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Ground Water Maps of the Hanford Site

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Approved for Public Release

INTRODUCTION

This report presents the results of the June 1990, ground wate level measurement program at the 100 Areas and the 200 Areas of the Hanford Site (Figure 1). The water levels beneath these areas are measured regularly on a semiannual basis and the data received are used to produce the following set of maps for public release. 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; wells in the 200 Areas have the prefix 299, and the wells outside these areas have the prefix 699.

Ground Water Maps of the Hanford Site is prepared by the Geosciences Group, Environmental Division, Westinghouse Hanford Company, for the U.S. Department of Energy, Richland Operations Office.

100 AREAS

This report location comprises the various 100 Area reactor facilities and the surrounding land south of the Columbia River and north of Gable Mountain and Gable Butte. Reactor operations have ceased at all of the facilities and environmental restoration activities are in progress. The maps for this area are Figure 2, 100 Areas Depth-to-Water Map, and Figure 3, 100 Areas Water Table Map. The maps are based on June 1990 field measurements from wells that meet the following criteria: (a) wells north of Hanford Coordinate N60000; (b) wells completed in the unconsolidated sediments; and (c) wells completed within 100 ft of the average water table. Data were averaged where there was more than one measurement in June. A representative set of wells from the 100 Areas were chosen where there are heavy concentrations of wells (e.g., 100-N and 100-H areas).

An interesting feature on the 100 Areas water table map is the area of high water levels just north of Gable Mountain. This feature has been present on water table maps of the Hanford Site for many years (e.g., Bierschenk 1959). Three of the wells that have the most "unusual" data (699-66-39, 699-66-38, and 699-69-38) were resurveyed by Kaiser Engineers Hanford on July 3, 1990. No significant errors in the database elevations were discovered; thus, the water level elevations appear to be valid. The driller's log for well 699-66-39 is less complete; it shows sand and gravel at the surface, and primarily clay from 60 to 90 ft. Well 699-69-38 is a dug well and there is no record of its geology. It is possible that these wells monitor a zone of perched water, trapped in and on top of the fine-grained sediments. However, the water table map in this document was drawn as if these wells express the true water table.

Another unusual feature of the June 1990 water table map is the trough in the water table near the Columbia River in the eastern part of the 100 Areas. River levels were extremely high in May and June. A reversed gradient existed near the river, causing water levels in the aquifer adjacent to the river to rise. A reversed gradient undoubltedly also existed immediately adjacent to the river in the western part of the 100 Areas; however, it was apparently a much smaller feature and is not evident in

data from wells near the river (e.g., wells 199-N-8S and 190-D-3). This feature is less prominent because the average ground water gradient towards the river is generally steeper in the western part of the 100 Areas than in the eastern part. Water level data used to construct the 100 Areas maps are listed in Table 1.

200 AREAS

This report location consists of the 200 East and 200 West areas and the surrounding vicinity on the Hanford Site south of Hanford Coordinate N60000. The semiannual measurement of water levels in the 200 Areas is performed on the more than 180 selected wells that comprise the Operational Groundwater Monitoring Network*. The Operational Groundwater Monitoring Network provides water level measurement for the determination of hydraulic gradient and water quality sampling of the ground water beneath and surrounding the active and inactive chemical processing and waste management facilities in the 200 Areas. Water level data from several non-Network wells are included on the maps to provide supplemental information for ease of interpretation.

The 200 Areas set of maps consists of a 200 Areas Depth-to-Water Map (Figure 4), a 200 Areas Water Table Map (Figure 5), and a map comparing the potentiometric surface of the Rattlesnake Ridge confined aquifer to the water table of the unconfined aquifer (Figure 6). Water level data used to construct these maps is presented in Table 2.

REFERENCE

Bierschenk, W. H., 1959, Aquifer Characteristics and Ground-Water Movement at Hanford, HW-60601, General Electric Company, Hanford Atomic Products Operation, Richland, Washington.

*Operational Groundwater Monitoring at the Hanford Site 1988, December 1989, Westinghouse Hanford Company, Richland, Washington.

