABILITY, GRAVEL
21 77	LOW-PERMEABILITY, CLAY
TAN	
77 86	LOW-PERMEABILITY
86 93	HIGH-PERMEABILITY, GRAVEL
93 113	LOW-PERMEABILITY, CLAY
DARK BROWN	
113 119	CLAY, GRAVEL
119 135	CLAY
TAN	
135 150	HIGH-PERMEABILITY, GRAVEL
150 155	LOW-PERMEABILITY, CLAY
TAN	
155 167	HIGH-PERMEABILITY, GRAVEL
167 174	LOW-PERMEABILITY, CLAY
TAN	
174 179	HIGH-PERMEABILITY, SILT, SAND
179 188	WATER-BEARING, HIGH-PERMEABILITY, SAND
188 191	LOW-PERMEABILITY, CLAY
TAN	
191 200	HIGH-PERMEABILITY, SILT, SAND
200 206	CLAY
206 223	WATER-BEARING, HIGH-PERMEABILITY, CLAY, SILT, SAND, GRAVEL
223 232	LOW-PERMEABILITY, OTHER
FRACTURES/ROCK	
	HARD ROCK W/FRACTURES
232 238	WATER-BEARING, SAND, GRAVEL
238 253	WATER-BEARING, OTHER
	FRACTURES W/ROCK
253 265	WATER-BEARING, SAND, GRAVEL
	WATER

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
03/12/1996		1.00	FLOWING

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
+2 265	5" PVC WELL CASING	.271	5.25

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From To			
216 253	PERFORATION	.125	1.25
450 SLOTS			

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 33	HOLE PLUG/GRAN BENTONI		
33 265	WASHED PEA GRAVEL 1/4"		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
03/05/1996	AIR JET/LIFTING	.067	65	2

**GENERAL COMMENTS:**

## CONSTRUCTION INFORMATION:

Well head configuration: 5" x 1" well seal

Casing Joint Type: Solvent Weld

Perforator used: Slots

Comments: After development we let well sit overnight and well was flowing 1 gpm over top of well casing. We installed a well seal to shut off water.

Additional data not available

\*\*\*\*\* WIN: 011851 \*\*\*\*\*

•&l6D  
•&a130M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@  
N 1142 ft W 1706 ft from SE CORNER of SECTION 13 T 3N R 1W BASE SL  
Elevation: feet  
•&d0DDRILLER ACTIVITIES:•&d@  
ACTIVITY # 1 NEW WELL  
DRILLER: LAYNE CHRISTENSEN COMPANY LICENCE #: 188  
START DATE: 05/22/1996 COMPLETION DATE: 06/18/1996  
•&d0DBOREHOLE INFORMATION:•&d@  
Depth(ft) Diameter(in) Drilling Method Drilling Fluid  
From To  
0 30 42.0 AUGER DRILLING NONE  
30 705 28.0 REVERSE ROTARY WATER  
•&d0DLITHOLOGY:•&d@  
Depth(ft) Lithologic Description  
Color Rock Type  
From To  
0 30 LOW-PERMEABILITY,CLAY,GRAVEL,BOULDERS  
SLOW DRILLING  
30 145 HIGH-PERMEABILITY,CLAY,COBBLES  
GRAY/BROWN  
145 150 CALCITE & SILTSTONE/GRAY/BROWN-SLOW DRILLING  
LOW-PERMEABILITY,CLAY,OTHER  
GRAY  
150 340 GRAY ROCK/GRAY/MEDIUM DRILLING  
HIGH-PERMEABILITY,OTHER  
GRAY  
340 434 CALCITE & GRAY GRANITE/GRAY/MEDIUM DRILLING  
HIGH-PERMEABILITY,OTHER  
GRAY  
434 449 CALCITE/GRANITE/GRAY/MEDIUM DRILLING  
HIGH-PERMEABILITY,CLAY  
BROWN CLAY  
449 478 CLAY/BROWN/MEDIUM DRILLING  
HIGH-PERMEABILITY,CLAY,SILT,OTHER  
GRAY  
478 673 FINE SAND/BROKEN GRANITE/GRAY/MEDIUM DRILLING  
LOW-PERMEABILITY,BOULDERS,OTHER  
GRAY  
673 685 CALCITE GRANITE/GRAY/SLOW DRILLING  
LOW-PERMEABILITY,OTHER  
GRAY  
685 705 FRACTURED GRANITE/GRAY/SLOW DRILLING  
LOW-PERMEABILITY,OTHER  
GRAY  
BEDROCK/GRAY/TOTAL DEPTH  
•&d0DWATER LEVEL DATA:•&d@  
Date Time Water Level (feet) Status  
(-)above ground  
06/18/1996 .00 FLOWING  
•&d0DCONSTRUCTION - CASING:•&d@  
Depth(ft) Material Gage(in) Diameter(in)  
From To  
0 30 API 5 LB LOW CARBON .375 36.0  
+1 180 A53B-LOW CARBON .375 20.0  
380 470 A53B-LOW CARBON .375 16.0  
530 620 A53B-LOW CARBON .375 16.0  
660 700 A53B-LOW CARBON .375 16.0  
•&d0DCONSTRUCTION - SCREENS/PERFORATIONS:•&d@  
Depth(ft) Screen(S) or Perforation(P) Slot/Perf. siz Screen Diam/Length  
Perf(in) Screen Type/# Perf.  
From To  
180 380 SCREEN .080 16.0  
SS WIRE  
470 530 SCREEN .080 16.0  
SS WIRE  
620 660 SCREEN .080 16.0  
SS WIRE  
•&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS•&d@  
Depth(ft) Material Amount Density(pcf)  
From To  
0 130 CEMENT GROUT  
130 705 CO SILICA SAND 6 X 9 2150  
•&d0DWELL TESTS:•&d@

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
06/14/1996	SWAB & AIRLIFT	.000		
07/15/1996	C.R. PUMP TEST	5.013	48	27

•&d0DGENERAL COMMENTS:•&d@

CONSTRUCTION INFORMATION:

Well head configuration: Welded Plate

Casing Joint Type: No data

Perforator used: No data

Additional data not available

WIN 012621

Fox (17)

GSR1970 (c-1-3)15bca-2 (kennecott, Garfield no 5 replacement)

**LOCATION:**

S 1520 ft E 1060 ft from NW CORNER of SECTION 15 T 1S R  
3W BASE SL Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 WELL REPLACEMENT

START DATE: 06/12/1964 COMPLETION DATE: 08/21/1964

**BOREHOLE INFORMATION:**

	Depth(ft)	Diameter(in)	Drilling Method	Drilling
Fluid	From To			
	0 885	20	CABLE	

**LITHOLOGY:**

	Depth(ft)	Lithologic Description
Color	From To	Rock Type
	0 7	OTHER
TOPSOIL	7 135	CLAY
BLUE	135 198	CLAY
BROWN	198 235	CLAY, SAND
BLUE	235 265	CLAY
BROWN	265 470	CLAY, SAND
BLUE	470 546	CLAY, GRAVEL
BROWN	546 650	OTHER
CONGLOMERATE	650 658	CLAY, GRAVEL
	658 685	OTHER
CONGLOMERATE	685 708	CLAY, GRAVEL
	708 762	COBBLES
	762 816	CLAY, GRAVEL
	816 843	COBBLES
	843 875	CLAY, GRAVEL
RED	875 882	CLAY, GRAVEL
BROWN	882 886	OTHER
BLACK		LIMESTONE
		CONGLOMERATE

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
08/21/1964		5.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 885	NEW	.38	20

**CONSTRUCTION - SCREENS/PERFORATIONS:**

	Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz
Screen Diam/Length	Perf(in)	Screen Type/# Perf.	
	From	To	
3	546	650	PERFORATION .38
	675	764	PERFORATION .38
3		12	
	815	845	PERFORATION .38
3		12	

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From	To		
0	200	CEMENT	

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)
Time Pumped (hrs)			
08/21/1964	PUMP	7.966	128
48			

**WATER QUALITY DATA AVAILABLE****GENERAL COMMENTS:**

DEPTH DRILLED 885 FT. DEPTH OF COMPLETED WELL 886 FT.

Win013176  
Wr 55-745

**LOCATION:**

S 346 ft W 161 ft from NE CORNER of SECTION 8 T 5S R 1E BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL  
START DATE: 08/08/1956 COMPLETION DATE: 10/15/1956

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 709			

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 9	OTHER
TOPSOIL	
9 18	CLAY
	SANDY
18 114	CLAY, SAND
114 129	SAND, GRAVEL
129 144	CLAY
	SANDY
144 153	SAND, GRAVEL
BLUE	
153 160	OTHER
CONGLOMERATE	
160 192	CLAY
TAN	
192 220	OTHER
CONGLOMERATE	
220 227	CLAY
TAN	
227 253	OTHER
CONGLOMERATE	
253 258	CLAY
TAN	
258 280	OTHER
CONGLOMERATE	
280 305	CLAY
TAN	
305 318	OTHER
CONGLOMERATE	
318 328	CLAY
TAN	
328 337	OTHER
CONGLOMERATE	
337 351	CLAY
TAN	
351 360	WATER-BEARING, CLAY, GRAVEL
LT TAN	
360 373	CLAY
TAN	
373 394	CLAY, SAND, GRAVEL
394 407	CLAY
407 418	CLAY, SAND, GRAVEL
418 434	CLAY
	SANDY
434 438	CLAY, SAND, GRAVEL

438	451	OTHER
CONGLOMERATE		
451	454	CLAY
TAN		
454	465	OTHER
CONGLOMERATE		
465	467	CLAY
467	492	OTHER
CONGLOMERATE		
492	496	SAND
		COARSE
496	507	OTHER
CONGLOMERATE		
507	515	CLAY , SAND , GRAVEL
515	521	OTHER
CONGLOMERATE		
521	527	SAND , GRAVEL
527	538	CLAY , SAND , GRAVEL
538	570	OTHER
CONGLOMERATE		
570	582	CLAY
TAN		
582	584	GRAVEL
584	592	CLAY
592	598	CLAY , GRAVEL
598	612	CLAY
612	614	CLAY , GRAVEL
614	634	CLAY
634	646	OTHER
CONGLOMERATE		
646	658	CLAY
658	666	CLAY , GRAVEL
666	676	CLAY
676	684	CLAY , SAND , GRAVEL
684	694	CLAY
694	709	CLAY , GRAVEL

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 16		.31	

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen
Diam/Length	Perf(in)	Screen Type/#	Perf.
From To			
0 365	PERFORATION		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped
(hrs)				
10/15/1956	PUMP	4.234		



\*\*\*\*\* WIN: 013507 \*\*\*\*\*

•&l6D  
•&a130M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@  
S 1432 ft E 415 ft from NW CORNER of SECTION 30 T 6S R 1E BASE SL  
Elevation: feet  
•&d0DDRILLER ACTIVITIES:•&d@  
ACTIVITY # 1 NEW WELL  
DRILLER: Robinson Drilling Company LICENCE #: 10  
START DATE: 03/30/1973 COMPLETION DATE: 05/17/1973  
•&d0DBOREHOLE INFORMATION:•&d@  
Depth(ft) Diameter(in) Drilling Method Drilling Fluid  
From To  
0 490 8 CABLE  
•&d0DLITHOLOGY:•&d@  
Depth(ft) Lithologic Description  
Color Rock Type  
From To  
0 5 CLAY,SILT,BOULDERS  
5 18 CLAY,GRAVEL,BOULDERS  
18 32 BOULDERS  
32 39 CLAY,BOULDERS  
39 230 CLAY,GRAVEL,BOULDERS  
230 272 CLAY,GRAVEL  
RED  
HARD CLAY  
272 403 OTHER  
DRK BLUE SHALE  
SMALL AMOUNT OF WATER AT 272 FT.  
403 490 WATER-BEARING,OTHER  
DRK BLUE SHALE  
HARD  
•&d0DWATER LEVEL DATA:•&d@  
Date Time Water Level (feet) Status  
(-)above ground  
05/03/1973 249.00 STATIC  
•&d0DCONSTRUCTION - CASING:•&d@  
Depth(ft) Material Gage(in) Diameter(in)  
From To  
0 233 NEW 10  
0 487 NEW 8  
•&d0DCONSTRUCTION - SCREENS/PERFORATIONS:•&d@  
Depth(ft) Screen(S) or Perforation(P) Slot/Perf. siz Screen Diam/Length  
Perf(in) Screen Type/# Perf.  
From To  
275 485 PERFORATION .19 2.50  
480  
•&d0DWELL TESTS:•&d@  
Date Test Method Yield (CFS) Drawdown (ft) Time Pumped (hrs)  
05/03/1973 BAILER .053 35 4

\*\*\*\*\* WIN: 013537 \*\*\*\*\*

•&l6D  
•&a130M

Division of Water Rights Well

Data\_\_\_\_\_

•&d0DLOCATION:•&d@

N 981 ft E 368 ft from W4 CORNER of SECTION 10 T 8S R 1E BASE SL

Elevation: feet

•&d0DDRILLER ACTIVITIES:•&d@

ACTIVITY # 1 NEW WELL

DRILLER: Poulson, Mark, Excavating & Drilling

LICENCE #: 243

START DATE: 03/25/1976 COMPLETION DATE: 04/30/1976

•&d0DBOREHOLE INFORMATION:•&d@

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 275	6	CABLE	

•&d0DLITHOLOGY:•&d@

Depth(ft)	Lithologic Description
Color	Rock Type

From To	
0 4	OTHER
TOP SOIL	
4 20	CLAY, COBBLES, BOULDERS
20 40	CLAY, COBBLES, BOULDERS
40 60	WATER-BEARING, SAND, GRAVEL
	WATER TEMP 67
60 80	CLAY, COBBLES, BOULDERS
80 108	CLAY, COBBLES, BOULDERS
108 115	WATER-BEARING, SAND, GRAVEL
	WATER TEMP 74.
115 152	CLAY, SAND, GRAVEL, COBBLES, BOULDERS
152 200	GRAVEL, COBBLES
200 208	WATER-BEARING, OTHER

BEDROCK

	WATER TEMP 75 AND 84
208 240	WATER-BEARING, OTHER

BEDROCK

240 275	WATER-BEARING, OTHER
---------	----------------------

BEDROCK

WATER TEMP 98

•&d0DWATER LEVEL DATA:•&d@

Date	Time	Water Level (feet)	Status
		(-)above ground	
04/30/1976		19.00	STATIC

•&d0DCONSTRUCTION - CASING:•&d@

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 240	NEW	.280	6

013690

**LOCATION:**

S 1865 ft E 1695 ft from NW CORNER of SECTION 11 T 10S R 1E BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

DRILLER: COMER DRILLING COMPANY

LICENSE #: 5

START DATE: 10/ /

COMPLETION DATE: 02/18/1964

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 500	6	CABLE	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 5	GRAVEL, OTHER
SOIL	
5 8	CLAY
TAN	
8 42	GRAVEL
42 56	CLAY, SAND
BLUE	
56 80	OTHER
HARDPAN	
80 142	CLAY, GRAVEL
TAN	
142 157	SAND, GRAVEL
157 168	CLAY
RED	
168 214	CLAY, GRAVEL
214 226	CLAY
RED	
226 238	CLAY, GRAVEL
238 242	CLAY
TAN	
242 268	CLAY, GRAVEL
268 300	CLAY, GRAVEL, BOULDERS
300 332	BOULDERS, OTHER
CONGLOMERATE	
332 425	WATER-BEARING, CLAY, SAND, GRAVEL
425 458	SAND, BOULDERS
458 470	CLAY, BOULDERS
470 500	CLAY, OTHER
GRAY	ROCK

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
02/18/1964		320.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 475	NEW		6

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From To			
335 470	PERFORATION	.38	2
360			

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
02/18/1964	BAILER	.022	0	.50

\*\*\*\*\* WIN: 013701 \*\*\*\*\*

•&l6D  
•&al30M

Division of Water Rights Well

Data

**LOCATION:**

S 66 ft E 90 ft from W4 CORNER of SECTION 4 T 10S R 1W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

