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Groundwater Maps of the Hanford Site, June 1993

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Prepared for the U.S. Department of Energy
Office of Environmental Restoration
and Waste Management

Westinghouse
Hanford Company Richland, Washington

Hanford Operations and Engineering Contractor for the
U.S. Department of Energy under Contract DE-AC06-87RL10930

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Groundwater Maps of the Hanford Site, June 1993

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INTRODUCTION

The *Groundwater Maps of the Hanford Site, June 1993* is an update of the series of reports that document the configuration of the uppermost unconfined aquifer beneath the Hanford Site (Figure 1). This report series presents the semiannual water level measurements taken at site groundwater monitoring wells each June and December and the groundwater maps derived from these measurements. These reports document the changes in the groundwater level at Hanford as the site has transitioned from nuclear material production to environmental restoration and remediation. In addition, these reports provide water level data to support the various site characterization and groundwater monitoring programs currently in progress on the Hanford Site. *Groundwater Maps of the Hanford Site* are prepared for the U.S. Department of Energy, Office of Environmental Restoration and Waste Management, by the Hanford Site Operations and Engineering Contractor, Westinghouse Hanford Company (WHC). This document fulfills reporting requirements specified in WHC (1993), Section 8.0 "Water Quality" and also described in the Environmental Monitoring Plan for the Hanford Site (DOE-RL 1991).

Maps depicting the water table beneath the Hanford Site south of the Columbia River are presented in this report. Appendix A lists the well identification number, depth to water, casing elevation and the water level elevation for each well measured during June 1993. A summary discussion of the data is included with a well index map, the depth to water map and the contoured map of the water table surface for the Hanford Site and each of the three operational areas (the 100, 200, and 300-1100 Areas). For clarity, the locating prefixes have been omitted from all well numbers shown on the maps. Wells in the 100 Areas have the prefix 199; those in the 200 Areas have the prefix 299; wells in the 300 Area have a 399 prefix; those in the 1100 Area have a 1199 prefix and the wells outside these areas have the prefix 699. An explanation of the Hanford well numbering system and a listing of the survey coordinates for each well drilled prior to 1993 is listed in Chamness and Merz (1993).

The National Geodetic Vertical Datum of 1929 is used as the vertical datum and the Hanford Plant Coordinates are used for horizontal location of the wells. Both datums are measured in feet.

This report and groundwater maps were prepared by staff members of the WHC Geohydrologic Engineering Function, Environmental Division. Water level data from the previous report period (December 1992) were reported in Kasza et al. (1993).

DATA MANAGEMENT AND PRESENTATION

During June 1993, the depth to the groundwater was measured in 751 Hanford Site wells by personnel from Subsurface Investigative Support Function under the direction of the Geohydrologic Engineering Function project leaders. The procedure for measuring the depth to water and recording the data is contained in environmental investigations instructions (EII) 10.2

(WHC 1988). Field data were collected using the Groundwater Monitoring System, which employs a barcode interface to enter readings that have been taken manually with a steel tape from the reference point at the top of the well casing. The barcode hand-held computer downloads the field data to a supervisory workstation that stores all groundwater level measurements. These data are transferred to the Hanford Environmental Information System (HEIS) data base and were later downloaded to a Paradox (a trademark of Borland International) application program for use by the Geohydrologic Engineering function hydrologists.

The Paradox application was used to classify, provide coordinates for, and format data points used in creating contours of the water table across the Hanford Site. Data were averaged for wells with multiple measurements in June. The Paradox application was also used to generate the data tables presented in Appendix A.

Contours generated from groundwater data are displayed on the water table elevation maps and were created within Earth Vision (a trademark of Dynamic Graphics, Incorporated). Earth Vision is software that calculates a data grid and generates contour lines when given a set of data point locations and values. A 2-D minimum tension gridding algorithm was used to interpolate grid values. Generated contour lines were then imported into an AutoCad (a trademark of Autodesk, Incorporated) environment to be overlaid onto existing base maps.

Hydrologists familiar with regional and local groundwater properties reviewed the maps to evaluate data interpolations made by the Earth Vision software. A representative set of wells was illustrated in areas where there are heavy concentrations of wells (e.g., 100-N and 100-H Areas). Hydrographs were plotted for wells with anomalous head values. If the measurement was an outlier, the data point was not included in constructing the maps and its questionable status was noted in Appendix A. Map modifications and corrections were made in AutoCad and the final maps were generated.

HANFORD SITE MAPS

The Hanford Site maps depict the configuration of the surface of the unconfined aquifer beneath that portion of the Hanford Site located south and west of the Columbia River. The site maps include:

- Figure 2, Index Map of the Hanford Site
- Figure 3, Site Depth-to-Water Map
- Figure 4, Hanford Site Water Table Map.

The Hanford Site water table map is a composite of the detailed maps of the operating areas and data from the groundwater monitoring wells located outside the operating areas. The borders of the operating areas maps are represented accurately on the site maps for ease in comparing the maps.

The "areas where the basalt surface is generally above the water table" reflect the structural contour of the top of basalt according to Connelly et al. (1992a and 1992b).

100 AREAS MAPS

For the purposes of this report, the 100 Areas comprise the various 100 Area inactive reactor facilities and the surrounding land south of the Columbia River and north of Gable Mountain and Gable Butte. Maps for this area include:

- Figure 5, Index Map of the 100 Areas Groundwater Monitoring Wells
- Figure 6, 100 Areas Depth-to-Water Map
- Figure 7, 100 Areas Water Table Map.

The maps are based on June 1993 field measurements from those wells that are located north of Hanford Site coordinate N56,000 and completed in the unconsolidated sediments. Wells used are open to the aquifer within 100 ft of the average water table since vertical gradients are not significant on the scale of the map.

River stage recorders are located in the 100-B/C, 100-H, and 100-F Areas. River stage is measured hourly with pressure transducers. The averages of the June values are plotted on Figure 7 and were used in contouring the water table map.

Throughout most of the map area, groundwater flows from the unconfined aquifer into the Columbia River. West of the 100-B/C Area, however, water is believed to flow from the river into the aquifer.

The high water levels north of Gable Mountain are consistent with past measurements. Driller's logs indicate the presence of fine-grained sediments in this area. The high water levels may be remnants of artificial recharge from pre-Hanford irrigation, or may represent perched groundwater. The steep groundwater gradient in the southeastern portion of the map area is believed to result from the influence of the fine-grained sediments.

Water level data used to construct the maps are listed in Appendix A. The N 65,000 Separations Area border line is included on the maps of the 100 and 200 Areas for convenient reference.

200 AREAS MAPS

These maps encompass the 200 East and 200 West Areas and the surrounding vicinity on the Hanford Site, which was once referred to as the Separations Area. The semiannual measurement of water levels in the 200 Areas was performed on the more than 180 selected wells that comprise the Operational Groundwater Monitoring Network (Serkowski and Jordan, 1989). The Operational

Groundwater Monitoring Network provides water level measurements for the determination of the water table configuration and for the water quality sampling of the groundwater beneath and surrounding the chemical processing and the waste management facilities in the 200 Areas. Water level data gathered for the ongoing Resource Conservation and Recovery Act groundwater monitoring program, the Comprehensive Environmental Response, Compensation and Liability Act site characterization activities, and from outlying wells are also included on the maps for a more complete representation of the water table. The wells selected were reviewed to assure that they were completed in the unconsolidated sediments and screened or perforated in the upper portion of the unconfined aquifer.