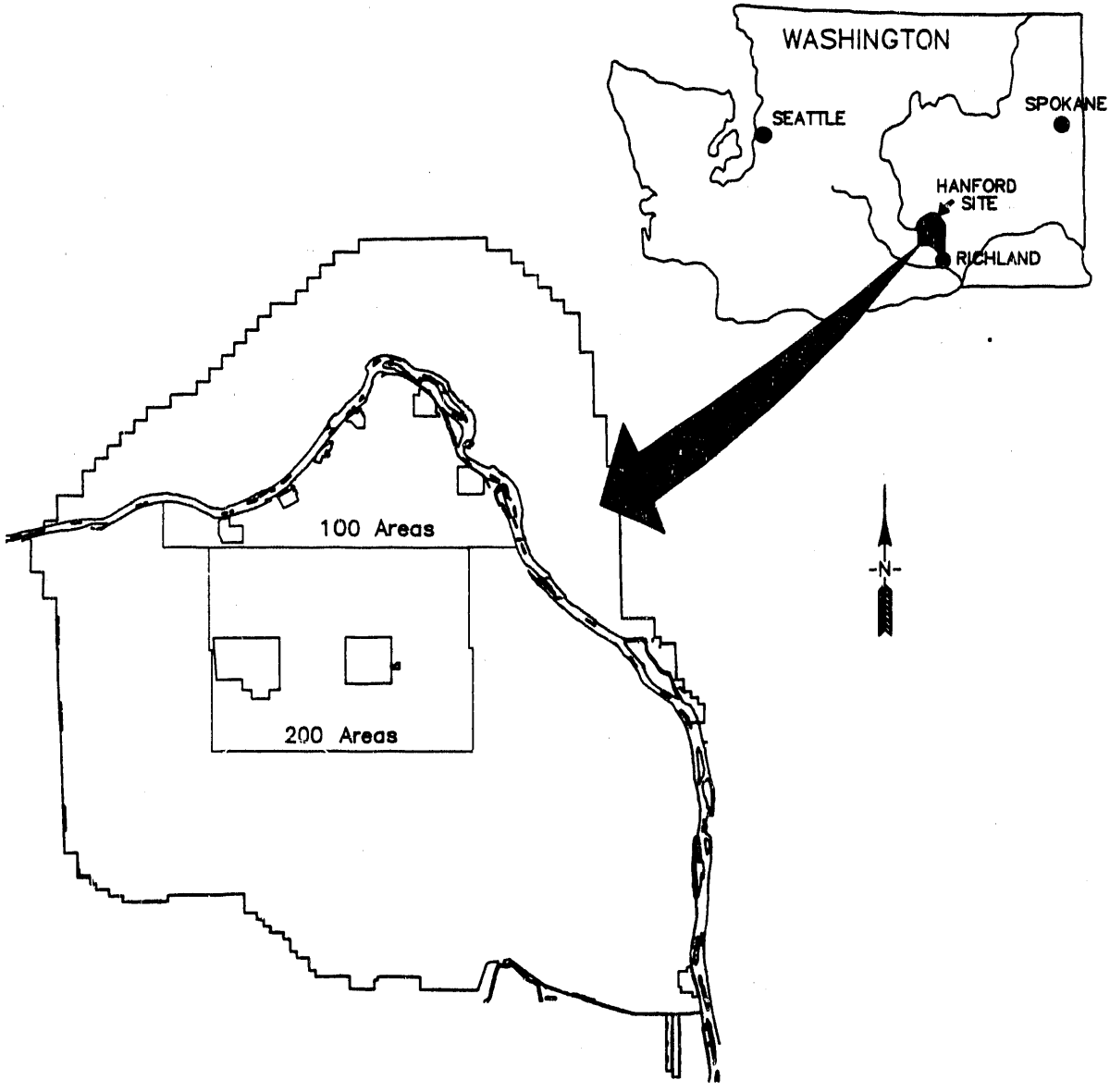

Figure 1. Hanford Index Map

Index Map

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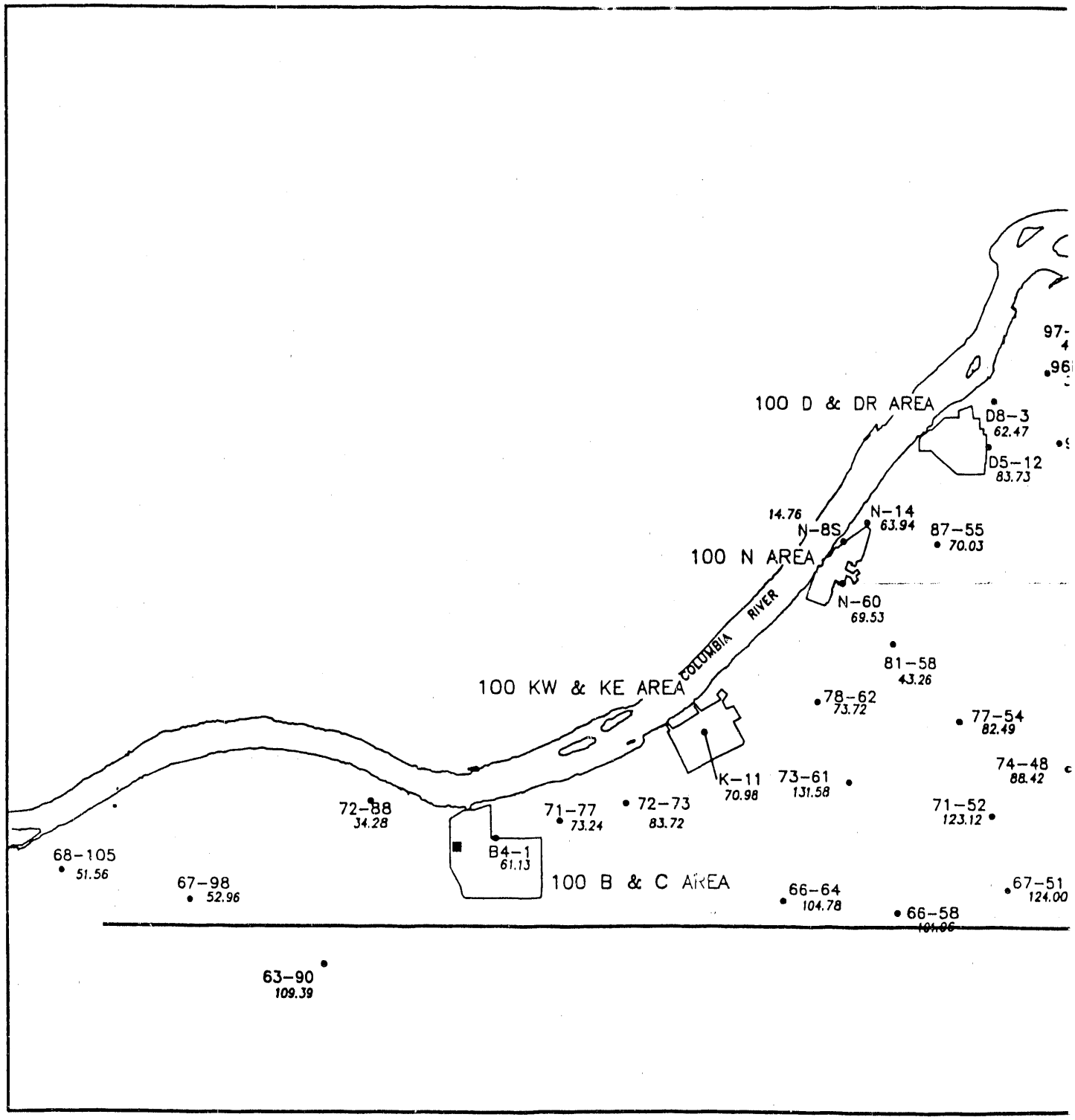