DRILLER: Layne-Texas Company

LICENSE #: 183

START DATE: 01/27/1962 COMPLETION DATE: 05/11/1962

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 1218	29	ROTARY	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 23	CLAY, SAND
23 62	CLAY, SAND, GRAVEL
62 90	CLAY, SAND, GRAVEL
90 114	GRAVEL LARGE
114 144	SAND, GRAVEL
144 166	GRAVEL, BOULDERS
166 254	SAND, GRAVEL
254 284	CLAY, GRAVEL CLAY BREAKS
284 294	CLAY, GRAVEL HARD
294 302	GRAVEL, OTHER
SHALE 302 310	OTHER
SHALE 310 340	HARD GRAVEL, OTHER
SHALE 340 365	SANDY SAND, GRAVEL
365 409	SAND, GRAVEL SAND BREAKS
409 419	SAND, GRAVEL SAND BREAKS
419 451	GRAVEL
451 529	SAND, GRAVEL
529 579	FINE GRAVEL LAYERS, SAND BREAKS OTHER
SHALE 579 685	HARD SANDY, PYRITE SAND, GRAVEL
685 708	CLAY, SAND, GRAVEL
708 757	SAND, GRAVEL COARSE SAND, FINE GRAVEL
757 759	CLAY
759 797	SAND, GRAVEL, OTHER
PYRITE 797 802	CLAY
802 829	SAND, GRAVEL
829 830	SAND
830 870	CLAY, GRAVEL
870 888	CLAY, SAND, GRAVEL CLAY BREAKS
888 920	CLAY
920 925	CLAY, SAND, GRAVEL
925 994	CLAY, GRAVEL
994 1031	SAND, GRAVEL, OTHER
ROCKS 1031 1041	ROCK STREAKS CLAY
RED, GREEN 1041 1061	HARD CLAY, SAND SANDY
1061 1076	CLAY STICKY

1076	1142	CLAY, GRAVEL
		HARD CLAY
1142	1168	CLAY, SAND, GRAVEL
		CLAY STREAKS, SMALL GRAVEL
1168	1171	CLAY
		HARD
1171	1177	CLAY, SAND
		SANDY
1177	1184	CLAY
		HARD
1184	1187	CLAY, SAND
		SANDY
1187	1200	GRAVEL, OTHER
ROCK		
		THIN LAYERS OF HARD ROCK
1200	1218	OTHER
RED		SHALE
		HARD, SOME GREEN

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
04/10/1962		143.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 50	NEW	.38	30
1 551	NEW	.31	16
551 870	NEW	.31	12

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in) Screen Type/#	Perf.		
From To			
406 550	SCREEN	.19	16
MOSS SHUTTER			
640 680	SCREEN	.19	12
MOSS SHUTTER			
700 740	SCREEN	.19	12
MOSS SHUTTER			
750 850	SCREEN	.19	12
MOSS SHUTTER			

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 50	CONCRETE		
0 870	GRAVEL		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
04/10/1962	PUMP	4.623	61.5	24
04/10/1962	PUMP	4.679	58	6
04/10/1962	PUMP	4.679	78	48

**WATER QUALITY DATA AVAILABLE**

**GENERAL COMMENTS:**

Depth well drilled 1218 ft. Depth of completed well 870 ft.

\*\*\*\*\* WIN: 016009 \*\*\*\*\*

7&l6D

7&a130M

Division of Water Rights Well

Data \_\_\_\_\_

7&d0DLOCATION:7&d@

S 55 ft W 30 ft from E4 CORNER of SECTION 3 T 3S R 1E BASE SL  
Elevation: feet

7&d0DDRILLER ACTIVITIES:7&d@

ACTIVITY # 1 NEW WELL

DRILLER: ZIM INDUSTRIES INC

LICENCE #: 697

START DATE: 07/08/1997 COMPLETION DATE: 09/09/1997

7&d0DBOREHOLE INFORMATION:7&d@

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From	To		
0	60	40.0	AUGER RIG
60	1000	28.0	REV RIG POLYBORE

7&d0DLITHOLOGY:7&d@

Depth(ft)	Lithologic Description	
Color	Rock Type	
From	To	
60	200	CLAY, GRAVEL, COBBLES
COBBLES		
		KEPT V I S AT 47 TO 50
		COBBLES
200	345	SAND, GRAVEL, COBBLES, BOULDERS, OTHER
		BOULDERS/GRINITE
345	370	CLAY, COBBLES
BRN		
		COBBLES
370	455	GRAVEL, COBBLES, BOULDERS
		BOULDERS/GRANITE
455	470	CLAY, COBBLES
		COBBLES
470	605	CLAY, SAND, GRAVEL, COBBLES, BOULDERS
		BOULDERS/GRANITE
605	655	CLAY, COBBLES
		COBBLES
655	730	CLAY, SAND, GRAVEL, COBBLES
		COBBLES
730	780	CLAY, COBBLES
		COBBLES
780	795	CLAY, COBBLES
		COBBLES
795	800	CLAY, SAND, GRAVEL
BRN		
800	805	SAND, GRAVEL
BRN		
805	860	CLAY, SAND, GRAVEL
BRN		
860	865	CLAY, SAND, GRAVEL, COBBLES
BRN		
865	880	CLAY, SAND, GRAVEL
BRN		
880	885	CLAY, SAND, GRAVEL, COBBLES
BRN		
885	890	CLAY, SAND, GRAVEL
BRN		
895	985	CLAY, SAND, GRAVEL
BRN		

985 995 CLAY, SAND, GRAVEL  
 BRN CEMENTED  
 995 1010 CLAY, SAND, GRAVEL  
 BRN CEMENTED

7&d0DWATER LEVEL DATA:7&d@

Date	Time	Water Level (feet) (-)above ground	Status
09/05/1997		583.00	STATIC

7&d0DCONSTRUCTION - CASING:7&d@

Depth(ft) From To	Material	Gage(in)	Diameter(in)
0 60	3"	.375	30.0
60 745	20" A53B	.375	20.0
775 850	20" A53B	.375	20.0
990 1000	20" A53B	.375	20.0

7&d0DCONSTRUCTION - SCREENS/PERFORATIONS:7&d@

Depth(ft) From To	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
745 775	PERFORATION	.025	20.0
850 990	PERFORATION	.025	20.0

SS WW

7&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS7&d@

Depth(ft) From To	Material	Amount	Density(pcf)
0 500	CEMENT/SAND MIX	15	17
500 1010	16/30 CELICA SAND	41.5	

7&d0DWELL TESTS:7&d@

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
09/09/1997	VERT TURBIN PUMP	2.228	744	24

7&d0DGENERAL COMMENTS:7&d@

CONSTRUCTION INFORMATION:

Well head configuration: 20" 1 foot above ground

Casing Joint Type: Butt Weld

Perforator used: N/A

Well disinfected: Yes

Comments: 2" gravel tube installed from 0 to 510'/2" dia, .21 a53 grade b cement on outside of casing 2" plug cap at top.

Additional data not available

016821  
57-2520

**LOCATION:**

N 200 ft ft from SE CORNER of SECTION 8 T 3S R 1E BASE  
SL Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL  
DRILLER: BEYLIK DRILLING INC  
LICENSE #: 471  
START DATE: 10/04/1997 COMPLETION DATE: 11/14/1997

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 40	38.0	REVERSE CIRCULATION	WATER
40 1060	28.0	REVERSE CIRCULATION	WATER

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 50	SAND
FEW ROCKS	
50 60	SAND
FEW ROCKS	
60 100	SAND
100 105	SILT
105 110	LOW-PERMEABILITY, SILT
110 130	SILT
130 135	LOW-PERMEABILITY
135 140	SAND
140 145	SAND
145 160	SAND
160 165	SAND
	SOME ROCK
165 170	CLAY, SAND
170 175	CLAY
	SANDY
175 180	CLAY
	SANDY
180 185	CLAY
185 190	SAND, GRAVEL
190 195	CLAY, SILT, SAND
	SOME CLAY
195 200	CLAY, SILT, SAND
200 210	SILT, SAND
210 215	SILT, SAND
215 220	SILT, SAND
	SILTY SAND/COMPACT
220 230	GRAVEL
	COMPACT
230 235	SAND
	SILTY SAND
235 240	SILT, SAND
	SILTY SAND
240 245	SILT, SAND
	SOME CLAY
245 255	CLAY, SILT, SAND
255 260	CLAY, SILT, SAND



		SILTY SAND/SOME CLAY
260	270	SAND
		SOME ROCK/FINE SAND
270	275	SILT, SAND, GRAVEL
275	280	SAND
		FINE SAND
280	285	SAND
		FINE SAND
285	290	SAND
290	300	SILT, SAND
		SOME ROCK
300	315	GRAVEL
		SOME ROCK
315	320	SAND, GRAVEL
320	345	CLAY
345	350	SAND
350	355	CLAY
355	360	SAND
		FINE SAND
360	365	SAND
365	370	CLAY
370	375	SAND
		SOME ROCK
375	380	CLAY, SAND
380	385	CLAY, SAND
385	390	CLAY
390	400	CLAY, SAND
400	410	SAND
410	415	CLAY, SAND
		ROCKS
415	425	SAND
		FINE SAND
425	430	CLAY, SAND
		FINE SAND
430	435	CLAY, SAND
		ROCKS
435	445	CLAY, SAND
		SANDY CLAY
445	450	SAND, GRAVEL
		FINE SAND
450	460	CLAY
		FINE
460	465	CLAY, GRAVEL
		ROCKS
465	470	SILT, SAND
		ROCKS
470	485	SILT
485	490	CLAY
490	500	CLAY, SAND
500	505	SAND
505	510	CLAY, SAND
510	525	CLAY, SAND
525	530	CLAY
530	535	CLAY
		ROCKS
535	540	CLAY
540	545	CLAY, SAND
		FINE SAND
545	560	SAND
560	565	SAND
		FINE SAND
565	570	CLAY, SAND
570	575	CLAY, SAND

575	580	CLAY, SAND
580	585	SAND
585	590	SAND
		FINE SAND
590	600	CLAY, GRAVEL
600	625	CLAY, SAND
625	640	CLAY, GRAVEL
		ROCK
640	650	SAND, GRAVEL
		ROCK
650	670	SAND
		ROCK
670	675	SAND, GRAVEL
675	680	CLAY, SAND
680	685	SAND
		ROCK
685	695	SAND
695	700	SAND
700	720	SAND, GRAVEL
720	730	GRAVEL
730	745	SAND, GRAVEL
745	750	GRAVEL
		ROCKS
750	755	SAND, GRAVEL
755	760	SAND, GRAVEL
760	765	SAND, GRAVEL
		ROCK
765	770	SAND, GRAVEL
		ROCK
770	775	SAND, GRAVEL
		ROCKS
775	780	GRAVEL
		ROCKS
780	785	SILT, SAND, GRAVEL
		ROCKS
785	790	GRAVEL
		ROCKS
790	800	SILT, GRAVEL
800	810	SILT
810	815	SILT, COBBLES
		ROCKS
815	870	GRAVEL
		ROCKS
870	875	SAND, GRAVEL
		ROCKS
875	880	CLAY, SAND
880	890	SAND, GRAVEL
		ROCKS
890	895	GRAVEL
		ROCKS
895	905	CLAY
905	910	SAND, GRAVEL
910	915	CLAY, GRAVEL
915	920	GRAVEL
920	930	CLAY, SAND
930	940	SAND, GRAVEL

**WATER LEVEL DATA:**

Date	Time	Water Level (feet) (-)above ground	Status
11/10/1997		371.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 50	A53B	.375	30.0
+2 640	A53B	.375	20.0
670 690	A53B	.375	20.0
790 820	A53B	.375	20.0
840 855	A53B	.375	20.0
895 915	A53B	.375	20.0

**CONSTRUCTION - SCREENS/PERFORATIONS:**

	Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen
Diam/Length	Perf(in)	Screen Type/# Perf.		
	From To			
	640 670	PERFORATION	.040	20.0
CWW 304SS				
	690 790	PERFORATION	.040	20.0
CWW 304SS				
	820 840	PERFORATION	.040	20.0
CWW 304SS				
	855 895	PERFORATION	.040	20.0
CWW 304SS				

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 50	CEMENT	26	
0 230	CEMENT	12.6	
230 920	CO SILICA SAND 10X20		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time
Pumped (hrs)				
11/10/1997	PUMP	8.913	104	10

**GENERAL COMMENTS:**

CONSTRUCTION INFORMATION:  
 Well head configuration: No data  
 Casing Joint Type: Welded  
 Perforator used: N/A  
 Access Port Provided: No data  
 Additional data not available

\*\*\*\*\* WIN: 017179 \*\*\*\*\*

7&l6D

7&a130M

Division of Water Rights Well

Data \_\_\_\_\_

7&d0DLLOCATION:7&d@

S 512 ft E 1278 ft from N4 CORNER of SECTION 8 T 3S R 1E BASE SL  
Elevation: feet

7&d0DDRILLER ACTIVITIES:7&d@

ACTIVITY # 1 NEW WELL

DRILLER: ZIM INDUSTRIES INC

LICENCE #: 697

START DATE: 06/25/1998 COMPLETION DATE: 09/22/1998

7&d0DLITHOLOGY:7&d@

Depth(ft) Lithologic Description  
Color Rock Type

From	To	
0	2	
		TOP SOIL
2	50	CLAY,SAND,GRAVEL
TAN		
		CLAY W SAND & GRAVEL
50	75	CLAY,SAND
TAN		
		SANDY WITH CLAY
75	95	GRAVEL,COBBLES
		GRAVEL WITH SMALL COBBLES
95	100	CLAY
TAN		
		SOFT TAN CLAY
100	115	CLAY,SAND
TAN		
		SOFT TAN CLAY W/SMALL AMOUNT OF SAND
115	145	CLAY
TAN		
		STICKY TAN CLAY
145	150	GRAVEL,COBBLES
		GRAVEL WITH COBBLES
150	175	SAND,GRAVEL
		SANDY WITH GRAVEL
175	200	SAND,GRAVEL
		SAND AND SMALL GRAVELS
200	205	SAND,GRAVEL
		FINE SAND WITH SMALL GRAVEL
205	220	SILT,SAND
		SILTY SAND
220	225	CLAY,SAND,GRAVEL
		SAND GRAVEL AND CLAY
225	230	CLAY,SAND
		SAND & RED CLAY
230	235	CLAY,SAND,GRAVEL
		SILTY SAND SMALL GRAVE AND RED CLAY
235	240	CLAY,SILT,COBBLES
		SILT SMALL COBBLES & RED CALY
240	245	CLAY,SAND
		SAND AND GRAY CLAY
245	250	CLAY
		MUSHY GREY CLAY
250	260	CLAY,COBBLES
		STICKY GREY CLAY W/SMALL COBBLES
260	265	CLAY,SAND
		GREY CLAY W/SOME SAND

265	275	SAND, GRAVEL SAND & SMALL GRAVEL
275	285	SAND COARSE SAND
285	300	SAND, COBBLES SAND AND SMALL COBBLE
300	305	SAND, GRAVEL COBBLES AND BOULDERS
305	315	GRAVEL, COBBLES GRAVEL SMALL COBBLES
315	335	COBBLES, BOULDERS COBBLES AND BOULDERS
335	350	SAND, COBBLES SAND AND SMALL COBBLES
350	370	SAND SANDY
370	375	CLAY, SILT, SAND SILT SAND AND CLAY
375	385	CLAY, SAND SAND AND CLAY
385	390	CLAY SOFT CLAY
390	395	CLAY, COBBLES CLAY W/COBBLES
395	400	CLAY, SAND CLAY W/SAND
400	405	SAND FINE SAND
405	410	CLAY, SAND SAND & CLAY
410	415	CLAY, SAND SAND W/SOME CLAY
415	420	CLAY, SAND CLAY W/SAND STREAKS
420	425	SAND SAND
425	480	SAND, COBBLES SAND & SMALL COBBLES
480	485	SAND SAND
485	510	CLAY, SAND SANDY CLAY
510	515	SAND SAND
515	520	CLAY, SAND SANDY AND CLAY
520	530	SAND, GRAVEL SANDY GRAVEL
530	555	GRAVEL, COBBLES GRAVEL AND COBBLES
555	560	CLAY, SAND, GRAVEL SAND GRAVEL & CLAY
560	565	CLAY, GRAVEL CLAY W/SOME GRAVEL
565	570	CLAY, GRAVEL, COBBLES SMALL GRAVEL & COBBLES TAD BIT OF CLAY
570	580	GRAVEL, COBBLES GRAVEL AND COBBLES
580	590	SAND, COBBLES SANDY & COBBLES
590	595	SAND, GRAVEL SANDY & GRAVEL
595	630	CLAY, SAND, GRAVEL