Groundwater beneath the 200 Areas flows northward through the gap between the Gable Butte-Gable Mountain basalt highs or eastward toward the Columbia River (Figure 4). The major influences on water table elevations beneath the 200 Areas are waste water currently discharged to cribs, trenches and the B-Pond system, and the pre-existing water table mounds beneath the Areas. The water table had been artificially elevated since the start of the nuclear processing operations due to the large volumes of water disposed to the soil but has been falling in recent years because of the large-scale reduction in process water usage after the end of nuclear material production. Kasza et al. (1993) presents a map depicting the change in water table elevation between December 1988 and December 1992.

The 200 Areas set of maps includes:

- Figure 8, 200 Areas Monitoring Well Index Map
- Figure 9, 200 Areas Depth-to-Water Map
- Figure 10, 200 Areas Water Table Map.

Representative wells were selected to portray the water level data on the maps where the concentration of monitoring wells would produce a crowded illustration.

An area of conflicting data is noted on Figure 10. Within this area, use of the measured depth-to-water produces an improbable calculated water table elevation. Reference point elevation errors are suspected as the cause. Information for these wells (contained in Appendix A) are noted as being of suspect quality (Q).

300/1100 AREAS MAPS

These maps present the June 1993 water table measurements taken at the 300 Area, the adjacent 1100 Area, and the Horn Rapids Landfill site. Measurements were made in wells that were screened or perforated in the upper part of the unconfined aquifer except in a few cases where the top of the screen was slightly below the top of the unconfined aquifer. In the map area, the top of the unconfined aquifer is very close to the Hanford formation/Ringold Formation contact. Generally, the unconfined aquifer west of an imaginary north-south line near the west boundary of the 300 Area is within the Ringold Formation. East of the line, the top of unconfined aquifer is

within the Hanford formation. The maps for this part of the Hanford Site include:

- Figure 11, 300/1100 Areas Index Map
- Figure 12, 300/1100 Areas Depth-to-Water Map
- Figure 13, 300/1100 Areas Water Table Map.

The major influences on water table elevations in the map area are river level fluctuations, waste water discharged to the 300 Area process trenches and sanitary system, and river water recharged into the city of Richland well field near the 1100 Area. Water table fluctuations are also related to irrigation of farm lands and recharge from the Yakima River, both of which are located west of the map area. The groundwater mound centered on well 699-S40-E14 is located beneath the city of Richland well field and is the result of groundwater recharge.

A pressure transducer, located at station SWS-1, monitors the Columbia River stage at the 300 Area. River stage readings are taken every hour and stored in a data logger, which is then downloaded to a computer data base. The river stage measurement for the day and time that the 300 Area wells were measured is presented on the maps since the water level in the unconfined aquifer near the Columbia River responds rapidly to variations in the river stage.

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Figure 1. Hanford Site Location Map.

Hanford Site Index Map June 1993

32-22 Identification of monitoring well used to prepare this map. All wells on this map are prefixed by 699-.

Ponds

Areas where the basalt surface is generally above the water table

The Hanford site index map has been prepared by the Geohydrologic Engineering Function, Westinghouse Hanford Company.

Note: To convert to metric, multiply elevation (ft) by 0.3048 to obtain elevation (m).

Figure 2

WAJ/6IDXJN93

Hanford Site Depth-to-Water Map June 1993

36.77
• Depth to water in feet, as measured from well reference mark (generally top of casing) to groundwater surface

Ponds

Areas where the basalt surface is generally above the water table

The Hanford site depth-to-water map has been prepared by the Geohydrologic Engineering Function, Westinghouse Hanford Company.

Note: To convert to metric, multiply elevation (ft) by 0.3048 to obtain elevation (m).

Figure 3

Hanford Site Water Table Map June 1993

409.77 • Water table elevation (feet
above mean sea level)

405- Water table elevation
Contour Interval = 5 ft

Contour lines are dashed
where approximated.

■ Ponds

▨ Areas where the basalt surface is
generally above the water table

▤ Area of conflicting data

The Hanford site water table map has been
prepared by the Geohydrologic Engineering
Function, Westinghouse Hanford Company.

Note: To convert to metric, multiply
elevation (ft) by 0.3048 to obtain
elevation (m).

0 1 2 3 4 5 Miles
0 1 2 3 4 5 Kilometers

Figure 4

**100 Areas
Index Map
June 1993**

77-40 Identification of Groundwater Monitoring Wells Used to Prepare this Map. Well numbers beginning with a letter are prefixed with a 199- and beginning with a number are prefixed with 699-.

▲ River stage recorder

Areas where the basalt surface is generally above the water table

The 100 Areas Index Map has been prepared by the Geohydrologic Engineering Function, Westinghouse Hanford Company.

Note: To convert to metric, multiply elevation (ft) by 0.3048 to obtain elevation (m).

Figure 5

100 Areas Depth-to-Water Map June 1993

32.54
• Depth to water, as measured from the well reference mark (generally top of casing) to groundwater surface.

▨ Areas where the basalt surface is generally above the water table

The 100 Areas depth-to-water map has been prepared by the Geohydrologic Engineering Function, Westinghouse Hanford Company.

Note: To convert to metric, multiply elevation (ft) by 0.3048 to obtain elevation (m).

0 1 Mile

0 1 Kilometer

WAJ/10TWJN93

Figure 6

100 Areas Water Table Map June 1993

382.51 Average river elevation
(feet above mean sea level)

388.60 Water table elevation,
(feet above mean sea level)

400 Water table elevation
Contour Interval = 5 ft

Areas where the basalt surface is
generally above the water table

Area of conflicting data

The 100 Areas water table map has
been prepared by the Geohydrologic
Engineering Function, Westinghouse
Hanford Company.

Note: To convert to metric, multiply
elevation (ft) by 0.3048 to obtain
elevation (m).

Figure 7

200 Areas Index Map June 1992

W22-26 Identification of monitoring well used to prepare map. Well Numbers starting with E or W are prefixed by 299- and all others are prefixed by 699-.

Ponds

Areas where the basalt surface is generally above the water table

The 200 Areas index map has been prepared by the Geohydrologic Engineering Function, Westinghouse Hanford Company.

Note: To convert to metric, multiply elevation (ft) by 0.3048 to obtain elevation (m).

Figure 8

200 Areas Depth-to-Water Map June 1993

319.18 • Depth to water in feet, as measured from well reference mark (generally top of casing) to groundwater surface.

● Ponds

▨ Areas where the basalt surface is generally above the water table

The 200 Areas depth-to-water map has been prepared by the Geohydrologic Engineering Function, Westinghouse Hanford Company.

Note: To convert to metric, multiply elevation (ft) by 0.3048 to obtain elevation (m).