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D5-12
83.73
14.76
N-8S
N-14
63.94
87-55
70.03
100 N AREA
N-60
69.53
COLUMBIA RIVER
81-58
43.26
100 KW & KE AREA
78-62
73.72
77-54
82.49
74-48
88.42
K-11
70.98
73-61
131.58
72-88
34.28
71-77
73.24
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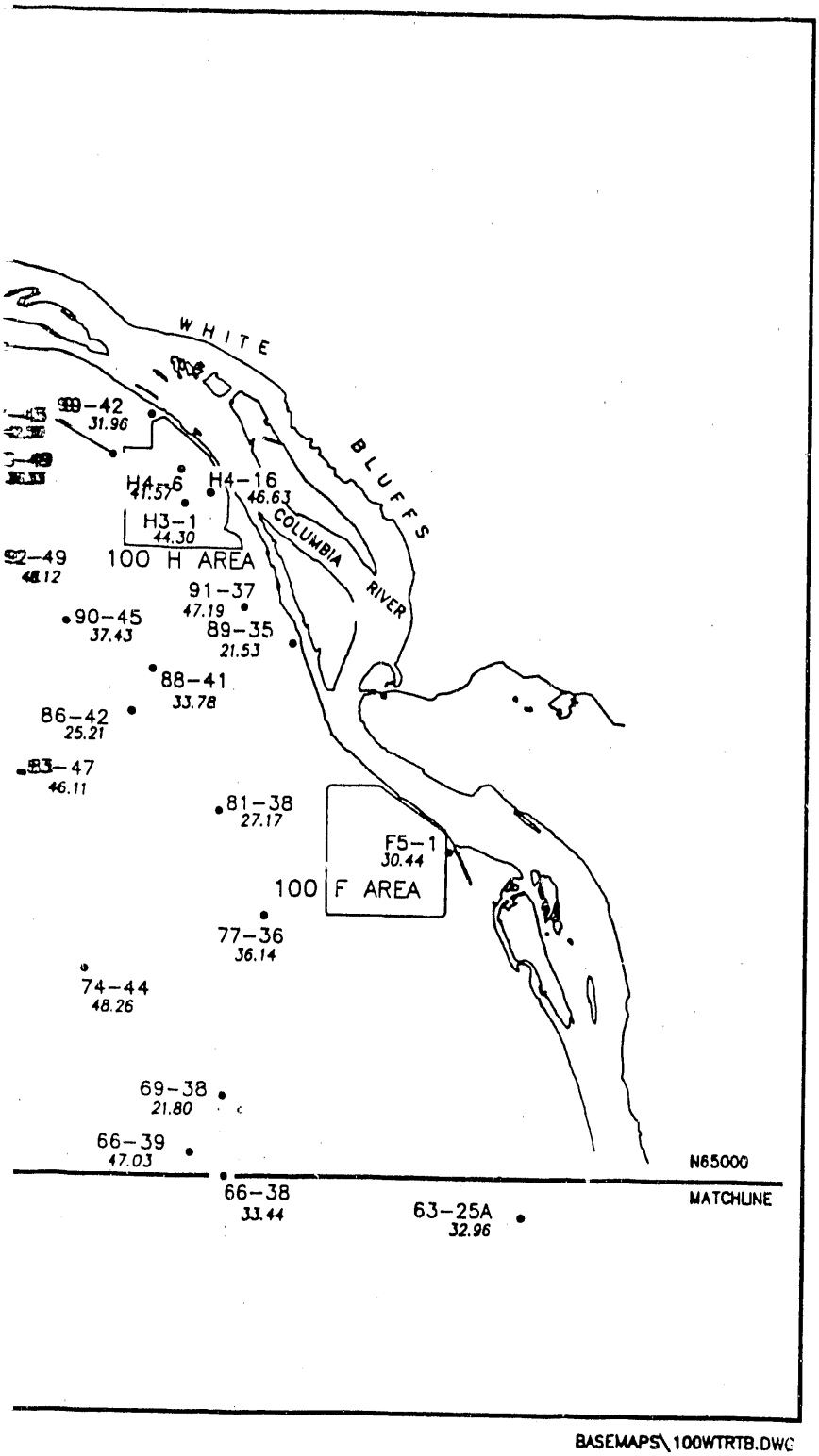