		SANDY CLAY & GRAVEL
630	635	SAND, GRAVEL
		SANDY & GRAVEL
635	640	CLAY, SAND, GRAVEL
		SAND & GRAVELS WITH CLAY BALLS
640	645	CLAY, COBBLES
		CLAY AND COBBLES
645	650	CLAY, SAND
		SANDY CLAY
650	675	SAND, GRAVEL
		SANDY GRAVEL
675	680	CLAY, SAND, GRAVEL
		CLAY & SANDY GRAVEL
680	690	CLAY, SAND
		SANDY CLAY
690	710	SAND, GRAVEL
		SANDY GRAVEL
710	720	GRAVEL
		COARSE GRAVEL
720	730	GRAVEL, COBBLES
		GRAVEL W/SMALL COBBLES
730	735	SAND, COBBLES
		GRAVEL AND SAND
735	740	CLAY, SAND, GRAVEL, COBBLES
		SAND GRAVEL & COBBLES W/STREAKS OF CLAY
740	754	SAND, GRAVEL
		GRAVEL AND SAND
745	750	SAND, GRAVEL
		SANDY GRAVEL
750	755	GRAVEL, COBBLES
		GRAVEL AND COBBLES
755	770	SAND, COBBLES
		SAND & COBBLES
770	775	SAND, GRAVEL, COBBLES
		SAND GRAVEL AND COBBLES
775	790	CLAY, COBBLES
		COBBLES AND CLAY BALLS
790	795	CLAY, SAND
		SAND W/CLAY
795	800	SAND, COBBLES
		SAND W/COBBLES
800	835	GRAVEL, COBBLES
		GRAVEL W/COBBLES
835	840	SAND
		SANDY
840	860	CLAY, SAND
		SAND WITH CLAY
860	865	CLAY, SAND
		CLAY W/SAND STREAKS
865	875	SAND, GRAVEL
		SAND & GRAVEL
875	885	CLAY
		BROWN CLAY
885	890	CLAY, GRAVEL, COBBLES
		BROWN CLAY W/COBBLES & GRAVEL
890	895	CLAY, GRAVEL
		GRAVEL W/CLAY STREAKS
895	900	CLAY, COBBLES
		CLAY W/COBBLES
900	905	CLAY
		BIG CLAY BALLS
905	910	CLAY, GRAVEL
		CLAY W/GRAVEL STREAKS

910	915	CLAY, COBBLES
		CLAY W/COBBLES
915	925	CLAY, SAND
		CLAY W/SAND
925	935	CLAY, GRAVEL
		CLAY W/STREAKS OF GRAVEL
935	950	CLAY, GRAVEL
		GRAVEL W/CLAY STREAKS
950	970	GRAVEL, COBBLES
		GRAVEL COBBLES
970	980	CLAY, GRAVEL, COBBLES
		GRAVEL COBBLES STREAKS OF CLAY
980	990	CLAY, SAND
		SANDY CLAY
990	995	CLAY, SAND
		STICKY CLAY WITH SAND
995	1000	CLAY, GRAVEL
		GRAVEL W/CLAY STREAKS
1000	1010	CLAY, GRAVEL
		CLAY W/GRAVEL
1010	1015	CLAY, SAND, GRAVEL
		GRAVEL AND SANDY CLAY
1015	1040	GRAVEL, COBBLES
		GRAVEL AND COBBLES
1040	1065	CLAY, GRAVEL
		GRAVEL CLAY
1065	1070	SAND, COBBLES
		SANDY COBBLES
1070	1075	GRAVEL, COBBLES
		GRAVEL & COBBLES
1075	1080	CLAY, SAND
		SANDY CLAY
1080	1090	CLAY, GRAVEL
		CLAY & GRAVEL
1090	1095	CLAY, GRAVEL, COBBLES
		GRAVEL COBBLES & CLAY
1095	1100	GRAVEL, COBBLES
		GRAVEL & COBBLES
1100	1105	CLAY, GRAVEL, COBBLES
		GRAVEL COBBLES & CLAY
1105	1122	SAND, GRAVEL, COBBLES
		GRAVEL COBBLES & SAND

7&d0DWATER LEVEL DATA:7&d@

Date	Time	Water Level (feet)	Status
		(-)above ground	
09/21/1998		284.00	STATIC

7&d0DCONSTRUCTION - CASING:7&d@

Depth(ft)		Material	Gage(in)	Diameter(in)
From	To			
	320	ASTM A-53 GRADE B	.216	3
0	40	ASTM A-53 GRADE B	.375	36
0	515	ASTM A-53 GRADE B	.375	20
555	570	ASTM A-53 GRADE B	.375	20
600	650	ASTM A-53 GRADE B	.375	20
670	690	ASTM A-53 GRADE B	.375	20
770	795	ASTM A-53 GRADE B	.375	20
845	945	ASTM A-53 GRADE B	.375	20
985	1015	ASTM A-53 GRADE B	.375	20
1075	1095	ASTM A-53 GRADE B	.375	20

7&d0DCONSTRUCTION - SCREENS/PERFORATIONS:7&d@

Perf(in)	Screen Type/#	Depth(ft) From To	Screen(S) or Perforation(P) Perf.	Slot/Perf. siz	Screen Diam/Length
HOUSTON WR		515 555	SCREEN	.040	20
HOUSTON WR		570 600	SCREEN	.040	20
HOUSTON WR		650 670	SCREEN	.040	20
HOUSTON WR		690 770	SCREEN	.040	20
HOUSTON WR		795 845	SCREEN	.040	20
HOUSTON WR		945 985	SCREEN	.040	20
HOUSTON WR		1015 1075	SCREEN	.040	20

7&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS7&d@

Depth(ft) From To	Material	Amount	Density(pcf)
0 300	14.5 BAG SAND SLRY	37 CY	6

7&d0DWELL TESTS:7&d@

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
09/21/1998	TURBINE TEST	8.572	62.5	1.3
09/21/1998	TURBINE TEST	10.027	73.5	1.3
09/21/1998	TURBINE TEST PU	6.678	46	1.3

7&d0DGENERAL COMMENTS:7&d@

CONSTRUCTION INFORMATION:

Well head Configuration: steel plate welded at surface

Casing Joint Type: butt weld

Perforator used: N/A

Casing cont'd

0 - 514 ASTM A-53 Grade B Sch 40 2"

Fitler Pack cont'd

0 - 300 14.5 bag sand slurry cement grout 37 CY 14.5 bag cement  
6 gal H2O

300 - 1122 Colorado Silica sand 144 Tons 8-16 mix

0 - 40 11 bag sand grout (conductor) 9 CY 11 Bag Cement/6 gal H2O

ADDITIONAL DATA NOT AVAILABLE



017313  
57-2528  
a20473

**LOCATION:**

N 112 ft E 1000 ft from SW CORNER of SECTION 4 T 3S R 1E BASE  
SL Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL  
DRILLER: ZIM INDUSTRIES INC  
LICENSE #: 697  
START DATE: 08/03/1998 COMPLETION DATE: 11/13/1998

**BOREHOLE INFORMATION:**

Depth(ft)		Diameter(in)	Drilling Method	Drilling Fluid
From	To			
0	91	46	AUGER	BENTONITE
91	1134	32	REVERSE AIR ROTARY	BENTONITE

**LITHOLOGY:**

Depth(ft)		Lithologic Description
Color	Rock Type	
From	To	
0	5	CLAY, SAND TOP SOIL
5	10	CLAY, SILT, SAND SILTY SAND
10	13	CLAY
BROWN		
13	45	CLAY CLAY, SAND
BROWN		
45	85	CLAY AND SAND SAND, GRAVEL, COBBLES SAND, GRAVEL W/COBBLES
85	90	CLAY
BROWN		
90	140	CLAY SAND SAND
140	145	CLAY, SAND, GRAVEL SAND, CLAY AND GRAVEL
145	150	SAND SAND
150	165	CLAY, SAND SAND W/SMALL STREAKS OF CLAY
165	170	SAND SAND
170	180	CLAY, SAND SAND W/STREAKS OF CLAY
180	185	CLAY, SAND, COBBLES SAND W/ SOME COBBLES AND CLAY
185	200	CLAY, SAND SANDY CLAY
200	205	CLAY, SAND SAND AND SOME CLAY
205	210	CLAY, SAND, GRAVEL SAND AND CLAY AND SMALL ROCKS
210	235	SAND, GRAVEL, COBBLES SAND AND SMALL ROCKS
235	315	SAND, GRAVEL SAND AND GRAVEL

315	335	CLAY, SAND, GRAVEL, COBBLES SAND, GRAVEL W/ CLAY LAYERS & COBBLES
335	345	SAND, GRAVEL, COBBLES COARSE SAND, GRAVEL AND SMALL COBBLE
345	360	SAND, GRAVEL COARSE SAND AND GRAVELD
360	365	CLAY, SAND, GRAVEL SANDY CLAY W/ COARSE SAND AND GRAVEL
365	395	CLAY, SAND
BROWN		
		SANDY BROWN CLAY
395	400	SAND, GRAVEL SANDY GRAVEL
400	410	SAND, GRAVEL, COBBLES SAND GRAVEL AND COBBLES
410	425	CLAY, SAND, GRAVEL SANDY CLAY AND GRAVEL
425	440	CLAY, SAND
BROWN		
		SANDY BROWN CLAY
440	455	CLAY, SAND SAND AND CLAY
455	465	CLAY, SILT, SAND, GRAVEL VERY SANDY CLAY W/ SMALL AMOUNT OF GRAVEL
465	510	CLAY
TAN		
		TAN CLAY
510	525	CLAY, SAND, GRAVEL
TAN		
		TAN CLAY W/COARSE SAND & GRAVEL
525	535	SAND, GRAVEL, COBBLES SAND, GRAVEL AND COBBLES
535	560	CLAY, GRAVEL
BROWN		
		BROWN CLAY AND GRAVEL
560	570	BOULDERS BOULDERS
570	580	CLAY, GRAVEL
BROWN		
		BROWN CLAY AND GRAVEL
580	620	CLAY, SAND, GRAVEL, COBBLES
BROWN		
		BROWN CLAY, SAND AND BOULDERS
620	680	CLAY, COBBLES COBBLES AND CLAY
680	720	CLAY, SAND, GRAVEL, COBBLES COBBLES, SAND, GRAVEL AND CLAY
720	755	SAND, GRAVEL, COBBLES SAND, GRAVEL AND COBBLES
755	770	CLAY, SAND, GRAVEL, COBBLES SMALL COBBLES, SAND AND CLAY
770	820	SAND, GRAVEL, COBBLES SAND, GRAVEL AND COBBLES
820	835	SAND CEMENTED GRAVEL
835	840	BOULDERS BOULDERS
840	865	SAND, GRAVEL, COBBLES CEMENTED SAND AND GRAVEL
865	910	SAND, GRAVEL SAND AND GRAVEL
910	930	CLAY, SAND, GRAVEL, COBBLES
BROWN		

		BROWN CLAY, SNAD, GRAVEL & SOME COBBLES
930	950	SAND, GRAVEL, COBBLES
		SAND, GRAVEL AND COBBLES
950	1015	CLAY, GRAVEL, COBBLES
		GRAVEL, CLAY AND COBBLES
1015	1025	GRAVEL, COBBLES
		GRAVEL AND COBBLES
1025	1030	GRAVEL, BOULDERS
		BOULDERS AND GRAVEL
1030	1035	CLAY, GRAVEL, BOULDERS
		BOULDERS, GRAVEL AND SMALL AMOUNT CLAY
1035	1045	GRAVEL, BOULDERS
		BOULDERS AND GRAVEL
1045	1095	CLAY, GRAVEL, BOULDERS
		BOULDERS, GRAVEL AND SMALL AMOUNT CLAY
1095	1110	CLAY, GRAVEL, COBBLES
		CLAY, GRAVEL & COBBLES
1110	1134	COBBLES
		COBBLES

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
11/12/1998		464.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 88	ASTM A-53 GRADE B	.375	36.0
0 670	ASTM A-53 GRADE B	.500	24.0
700 720	ASTM A-53 GRADE B	.500	24.0
740 750	ASTM A-53 GRADE B	.500	24.0
780 790	ASTM A-53 GRADE B	.500	24.0
810 820	ASTM A-53 GRADE B	.500	24.0
840 850	ASTM A-53 GRADE B	.500	24.0
870 885	ASTM A-53 GRADE B	.500	24.0
915 960	ASTM A-53 GRADE B	.500	24.0
1000 1020	ASTM A-53 GRADE B	.500	24.0

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen
Diam/Length	Perf(in) Screen Type/# Perf.		
From To			
670 700	SCREEN	.050	24.0
HOUSTON WIRE			
720 740	SCREEN	.050	24.0
WOUND			
750 780	SCREEN	.050	24.0
HOUSTON WIRE			
790 810	SCREEN	.050	24.0
WOUND			
820 840	SCREEN	.050	24.0
HOUSTON WIRE			
850 870	SCREEN	.050	24.0
WOUND			
885 915	SCREEN	.050	24.0
HOUSTON WIRE			
960 1000	SCREEN	.050	24.0
WOUND			
1020 1100	SCREEN	.050	24.0
HOUSTON WIRE			

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft) From	To	Material	Amount	Density(pcf)
0	91	14.5 BAG SAND SLURRY	33 CY	14.5
91	300	12BAGSANDSLRYCEMENTGRT	34 CY	12
300	1134	COLORADO SILICA SAND	144 TONS	12

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
11/12/1998	TURBINE PUMPTTEST	3.342	20	3
11/12/1998	TURBINE PUMPTTEST	6.684	41	3
11/12/1998	TURBINE PUMPTTEST	10.027	65	3

**GENERAL COMMENTS:**

CONSTRUCTION INFORMATION:  
CASING: 1100-1120': Type: ASTM A-53 Grade B; Wall Thick: .500"  
Nominal Diam: 24"  
0-320': Type: ASTM A-53 Grade B; Wall Thick: Sch 40 (.216")  
Nominal Diam: 3"  
0-665': Type: ASTM A-53 Grade B; Wall Thick: Sch 40 (.154")  
Nominal Diam: 2"  
Well Head Configuration: Steel Plate welded at surface  
Casing Joint Type: Butt weld  
Perforator Used: N/A  
FILTER:  
Depth: 0-91': Material: 14.5 bag sand slurry cement grout  
(conductor)  
Density: 14.5 bag cement/6 gal H2O  
Depth: 0-300': Material: 12 bag sand slurry cement grout  
Density: 12 bag cement/6 gal water  
Depth: 300-1134': Grout Density: 8012 mix  
Additional data not available

018139

**LOCATION:**

S 30 ft W 525 ft from N4 CORNER of SECTION 26 T 9S R 1E BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL  
DRILLER: MILLER DRILLING  
START DATE: 09/21/1998

COMPLETION DATE: 09/23/1998

LICENSE #: 292

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 306	6	AIR ROTARY	AIR & WATER