0 1 Mile
0 1 Kilometer

Figure 9

200 Areas Water Table Elevation June 1993

- 402.49 • Water Table elevation (feet above mean sea level)
- 405 ~ Water table elevation Contour Interval = 5 ft
- Ponds
- ▨ Areas where the basalt surface is generally above the water table
- ▤ Area of conflicting data

The 200 Areas water table elevation map has been prepared by the Geohydrologic Engineering Function, Westinghouse Hanford Company.

Note: To convert to metric, multiply elevation (ft) by 0.3048 to obtain elevation (m).

0 1 Mile
0 1 Kilometer

Figure 10

300/1100 Area Index Map June 1993

- 3-1 Identification of monitoring well used to prepare map. Well Numbers starting with S are prefixed by 699- and well numbers starting with a single digit are prefixed by 399-.
- ▲ River stage recorder

The 300 Area index map has been prepared by the Geohydrologic Engineering Function, Westinghouse Hanford Company.

Note: To convert to metric, multiply elevation (ft) by 0.3048 to obtain elevation (m).

Figure 11

WAJ/31DXJN93

300/1100 Area Depth-to-Water Map June 1993

53.19 Depth to water in feet, as measured from well reference mark (generally top of casing) to groundwater surface.

The 300 area depth-to-water map has been prepared by the Geohydrologic Engineering Function, Westinghouse Hanford Company.

Note: To convert to metric, multiply elevation (ft) by 0.3048 to obtain elevation (m).

Figure 12

300/1100 Area Water Table Map June 1993

354.19 Water table elevation (feet
above mean sea level)

▲ Average river elevation—day of 300 Area
water level measurement

350 Water table elevation
Contour Interval = 5ft

The 300 Area water table map has been
prepared by the Geohydrologic Engineering
Function, Westinghouse Hanford Company.

Note: To convert to metric, multiply
elevation (ft) by 0.3048 to obtain
elevation (m).

Figure 13

WHC-EP-0394-7

APPENDIX A
JUNE 1993 WATER LEVEL MEASUREMENT DATA

Appendix A: June 1993 Water Level Measurement Data
(Sheet 1 of 22)

Well	Notes	Depth to Water, ft	Elevation, ft above msl	
			Adjusted Casing	Water Level
199-B3-1		46.27	439.19	392.92
199-B4-1	N	64.06	461.19	397.13
199-B4-3		64.59	461.75	397.16
199-B4-4		77.45	473.54	396.09
199-B4-6	N	84.44	481.92	397.48
199-B5-1		58.53	455.58	397.05
199-B9-1	N	98.76	496.12	397.36
199-D2-5		75.17	460.30	385.13
199-D5-12		85.12	469.69	384.57
199-D5-13		86.83	471.49	384.67
199-D8-3		66.63	449.06	382.43
199-D8-4	N	83.37	468.13	384.76
199-D8-5		69.13	452.48	383.35
199-D8-6		91.17	475.90	384.73
199-F5-1		35.19	406.56	371.37
199-F5-3	N	38.24	408.62	370.38
199-F5-4	N	41.99	412.12	370.13
199-F5-6	N	43.06	412.95	369.89
199-F7-1		15.04	389.74	374.70
199-F8-1		35.16	405.86	370.70
199-F8-2	N	40.15	410.74	370.59
199-H3-1	N	46.00	422.02	376.02
199-H3-2A	N	42.32	418.37	376.05
199-H3-2B	N	42.90	418.96	376.06
199-H3-2C	P	42.95	418.78	375.83
199-H4-10	N	30.55	404.44	373.89
199-H4-11	N	44.16	416.84	372.68
199-H4-12A	N	39.91	413.50	373.59
199-H4-12B	N	39.94	413.52	373.58
199-H4-12C	P	40.49	413.52	373.03
199-H4-13	N	45.89	418.20	372.31
199-H4-14	N	44.72	420.59	375.87
199-H4-15A	N	33.43	407.21	373.78
199-H4-15B	N	33.12	406.92	373.80
199-H4-15CQ	P	.01	407.27	407.26

Appendix A: June 1993 Water Level Measurement Data
(Sheet 2 of 22)

Well	Notes	Depth to Water, ft	Elevation, ft above msl	
			Adjusted Casing	Water Level
199-H4-15CR	P	32.14	407.37	375.23
199-H4-15CS	P	32.14	407.44	375.30
199-H4-16		48.80	424.23	375.43
199-H4-17	N	43.46	419.09	375.63
199-H4-18	N	46.72	421.82	375.10
199-H4-3	N	44.71	420.29	375.59
199-H4-4	N	40.18	413.70	373.53
199-H4-5	N	41.80	416.21	374.41
199-H4-6		43.56	419.58	376.02
199-H4-7	N	44.94	420.59	375.65
199-H4-8	N	44.47	420.00	375.53
199-H4-9	N	42.27	418.08	375.81
199-H5-1A	N	43.68	420.16	376.48
199-K-11		73.14	466.55	393.41
199-K-13	N	73.37	464.00	390.63
199-K-18	N	21.62	409.00	387.38
199-K-19		33.53	422.17	388.64
199-K-20		34.55	422.57	388.02
199-K-21	N	34.94	421.73	386.79
199-K-22	N	37.54	421.68	384.14
199-K-23	N	74.17	471.56	397.39
199-K-32A	N	54.32	444.02	389.70
199-K-32B	P	47.49	445.27	397.78
199-K-33	N	55.63	443.64	388.01
199-K-34		76.53	468.09	391.56
199-K-35	N	98.69	494.55	395.86
199-K-36		97.83	494.07	396.24
199-K-37		54.24	441.80	387.56
199-N-14		68.49	453.15	384.66
199-N-16	N	69.54	456.70	387.16
199-N-17	N	75.52	461.20	385.68
199-N-18	N	73.54	458.50	384.96
199-N-19	N	69.19	453.90	384.71
199-N-2	N	73.46	459.83	386.37
199-N-20	N	70.48	455.90	385.42

Appendix A: June 1993 Water Level Measurement Data
(Sheet 3 of 22)

Well	Notes	Depth to Water, ft	Elevation, ft above msl	
			Adjusted Casing	Water Level
199-N-21	Q	79.66	457.00	377.34
199-N-23	N	71.13	456.30	385.17
199-N-25	N	42.29	425.80	383.51
199-N-26		71.40	455.80	384.40
199-N-27	N	61.76	449.08	387.32
199-N-28	N	76.38	464.24	387.86
199-N-29	N	77.37	465.25	387.88
199-N-3	N	73.19	459.45	386.26
199-N-31	N	75.73	462.63	386.90
199-N-32	N	75.03	462.08	387.05
199-N-33	N	73.02	459.87	386.85
199-N-34	N	72.43	459.63	387.20
199-N-41	N	72.00	457.59	385.59
199-N-42	N	69.14	455.14	386.00
199-N-49	N	65.56	450.72	385.16
199-N-50	N	78.65	463.90	385.25
199-N-51	N	78.17	462.18	384.01
199-N-52	N	75.52	463.70	388.18
199-N-54	N	70.76	457.51	386.75
199-N-55	N	71.07	457.85	386.78
199-N-56	N	71.68	458.09	386.41
199-N-57	N	70.22	457.76	387.54
199-N-59		72.48	459.53	387.05
199-N-62	N	75.67	463.59	387.92
199-N-63	N	78.94	466.70	387.76
199-N-64	N	67.07	454.63	387.56
199-N-65	N	69.25	456.44	387.19
199-N-67	N	72.32	458.46	386.14
199-N-69	N	72.78	458.84	386.06
199-N-70	N	68.01	454.21	386.20
199-N-71	N	73.40	463.04	389.64
199-N-72	N	69.23	458.99	389.76
199-N-73	N	74.37	463.28	388.91
199-N-74		68.27	457.66	389.39
199-N-80	P	74.52	457.69	383.17