BASEMAPS\100WTRTB.DWG

Figure 2

100 Areas Depth-To-Water Map June 1990

36.14 Depth to water, as measured from well reference mark (generally top of casing) to ground water surface.

77-40 • Data points used to prepare map.

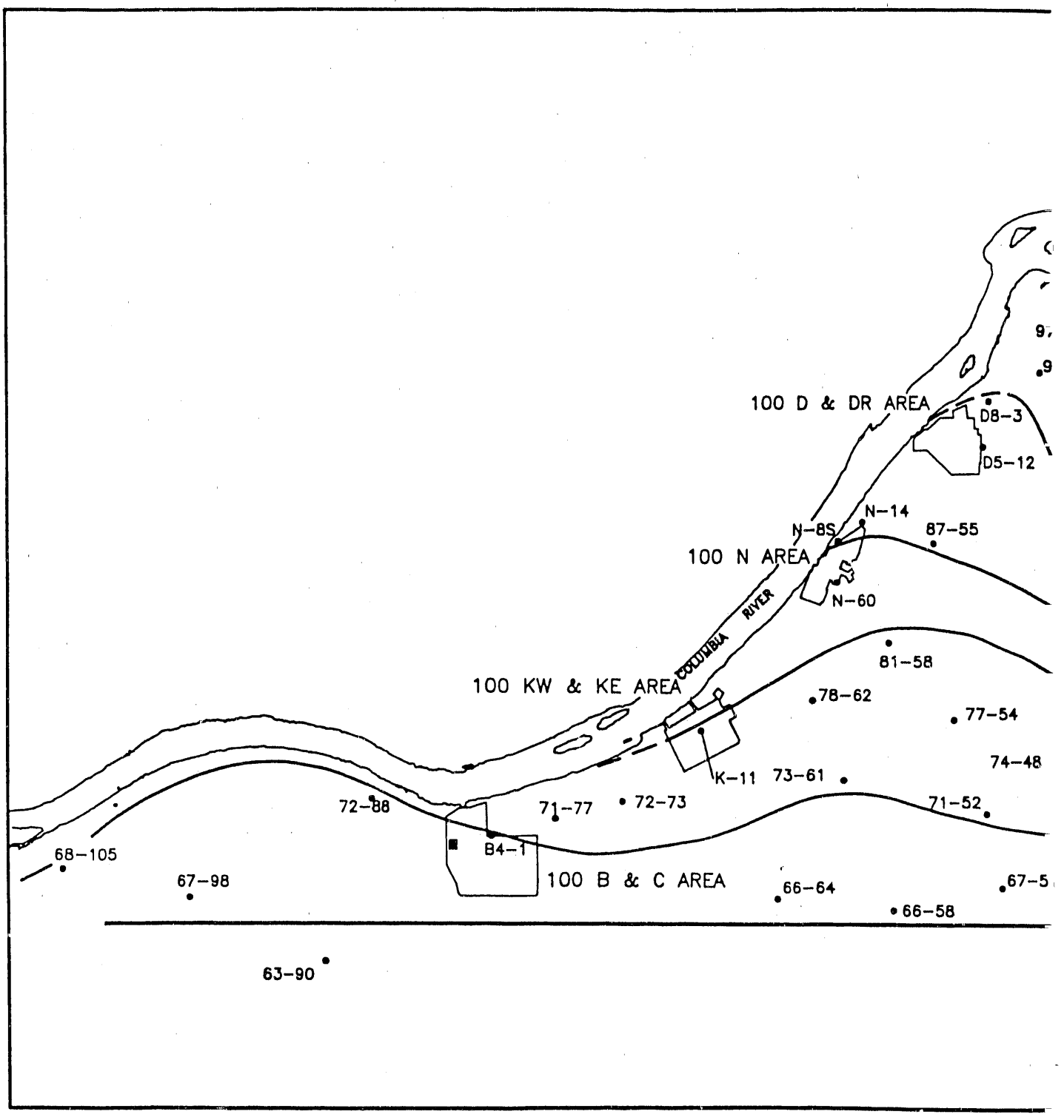
The 100 Areas depth-to-water map has been prepared by the Geosciences Group, Environmental Division, Westinghouse Hanford Company.

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

0 1 Mile

0 1 Kilometer

-N-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D5-12
N-8S
N-14
87-55
100 N AREA
N-60
COLUMBIA RIVER
81-58
100 KW & KE AREA
78-62
77-54
74-48
K-11
73-61
72-88
71-77
72-73
71-52
B4-1
68-105
67-98
100 B & C AREA
66-64
67-5
66-58
63-90