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 56	LOW-PERMEABILITY,CLAY,SILT
TAN	
20 258	OTHER
LIMESTONE	
56 92	LOW-PERMEABILITY,CLAY,SILT,SAND,GRAVEL,COBBLES
RED	
92 200	LOW-PERMEABILITY,CLAY,SAND,GRAVEL
TAN	
258 280	WATER-BEARING,OTHER
LIMESTONE	
	258' LITTLE BIT OF WATER
280 288	WATER-BEARING,OTHER
LIMESTONE	
	BROKEN UP
288 306	WATER-BEARING,OTHER
LIMESTONE	

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
08/24/1998		206.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 22	STELL	.250	6

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From To			
263 303	PERFORATION	.125	8
6 ROWS			

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 50	BENTONITE	8 BAGS	

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
09/22/1998	AIR LIFT	.045	306	12

**GENERAL COMMENTS:**

CONSTRUCTION INFORMATION:  
Well head Configuration: pitless/water tightcap  
Casing Joint Type: welded  
Perforator used: saw  
Pump: grundfos sub-  
Horsepower: 2  
Intake: 275 ft  
Pumping rate: 20  
Disinfected: no  
ADDITIONAL DATA NOT AVIALABLE

\*\*\*\*\* WIN: 018503 \*\*\*\*\*

•&l6D  
•&al30M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@

S 350 ft W 1014 ft from NE CORNER of SECTION 16 T 4N R 1W BASE SL

Elevation: feet

•&d0DDRILLER ACTIVITIES:•&d@

ACTIVITY # 1 NEW WELL

DRILLER: LAYNE CHRISTENSEN COMPANY

LICENCE #: 188

START DATE: 12/14/1998 COMPLETION DATE: 02/12/1999

•&d0DBOREHOLE INFORMATION:•&d@

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 39	48	AUGER	NONE
39 912	30	REVERSE CIRC ROTARY	BENTONITE/POLYMER
912 1030	17.5	REVERSE CIRC ROTARY	BENTONITE/POLYMER

•&d0DLITHOLOGY:•&d@

Depth(ft) Lithologic Description  
Color Rock Type

From	To	Rock Type
0	220	WATER-BEARING,HIGH-PERMEABILITY,CLAY,SAND UNSTABLE CLAY W/SAND
220	240	WATER-BEARING,HIGH-PERMEABILITY,CLAY,SAND MORE SAND
240	510	WATER-BEARING,HIGH-PERMEABILITY,CLAY,SAND CLAY W/SAND
510	570	WATER-BEARING,HIGH-PERMEABILITY,CLAY,GRAVEL INCREASED GRAVEL CONTENT
570	710	WATER-BEARING,HIGH-PERMEABILITY,CLAY,SAND CEMENTED CLAY/GRAVEL
710	920	WATER-BEARING,HIGH-PERMEABILITY,GRAVEL LESS CEMENTING
920	930	WATER-BEARING,HIGH-PERMEABILITY,GRAVEL MOSTLY GRAVEL
930	960	HIGH-PERMEABILITY,CLAY,GRAVEL GRAVEL W/CLAY
960	1030	WATER-BEARING,HIGH-PERMEABILITY,SAND,GRAVEL,BOULDERS LARGER GRAVEL/BOULDERS

•&d0DWATER LEVEL DATA:•&d@

Date	Time	Water Level (feet)	Status
		(-)above ground	
03/11/1999		200.00	STATIC

•&d0DCONSTRUCTION - CASING:•&d@

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 40	MILD STEEL A53B	.5	42
40 544	MILD STEEL A53B	.375	24
699 819	MILD STEEL A53B	.375	24

•&d0DCONSTRUCTION - SCREENS/PERFORATIONS:•&d@

Depth(ft) Screen(S) or Perforation(P) Slot/Perf. siz Screen Diam/Length  
Perf(in) Screen Type/# Perf.

From	To	Screen Type	Slot/Perf. siz	Screen Diam/Length
544	699	SCREEN	.060	24
819	900	SCREEN	.060	24

WIRE WRAP

WIRE WRAP

•&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS:•&d@

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 259	CEMENT GROUT	40 CY	
259 912	COLORADO SILICA GRAVEL	80 TONS	

•&d0DWELL TESTS:•&d@

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
03/10/1999	TURBINE PUMP	6.684	50	24

•&d0DGENERAL COMMENTS:•&d@

Construction Information  
Well Head Configuration: 24" casing to surface w/welded cap  
Casing joint type: welded  
Perforator used: N/A  
FILTER PACK  
Grout density for 0 to 259': 2000psi sand/cement grout  
Grout density for 259 to 912': 8 x 12 mix  
WELL TESTS  
3/10/99 Method: vertical turbine pump.  
Additional data not available.

\*\*\*\*\* WIN: 018526 \*\*\*\*\*

•&l6D  
•&a130M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@

N 120 ft W 140 ft from SE CORNER of SECTION 31 T 2N R 1E BASE SL

Elevation: feet

•&d0DDRILLER ACTIVITIES:•&d@

ACTIVITY # 1 NEW WELL

DRILLER: PETERSEN BROTHERS DRILLING CO INC

LICENCE #: 249

START DATE: 12/02/1998 COMPLETION DATE: 09/05/1999

•&d0DBOREHOLE INFORMATION:•&d@

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 150	24	CABLE TOOL	NONE
150 697	20	CABLE TOOL	NONE
697 735	16	CABLE TOOL	NONE

•&d0DLITHOLOGY:•&d@

Depth(ft) Lithologic Description  
Color Rock Type

From	To	
0	16	CLAY,SAND,GRAVEL,BOULDERS,OTHER
MANY		
		HARD ROCK, FILL MATERIAL (CONCRETE, ASPHALT WIRE OLD BARRELS, WOOD, STEEL, ETC.)
16	28	SAND,GRAVEL
		LOOSE
28	48	SAND,GRAVEL
		LARGE ROCK, DRILLS OPEN
48	101	SAND,GRAVEL
		3" MINUS, LOOSE
101	107	CLAY,SAND,GRAVEL
REDDISH		
107	118	SAND,GRAVEL
		1 1/2"
118	129	CLAY,SAND,GRAVEL
BROWN		
129	149	CLAY,SAND,GRAVEL
		BOOTING MATERIAL
149	154	CLAY,SAND,GRAVEL
		1 1/2" MINUS (WATER)
154	160	CLAY,SAND,GRAVEL
		W/ PEA GRAVEL
160	169	GRAVEL
		1 1/2" MINUS W/CLAY
169	171	CLAY,SAND
171	181	CLAY,GRAVEL
		6" MINUS
181	186	CLAY,GRAVEL
		PEA SIZE
186	210	CLAY,SAND,GRAVEL
		CEMENTED
210	244	CLAY,GRAVEL
		BOOTING TYPE
244	258	CLAY,GRAVEL
		(WATER) VERY DIRTY
258	266	CLAY,GRAVEL
BROWN		
		BOOTING
266	269	CLAY,SAND,GRAVEL
		HARD VERY DIRTY FORMATION
269	290	CLAY,GRAVEL,COBBLES
REDDISH		
		DRILLS OPEN HOLE
290	299	CLAY,SAND,GRAVEL
		SMALL GRAVELS
299	303	CLAY
		BOOTING
303	735	CLAY,SAND,GRAVEL
		CEMENTED GRAVEL TO 735'

•&d0DWATER LEVEL DATA:•&d@

Date	Time	Water Level (feet)	Status
		(-)above ground	
09/17/1999		87.00	STATIC

•&d0DCONSTRUCTION - CASING:•&d@

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 150	A53-B PRIME	.375	24

	0	692	A53-B PRIME	.375	20
	195	735	A53-B PRIME (LINERS)	.375	14
	690	703	A53-B PRIME (LINERS)	.375	18
•&d0DCONSTRUCTION - SCREENS/PERFORATIONS:•&d@					
	Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length	
Perf(in)	Screen Type/#	Perf.			
	From	To			
	0	150	PERFORATION	.375	3
12 TO 15	149	210	PERFORATION	.375	3
12 TO 15	210	244	PERFORATION	.375	3
12 TO 15	244	266	PERFORATION	.375	3
12 TO 15	266	385	PERFORATION	.375	3
12 TO 15	385	395	PERFORATION	.375	3
12 TO 15	395	500	PERFORATION	.375	3
12 TO 15	500	600	PERFORATION	.375	3
12 TO 15	600	635	PERFORATION	.375	3
12 TO 15	635	690	PERFORATION	.375	3
•&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS:•&d@					
	Depth(ft)	Material	Amount	Density(pcf)	
	From	To			
	0	150	CEMENT-SAND	18 YDS.	10
•&d0DWELL TESTS:•&d@					
	Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
	08/25/1999	8" O/L PUMP TEST	.125	300	24
•&d0DGENERAL COMMENTS:•&d@					
LOCATION: Extreme South East Corner of Foss Lewis, Bountiful City					
Gravel pit 2600 South 800 East (no homes yet)					
CONSTRUCTION INFORMATION					
SCREEN/PERF					
690 to 703' Torch 1/8" x 8" 8 per round					
695 to 735' Torch 1/8" x 8" 5 per round					
Well Head Configuration: Concrete Cap					
Casing joint type: Welded					
Perforator used: Mills knife and Torch					
FILTER PACK					
Material: Cement-sand 12 bag cement per yd. Density: 8-10 slump					
PUMP					
none					
Well disinfected on completion: yes					
COMMENTS					
24" casing jacked to 150'-20" driven to 250'- 20" jacked W/ spider & slips to 692' - 18" and 14" liners set in bottom to 375' - 32 dents from rolled in Rocks outside casing while jacking casing - two fishing jobs due to dents in casing (stuck 20" tools) cemented gravel all the way - Well plugged Killed. ADDITIONAL DATA NOT AVAILABLE.					



\*\*\*\*\* WIN: 019979 \*\*\*\*\*

•&l6D  
•&a130M

Division of Water Rights Well

Data

•&d0DLOCATION:•&d@  
S 1370 ft E 1040 ft from W4 CORNER of SECTION 26 T 6S R 2E BASE SL  
Elevation: feet  
•&d0DDRILLER ACTIVITIES:•&d@  
ACTIVITY # 1 NEW WELL  
DRILLER: MAGILL DRILLING CO INC LICENCE #: 580  
START DATE: 07/19/1999 COMPLETION DATE: 08/01/1999  
•&d0DBOREHOLE INFORMATION:•&d@  
Depth(ft) Diameter(in) Drilling Method Drilling Fluid  
From To  
0 325 8.75 ROTARY WATER,BENTONITE  
•&d0DLITHOLOGY:•&d@  
Depth(ft) Lithologic Description  
Color Rock Type  
From To  
0 10 HIGH-PERMEABILITY,SAND,GRAVEL  
10 105 HIGH-PERMEABILITY,SAND,GRAVEL,COBBLES  
GRAVEL LAYERS SMALL  
105 119 HIGH-PERMEABILITY,CLAY  
RED  
119 185 HIGH-PERMEABILITY,CLAY,SAND,GRAVEL  
RED  
185 245 SMALL SANDY GRAVEL LAYER  
HIGH-PERMEABILITY,OTHER  
BLUE  
245 269 SHALE,FIRM LAYERS  
LOW-PERMEABILITY  
BLUE  
269 288 FIRM SHALE  
HIGH-PERMEABILITY  
BLUE  
288 325 SHALE  
BLACK BASALT  
FRACHARED  
•&d0DWATER LEVEL DATA:•&d@  
Date Time Water Level (feet) Status  
(-)above ground  
08/01/1999 195.00 STATIC  
•&d0DCONSTRUCTION - CASING:•&d@  
Depth(ft) Material Gage(in) Diameter(in)  
From To  
0 280 SDR 21 PVC .316 6  
•&d0DCONSTRUCTION - SCREENS/PERFORATIONS:•&d@  
Depth(ft) Screen(S) or Perforation(P) Slot/Perf. siz Screen Diam/Length  
Perf(in) Screen Type/# Perf.  
From To  
280 300 PERFORATION .040 1  
5 300 325 PERFORATION .25 3  
2  
•&d0DCONSTRUCTION - FILTER PACK/ANNULAR SEALS:•&d@  
Depth(ft) Material Amount Density(pcf)  
From To  
0 30 3/8-3/4 SWELL PLUG 20 BAGS  
•&d0DWELL TESTS:•&d@  
Date Test Method Yield (CFS) Drawdown (ft) Time Pumped (hrs)  
07/29/1999 BLOWED OUT W/AIR .100 1  
08/01/1999 PUMP TEST .100 22 2  
•&d0DGENERAL COMMENTS:•&d@  
CONSTRUCTION INFORMATION:  
well head configuration: well cap  
casing joint type: glued pvc joints  
perforator used: saw

021450

35-4012

**LOCATION:**

N 4318 ft W 1091 ft from SE CORNER of SECTION 31 T 7N R 3W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

DRILLER: Stoddard, Wesley

LICENSE #: 62

START DATE: 12/10/1968 COMPLETION DATE: 06/12/1969

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 1002	10	ROTARY	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 50	CLAY
50 260	CLAY, SILT
260 310	CLAY, SILT, SAND
310 355	CLAY
355 414	CLAY, SILT
414 564	CLAY, SILT, SAND
564 575	SAND
575 654	CLAY
654 678	SAND
678 741	CLAY
741 750	SAND
750 772	CLAY
772 798	SAND
798 896	CLAY
896 915	CLAY, OTHER
HARDPAN	
915 920	GRAVEL
920 1002	OTHER
	CONGLOMERATE, AND HARDPAN

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
06/12/1969		-25.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 10		.375	50
0 20		.312	14
0 595		.312	10

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 595	10" CASING		
595 920	GRAVEL		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
06/12/1969	ARTESIAN FLOW	.167		
06/12/1969	PUMP	.256	200	10

021465

35-5871

**LOCATION:**

N 142 ft E 592 ft from S4 CORNER of SECTION 16 T 7N R 2W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 WELL ABANDONMENT

DRILLER: STODDARD DRILLING, G J

LICENSE #: 41

START DATE: / / COMPLETION DATE: / /

ACTIVITY # 2 NEW WELL

DRILLER: STODDARD DRILLING, G J

LICENSE #: 41

START DATE: 08/26/1968 COMPLETION DATE: 08/30/1968

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 1176	2	ROTARY	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 55	SAND
55 120	CLAY
120 132	SAND
132 152	CLAY
152 167	SAND
167 180	CLAY
180 189	SAND
189 193	CLAY
193 203	SAND
203 211	CLAY
211 222	SAND
222 233	CLAY
233 260	SAND
260 268	CLAY
268 280	SAND
280 296	CLAY
296 300	SAND
300 340	CLAY
340 357	SAND
357 362	CLAY
362 369	SAND
369 410	CLAY
410 423	SAND
423 442	CLAY
442 475	SAND
475 502	CLAY
502 512	SAND
512 620	CLAY, SAND
620 668	CLAY
668 677	SAND
677 984	CLAY
984 987	SAND
987 1053	CLAY
1053 1070	SAND
1070 1152	CLAY
1152 1159	SAND
1159 1161	CLAY
1161 1176	SAND, GRAVEL
	PEA GRAVEL

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 1176			2

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
08/30/1968	ARTESIAN FLOW	.094		

**GENERAL COMMENTS:**

\*ABANDONMENT RECEIVED 5/30/03  
EXISTING WELL DETAILS  
Well Driller's Report Available: Yes  
Well Depth: 1176 Feet Well Diameter: 2 Inches  
Nature of Use: Dom. Irr. Stk. Oth.