Appendix A: June 1993 Water Level Measurement Data
(Sheet 4 of 22)

Well	Notes	Depth to Water, ft	Elevation, ft above msl	
			Adjusted Casing	Water Level
199-N-8S		21.14	404.57	383.43
299-E13-10		335.43	737.70	402.27
299-E13-12		333.11	733.49	400.38
299-E13-14		342.96	745.37	402.41
299-E16-1	Q	288.50	695.09	406.59
299-E17-1		317.51	719.17	401.66
299-E17-10		312.97	714.74	401.77
299-E17-12		319.90	721.70	401.80
299-E17-13		317.42	719.25	401.83
299-E17-14		320.68	722.18	401.50
299-E17-15		320.93	721.78	400.85
299-E17-16		318.96	720.58	401.63
299-E17-17	N	318.18	719.92	401.75
299-E17-18		318.92	720.65	401.74
299-E17-19		318.43	719.33	400.90
299-E17-20		317.16	719.23	402.07
299-E17-5		316.32	718.65	402.33
299-E17-6		318.02	720.10	402.08
299-E17-8		317.40	718.73	401.33
299-E17-9		316.16	717.64	401.49
299-E18-1		318.19	720.24	402.05
299-E18-2	N	318.28	720.24	401.97
299-E18-3		319.86	722.04	402.18
299-E18-4	N	319.62	721.57	401.95
299-E23-1		310.79	713.10	402.31
299-E23-2		319.28	721.26	401.98
299-E24-13		289.10	691.13	402.03
299-E24-14		289.30	691.31	402.01
299-E24-16		315.81	718.27	402.46
299-E24-18		318.11	719.28	401.18
299-E24-19		291.70	693.65	401.96
299-E24-2	N	315.24	717.19	401.95
299-E24-20	N	287.00	689.28	402.28
299-E24-7		314.02	716.01	401.99
299-E24-8		286.50	688.81	402.31

Appendix A: June 1993 Water Level Measurement Data
(Sheet 5 of 22)

Well	Notes	Depth to Water, ft	Elevation, ft above msl	
			Adjusted Casing	Water Level
299-E25-1		288.52	690.57	402.05
299-E25-10	N	253.73	655.84	402.11
299-E25-11		279.27	681.28	402.01
299-E25-13		280.34	682.43	402.09
299-E25-15		287.70	689.73	402.03
299-E25-18	N	276.92	679.05	402.13
299-E25-19		275.22	677.20	401.98
299-E25-2		273.20	675.45	402.25
299-E25-20	N	274.35	676.30	401.95
299-E25-21	N	274.90	677.27	402.37
299-E25-24	N	277.30	679.55	402.25
299-E25-25		266.66	669.42	402.76
299-E25-26		266.12	668.52	402.40
299-E25-27	N	273.64	676.08	402.44
299-E25-28		259.91	662.44	402.53
299-E25-29P	N	270.75	673.06	402.31
299-E25-29Q	N	270.18	672.62	402.44
299-E25-30Q	N	276.02	677.91	401.89
299-E25-31	Q	272.20	672.53	400.33
299-E25-32P		267.60	670.04	402.44
299-E25-32Q		267.96	670.04	402.08
299-E25-34		260.42	662.87	402.45
299-E25-35		272.25	674.39	402.14
299-E25-36		305.47	707.39	401.92
299-E25-37		271.32	673.29	401.97
299-E25-38	N	271.20	673.52	402.32
299-E25-39	N	268.30	671.23	402.93
299-E25-4		258.76	659.39	400.63
299-E25-40		263.57	665.71	402.15
299-E25-41		268.99	671.26	402.28
299-E25-42	N	281.07	683.29	402.22
299-E25-43	N	247.18	649.89	402.71
299-E25-46	N	292.49	694.81	402.33
299-E25-6	Q	258.80	658.31	399.51
299-E25-9	Q	254.13	654.17	400.04

Appendix A: June 1993 Water Level Measurement Data
(Sheet 6 of 22)

Well	Notes	Depth to Water, ft	Elevation, ft above msl	
			Adjusted Casing	Water Level
299-E26-1		214.60	617.25	402.65
299-E26-10	N	199.20	601.73	402.53
299-E26-11	N	194.58	599.94	405.36
299-E26-12	N	227.85	630.74	402.89
299-E26-13	N	202.19	605.02	402.83
299-E26-2		232.86	635.30	402.44
299-E26-4		245.46	647.76	402.30
299-E26-8	N	234.45	619.85	385.40
299-E26-9	N	200.63	603.15	402.52
299-E27-1	N	280.38	682.55	402.17
299-E27-10		222.27	624.47	402.20
299-E27-11		241.58	643.29	401.71
299-E27-12		258.98	660.95	401.98
299-E27-13		266.91	668.99	402.09
299-E27-14		256.36	658.34	401.98
299-E27-15		251.06	652.67	401.62
299-E27-16		250.37	652.13	401.77
299-E27-17	N	232.62	634.72	402.10
299-E27-18	N	248.10		
299-E27-19	N	249.89		
299-E27-7		232.60	634.67	402.07
299-E27-8		235.94	637.83	401.89
299-E27-9		227.24	629.21	401.97
299-E28-12		305.99	708.60	402.61
299-E28-17		305.34	708.56	403.22
299-E28-18		290.40	692.58	402.18
299-E28-26		285.34	687.26	401.92
299-E28-27		278.53	680.37	401.84
299-E28-28		284.76	686.55	401.79
299-E28-4		289.21	691.55	402.34
299-E28-6		297.81	700.11	402.30
299-E28-7		284.48	685.91	401.43
299-E28-9		298.57	700.77	402.20
299-E32-1		254.06	656.17	402.11
299-E32-2		268.35	670.06	401.71

Appendix A: June 1993 Water Level Measurement Data
(Sheet 7 of 22)