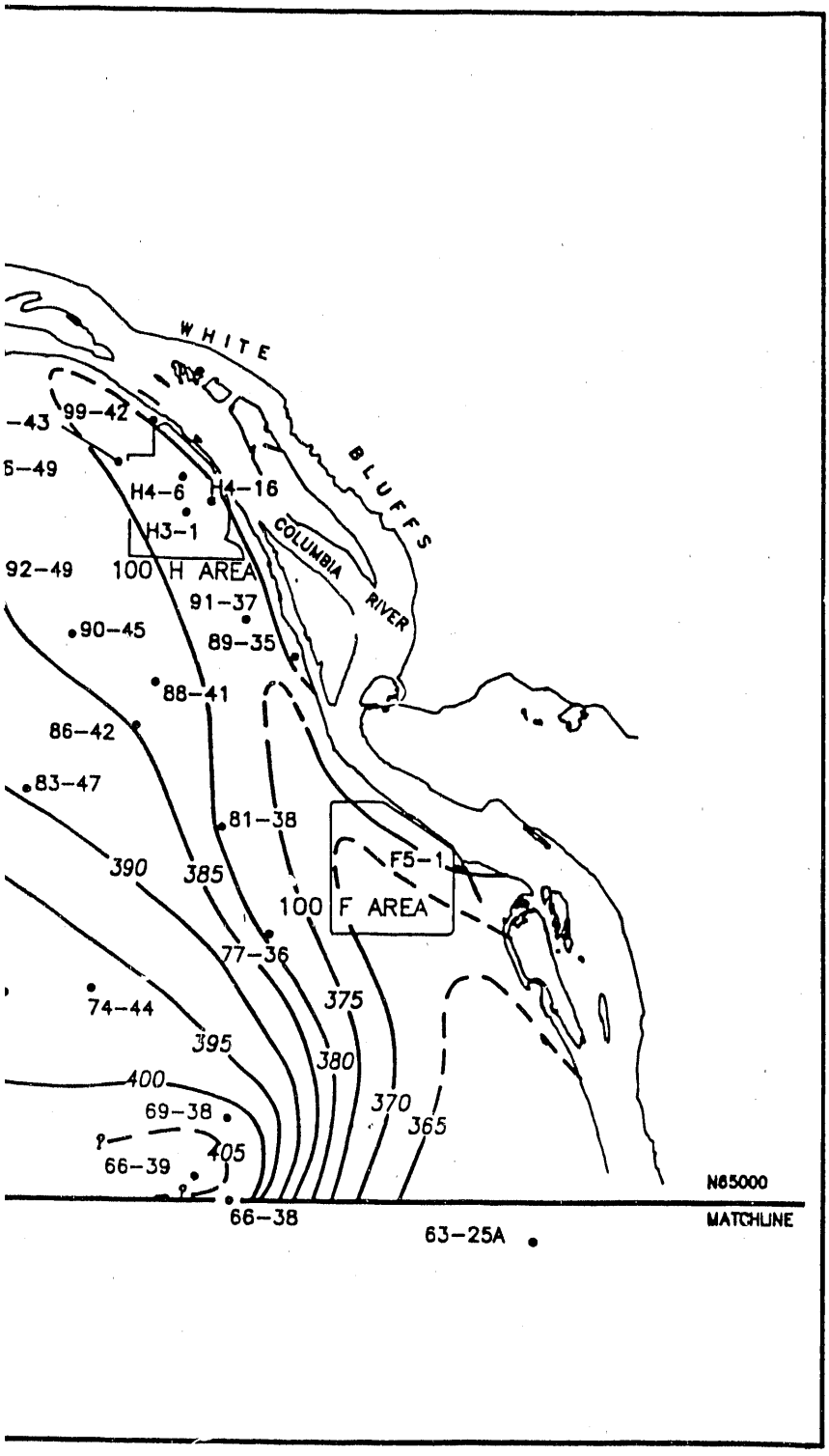


Figure 3

100 Areas
Water Table Map
June 1990

390 — Water table contours in feet above mean sea level.

77-40 • Data points used to prepare map.

The 100 Areas water table map has been prepared by the Geosciences Group, Environmental Division, Westinghouse Hanford Company.

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

0 1 Mile

0 1 Kilometer

-N-

Table 1. June 1990 Water Level Measurement Data, 100 Areas. (Sheet 1 of 4)

Well	Depth to Water, ft	Elevation, ft above msl	
		Adjusted Casing	Water Level
199-B4-01	61.13	461.80	400.67
199-D2-05	73.71	460.87	387.16
199-D5-12	83.73	469.67	385.94
199-D8-03	62.47	449.06	386.59
199-F5-01	30.44	406.56	376.12
199-H3-01	44.30	421.48	377.18
199-H3-02A	39.88	417.83	377.96
199-H4-10[N]	23.31	404.44	381.14
199-H4-11[N]	36.10	416.84	380.74
199-H4-12A	32.51	413.50	380.99
199-H4-13[N]	37.69	418.20	380.52
199-H4-14	42.66	420.59	377.93
199-H4-15A[N]	26.10	407.21	381.11
199-H4-16	46.63	424.23	377.60
199-H4-17	39.31	419.09	379.79
199-H4-18[N]	42.86	421.82	378.97
199-H4-03[N]	41.00	420.29	379.29
199-H4-04[N]	32.77	413.70	380.93
199-H4-05[N]	35.77	416.21	380.44
199-H4-06	41.57	419.58	378.01
199-H4-07	42.07	420.59	378.52
199-H4-08[N]	40.94	420.00	379.07
199-H4-09[N]	38.51	418.08	379.57
199-K-11	70.98	467.66	396.68
199-N-14	63.94	453 15	389.21
199-N-16	64.82	456.70	391.88
199-N-17[N]	69.85	461.20	391.35
199-N-18[N]	67.45	458.50	391.05
199-N-19[N]	62.73	453.90	391.17
199-N-02[N]	68.27	459.83	391.56
199-N-20[N]	64.38	455.90	391.52
199-N-21[N]	65.58	457.00	391.42
199-N-23[N]	65.11	456.30	391.19
199-N-24[N]	41.41	432.50	391.09

LEGEND:

[N] Not located on maps to improve visual clarity.
[Q] Questionable data - not included on map.