Casing Type: Steel  
Filter Pack: No  
Screen/Perforation Interval: 1166-1176  
Depth of Surface Seal: 20 Feet  
Flowing Well: Yes  
ABANDONMENT DETAILS  
Date of Abandonment: 5/22/03  
Reason for Abandonment: Casing Rusted Out  
Method of Abandonment: Pumped 50 Ves Back Down Well to Kill The Flow.  
ABANDONMENT MATERIAL DETAILS  
Depth: 2' to 12' Abandonment Material: Cement Quantity: Portland  
Grout Weight: No Data  
Abandoned Well Replaced With A New Well: Yes  
Location: 50 Feet North & 20 Feet East from the abandoned well.  
Location Description: 2 Miles West of Smith & Edwards  
Additional Information Not Available

021483

35-4934

**LOCATION:**

S 545 ft E 173 ft from N4 CORNER of SECTION 28 T 7N R 2W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

DRILLER: STODDARD DRILLING, G J

LICENSE #: 41

START DATE: 06/01/1972 COMPLETION DATE: 06/23/1972

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 1019	2	ROTARY	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 15	SAND
15 118	CLAY, SAND
118 226	SAND
226 232	CLAY
232 240	SAND
240 290	CLAY
290 300	SAND
300 315	CLAY
315 358	SAND
358 425	CLAY
425 438	SAND
438 473	CLAY
473 492	SAND
492 504	CLAY
504 520	SAND
520 523	CLAY
523 526	SAND
526 546	CLAY
546 551	SAND
551 567	CLAY
567 577	SAND
577 604	CLAY
604 609	SAND
609 745	CLAY
745 747	OTHER
HARDPAN	
747 767	CLAY
767 778	SAND
778 794	CLAY
794 802	SAND
802 865	CLAY
865 877	SAND
877 956	CLAY
956 967	SAND
967 970	CLAY
970 974	SAND
974 1009	CLAY
1009 1019	SAND

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 957			2

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From To			
0 1019	SCREEN	60	1.25

021486

35-2151

**LOCATION:**

S 2534 ft W 1332 ft from NE CORNER of SECTION 26 T 7N R 2W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 WELL REPLACEMENT

DRILLER: Stoddard Drillers Inc

LICENSE #: 42

START DATE: 11/06/1964 COMPLETION DATE: 11/18/1964

ACTIVITY # 2 WELL REPAIR

DRILLER: Stoddard Drillers Inc

LICENSE #: 42

START DATE: 09/22/1966 COMPLETION DATE: 09/23/1966

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 604	2	JETTED	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 2	OTHER
TOPSOIL	
2 10	CLAY
10 15	SAND
15 52	CLAY
52 64	SAND
64 70	CLAY
70 106	SAND
106 140	CLAY
140 151	SAND
151 195	CLAY
195 212	SAND
212 280	CLAY
280 290	SAND
290 298	CLAY
298 309	SAND
309 430	CLAY
430 435	SAND
435 522	CLAY
522 527	GRAVEL
527 565	SAND
565 604	OTHER

HARDPAN

WITH LAYERS OF SAND

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
11/18/1964		(-)above ground -26.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 520			2
520 584			1.25

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From To			
584 604	SCREEN	80	1.25

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
11/18/1964	ARTESIAN FLOW	.011		

**GENERAL COMMENTS:**

The well screen had to be placed to a deeper water sand, because of bad water. The results were fair

021497

35-2218

**LOCATION:**

N 415 ft W 430 ft from SE CORNER of SECTION 26 T 7N R 2W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 WELL REPLACEMENT

DRILLER: Taylor, Edwin Quinton

LICENSE #: 193

START DATE: 05/16/1965 COMPLETION DATE: 06/11/1965

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 683	2.50	JETTED	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 2	OTHER
TOPSOIL	
2 42	CLAY,SAND
42 357	CLAY
BLUE GREY	
357 413	SILT,SAND
413 552	CLAY
552 600	CLAY,SAND
	TITLY CEMENTED 1-2 FT STRATA OF SAND STONE INTERMIXED
600 663	CLAY,SAND
	STK.
663 670	SAND
	SEEMED TO BE GREADING INTO COURSER MATERIAL
670 680	SAND,GRAVEL
680 683	WATER-BEARING,COBBLES,BOULDERS

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
06/11/1965		-20.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 663			2.5

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From To			
663 683	SCREEN	80	1.50

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 6	CEMENT		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
06/11/1965	ARTESIAN FLOW	.011		

021498

35-4419

**LOCATION:**

N 381 ft W 521 ft from SE CORNER of SECTION 25 T 7N R 2W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

DRILLER: Robinson Drilling Company

LICENSE #: 10

START DATE: 08/28/1969 COMPLETION DATE: 10/10/1969

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 515	8	CABLE	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 14	CLAY
BROWN	
14 65	CLAY
BLUE	
65 107	CLAY
BROWN	
107 129	CLAY
BLUE	
129 132	WATER-BEARING, SAND, GRAVEL
132 155	CLAY
BLUE	
155 163	WATER-BEARING, SAND, GRAVEL
163 233	CLAY, GRAVEL
233 277	CLAY
GREY	
277 316	CLAY, GRAVEL
316 318	WATER-BEARING, SAND, GRAVEL
318 342	CLAY, GRAVEL
342 353	CLAY, SAND, GRAVEL
353 381	CLAY, GRAVEL
381 384	SAND, GRAVEL
384 402	CLAY, GRAVEL
402 408	SAND
408 416	OTHER
CONGLOMERATE	
416 420	CLAY, GRAVEL
420 492	OTHER
CONGLOMERATE	
492 515	CLAY, GRAVEL

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
10/04/1969		-8.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 510		.250	8

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From To			
155 163	PERFORATION	.25	2
54			
301 319	PERFORATION	.25	2
114			
381 384	PERFORATION	.25	2
24			
410 510	PERFORATION	.25	2
600			

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
10/04/1969	ARTESIAN FLOW	.501		



021501  
35-1457

**LOCATION:**

S 280 ft E 613 ft from NW CORNER of SECTION 32 T 7N R 2W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

DRILLER: Taylor, Edwin Quinton

LICENSE #: 193

START DATE: 09/20/1963 COMPLETION DATE: 09/20/1963

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 840	2	JETTED	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 21	CLAY, SILT
21 42	CLAY
BLACK	
42 63	CLAY, SAND
63 84	CLAY
84 168	CLAY, SILT
168 189	SILT
189 210	CLAY, SAND
	QUICK SAND
210 231	CLAY, SILT
231 252	CLAY, SAND
252 294	CLAY
294 315	CLAY, SAND
BLUE	
	VERY SOFT
315 420	CLAY
	SOFT
420 441	CLAY, SILT
441 462	CLAY, SAND
462 483	CLAY, SILT
483 504	CLAY, SAND
504 525	SILT
	QUICK SAND
525 546	CLAY, SAND
546 651	CLAY, SILT
561 725	CLAY
725 819	CLAY, SILT
	MUDDY
819 840	WATER-BEARING, CLAY, SAND

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
09/20/1963		10.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 819			2
819 840			1.25

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From To			
819 840	SCREEN	6	1.25
SLOTTED			

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
09/20/1963	ARTESIAN FLOW	.009		

021523

35-1263

**LOCATION:**

N 1219 ft E 90 ft from S4 CORNER of SECTION 32 T 7N R 2W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

START DATE: 04/14/1955 COMPLETION DATE: 04/16/1955

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 875	2		

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 10	CLAY
10 30	SAND
30 70	CLAY
70 80	SAND
80 160	CLAY
160 170	SAND
170 210	CLAY
210 230	SAND
230 305	CLAY
305 315	SAND
315 370	CLAY
370 380	SAND
380 565	CLAY
565 572	SAND
572 600	CLAY
600 608	SAND
608 770	CLAY
770 780	OTHER STREAKS
780 796	CLAY
796 807	SAND
807 816	CLAY
816 825	SAND
825 835	CLAY
835 842	SAND
842 856	CLAY
856 876	SAND

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
121 755	BLACK STEEL	1.25	2

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From To			
0 861	PERFORATION		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
04/14/1955	FLOWING	.111		

021530

35-430

**LOCATION:**

N 524 ft E 1759 ft from SW CORNER of SECTION 36 T 7N R 2W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

START DATE: 10/04/1947 COMPLETION DATE: 10/09/1947

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 693	2		

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 55	CLAY
55 63	SAND
63 108	CLAY
108 130	SAND
130 156	CLAY
156 164	SAND
164 200	CLAY
200 208	SAND
208 240	CLAY
240 255	SAND
255 260	CLAY
260 275	SAND
275 315	CLAY
315 330	SAND
330 340	CLAY
340 350	GRAVEL
350 500	CLAY
500 520	SAND
520 530	GRAVEL
530 557	CLAY
557 563	GRAVEL
563 590	CLAY
590 600	SAND
600 655	CLAY
655 680	GRAVEL
	CEMENTED
680 693	GRAVEL
	COURSE

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 693	BLACK STEEL		2

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
10/09/1947	FLOWING	.123		

021580

35-312

**LOCATION:**

S 663 ft W 110 ft from N4 CORNER of SECTION 23 T 6N R 3W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

START DATE: 09/10/1945 COMPLETION DATE: 09/16/1945

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 753	2		

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 6	CLAY
6 11	SAND
11 101	CLAY
101 121	SAND
121 185	CLAY
185 199	SAND
199 228	CLAY
228 254	SAND
254 289	OTHER
STREAKS	
289 299	SAND
299 451	OTHER
STREAKS	
451 456	SAND
456 474	OTHER
STREAKS	
474 492	SAND
	FINE SAND WITH CLAY STREAKS
492 517	CLAY
517 529	SAND
529 590	OTHER
STREAKS	
590 600	SAND
600 618	CLAY
618 627	SAND
627 737	CLAY
737 753	SAND

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 753	BLACK STEEL		2

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From To			
0 517	PERFORATION		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
09/16/1945	ARTESIAN FLOW	.045		

021592

35-940

**LOCATION:**

S 125 ft W 1125 ft from NE CORNER of SECTION 19 T 6N R 3W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

START DATE: 04/01/1957 COMPLETION DATE: 04/11/1957

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 229	6		

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 2	OTHER
TOPSOIL	
2 10	CLAY
	SANDY
10 36	CLAY
36 37	WATER-BEARING, GRAVEL
37 78	CLAY
BLACK	
78 86	SILT
BROWN	
86 112	CLAY
GREY	
112 115	WATER-BEARING, CLAY
GREEN	
115 150	CLAY
LIGHT GREEN	
150 157	WATER-BEARING, GRAVEL
157 186	CLAY
DARK GREY	
186 188	SAND
188 197	CLAY
197 210	WATER-BEARING, GRAVEL
210 213	CLAY
213 219	WATER-BEARING, GRAVEL
219 222	CLAY
222 227	SAND
	W/ CUBED ROCKS
227 229	OTHER
	SOILD ROCK

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 229			6

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/#	Perf.	
From To			
150 197		PERFORATION	
197 213		PERFORATION	
213 222		PERFORATIO	

021593

35-4652

**LOCATION:**

S 1195 ft W 1367 ft from NE CORNER of SECTION 22 T 6N R 3W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

DRILLER: B & L Drilling

START DATE: 11/09/1973

COMPLETION DATE: 11/12/1973

LICENSE #: 295

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 520	2	ROTARY	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 10	CLAY
10 175	SAND
175 190	SAND
	ROCK
190 300	SAND
300 315	SAND
	ROCK
315 330	CLAY
330 340	SAND
	ROCK
340 345	SAND
345 502	CLAY
502 518	WATER-BEARING, SAND
	ROCK
518 520	CLAY

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
11/12/1973		(-)above ground -6.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 518			2

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From To			
502 518	PERFORATION	.062	2

45 TORCH

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 18	GROUT		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
11/09/1973	ARTESIAN FLOW	.045		

021619

35-710

**LOCATION:**

S 945 ft E 722 ft from NW CORNER of SECTION 1 T 6N R 2W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

START DATE: 05/22/1954 COMPLETION DATE: 05/23/1954

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 720	2		

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 6	CLAY
6 30	GRAVEL
60 80	CLAY
80 85	SAND
85 110	CLAY
110 120	SAND
120 130	CLAY
130 135	SAND
135 172	CLAY
172 180	SAND
180 190	CLAY
190 195	SAND
195 240	CLAY
240 260	SAND
260 265	CLAY
265 280	SAND
280 320	CLAY
320 330	SAND
330 350	CLAY
350 375	SAND
375 380	CLAY
380 390	SAND
390 420	CLAY
420 435	SAND
435 515	CLAY
515 525	SAND
525 573	CLAY
573 580	SAND
580 651	CLAY
651 655	SAND
655 720	GRAVEL
	HARD STREAKS

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 720	BLACK STEEL		2

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From To			
0 647	PERFORATION		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
05/23/1954	FLOWING	.045		

021626

35-249

**LOCATION:**

N 663 ft W 2490 ft from E4 CORNER of SECTION 5 T 6N R 2W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL  
START DATE: 09/21/1943 COMPLETION DATE: 09/05/1943  
ACTIVITY # 2 WELL DEEPENING  
START DATE: 11/23/1956 COMPLETION DATE: 11/28/1956

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 658	2		
658 871	2		

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color From To	Rock Type
0 5	OTHER

SOIL

5	10	CLAY
10	27	SAND
27	63	CLAY
63	72	SAND
72	94	CLAY
94	105	SAND
105	146	CLAY
146	158	SAND
158	189	CLAY, SAND
189	210	SAND
210	215	CLAY
215	230	SAND
230	316	CLAY
316	346	SAND
346	399	CLAY, SAND
399	410	CLAY
410	425	SAND
425	451	CLAY
451	462	SAND
462	480	CLAY
480	503	SAND
503	587	CLAY
587	595	SAND
595	640	CLAY
640	658	SAND
658	660	CLAY
660	680	SAND
680	707	CLAY
707	715	SAND
715	728	CLAY
728	733	SAND
733	834	CLAY
834	838	SAND
838	847	CLAY
847	856	SAND
856	858	CLAY
858	871	SAND

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 650			2
658 871		1.25	2

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in) Screen Type/#	Perf.		
From To			
640 653	PERFORATION		
658 861	PERFORATION		

STRAINER

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
09/05/1943	FLOWING	.069		
11/28/1956	FLOWING	.045		



021777

35-4603

**LOCATION:**

S 1233 ft E 266 ft from NW CORNER of SECTION 7 T 6N R 2W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

DRILLER: Stoddard Drillers Inc

LICENSE #: 42

START DATE: 02/10/1974 COMPLETION DATE: 02/10/1974

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 1000	4	ROTARY	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 8	OTHER
TOPSOIL	
8 18	CLAY
18 32	SAND
32 52	CLAY, OTHER
SS	
52 76	SAND, OTHER
CS	
76 86	CLAY, OTHER
SS	
86 94	SAND
94 111	CLAY
111 113	SAND
113 137	CLAY, OTHER
SS	
137 161	SAND
161 168	CLAY
168 180	SAND, OTHER
CS	
180 203	CLAY
203 210	CLAY, SAND
210 224	SAND
224 230	CLAY
230 241	SAND
241 255	CLAY
255 263	SAND, OTHER
CS	
263 298	SAND
298 337	CLAY
337 344	SAND
344 350	CLAY
350 360	SAND, OTHER
CS	
360 365	CLAY, SAND
365 396	CLAY
396 405	CLAY, OTHER
SS	
405 408	SAND
408 416	CLAY
416 428	SAND
428 444	CLAY
444 446	SAND
446 450	CLAY, OTHER
SS	
450 467	SAND
467 470	CLAY
470 497	SAND
497 512	CLAY, OTHER
SS	
512 520	SAND
520 531	CLAY, SAND
531 537	SAND
537 552	CLAY
552 571	SAND
	FINE
571 597	CLAY
597 618	SAND, OTHER
CS	
618 642	CLAY

	642	656	CLAY, OTHER
SS	656	667	SAND
	667	684	CLAY, SAND
	684	714	CLAY
	714	722	SAND
	722	724	SAND, OTHER
CS	724	734	CLAY, OTHER
SS	734	781	CLAY
	781	796	CLAY, SAND
	796	807	SAND
	807	837	CLAY, OTHER
SS			HARD CAPS
	837	859	CLAY, SAND
			CLAY STREAKS
	859	862	CLAY
	862	866	SAND, OTHER
CS	866	874	CLAY
	874	879	SAND, OTHER
CS			FINE
	879	882	CLAY
	882	888	SAND
	888	891	CLAY
	891	898	CLAY, SAND
			CLAY STREAKS
	898	918	CLAY
	918	925	SAND, GRAVEL
	925	927	CLAY
	927	935	CLAY, SAND
			FINE SAND STREAKS
	935	948	CLAY
	948	982	CLAY
			HARD CAPS
	982	1000	SAND