Well	Notes	Depth to Water, ft	Elevation, ft above msl	
			Adjusted Casing	Water Level
299-E32-3		274.71	676.51	401.80
299-E32-4		284.17	685.88	401.71
299-E32-5		280.35	682.14	401.79
299-E32-6	N	265.54	667.45	401.91
299-E32-7	N	256.44	658.42	401.98
299-E32-8	N	243.69	645.59	401.90
299-E32-9	N	241.35	643.33	401.98
299-E33-1	N	233.01	632.11	399.10
299-E33-12	P	220.86	623.45	402.59
299-E33-13	N	229.10	628.39	399.29
299-E33-14		219.93	622.05	402.12
299-E33-15		225.13	627.29	402.16
299-E33-17	N	229.57	631.65	402.08
299-E33-18	N	249.63	651.86	402.23
299-E33-2	N	229.85	630.00	400.15
299-E33-21		266.55	668.39	401.84
299-E33-24		236.45	637.97	401.52
299-E33-26		231.77	632.77	401.00
299-E33-28		262.35	664.23	401.88
299-E33-29		271.89	673.77	401.88
299-E33-3	N	233.34	630.62	397.28
299-E33-30		261.82	663.70	401.88
299-E33-31		245.49	647.28	401.80
299-E33-32		258.09	659.83	401.74
299-E33-33		238.32	640.17	401.85
299-E33-34		231.55	633.33	401.78
299-E33-35		241.21	643.01	401.80
299-E33-36		246.51	646.67	400.16
299-E33-37		251.00	653.01	402.01
299-E33-4	N	229.68	629.84	400.16
299-E33-41	N	252.93	654.95	402.02
299-E33-42	N	252.26	654.30	402.05
299-E33-43	N	261.31	662.68	401.38
299-E33-5	N	235.42	634.72	399.30
299-E33-7	N	226.97	627.82	400.85

Appendix A: June 1993 Water Level Measurement Data
(Sheet 8 of 22)

Well	Notes	Depth to Water, ft	Elevation, ft above msl	
			Adjusted Casing	Water Level
299-E33-8		248.81	650.73	401.92
299-E34-1		227.23	629.45	402.22
299-E34-10	N	237.67	639.78	402.11
299-E34-2		228.83	630.80	401.97
299-E34-3		209.48	611.52	402.04
299-E34-5		187.73	590.79	403.06
299-E34-8		238.89	640.52	401.63
299-E34-9	N	226.67	628.69	402.02
299-E35-2	N	199.84	602.36	402.52
299-W10-10		213.83	675.35	461.52
299-W10-11		213.44	675.26	461.82
299-W10-12		213.43	675.01	461.58
299-W10-13		236.71	699.04	462.33
299-W10-14		237.51	699.43	461.92
299-W10-15		213.97	675.64	461.68
299-W10-16		210.74	672.76	462.02
299-W10-17	N	208.68	670.84	462.17
299-W10-18	N	208.19	670.93	462.74
299-W10-2		212.46	674.25	461.79
299-W10-3		209.79	671.72	461.93
299-W10-5		210.76	673.31	462.55
299-W10-8		218.99	680.31	461.32
299-W10-9	N	213.27	674.93	461.66
299-W11-10		275.20	728.89	453.69
299-W11-12	N	217.91	679.52	461.61
299-W11-14		257.39	715.16	457.77
299-W11-19		249.89	707.00	457.11
299-W11-23		227.28	685.68	458.40
299-W11-24		226.11	687.43	461.32
299-W11-27	N	223.70	685.27	461.57
299-W11-31	N	249.18		
299-W11-6		258.06	716.23	458.17
299-W11-9		266.94	722.94	456.00
299-W12-1		277.35	726.46	449.11
299-W14-1		211.61	671.86	460.25

Appendix A: June 1993 Water Level Measurement Data
(Sheet 9 of 22)

Well	Notes	Depth to Water, ft	Elevation, ft above msl	
			Adjusted Casing	Water Level
299-W14-12	N	206.85	670.52	463.67
299-W15-10	N	213.18	676.00	462.82
299-W15-12		206.97	670.07	463.10
299-W15-13	N	207.04	670.12	463.08
299-W15-15	N	234.54	697.96	463.42
299-W15-16	N	220.88	684.89	464.01
299-W15-17	N	220.93	684.64	463.71
299-W15-18		221.60	685.71	464.11
299-W15-19		228.27	691.60	463.33
299-W15-20		235.20	698.36	463.16
299-W15-22	N	205.99	670.77	464.78
299-W15-23		236.21	699.49	463.28
299-W15-24	N	235.88	699.37	463.49
299-W15-3	N	207.51	670.50	462.99
299-W15-4		198.08	662.00	463.92
299-W15-5		205.07	670.68	465.61
299-W18-15	N	196.54	660.96	464.42
299-W18-21	N	205.15	668.62	463.47
299-W18-22		205.58	668.49	462.91
299-W18-23		233.31	696.81	463.50
299-W18-24	N	220.10	684.35	464.25
299-W18-25	N	200.83	666.04	465.22
299-W18-26		235.56	699.05	463.49
299-W18-27	N	226.70	690.25	463.55
299-W18-28	N	216.23	679.99	463.76
299-W18-29	Q	126.78	674.14	547.36
299-W18-30	N	208.27	672.84	464.57
299-W18-31	N	199.01	664.16	465.15
299-W19-1		207.30	673.77	466.47
299-W19-12	P	208.12	673.25	465.13
299-W19-14		233.14	693.21	460.07
299-W19-15	N	232.48	693.28	460.80
299-W19-2		239.87	694.04	454.17
299-W19-20		235.62	691.04	455.42
299-W19-21		213.64	678.53	464.89

Appendix A: June 1993 Water Level Measurement Data
(Sheet 10 of 22)

Well	Notes	Depth to Water, ft	Elevation, ft above msl	
			Adjusted Casing	Water Level
299-W19-24		240.76	696.95	456.19
299-W19-27		218.32	683.65	465.33
299-W19-28		245.01	703.09	458.08
299-W19-29		244.33	701.87	457.54
299-W19-31	N	208.91	674.19	465.29
299-W19-32	N	209.57	674.90	465.33
299-W19-4		259.09	715.52	456.43
299-W19-6	N	226.09	686.60	460.51
299-W19-91	P	90.58	677.90	587.32
299-W19-92	P	90.21	677.90	587.69
299-W19-93	P	53.48	677.43	623.95
299-W21-1		247.75	699.26	451.51
299-W22-19		226.98	681.26	454.28
299-W22-21		213.84	670.00	456.16
299-W22-26	N	221.49	680.30	458.81
299-W22-39	N	209.73	668.26	458.53
299-W22-40		236.47	692.49	456.02
299-W22-41		235.99	692.00	456.01
299-W22-42		235.63	691.42	455.79
299-W22-43		234.88	691.61	456.73
299-W22-44	N	217.23	678.13	460.91
299-W22-45	N	206.91	666.21	459.30
299-W22-46	N	212.85	671.18	458.33
299-W22-7		231.26	687.41	456.15
299-W23-1	N	204.62	666.14	461.52
299-W23-11		202.98	664.14	461.16
299-W23-12	N	205.30	666.15	460.85
299-W23-13	N	206.49	666.33	459.84
299-W23-14	N	203.46	664.00	460.54
299-W23-15	N	196.09	655.44	459.35
299-W23-2	N	203.71	663.48	459.77
299-W23-3	N	204.62	663.56	458.94
299-W23-4		200.76	662.63	461.87
299-W23-6		208.70	666.98	458.28
299-W23-7	N	203.32	663.67	460.35