**WATER LEVEL DATA:**

Date	Time	Water Level (feet) (-)above ground	Status
02/10/1974		-30.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft) From	To	Material	Gage(in)	Diameter(in)
0	347			4
347	832			3
832	990			2

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Perf(in)	Depth(ft) Screen Type/#	Screen(S) or Perforation(P) Perf.	Slot/Perf. siz	Screen Diam/Length
	From To			
	990 1000	SCREEN	40	2.37

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
02/10/1974	ARTESIAN FLOW	.156		

021847

35-904

**LOCATION:**

N 200 ft W 715 ft from SE CORNER of SECTION 22 T 6N R 2W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

START DATE: 11/29/1956 COMPLETION DATE: 12/18/1956

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 943	2		

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 35	SAND
35 180	CLAY
180 190	SAND
190 270	CLAY
270 285	GRAVEL
285 375	CLAY
375 395	SAND
395 430	CLAY
430 440	SAND
440 460	CLAY
460 480	SAND
480 495	CLAY
495 530	SAND
530 550	CLAY
550 560	SAND
560 620	CLAY
620 630	SAND
630 640	CLAY
640 652	SAND
652 700	CLAY
700 714	SAND
714 725	CLAY
725 755	SAND
755 800	CLAY
800 830	CLAY, SAND
830 928	CLAY
928 943	SAND

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 665	BLACK STEEL	1.25	2

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From To			
0 933	SCREEN		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
12/18/1956	ARTESIAN FLOW	.045		

021911

35-517

**LOCATION:**

S 2200 ft E 1425 ft from NW CORNER of SECTION 27 T 6N R 2W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

START DATE: 10/01/1949 COMPLETION DATE: 10/06/1949

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 913	2		

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 40	SAND
40 80	CLAY
80 100	SAND
100 245	CLAY
245 255	SAND
255 300	CLAY
300 320	SAND
320 385	CLAY
385 400	SAND
400 502	CLAY
502 520	SAND
520 548	CLAY
548 560	SAND
560 600	CLAY
600 608	SAND
608 640	CLAY
640 650	SAND
650 714	CLAY
714 731	SAND
731 740	CLAY
740 750	SAND
750 901	CLAY
901 903	CLAY, OTHER
HARDPAN	
903 913	SAND

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 913	BLACK STEEL	1.25	2

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From To			
0 903	PERFORATION		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
10/06/1949	ARTESIAN FLOW	.033		

021929

35-505

**LOCATION:**

N 144 ft W 159 ft from S4 CORNER of SECTION 28 T 6N R 2W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

START DATE: 08/23/1949 COMPLETION DATE: 08/27/1949

ACTIVITY # 2 WELL DEEPENING

DRILLER: Stoddard Drillers Inc

LICENSE #: 42

START DATE: 06/30/1960 COMPLETION DATE: 07/02/1960

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 717	2		
717 961	2	JETTED	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 40	SAND
40 100	CLAY
100 120	SAND
120 130	CLAY
130 160	SAND
160 250	CLAY
250 290	SAND
290 330	CLAY
330 350	SAND
350 380	CLAY
380 390	SAND
390 550	CLAY
550 570	SAND
570 640	CLAY
640 653	SAND
653 668	CLAY
668 674	SAND
674 690	CLAY
690 708	SAND
708 710	CLAY
710 717	SAND
717 840	SAND
840 900	CLAY
900 920	SAND
920 945	CLAY
945 961	WATER-BEARING, SAND

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
07/02/1960		-30.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 717	BLACK STEEL PIPE		2
717 961			1.25

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/#	Perf.	
From To			
0 702	PERFORATION		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
08/27/1949	ARTESIAN FLOW	.038		
07/02/1960	ARTESIAN FLOW	.067		

022120

31-5160

**LOCATION:**

S 1400 ft E 1320 ft from NW CORNER of SECTION 12 T 4N R 1W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

DRILLER: STODDARD DRILLING, G J

LICENSE #: 41

START DATE: 06/05/2000 COMPLETION DATE: 07/29/2000

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 20	10	MUD ROTARY	BENTONITE
20 393	8.75	MUD ROTARY	BENTONITE

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 23	CLAY
RED	
23 203	MOSTLY CLAY SAND, GRAVEL
RED	
203 393	COURSE SAND, SMALL GRAVEL MIX OTHER
GRAY	
	GRANNTTE FRACTURES

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
07/31/2000		120.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
+1.5 393	PVC WELL CASING 80		6

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From To			
193 393	PERFORATION	.125	3
6 CUTS PR FT			

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 20	HOLE PLUG BENTONITE	12 BAG	

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
07/29/2000	BAILING & PUMP	.078	20	39

**GENERAL COMMENTS:**

CONSTRUCTION INFORMATION:  
Well Head Configuration: Wel Cap water tight  
Perforator used: no  
Surface Seal: yes  
Depth of Seal: 20 feet  
Drive Shoe: no  
Method of Placement: From the top using 1" pipe to place  
Pump: no pump  
Comments: hard drilling from 193 to 393  
ADDITIONAL DATA NOT AVAILABLE

\*\*\*\*\* WIN: 022831 \*\*\*\*\*

LOCATION:  
N 130 ft W 290 ft from E4 CORNER of SECTION 21 T 3S R 1E BASE SL  
Elevation: feet

DRILLER ACTIVITIES:  
ACTIVITY # 1 NEW WELL  
DRILLER: LAYNE CHRISTENSEN COMPANY  
START DATE: 09/25/2000 COMPLETION DATE: 12/14/2000  
LICENSE #: 188

BOREHOLE INFORMATION:

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid	
From	To			
0	55	54	AUGER	NONE
55	95	43	AUGER	NONE
95	1276	28	ROTARY REVERSE CIR	WATER-BENTONITE

LITHOLOGY:

Depth(ft)	Lithologic Description	
Color	Rock Type	
From	To	
0	6	CLAY, SAND, GRAVEL
BROWN		
		CLAYEY SAND WHITE GRAVEL
6	85	SILT, SAND, GRAVEL
BROWN		
		SILTY SAND WITH GRAVEL
85	95	SILT
BROWN		
		SILT
95	115	SILT, SAND, GRAVEL
BROWN		
		SILT SAND WITH +/- 20% GRAVEL
115	145	SAND, GRAVEL
BROWN		
		SAND FINE TO COARSE W/20% GRAVEL
145	165	SILT, GRAVEL
BROWN		
		SILTY GRAVEL
165	190	SAND, GRAVEL
BROWN		
		SAND WITH 15-20% GRAVEL
190	220	SILT, GRAVEL
BROWN		
		SILTY GRAVEL 50% SILT CONTENT
220	230	CLAY
BROWN		
		CLAY-20-40% GRAVEL
230	280	
YELLOW		
		CLAY AND GRAVEL
280	330	CLAY, SAND, GRAVEL
BROWN		
		CLAY WITH SAND OR GRAVEL
330	340	CLAY, GRAVEL
YELLOW/BRN		
		10-20% GRAVEL IN CLAY
340	355	CLAY, GRAVEL
YELLOW/BRN		
		10% GRAVEL IN CLAY

355	360	CLAY, SILT, GRAVEL
YELLOW/BRN		
		SILTY GRAVEL WITH 30% CLAY
360	475	CLAY, SAND, GRAVEL
BROWN		
		SANDY GRAVEL WITH 30% CLAY
475	490	CLAY, GRAVEL
YELLOW/BRN		
		CLAY 80% GRAVEL 20%
490	535	CLAY, GRAVEL
YELLOW/BRN		
		GRAVEL WITH CLAY 20%
535	605	CLAY, GRAVEL
YELLOW/BRN		
		CLAY WITH GRAVEL 10-20%
605	785	CLAY, GRAVEL
YELLOW/BRN		
		GRAVEL WITH CLAY 20%
785	805	CLAY, SILT, SAND, GRAVEL
BROWN		
		CLAY WITH GRAVEL, SAND
805	820	CLAY, GRAVEL
BROWN		
		GRAVEL WITH 20-40% CLAY
820	855	CLAY, GRAVEL
BROWN		
		CLAY WITH 30-40% GRAVEL
855	1015	
BROWN		
		GRAVEL WITH SAND AND CLAY TO 40%
1015	1025	CLAY, SAND
YELLOW/BRN		
		SANDY CLAY (15% SAND)
1025	1040	
YELLOW/BRN		
		SANDY GRAVEL WITH CLAY
1040	1055	
YELLOW/BRN		
		SANDY CLAY
1055	1070	
YELLOW/BRN		
		GRAVEL WITH CLAY
1070	1080	
YELLOW/BRN		
		SANDY CLAY
1080	1276	
GRAVEL AND SNAD WITH CLAY		

WATER LEVEL DATA:

Date	Time	Water Level (feet)	Status
		(-)above ground	
12/09/2000		406.30	STATIC

CONSTRUCTION - CASING:

Depth(ft)		Material	Gage(in)	Diameter(in)
From	To			
0	55	A 53	.50	48
0	95	A 53 B	.375	36
0	527	A 53 B	.375	20
538	649	A 53 B	.375	20
753	798	A 53 B	.375	20

CONSTRUCTION - SCREENS/PERFORATIONS:



Perf(in)	Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Screen Type/#	From	To	Perf.	
JOHNSON SS	527	538	SCREEN	.050 20
JOHNSON SS	649	753	SCREEN	.050 20
JOHNSON SS	798	819	SCREEN	.050 20
JOHNSON SS	869	910	SCREEN	.050 20
JOHNSON SS	929	991	SCREEN	.050 20

CONSTRUCTION - FILTER PACK/ANNULAR SEALS

Depth(ft)	Material	Amount	Density(pcf)
From	To		
0	122	SANITARY SEAL NT CEMNT 22 YDS	
122	194	NATIVE MATERIAL	
194	1276	8X16 COLORADO SIL SAND 50 YDS	

WELL TESTS:

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
12/09/2000	STEP TEST	2.718	152.2	24

GENERAL COMMENTS:

CONSTRUCTION INFORMATION;  
Well Development: 12-9-2000 thru 12-14-2000 Development  
Step test  
Constant rate  
ADDITIONAL DATA NOT AVAILABLE

022836

35-1963

**LOCATION:**

N 1422 ft W 2375 ft from SE CORNER of SECTION 6 T 6N R 1W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

START DATE: 02/ /1935 COMPLETION DATE: 03/ /1935

**LITHOLOGY:**

Color	Depth(ft) From	Lithologic Description To Rock Type
	1	3 OTHER
BLACK		SOIL
	3	60 CLAY
RED		
	60	62 GRAVEL
BLUE		
	62	150 CLAY
GRAY		
	150	152 SAND
	152	280 CLAY
GRAY		
	280	290 SAND
	290	325 CLAY
GRAY		
	325	335 SAND
	335	357 CLAY
GRAY		
	357	365 SAND
	365	380 CLAY
GRAY		
	380	395 SAND, GRAVEL
		PEA
	395	415 CLAY
GRAY		
	415	425 SAND, GRAVEL
		PEA
	425	520 CLAY
GRAY		
	520	524 GRAVEL
		PEA
	524	618 CLAY
LIGHT GRAY		
	618	619 GRAVEL
		PEA
	619	620 CLAY
	620	622 GRAVEL
		PEA
	622	630 CLAY
GRAY		
	630	632 SAND
	632	652 CLAY
GRAY		
	652	653 SAND
RED		
	653	654 CLAY
GRAY		
	654	656 SAND
RED		
	656	678 CLAY
GRAY		
	678	690 SAND, GRAVEL
		PEA
	690	695 CLAY
RED		
	695	700 GRAVEL
RED		
	700	704 PEA
		GRAVEL
		LARGE

**WATER LEVEL DATA:**

Date	Time	Water Level (feet) (-)above ground	Status
02/ /1935		.00	FLOWING

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
617 704	IRON PIPE	.25	3

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/#	Perf.	
From To			
357 397	PERFORATION	2	
410 430	PERFORATION	2	
510 530	PERFORATION	2	

022872

35-4990

**LOCATION:**

S 870 ft E 659 ft from NW CORNER of SECTION 26 T 5N R 1W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

DRILLER: Robinson Drilling Company

LICENSE #: 10

START DATE: 08/21/1978 COMPLETION DATE: 04/10/1979

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 800	10	CABLE	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 5	OTHER
	TOP SOIL
5 92	GRAVEL, COBBLES
92 206	SAND, BOULDERS
206 254	CLAY, BOULDERS
254 271	SAND, BOULDERS
271 279	CLAY, SAND
279 370	CLAY, SAND, BOULDERS
370 375	CLAY, SAND
375 430	CLAY, SAND, BOULDERS
430 440	WATER-BEARING, GRAVEL
440 468	SAND
468 493	CLAY
BROWN	
493 525	BOULDERS
525 560	CLAY, BOULDERS
560 740	CLAY, SAND
740 762	CLAY
YELLOW	
762 770	SAND
770 775	OTHER
	HARD ROCK
775 800	SAND
	HARD SAND

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
03/13/1979		230.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 27		.25	16
0 256		.25	10
0 498		.25	8
490 647		.25	6
580 800		.25	4

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From To			
430 440	PERFORATION	.25	2
80 720 800	PERFORATION	.25	2
160 720 800	SCREEN	.75	4

KELLEY PIPE

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 27	PIPE & BENTONITE CLAY		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
04/10/1979	PUMP	.156	131	40

022890

35-2084

**LOCATION:**

N 2236 ft W 1243 ft from SE CORNER of SECTION 7 T 5N R 2W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 WELL REPLACEMENT

DRILLER: Stoddard Drillers Inc

LICENSE #: 42

START DATE: 08/09/1968 COMPLETION DATE: 08/15/1968

ACTIVITY # 2 WELL REPAIR

DRILLER: Stoddard, George T. "Tom"

LICENSE #: 321

START DATE: 10/21/1978 COMPLETION DATE: 10/22/1978

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From	To		
0	1005	2	JETTED

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From	To
0	2 OTHER
TOPSOIL	
2	34 SAND
34	85 CLAY
85	96 SAND
96	146 CLAY
146	157 SAND
157	182 CLAY
182	194 SAND
194	222 CLAY
222	233 SAND
233	268 CLAY
268	346 SAND
346	389 CLAY
389	404 SAND
404	416 CLAY
416	444 SAND
444	512 CLAY
512	534 SAND
534	566 CLAY
566	584 SAND
584	624 CLAY
624	630 SAND
630	635 CLAY
635	645 SAND
645	674 CLAY
674	715 GRAVEL
715	740 CLAY
740	754 SAND
754	800 CLAY
800	813 SAND
813	954 CLAY
954	960 SAND
960	995 CLAY
995	1005 SAND

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
08/15/1968		-25.00	

ADDITIONAL DATA AVAILABLE, USE OTHER PRINT OPTION

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From	To		
0	803	.25	2
0	1005	1.25	2
803	995	.25	1.25

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From	To		
995	1005	SCREEN	.035 1.25

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
08/15/1968	ARTESIAN	.049		
11/10/1978	ARTESIAN	.027		

**GENERAL COMMENTS:**

washed and back flushed well. Before 4 GPM, After 12 GPM

022914

31-2409

**LOCATION:**

S 245 ft W 363 ft from E4 CORNER of SECTION 26 T 5N R 2W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

DRILLER: Stoddard, Wesley

LICENSE #: 62

START DATE: 05/14/1962 COMPLETION DATE: 07/25/1962

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 920	16	ROTARY	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 3	OTHER
TOPSOIL	
3 40	CLAY
40 80	CLAY, SAND
80 106	CLAY
106 310	CLAY, SAND
310 395	CLAY
395 400	SAND
400 430	CLAY
430 440	SAND
440 512	GRAVEL
512 535	CLAY
535 544	SAND
544 556	CLAY
556 580	SAND
580 712	CLAY, SAND
712 730	GRAVEL
730 732	CLAY
732 736	GRAVEL
736 741	CLAY
741 788	COBBLES, OTHER
CONGLOMERATE	
788 822	CLAY
822 830	SAND
830 840	CLAY
840 843	GRAVEL
843 880	CLAY, OTHER
CONGLOMERATE	
880 920	GRAVEL, COBBLES, BOULDERS

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
07/25/1962		250.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 420		.312	16
400 920		.330	12

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/# Perf.		
From To			
880 920	PERFORATION	2.50	.50

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
07/25/1962	PUMP	2.228	40	
07/25/1962	PUMP	2.674	50	
07/25/1962	PUMP	2.897	70	106

023001

31-2577

**LOCATION:**

N 209 ft W 154 ft from SE CORNER of SECTION 32 T 5N R 2W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 WELL ABANDONMENT

DRILLER: WIDDISON TURBINE SERVICE, LLC

LICENSE #: 533

START DATE: / / COMPLETION DATE: / /

ACTIVITY # 2 NEW WELL

START DATE: 11/12/1955 COMPLETION DATE: 04/27/1956

ACTIVITY # 3 WELL REPAIR

DRILLER: STODDARD DRILLING, G J

LICENSE #: 41

START DATE: 05/18/1977 COMPLETION DATE: 05/21/1977

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From	To		
0	1048	2	

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From	To
0	2 OTHER
TOPSOIL	
2	20 CLAY,SAND
20	40 CLAY
40	194 CLAY,SAND
194	205 SAND
205	215 CLAY
215	250 SAND
250	265 CLAY
265	425 CLAY,SAND
425	440 CLAY
440	472 CLAY,SAND
472	479 CLAY
479	490 CLAY,SAND
490	523 CLAY
523	546 SAND
546	560 CLAY
560	580 SAND
580	590 CLAY
590	598 SAND
598	620 CLAY
620	625 SAND
625	630 CLAY
630	659 SAND
659	661 CLAY
661	680 SAND
680	688 CLAY
688	718 SAND
718	728 CLAY
728	731 SAND
731	751 GRAVEL
751	765 CLAY
765	768 SAND, GRAVEL
768	770 CLAY
770	776 SAND, GRAVEL
776	777 CLAY
777	790 SAND, GRAVEL
790	797 CLAY
797	871 SAND, GRAVEL
871	885 CLAY
885	933 SAND
933	970 CLAY
970	1030 SAND, GRAVEL
1030	1048 CLAY

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
04/27/1956		731.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From	To		
0	1048	10	8



**CONSTRUCTION - SCREENS/PERFORATIONS:**

Perf(in)	Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
	From	To		
	735	823		PERFORATION

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
04/17/1956	ARTESIAN	.000	2	

**GENERAL COMMENTS:**

cleaned and repaired well  
baled and washed replaced seal

Win 23104  
Wr 31-715

**LOCATION:**

S 2122 ft W 938 ft from NE CORNER of SECTION 6 T 4N R 1W BASE  
SL Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 WELL ABANDONMENT  
DRILLER: LANG EXPLORATORY DRILLING INC  
LICENSE #: 568  
START DATE: / / COMPLETION DATE: / /  
ACTIVITY # 2 WELL REPLACEMENT  
DRILLER: LANG EXPLORATORY DRILLING INC  
LICENSE #: 568  
START DATE: 03/28/2001 COMPLETION DATE: 04/30/2001

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 20	46	CONVENTIONAL-MUD	BENTONITE
20 555	29	FLOODED REVERSE	BENTONITE & POLYMER
555 1500	22	FLOODED REVERSE	BENTONITE & POLYMER

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color From To	Rock Type
0 15	SAND, GRAVEL
YELLOW & BRN	ALLUVIUM
15 20	CLAY, SILT, SAND
YELLOW & BRN	ALLUVIUM
20 60	SILT, SAND, GRAVEL
YELLOW & BRN	ALLUVIUM
60 150	WATER-BEARING, SAND, GRAVEL
YEL/GRY/BRN	SANDSTONE
	SANDSTONE, SOME QUARTZITE
150 470	CLAY, SILT
YELLOW & BRN	CLAY
	SOFT, STICKY CLAY
470 560	CLAY, SAND
DARK GRAY	CLAY
	CLAY IS MEDIUM HARD AND STICKY
560 660	WATER-BEARING, CLAY, SAND
YELLOW & BRN	
	SANDSTONE & QUARTZITE
660 920	WATER-BEARING, CLAY, GRAVEL
YEL/BRN/GRY	
	CLAY IS SOFT AND STICKY WITH SOME HARD STRINGS
920 970	CLAY
REDDISH/BRN	
	CLAY IS SOFT AND STICKY
970 1030	WATER-BEARING, SAND, GRAVEL, COBBLES
RED/BRN/YEL	
	COARSE SAND TO MEDIUM PEBBLES
1030 1145	CLAY, SAND, GRAVEL
RED/BRN/YEL	
	CLAY IS SOFT, STICKY WITH COARSE SAND AND GRAVEL
1145 1240	WATER-BEARING, SAND, GRAVEL
YELLOW & BRN	
	COARSE SAND AND GRAVEL
1240 1315	CLAY, GRAVEL
	DARK YELLOW, BROWN & GRAY. CLAY IS SOFT AND STICKY

1315 1430 WATER-BEARING, SAND, GRAVEL  
 BRN/GRAY  
 SANDS AND COARSE GRAVEL  
 1430 1500 CLAY  
 RED/BRN/GRY  
 CLAY IS HARD AND STICKY

**WATER LEVEL DATA:**

Date	Time	Water Level (feet) (-)above ground	Status
04/25/2001		493.95	STATIC

**CONSTRUCTION - CASING:**

Depth(ft) From To	Material	Gage(in)	Diameter(in)
0 20	STEEL	.375	40
0 555	STEEL	.375	24
+3 970	STEEL	.375	16
1030 1145	STEEL	.375	16
1245 1315	STEEL	.375	16
1435 1445	STEEL	.375	16

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Diam/Length	Depth(ft) From To	Screen(S) or Perforation(P) Screen Type/#	Slot/Perf. siz	Screen
WIRE WRAP	970 1030	PERFORATION	.030	16
WIRE WRAP	1145 1245	PERFORATION	.030	16
WIRE WRAP	1315 1435	PERFORATION	.030	16

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft) From To	Material	Amount	Density(pcf)
0 935	PORTLAND CEMENT	58 YARDS	
935 947	HOLE PLUG, BENTONITE	18 BAGS	
947 1500	8 X 12 GRAVEL		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
04/25/2001	TEST PUMPED	5.348	85.25	24

**GENERAL COMMENTS:**

CONSTRUCTION INFORMATION  
 Well Head Configuration: 16" steel  
 Casing joint type: welded  
 Peforator: no data  
 Surface seal: yes  
 Depth of seal: 935'  
 Drive shoe: no  
 Surface seal placement method: Tremie from bottom to surface  
 SURFACE SEAL  
 0 to 935' Grout density: 16 lb grout  
 935 to 947' Grout density: 18 #50 bags, 3/8" holeplug welded  
 947 to 1500' Grout density: 35-3500 lbs. brg  
 Additional data not available.

WIN 023128  
A24881

**LOCATION:**

S 641 ft E 1433 ft from N4 CORNER of SECTION 6 T 6N R 1W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

DRILLER: LANG EXPLORATORY DRILLING INC

LICENSE #: 568

START DATE: 11/28/2000 COMPLETION DATE: 01/07/2001

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 20	46	CONVENTIONAL MUD	BENTONITE
20 50	38	CONVENTIONAL MUD	BENTONITE
50 1320	24	FLOODED REVERSE	BENTONITE MUD POLYME

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 25	CLAY
BROWN	
25 85	SOFT AND STICKY CLAY WATER-BEARING, CLAY, SAND, GRAVEL
GREY/RED	
85 120	CALCAREOUS CLAY, MEDIUM TO COARSE SAND CLAY
GREY/RED	
120 265	CALCAREOUS CLAY, SOFT AND STICKY WATER-BEARING, CLAY, SAND, GRAVEL
GREY/RED	
265 300	CALCAREOUS CLAY, MEDIUM TO COARSE SAND CLAY, SAND
YELLOW BRN	
300 305	CALCAREOUS CLAY, SOME COARSE SAND WATER-BEARING, SAND
BROWN	
305 490	VERY COARSE SAND WATER-BEARING, CLAY, SAND
YELLOW BRN	
490 500	CALCAREOUS CLAY, MEDIUM TO COARSE SAND CLAY
LIGHT BRN	
500 525	CALCAREOUS CLAY, SOFT AND STICKY CLAY
DARK GRAY	
525 550	CALCAREOUS CLAY, SOFT AND STICKY WATER-BEARING, CLAY, SAND, GRAVEL
LIGHT BROWN	
550 570	CALCAREOUS CLAY, COARSE SAND TO PEBBLES CLAY, SAND
LIGHT BROWN	
570 575	CALCAREOUS CLAY, SOME COARSE SAND WATER-BEARING, SILT, SAND
BROWN	
575 595	MEDIUM TO COARSE PEBBLES CLAY, SAND
LIGHT BROWN	
595 1320	CALCAREOUS CLAY, SOME COARSE SAND WATER-BEARING, CLAY, SAND, GRAVEL
LIGHT BROWN	
	FINE TO COARSE PEBBLES, CLAY COMPRISES LESS THAN 20%

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
01/07/2001		61.00	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 20	STEEL	.50	40
0 50	STEEL	.50	30
660 740	STEEL	.375	16
750 760	STEEL	.375	16
800 830	STEEL	.375	16
940 950	STEEL	.375	16

990	1020	STEEL	.375	16
+2.5	610	STEEL	.375	16
1120	1130	STEEL	.375	16
1280	1301	STEEL	.375	16

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Perf(in)	Screen Type/#	Depth(ft) Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
	From To	Perf.		
	610 660	PERFORATION	.050	16
WIRE WRAP	740 750	PERFORATION	.050	16
WIRE WRAP				

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 550	CEMENT QUICKRETE CO	16 LB MX	
550 553	3/8" HOLE PLUG	BAROID	500
553 555	10X20 GRAVEL	8 50# BG	400
555 1320	8X12 GRAVEL 126,000LBS		

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
01/07/2001	REVERSE AIR LIFT	1.114	11	

**GENERAL COMMENTS:**

CONSTRUCTION INFORMATION:  
 Well Head Configuration: Steel Cap  
 Surface Seal: yes  
 Depth: 555 feet  
 Drive Shoe: no  
 Material Placement Method: trimmed from 555 to surface  
 ADDITIONAL DATA NOT AVAILABLE

\*\*\*\*\* WIN: 023159 \*\*\*\*\*

LOCATION:

N 440 ft W 730 ft from SE CORNER of SECTION 5 T 1N R 1W BASE SL  
Elevation: feet

DRILLER ACTIVITIES:

ACTIVITY # 1 WELL REPLACEMENT	
DRILLER: STODDARD DRILLING, G J	LICENSE #: 41
START DATE: 12/11/2000	COMPLETION DATE: 02/12/2001
ACTIVITY # 2 WELL ABANDONMENT	
DRILLER: STODDARD DRILLING, G J	LICENSE #: 41
START DATE: 02/12/2001	COMPLETION DATE: 02/12/2001

BOREHOLE INFORMATION:

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From	To		
0	30	12	MUD ROTARY BENTONITE
30	680	10	MUD ROTARY BENTONITE
680	862	6.62	MUD ROTARY BENTONITE

LITHOLOGY:

Depth(ft)	Lithologic Description	
Color	Rock Type	
From	To	
0	160	CLAY, SAND
GRAY		
		MOSTLY CLAY STREAKS OF SAND
160	172	WATER-BEARING, HIGH-PERMEABILITY, SAND
GRAY		
		COARSE SAND
172	178	CLAY
GRAY		
		STICKY
178	188	WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL
GRAY		
		COARSE SAND & PEA GRAVEL
188	201	CLAY
GRAY		
		STICKY
201	212	WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL
GRAY		
		COARSE SAND & PEA GRAVEL
212	320	CLAY
GRAY		
		STICKY
320	331	WATER-BEARING, HIGH-PERMEABILITY, SAND
GRAY		
		COARSE SAND
331	437	CLAY
GRAY		
		STICKY
437	448	WATER-BEARING, LOW-PERMEABILITY, SAND
GRAY		
		FINE SAND
448	458	CLAY
GRAY		
		STICKY
458	488	WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL
GRAY		
		COARSE SAND & PEA GRAVEL
488	500	CLAY
GRAY		

		STICKY
500	510	WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL
GRAY		
		COARSE SAND & PEA GRAVEL
510	560	CLAY
GRAY		
		STICKY
560	580	WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL
GRAY		
		COARSE SAND & PEA GRAVEL
580	650	CLAY
GRAY		
		STICKY
650	664	WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL
GRAY		
		COARSE SAND & PEA GRAVEL
664	705	CLAY
GRAY		
		STICKY
705	715	WATER-BEARING, LOW-PERMEABILITY, SAND
GRAY		
		LIVE SAND
715	725	CLAY
GRAY		
		STICKY
725	730	WATER-BEARING, LOW-PERMEABILITY, SAND
GRAY		
		FINE SAND
730	740	CLAY
GRAY		
		STICKY
740	747	WATER-BEARING, LOW-PERMEABILITY, SAND
GRAY		
		FINE SAND
747	765	CLAY
GRAY		
		STICKY
765	785	WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL
GRAY		
		COARSE & PEA GRAVEL
785	792	CLAY
GRAY		
		STICKY
792	795	WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL
GRAY		
		COARSE SAND & PEA GRAVEL
795	820	CLAY
GRAY		
		STICKY
820	826	OTHER
GRAY		
		HARD PAN (REAL HARD)
826	857	WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL
GRAY		
		COARSE SAND & PEA GRAVEL
857	862	CLAY
		STICKY AND HARD

WATER LEVEL DATA:

Date	Time	Water Level (feet)	Status
		(-)above ground	
02/12/2001		-23.10	FLOWING

## CONSTRUCTION - CASING:

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
510 857	PVC SCH 40		4
857 862	BLACK STEEL SCH 40		4
+1.5 525	PVC SCH 80		6

## CONSTRUCTION - SCREENS/PERFORATIONS:

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in) Screen Type/# Perf.			
From To			
460 470	SCREEN	.050	6
STAIN. STEEL			
500 510	SCREEN	.050	6
STAIN. STEEL			
827 857	SCREEN	.050	4
STAIN. STEEL			

## CONSTRUCTION - FILTER PACK/ANNULAR SEALS

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 30	3/8 HOLE PLUG&GRUMBLES		

## WELL TESTS:

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
02/06/2001		.134		

## GENERAL COMMENTS:

## CONSTRUCTION INFORMATION

Well Head Configuration: 6" tee 6" cap

Casing joint type: 6" threaded 4" glue

Perforator: no

Surface seal: yes, 30'

Drive shoe: no

Surface seal placement method: From the top hole plug &amp; clay slurry using 1" pipe to prevent bridging.

## SURFACE SEAL

Quantity: 12 bags 3/8, 12 bags grumbles

## WELL TESTS

Method: Washing with water

well started to flow on its own

no pump

## COMMENTS

no problems

Additional data not available.

\*WELL ABANDONMENT REPORT RECEIVED 5-10-2001

Well driller's report: no

Well diameter: 6"

Casing type: steel

Flowing well: yes

Date of abandonment: 2-12-2001

Reason: Old well drilled in 1888 casing rusted out

## METHOD OF ABANDONMENT

Run pipe down to 97'. Hit sand couldn't get through. Pull pipe out, put 3/8 hole plug in cemented top 10 feet.

## MATERIAL DETAILS

10 TO 97' 3/8 Hole plug Quantity: 30 bags

Grout weight: 6 bags of post mix with 4 bags of straight cement.