Appendix A: June 1993 Water Level Measurement Data
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Well	Notes	Depth to Water, ft	Elevation, ft above msl	
			Adjusted Casing	Water Level
299-W23-8	N	203.31	663.95	460.64
299-W26-10	N	213.84	670.89	457.06
299-W26-12	N	218.26	675.69	457.43
299-W26-7	N	191.88	651.99	460.11
299-W26-8	N	209.03	666.57	457.55
299-W26-9	N	196.98	654.42	457.44
299-W6-1		246.97	702.53	455.56
299-W6-10	N	257.78		
299-W6-11	N	249.96		
299-W6-12	N	235.35		
299-W6-2		234.59	692.45	457.86
299-W6-3	N	242.95	699.83	456.88
299-W6-4	N	245.33	701.25	455.92
299-W6-6	N	271.75	709.99	438.24
299-W6-7	N	271.80	710.28	438.48
299-W6-8	N	223.98	694.73	470.75
299-W6-9	N	239.32		
299-W7-1		232.24	690.71	458.47
299-W7-10	N	229.45	686.66	457.21
299-W7-11	N	223.29	681.45	458.16
299-W7-12	N	229.45	687.93	458.48
299-W7-2	N	218.39	675.59	457.20
299-W7-3		219.84	676.14	456.30
299-W7-5		216.32	673.05	456.73
299-W7-6		222.05	678.64	456.59
299-W7-7		218.18	674.94	456.76
299-W7-8		231.97	687.35	455.38
299-W7-9		233.20	692.09	458.89
299-W8-1		242.40	701.33	458.93
299-W9-1		276.39	737.73	461.34
3099-47-18B		32.88	374.95	342.07
399-1-1		34.96	376.73	341.77
399-1-10A		31.03	373.65	342.62
399-1-11	N	34.92	377.79	342.87
399-1-12		41.92	384.45	342.53

Appendix A: June 1993 Water Level Measurement Data
(Sheet 12 of 22)

Well	Notes	Depth to Water, ft	Elevation, ft above msl	
			Adjusted Casing	Water Level
399-1-13A		45.99	388.62	342.63
399-1-14A		40.24	383.23	342.99
399-1-15		36.45	379.59	343.14
399-1-16A		39.41	381.51	342.10
399-1-16B	N	38.89	381.14	342.25
399-1-16C	N	28.69	382.29	353.60
399-1-17A		35.09	377.47	342.38
399-1-17B	N	35.32	377.87	342.55
399-1-17C	N	1.99	378.13	376.14
399-1-18A		47.18	390.83	343.65
399-1-18B	N	46.05	389.94	343.89
399-1-18C	N	43.60	388.05	344.45
399-1-19	N	32.08	374.64	342.56
399-1-2		47.15	387.02	339.87
399-1-21A	N	40.13	382.39	342.26
399-1-21B	N	41.04	383.33	342.29
399-1-3		42.50	384.73	342.23
399-1-4		37.66	381.11	343.45
399-1-5		37.28	379.82	342.54
399-1-6	N	30.88	373.81	342.93
399-1-7	N	43.44	385.63	342.19
399-1-8	N	42.68	384.91	342.23
399-1-9	N	26.15	384.80	358.65
399-2-1		33.23	375.30	342.07
399-2-3		33.39	375.44	342.05
399-3-1		42.44	384.43	341.99
399-3-10		43.54	385.40	341.86
399-3-6		50.48	392.85	342.37
399-3-7		51.00	394.22	343.22
399-3-9		46.19	388.17	341.98
399-4-1		53.79	395.68	341.89
399-4-10		36.98	377.59	340.61
399-4-11		62.49	404.53	342.01
399-4-7		37.02	378.64	341.62
399-4-9		40.41	382.24	341.83

Appendix A: June 1993 Water Level Measurement Data
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Well	Notes	Depth to Water, ft	Elevation, ft above msl	
			Adjusted Casing	Water Level
399-5-1	N	53.10	395.60	342.50
399-6-1		48.07	388.84	340.77
399-8-1		53.52	396.20	342.68
399-8-2		56.56	398.09	341.53
399-8-3		53.54	394.82	341.28
399-8-5A	N	57.04	400.31	343.27
399-8-5B	N	56.02	399.85	343.83
399-8-5C	N	29.34	399.91	370.57
699-10-54A		102.99	516.40	413.41
699-10-E12		73.71	430.86	357.15
699-101-48B		10.87	390.15	379.28
699-11-45A		166.65	578.58	411.93
699-14-38		110.14	514.89	404.75
699-14-47		175.22	587.23	412.01
699-15-15A		149.27	547.14	397.87
699-15-26		123.78	523.83	400.05
699-17-5		45.47	433.19	387.72
699-17-70		88.77	563.18	474.41
699-19-43		148.45	551.58	403.13
699-19-58	N	154.48	573.05	418.57
699-19-88	N	130.76	644.45	513.69
699-2-3		86.99	477.14	390.15
699-2-33A	N	131.99	536.37	404.38
699-20-20	N	105.53	505.58	400.05
699-20-39	N	138.12	539.98	401.86
699-20-E12		79.83	437.25	357.42
699-21-17	N	131.06	527.31	396.25
699-23-34		131.32	532.84	401.52
699-24-1T		101.95	475.54	373.59
699-24-33		122.84	524.27	401.43
699-24-34A		132.36	533.88	401.52
699-24-34B		131.97	533.50	401.53
699-24-34C		131.08	532.59	401.51
699-24-35		137.27	538.81	401.54
699-25-33A	N	127.04	528.97	401.93

Appendix A: June 1993 Water Level Measurement Data
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Well	Notes	Depth to Water, ft	Elevation, ft above msl	
			Adjusted Casing	Water Level
699-25-34A		128.32	530.31	401.99
699-25-34B	N	127.88	529.40	401.52
699-25-34C		133.94	535.46	401.52
699-25-34D	N	136.27	537.91	401.64
699-25-55	N	264.09	676.55	412.46
699-25-70	N	183.34	629.56	446.22
699-26-15A	N	45.19	442.64	397.45
699-26-33		134.51	535.76	401.25
699-26-34		126.87	528.40	401.53
699-26-34B	N	128.68	530.27	401.59
699-26-35A		131.09	532.66	401.57
699-26-35C	N	131.12	532.68	401.56
699-26-89	N	182.93	653.08	470.15
699-27-8		72.54	465.67	393.13
699-28-40	N	157.60	559.44	401.84
699-28-52A	N	281.08	684.67	403.59
699-29-70AP	P	191.03	629.75	438.72
699-29-70AQ		184.21	630.15	445.94
699-29-70CP	P	229.90	630.94	401.04
699-29-70CQ	P	232.51	630.99	398.48
699-29-70CR	P	230.88	631.15	400.27
699-29-70CS	P	233.34	631.31	397.97
699-29-70CT	P	234.12	631.48	397.36
699-29-70CU	P	235.20	631.64	396.44
699-29-78	N	187.14	647.05	459.91
699-3-45		92.48	504.54	412.06
699-31-31		127.93	529.32	401.39
699-31-84B	N	204.49	625.12	420.63
699-32-22		117.95	517.55	399.60
699-32-43		114.67	516.62	401.95
699-32-62	N	279.44	707.09	427.65
699-32-70B	N	217.63	666.61	448.98
699-32-72	N	217.55	668.16	450.61
699-32-77		195.96	653.74	457.78
699-33-42	N	113.98	516.00	402.02

Appendix A: June 1993 Water Level Measurement Data
(Sheet 15 of 22)