Abandoned well replaced with new well.

Location of new well is 5 ft. N and 35 ft. E from the abandoned well.

Additional data not available.



023237

31-715

**LOCATION:**

S 2122 ft W 938 ft from NE CORNER of SECTION 6 T 4N R 1W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 WELL ABANDONMENT

DRILLER: LANG EXPLORATORY DRILLING INC

LICENSE #: 568

START DATE: / / COMPLETION DATE: / /

ACTIVITY # 2 WELL REPLACEMENT

DRILLER: LANG EXPLORATORY DRILLING INC

LICENSE #: 568

START DATE: 03/28/2001 COMPLETION DATE: 04/30/2001

**BOREHOLE INFORMATION:**

Depth(ft) From	To	Diameter(in)	Drilling Method	Drilling Fluid
0	20	46	CONVENTIONAL-MUD	BENTONITE
20	555	29	FLOODED REVERSE	BENTONITE & POLYMER
555	1500	22	FLOODED REVERSE	BENTONITE & POLYMER

**LITHOLOGY:**

Depth(ft) Color	Lithologic Description Rock Type
From To	
0 15	SAND, GRAVEL
YELLOW & BRN	ALLUVIUM
15 20	CLAY, SILT, SAND
YELLOW & BRN	ALLUVIUM
20 60	SILT, SAND, GRAVEL
YELLOW & BRN	ALLUVIUM
60 150	WATER-BEARING, SAND, GRAVEL
YEL/GRY/BRN	SANDSTONE
	SANDSTONE, SOME QUARTZITE
150 470	CLAY, SILT
YELLOW & BRN	CLAY
	SOFT, STICKY CLAY
470 560	CLAY, SAND
DARK GRAY	CLAY
	CLAY IS MEDIUM HARD AND STICKY
560 660	WATER-BEARING, CLAY, SAND
YELLOW & BRN	
	SANDSTONE & QUARTZITE
660 920	WATER-BEARING, CLAY, GRAVEL
YEL/BRN/GRY	
	CLAY IS SOFT AND STICKY WITH SOME HARD STRINGS
920 970	CLAY
REDDISH/BRN	
	CLAY IS SOFT AND STICKY
970 1030	WATER-BEARING, SAND, GRAVEL, COBBLES
RED/BRN/YEL	
	COARSE SAND TO MEDIUM PEBBLES
1030 1145	CLAY, SAND, GRAVEL
RED/BRN/YEL	
	CLAY IS SOFT, STICKY WITH COARSE SAND AND GRAVEL
1145 1240	WATER-BEARING, SAND, GRAVEL
YELLOW & BRN	
	COARSE SAND AND GRAVEL
1240 1315	CLAY, GRAVEL
	DARK YELLOW, BROWN & GRAY. CLAY IS SOFT AND STICKY
1315 1430	WATER-BEARING, SAND, GRAVEL
BRN/GRAY	
	SANDS AND COARSE GRAVEL
1430 1500	CLAY
RED/BRN/GRY	
	CLAY IS HARD AND STICKY

**WATER LEVEL DATA:**

Date	Time	Water Level (feet) (-)above ground	Status
04/25/2001		493.95	STATIC

**CONSTRUCTION - CASING:**

Depth(ft) From	To	Material	Gage(in)	Diameter(in)
0	20	STEEL	.375	40
0	555	STEEL	.375	24
+3	970	STEEL	.375	16
1030	1145	STEEL	.375	16
1245	1315	STEEL	.375	16

1435 1445 STEEL .375 16

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Perf(in)	Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Screen Type/#	From	To	Perf.	
WIRE WRAP	970	1030	PERFORATION	.030 16
WIRE WRAP	1145	1245	PERFORATION	.030 16
WIRE WRAP	1315	1435	PERFORATION	.030 16

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From	To		
0	935	PORTLAND CEMENT	58 YARDS
935	947	HOLE PLUG, BENTONITE	18 BAGS
947	1500	8 X 12 GRAVEL	

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
04/25/2001	TEST PUMPED	5.348	85.25	24

**GENERAL COMMENTS:**

CONSTRUCTION INFORMATION  
Well Head Configuration: 16" steel  
Casing joint type: welded  
Peforator: no data  
Surface seal: yes  
Depth of seal: 935'  
Drive shoe: no  
Surface seal placement method: Tremie from bottom to surface  
SURFACE SEAL  
0 to 935' Grout density: 16 lb grout  
935 to 947' Grout density: 18 #50 bags, 3/8" holeplug welded  
947 to 1500' Grout density: 35-3500 lbs. brg  
Additional data not available.

Win023315  
Wr 31-5031

**LOCATION:**

N 750 ft W 170 ft from S4 CORNER of SECTION 19 T 3N R  
1E BASE SL Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL  
START DATE: / / COMPLETION DATE: / /  
ACTIVITY # 2 NEW WELL  
DRILLER: WEBBER DRILLING COMPANY  
LICENSE #: 325  
START DATE: 02/15/2001 COMPLETION DATE: 05/13/2001

**BOREHOLE INFORMATION:**

Fluid	Depth(ft)		Diameter(in)	Drilling Method	Drilling
	From	To			
	0	17	60	AUGER	NONE
	17	100	42	AUGER	NONE
	100	215	20	CABLE TOOL	NONE

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From	To
0	17 GRAVEL, COBBLES, BOULDERS
17	25 CLAY, SAND
REDDISH	
25	30 SAND
30	38 CLAY, SAND
	THIN SAND LAYER, WATER
38	42 CLAY, SAND
REDDISH	
42	84 CLAY
RED	
	DRY
84	178 SAND, GRAVEL, COBBLES
178	180 CLAY
180	215 COBBLES, BOULDERS, OTHER
CONGLOMERATE	

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
05/01/2001		.00	

**CONSTRUCTION - CASING:**

Depth(ft)		Material	Gage(in)	Diameter(in)
From	To			
0	100	STEEL	.375	24
0	215	STEEL	.375	20

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)		Material	Amount	Density(pcf)
From	To			
0	100	CEMENT 12 BAG MIX	23 YRDS	

**GENERAL COMMENTS:**

Dry Hole:Temporarily abandoned  
Lang to drill new hole

023871

31-5031

**LOCATION:**

N 750 ft W 170 ft from S4 CORNER of SECTION 19 T 3N R 1E BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 NEW WELL

START DATE: / / COMPLETION DATE: / /

ACTIVITY # 2 NEW WELL

DRILLER: WEBBER DRILLING COMPANY

LICENSE #: 325

START DATE: 02/15/2001 COMPLETION DATE: 05/13/2001

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 17	60	AUGER	NONE
17 100	42	AUGER	NONE
100 215	20	CABLE TOOL	NONE

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 17	GRAVEL, COBBLES, BOULDERS
17 25	CLAY, SAND
REDDISH	
25 30	SAND
30 38	CLAY, SAND
	THIN SAND LAYER, WATER
38 42	CLAY, SAND
REDDISH	
42 84	CLAY
RED	
	DRY
84 178	SAND, GRAVEL, COBBLES
178 180	CLAY
180 215	COBBLES, BOULDERS, OTHER
CONGLOMERATE	

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
05/01/2001		.00	

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 100	STEEL	.375	24
0 215	STEEL	.375	20

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From To			
0 100	CEMENT 12 BAG MIX	23 YRDS	

**GENERAL COMMENTS:**

Dry Hole:Temporarily abandoned  
Lang to drill new hol

025491

35-367

**LOCATION:**

N 300 ft W 100 ft from E4 CORNER of SECTION 35 T 7N R 3W BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 WELL ABANDONMENT

DRILLER: STODDARD DRILLING, G J

LICENSE #: 41

START DATE: / / COMPLETION DATE: / /

ACTIVITY # 2 WELL REPLACEMENT

DRILLER: STODDARD DRILLING, G J

LICENSE #: 41

START DATE: 06/21/2002 COMPLETION DATE: 06/24/2002

**BOREHOLE INFORMATION:**

Depth(ft) From	To	Diameter(in)	Drilling Method	Drilling Fluid
0	30	6.5	MUD ROTARY	BENTONITE
30	482	4.5	MUD ROTARY	BENTONITE

**LITHOLOGY:**

Depth(ft) Color	Lithologic Description Rock Type	
From	To	
0	120	CLAY, SILT, SAND
GRAY		
		MOSTLY CLAY
120	150	WATER-BEARING, HIGH-PERMEABILITY, SAND
GRAY		
		SOME WAS COARSE
150	195	CLAY
GRAY		
		STICKY
195	197	OTHER
GRAY		
		HARD PAN
197	205	CLAY
GRAY		
		HARD CLAY
205	240	WATER-BEARING, HIGH-PERMEABILITY, SAND, GRAVEL
GRAY		
		COARSE SAND & PEA GRAVEL
240	262	CLAY
GRAY		
		HARD CLAY
262	267	SAND
GRAY		
		FINE SAND
267	278	CLAY
GRAY		
		HARD
278	293	WATER-BEARING, HIGH-PERMEABILITY, SILT, SAND
GRAY		
		COARSE SAND & PEA GRAVEL
293	314	
GRAY		
		HARD
314	321	WATER-BEARING, HIGH-PERMEABILITY, SAND
GRAY		
		COARSE SAND
321	334	CLAY
GRAY		
		SOFT CLAY
334	368	WATER-BEARING, HIGH-PERMEABILITY, SAND
GRAY		
		COARSE SAND (REAL GOOD)
368	430	CLAY
GRAY		
		STICKY
430	437	WATER-BEARING, HIGH-PERMEABILITY, SAND
GRAY		
		COARSE SAND
437	458	CLAY
GRAY		
		STICKY
458	472	WATER-BEARING, HIGH-PERMEABILITY, SAND
GRAY		
		COARSE SAND (REAL GOOD)
472	482	CLAY
GRAY		
		HARD

**WATER LEVEL DATA:**

Date	Time	Water Level (feet) (-)above ground	Status
06/24/2002		-11.55	FLOWING

**CONSTRUCTION - CASING:**

Depth(ft) From	To	Material	Gage(in)	Diameter(in)
472	482	GAL STEEL SCH 40		2
+1.8	462	PVC SCH 40		2

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Perf(in)	Depth(ft) From	Screen(S) or Perforation(P) To	Slot/Perf. siz	Screen Diam/Length
	462	472	SCREEN	.050 2

STAINLESS

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft) From	To	Material	Amount	Density(pcf)
0	30	3/8 HOLE PLUG	6 BAGS	

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
06/24/2002	AIR LIFT	.067		8

**GENERAL COMMENTS:**

CONSTRUCTION INFORMATION  
 Well Head Configuration: 2" gate vavle  
 Casing joint type: glue  
 Perforator: no  
 CASING  
 Bottom of steel pipe welded  
 Surface seal: yes, 30'  
 Drive shoe: no  
 Surface seal placement method: from top  
 PUMP  
 no pump  
 Well disinfected: yes  
 COMMENTS  
 No problems  
 Additional data not available.

025571

31-2276

**LOCATION:**

S 2485 ft W 1525 ft from NE CORNER of SECTION 30 T 2N R 1E BASE SL  
Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 WELL REPLACEMENT

DRILLER: LANG EXPLORATORY DRILLING INC

LICENSE #: 568

START DATE: 07/05/2002 COMPLETION DATE: 08/18/2002

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From	To
0	3
SOIL	
3	70 SAND, GRAVEL, COBBLES
BRW TAN WHIT	
70	123 SAND, GRAVEL
WHITE BROWN	
123	170 SAND, GRAVEL, COBBLES, BOULDERS
BROWN/BLACK	LIMESTONE
170	280 SAND, GRAVEL, COBBLES
BRW/TAN/WHIT	SANDSTONE
280	290 CLAY, SILT, GRAVEL
BRW/GRAY	CLAY/GRAVEL
290	348 SAND, GRAVEL
BRW/TAN/WHIT	
348	356 CLAY
BROWN	
356	422 SAND, GRAVEL
BRW/TAN/WHIT	
422	424 CLAY
BROWN	
424	490 SAND, GRAVEL
BRW/TAN/BL/W	
490	520 CLAY, GRAVEL
BRW, WHITE, BL	BROWN CLAY

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
07/19/2002		175.50	STATIC

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From	To		
0	47 STEEL	.38	36
+3	300 STEEL	.38	20
340	372 STEEL	.38	16
412	434 STEEL	.38	16
495	514 STEEL	.38	16

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen Diam/Length
Perf(in)	Screen Type/#	Perf.	
From	To		
300	340	SCREEN	.050 16
STAINLESS ST			
372	413	SCREEN	.050 16
STAINLESS ST			
434	494	SCREEN	.050 16
STAINLESS ST			

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From	To		
0	47 NEAT CEMENT-HOLE PLUE	35 SACKS	
0	100 NEAT CEMENT	14 YRDS	
100	510 GRAVEL PACK	720 CU '	

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
08/07/2002	TEST PUMP	3.340	94	48

**GENERAL COMMENTS:**

CONSTRUCTION INFORMATION

Well head configuration:

Casing type: Weld

Perforator: None

Surface seal: Yes, 240', Tremmie hole plug 16lb/gal, neat cement 16.4

Drive shoe: No

Additional data not available



025963  
57-2789

**LOCATION:**

N 910 ft E 1843 ft from W4 CORNER of SECTION 15 T 2S R 1E BASE  
SL Elevation: feet

**DRILLER ACTIVITIES:**

ACTIVITY # 1 WELL ABANDONMENT  
DRILLER: MAGILL DRILLING CO INC  
LICENSE #: 580  
START DATE: / / COMPLETION DATE: / /  
ACTIVITY # 2 WELL REPLACEMENT  
DRILLER: MAGILL DRILLING CO INC  
LICENSE #: 580  
START DATE: / / COMPLETION DATE: / /

**BOREHOLE INFORMATION:**

Depth(ft)	Diameter(in)	Drilling Method	Drilling Fluid
From To			
0 190	8.75	ROTARY	WATER, BENTONITE
190 220	5		AIR

**LITHOLOGY:**

Depth(ft)	Lithologic Description
Color	Rock Type
From To	
0 20	GRAVEL, COBBLES, BOULDERS LOOSE
20 55	CLAY, GRAVEL, COBBLES
YELLOW	
	SANDY CLAY MIXED
55 70	CLAY
BLUE	
70 120	
GRAY	
	BEDROCK
120 177	WATER-BEARING, CLAY
RED	BEDROCK
	CLAY LAYER, SANDY
177 190	CLAY
GREEN	
190 203	SAND, GRAVEL
YELLOW	
203 220	WATER-BEARING, CLAY, SAND, OTHER BEDROCK, SANDY CLAY LAYERS

**WATER LEVEL DATA:**

Date	Time	Water Level (feet)	Status
		(-)above ground	
09/30/2002		108.00	

**CONSTRUCTION - CASING:**

Depth(ft)	Material	Gage(in)	Diameter(in)
From To			
0 150	SD4 17 PVC	.327	5

**CONSTRUCTION - SCREENS/PERFORATIONS:**

Depth(ft)	Screen(S) or Perforation(P)	Slot/Perf. siz	Screen
Diam/Length	Perf(in) Screen Type/# Perf.		
From To			
150 190	PERFORATION	.125	3

**CONSTRUCTION - FILTER PACK/ANNULAR SEALS**

Depth(ft)	Material	Amount	Density(pcf)
From	To		
0	30	SWELL PLUG	9 BAGS

**WELL TESTS:**

Date	Test Method	Yield (CFS)	Drawdown (ft)	Time Pumped (hrs)
09/20/2002	BLEW OUT W/AIR	.022		6

**GENERAL COMMENTS:**

## CONSTRUCTION INFORMATION

Well Head Configuration: well cap

Casing joint type: glued pvc joints

Perforator used: saw

Open Bottom

Surface seal: yes, 30'

Drive shoe: no

Surface seal placement method: poured swell plug

PUMP

none

NOTE: Location of new well is 8' South and 4' East of existing well.

Additional data not available.