Well	Notes	Depth to Water, ft	Elevation, ft above msl	
			Adjusted Casing	Water Level
699-33-56	N	313.99	717.03	403.04
699-34-39A		135.17	537.07	401.90
699-34-41B	N	168.90	570.89	401.99
699-34-42	N	138.18	540.20	402.02
699-34-51		334.43	736.76	402.33
699-34-88		164.57	632.82	468.25
699-35-66		288.22	725.65	437.43
699-35-70		244.99	693.72	448.73
699-35-78A		198.33	660.65	462.32
699-35-9		115.06	499.83	384.77
699-36-61A		341.66	748.11	406.45
699-36-93		174.31	644.77	470.46
699-37-43	N	287.54	690.58	403.04
699-37-82A		172.33	636.75	464.42
699-38-65		324.14	753.33	429.19
699-38-70		260.65	710.67	450.02
699-39-39		124.55	536.65	412.10
699-39-79		210.18	673.52	463.34
699-40-1		75.55	438.71	363.16
699-40-33A		107.82	518.05	410.23
699-40-36	N	117.86	528.92	411.06
699-40-39		129.27	541.84	412.57
699-40-40A	N	129.80	541.21	411.41
699-40-40B	N	130.48	542.18	411.70
699-40-62		342.84	747.78	404.94
699-41-23		69.54	466.50	396.96
699-41-35	N	108.27	520.38	412.11
699-41-40		130.52	545.94	415.42
699-42-12A		139.19	514.27	375.08
699-42-37	N	104.42	519.42	415.00
699-42-39A	N	139.15	558.14	418.99
699-42-39B	N	139.57	558.32	418.75
699-42-40A		124.23	545.43	421.20
699-42-40B	N	124.74	546.46	421.72
699-42-40C	P	133.24	546.16	412.92

Appendix A: June 1993 Water Level Measurement Data
(Sheet 16 of 22)

Well	Notes	Depth to Water, ft	Elevation, ft above msl	
			Adjusted Casing	Water Level
699-42-41	N	146.92	567.30	420.38
699-42-42B		166.34	583.23	416.89
699-43-104		271.15	766.07	494.92
699-43-40	N	122.46	542.20	419.74
699-43-41E		130.20	550.86	420.66
699-43-41F		130.28	551.01	420.73
699-43-41G	N	135.05	551.34	416.29
699-43-42		143.71	564.48	420.77
699-43-42J		163.02	581.68	418.66
699-43-43		164.39	579.37	414.98
699-43-45		194.44	597.68	403.24
699-43-89		178.70	644.15	465.45
699-43-91AP	N	231.40	671.51	440.11
699-43-91AQ	N	231.43	671.94	440.51
699-43-91D	N	261.79	671.99	410.20
699-44-42		158.56	579.22	420.66
699-44-43B		164.64	580.12	415.48
699-44-64		319.93	725.60	405.67
699-44-91P	N	267.94	672.15	404.21
699-44-91Q	N	268.17	672.33	404.16
699-44-91R	N	266.85	672.49	405.64
699-44-91S	N	274.05	672.68	398.63
699-44-91T	N	274.92	672.84	397.92
699-44-91U	N	275.24	673.01	397.77
699-45-42		161.40	577.33	415.93
699-46-21B		131.73	522.02	390.29
699-47-35A	N	63.40	476.36	412.96
699-47-35B		63.71	476.65	412.94
699-47-46A	N	176.99	580.14	403.15
699-47-50		180.94	584.22	403.28
699-47-60		249.70	651.52	401.82
699-47-80AP	N	272.04	713.03	440.99
699-47-80AQ	N	262.35	713.51	451.16
699-47-80CP	N	307.74	712.58	404.84
699-47-80CQ	N	308.75	712.75	404.00

Appendix A: June 1993 Water Level Measurement Data
(Sheet 17 of 22)

Well	Notes	Depth to Water, ft	Elevation, ft above msl	
			Adjusted Casing	Water Level
699-47-80CR	N	308.70	712.92	404.22
699-47-80CS	N	314.28	713.10	398.82
699-47-80CT	N	314.62	713.25	398.63
699-47-80CU	N	314.79	713.43	398.64
699-48-7	N	26.50	384.72	358.22
699-48-71		243.82	688.15	444.33
699-49-13E		51.55	412.72	361.17
699-49-28		141.79	535.40	393.61
699-49-55A		129.08	531.03	401.95
699-49-55B	P	129.12	531.12	402.00
699-49-79		233.47	688.59	455.12
699-50-28B		143.70	537.30	393.60
699-50-30		134.82	528.84	394.02
699-50-42		56.47	466.84	410.37
699-50-45	P	43.35	451.41	408.06
699-50-48B	N	145.00	550.39	405.39
699-50-85		284.93	739.35	454.42
699-51-46	P	38.27	444.63	406.36
699-51-63		167.63	571.84	404.21
699-51-75		193.20	641.51	443.31
699-52-19		49.70	411.08	361.38
699-52-46A	P	47.43	455.61	408.18
699-52-48	P	61.95	466.06	404.11
699-52-54	N	166.75	568.29	401.54
699-52-57	N	157.14	558.46	401.32
699-53-35		130.92	530.99	400.07
699-53-47A	N	32.69	438.28	405.59
699-53-47B	N	32.98	438.58	405.60
699-53-48A		39.81	442.85	403.04
699-53-48B	N	38.07	442.71	404.64
699-53-50	P	40.63	444.21	403.58
699-53-55A		175.27	576.56	401.29
699-53-55B	N	175.86	576.84	400.98
699-53-55C		174.84	576.13	401.29
699-54-19	N	22.18	383.60	361.42

Appendix A: June 1993 Water Level Measurement Data
(Sheet 18 of 22)

Well	Notes	Depth to Water, ft	Elevation, ft above msl	
			Adjusted Casing	Water Level
699-54-34	Q	140.47	550.24	409.77
699-54-37A	Q	124.25	534.17	409.92
699-54-42	Q	115.33	511.49	396.16
699-54-45A	Q	96.56	494.29	397.73
699-54-48		55.77	457.02	401.25
699-54-57	P	174.81	576.24	401.43
699-55-21	N	35.77	395.96	360.19
699-55-40	Q	134.12	543.13	409.01
699-55-44	Q	123.94	519.67	395.73
699-55-50C		43.19	444.43	401.24
699-55-55	N	162.82	563.76	400.94
699-55-57		166.94	568.22	401.28
699-55-70		137.64	569.03	431.39
699-55-76		139.92	583.24	443.32
699-55-89	N	163.16	617.43	454.27
699-55-95	N	312.05	777.05	465.00
699-56-43	P	132.27	540.42	408.15
699-56-53	P	32.74	434.34	401.60
699-57-25A	N	50.87	414.57	363.70
699-57-29A	N	54.30	415.44	361.14
699-57-29B	N	54.76	416.18	361.42
699-57-83A		145.82	577.96	432.14
699-58-24	N	57.45	418.80	361.35
699-59-32		62.67	424.29	361.62
699-59-58		97.01	498.02	401.01
699-59-80B		153.78	583.25	429.47
699-60-32		63.85	425.30	361.45
699-60-57	N	68.19	469.57	401.38
699-60-60		110.98	512.04	401.06
699-61-37	N	61.56	442.94	381.38
699-61-41	N	33.30	428.92	395.62
699-61-62		96.45	497.51	401.06
699-61-66		121.96	522.18	400.22
699-62-31		72.71	434.12	361.41
699-62-43A		36.40	432.30	395.90

Appendix A: June 1993 Water Level Measurement Data
(Sheet 19 of 22)

Well	Notes	Depth to Water, ft	Elevation, ft above msl	
			Adjusted Casing	Water Level
699-63-25A		33.86	395.15	361.29
699-63-51		25.53	424.54	399.01
699-63-55		26.92	426.54	399.62
699-63-58		91.94	491.90	399.96
699-63-90		110.43	509.73	399.30
699-63-92	N	83.56	484.20	400.64
699-64-27	N	52.95	414.29	361.34
699-64-62		100.53	500.25	399.72
699-65-22		29.47	391.10	361.63
699-65-23	N	25.86	387.93	362.07
699-65-50		68.09	467.06	398.97
699-65-59A		107.36	506.96	399.60
699-65-72		142.24	540.28	398.04
699-65-83		87.99	485.63	397.64
699-65-95	P	51.72	452.26	400.54
699-66-103		62.18	463.01	400.83
699-66-23	N	26.42	389.01	362.59
699-66-38		34.01	436.24	402.23
699-66-39		47.15	453.78	406.63
699-66-58		103.79	503.33	399.54
699-66-64		106.83	505.92	399.09
699-66-91	N	68.43	467.75	399.32
699-67-51		125.52	524.59	399.07
699-67-86		74.84	472.39	397.55
699-67-98		54.77	455.47	400.70
699-68-105	Q	62.47	451.85	389.38
699-69-38		21.04	423.52	402.48
699-69-450		88.58	487.18	398.60
699-70-23		28.71	391.71	363.00
699-70-68		128.06	526.21	398.15
699-71-30		30.39	400.68	370.29
699-71-52		124.59	523.04	398.45
699-71-77		76.21	472.28	396.07
699-72-73		86.20	482.57	396.37
699-72-88		36.41	437.37	400.96

Appendix A: June 1993 Water Level Measurement Data
(Sheet 20 of 22)

Well	Notes	Depth to Water, ft	Elevation, ft above msl	
			Adjusted Casing	Water Level
699-72-92		51.99	452.22	400.23
699-72-98		50.09	454.19	404.10
699-73-61		133.30	531.53	398.23
699-74-44		48.80	445.18	396.38
699-74-48		89.82	487.18	397.36
699-77-36		36.53	412.28	375.75
699-77-54		84.03	480.59	396.56
699-78-62		75.41	469.88	394.47
699-8-17		124.76	522.44	397.68
699-8-25		110.39	509.30	398.91
699-8-32	N	154.87	554.39	399.52
699-80-43S		24.93	412.52	387.59
699-81-38		27.41	406.47	379.06
699-81-58		46.66	439.55	392.89
699-82-45A	N	25.06	413.73	388.67
699-83-36		41.03	418.63	377.60
699-83-47		46.79	435.27	388.48
699-84-35A	Q	7.07	400.28	393.21
699-86-42		25.41	409.92	384.51
699-87-42A		32.71	416.53	383.82
699-87-55		72.20	458.63	386.43
699-88-41		33.90	416.04	382.14
699-89-35		26.34	397.46	371.12
699-9-E2		45.83	418.09	372.26
699-90-34	N	20.90	392.39	371.49
699-90-45		37.68	421.60	383.92
699-91-37		48.98	422.93	373.95
699-91-46	N	33.21	417.06	383.85
699-92-49		48.75	431.94	383.19
699-93-48	N	54.97	437.79	382.82
699-96-43	N	42.80	421.84	379.04
699-96-49		37.24	419.26	382.02
699-97-43		43.06	421.84	378.78
699-97-51A		20.25	402.33	382.08
699-98-49A	N	19.94	401.80	381.86

Appendix A: June 1993 Water Level Measurement Data
(Sheet 21 of 22)

Well	Notes	Depth to Water, ft	Elevation, ft above msl	
			Adjusted Casing	Water Level
699-S12-29		83.38	487.68	404.30
699-S12-3		54.75	435.52	380.77
699-S14-20A		92.01	492.74	400.73
699-S18-E2A		75.47	434.85	359.38
699-S19-11	N	93.78	483.74	389.96
699-S19-E13		50.29	394.51	344.22
699-S19-E14		30.06	373.86	343.80
699-S22-E9A		29.05	374.19	345.14
699-S22-E9B	N	27.96	373.71	345.75
699-S27-E14		57.89	399.76	341.87
699-S27-E9A		42.66	390.26	347.60
699-S27-E9B	N	41.14	390.42	349.28
699-S27-E9C	N	6.20	390.56	384.36
699-S28-E12		45.21	389.76	344.55
699-S29-E16A		38.34	379.73	341.39
699-S29-E16B	N	38.40	379.88	341.48
699-S29-E16C	N	3.45	379.48	376.03
699-S3-25		124.75	523.50	398.75
699-S3-E12		43.65	397.90	354.25
699-S30-E10A		43.78	392.29	348.51
699-S30-E10B		43.03	392.07	349.04
699-S30-E15A		57.77	400.14	342.37
699-S31-1		81.49	460.00	378.51
699-S31-E10A		36.59	384.57	347.98
699-S31-E10B		34.95	383.71	348.76
699-S31-E10C	N	34.27	382.91	348.64
699-S31-E10D		32.03	380.58	348.55
699-S31-E8		20.82	374.75	353.93
699-S32-E13A		43.58	390.46	346.88
699-S32-E13B		47.75	394.72	346.97
699-S32-E8	N	15.53	375.50	359.97
699-S34-E10		29.48	382.37	352.89
699-S34-E15		52.31	404.55	352.24
699-S36-E12B		42.98	399.07	356.09
699-S36-E13A		43.66	399.30	355.64

Appendix A: June 1993 Water Level Measurement Data
(Sheet 22 of 22)

Well	Notes	Depth to Water, ft	Elevation, ft above msl	
			Adjusted Casing	Water Level
699-S37-E11		43.77	399.30	355.53
699-S37-E14		51.46	408.28	356.82
699-S38-E11	N	43.86	398.60	354.74
699-S38-E12A		47.84	404.95	357.11
699-S38-E12B	N	47.84	405.00	357.16
699-S40-E14		41.05	402.85	361.80
699-S41-E11		46.95	401.36	354.41
699-S41-E12		46.78	401.93	355.15
699-S41-E13A		51.27	410.56	359.29
699-S41-E13B	N	50.72	410.10	359.38
699-S41-E13C	N	51.65	410.67	359.02
699-S43-E12		52.01	405.69	353.68
699-S6-E14A		27.92	378.29	350.37
699-S6-E4D		58.04	430.47	372.43
699-S7-34		118.83	527.12	408.29
699-S8-19		107.23	503.81	396.58

Notes: N = Well not included on map
P = Well in confined aquifer, not included on map
Q = Questionable data, not included on map

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