Table 1. June 1990 Water Level Measurement Data, 100 Areas. (Sheet 2 of 4)

Well	Depth to Water, ft	Elevation, ft above msl	
		Adjusted Casing	Water Level
199-N-25[N]	35.28	425.80	390.52
199-N-26[N]	64.58	455.80	391.22
199-N-27[N]	57.08	449.08	391.92
199-N-28[N]	71.78	464.24	392.46
199-N-29	72.73	465.25	392.52
199-N-03[N]	68.33	459.45	391.12
199-N-31[N]	70.82	462.63	391.81
199-N-32[N]	70.21	462.08	391.87
199-N-33[N]	68.16	459.87	391.71
199-N-34[N]	67.60	459.63	392.03
199-N-36[N]	67.41	458.97	391.56
199-N-37[N]	64.81	456.12	391.31
199-N-39[N]	63.38	454.31	390.93
199-N-04[N]	67.03	458.73	391.70
199-N-40[N]	65.92	456.35	390.43
199-N-41	67.70	457.59	389.89
199-N-42[N]	65.24	455.14	389.90
199-N-44[N]	69.69	460.70	391.01
199-N-51[N]	72.72	462.18	389.46
199-N-52	71.48	463.70	392.22
199-N-53[N]	71.10	461.76	390.66
199-N-54[N]	65.75	457.51	391.76
199-N-55[N]	66.08	457.85	391.77
199-N-56[N]	66.68	458.09	391.41
199-N-57[N]	65.67	457.76	392.09
199-N-58[N]	70.49	462.88	392.39
199-N-59[N]	67.17	459.53	392.36
199-N-06[N]	68.42	460.97	392.55
199-N-60[N]	69.53	461.94	392.41
199-N-62[N]	71.12	463.59	392.47
199-N-63[N]	74.48	466.70	392.22
199-N-64[N]	62.57	454.63	392.06
199-N-65[N]	64.58	456.44	391.86

LEGEND:

[N] Not located on maps to improve visual clarity.
[Q] Questionable data - not included on map.

Table 1. June 1990 Water Level Measurement Data, 100 Areas. (Sheet 3 of 4)

Well	Depth to Water, ft	Elevation, ft above msl	
		Adjusted Casing	Water Level
199-N-66[N]	73.50	465.25	391.75
199-N-67	67.78	458.46	390.68
199-N-08S	14.76	404.57	389.81
699-60-32	62.79	425.30	362.52
699-60-60	108.95	512.03	403.08
699-61-37	60.89	442.94	382.05
699-61-41	32.65	428.92	396.28
699-61-55B	52.08	455.40	403.32
699-61-57	38.30	441.85	403.55
699-61-62	94.48	497.51	403.03
699-61-66	119.93	522.18	402.25
699-62-31	71.65	434.12	362.47
699-62-43A	35.67	432.30	396.64
699-63-25A	32.96	395.15	362.19
699-63-51	24.09	424.54	400.45
699-63-58	90.06	491.90	401.84
699-63-90	109.39	509.73	400.34
699-64-62	98.59	500.25	401.66
699-65-50	66.59	467.06	400.47
699-65-59A	105.43	506.96	401.53
699-65-72	139.89	540.28	400.39
699-65-83	85.61	485.63	400.03
699-65-95	50.38	452.26	401.88
699-66-103	61.08	463.01	401.93
699-66-23	24.00	389.01	365.01
699-66-38	33.44	436.24	402.80
699-66-39	47.03	453.78	406.75
699-66-58	101.96	503.33	401.37
699-66-64	104.78	505.92	401.14
699-66-91	66.27	467.75	401.48
699-67-51	124.00	524.59	400.59
699-67-86	72.57	472.39	399.82
699-67-98	52.96	455.47	402.51

LEGEND:

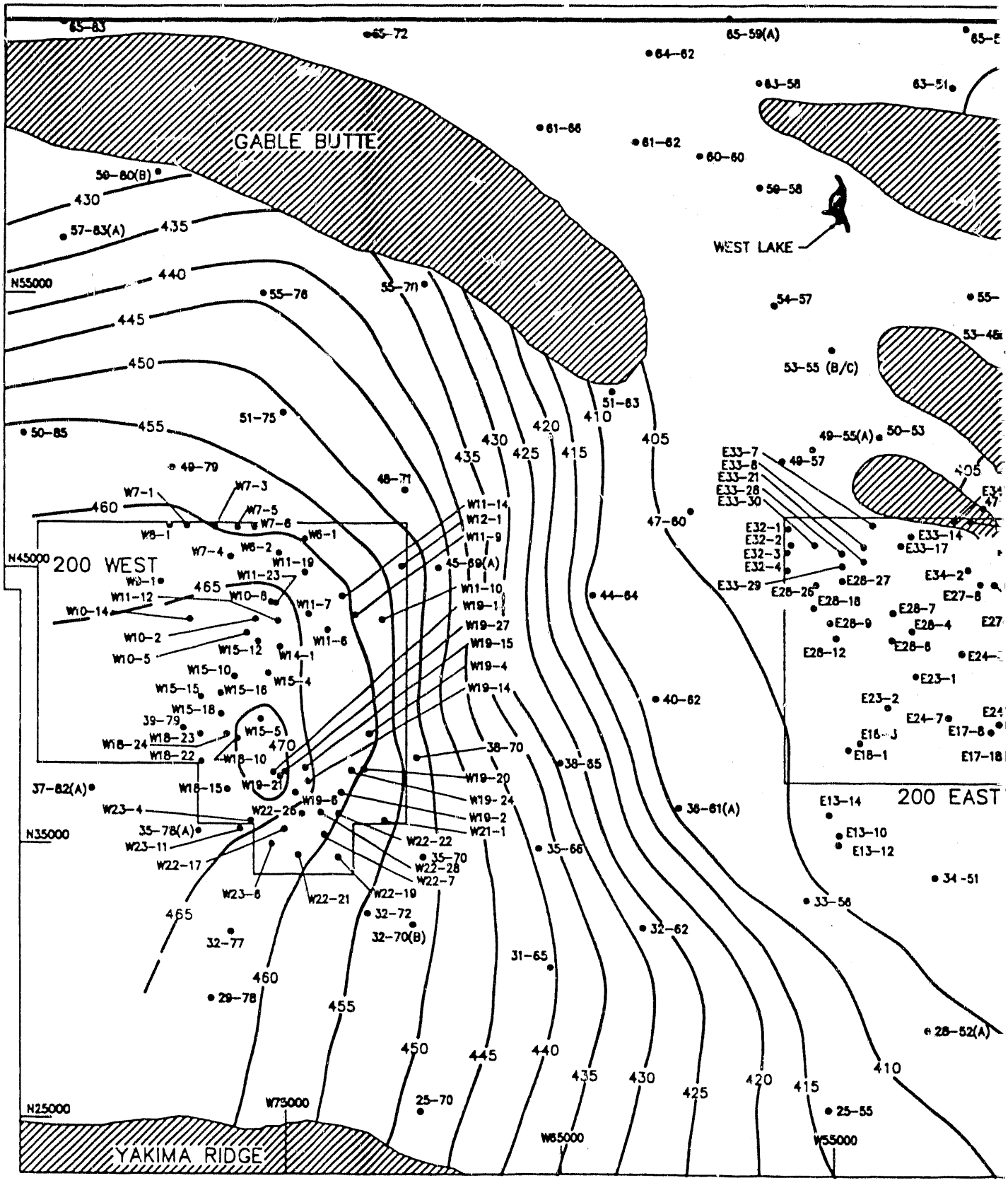
[N] Not located on maps to improve visual clarity.
[Q] Questionable data - not included on map.

Table 1. June 1990 Water Level Measurement Data, 100 Areas. (Sheet 4 of 4)

Well	Depth to Water, ft	Elevation, ft above msl	
		Adjusted Casing	Water Level
699-68-105	51.56	451.85	400.29
699-69-38	21.80	422.95	401.15
699-69-45	87.35	486.94	399.59
699-70-23	24.66	391.71	367.05
699-70-68	125.81	526.21	400.40
699-71-30	30.20	400.68	370.48
699-71-52	123.12	523.04	399.92
699-71-77	73.24	472.28	399.04
699-72-73	83.72	482.57	398.85
699-72-88	34.28	437.37	403.09
699-72-92	49.48	452.22	402.74
699-73-61	131.58	531.53	399.95
699-74-44	48.26	445.18	396.92
699-74-48	88.42	487.18	398.76
699-77-36	36.14	412.28	376.14
699-77-54	82.49	480.59	398.10
699-78-62	73.72	469.88	396.16
699-81-38	27.17	406.47	379.30
699-81-58	43.26	439.55	396.30
699-81-62	29.86	441.46	411.60
699-83-47	46.11	435.27	389.16
699-86-42	25.21	409.92	384.74
699-87-55	70.03	458.63	388.60
699-88-41	33.78	416.04	382.26
699-89-35	21.53	397.46	375.93
699-90-45	37.43	422.15	384.72
699-91-37	47.19	422.93	375.74
699-92-49	48.12	432.00	383.88
699-96-49	36.33	419.29	382.96
699-97-43	42.30	421.81	379.51
699-99-42	31.96	412.88	380.92

LEGEND:

[N] Not located on maps to improve visual clarity.
[Q] Questionable data - not included on map.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200 EAST
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W55000
65-72
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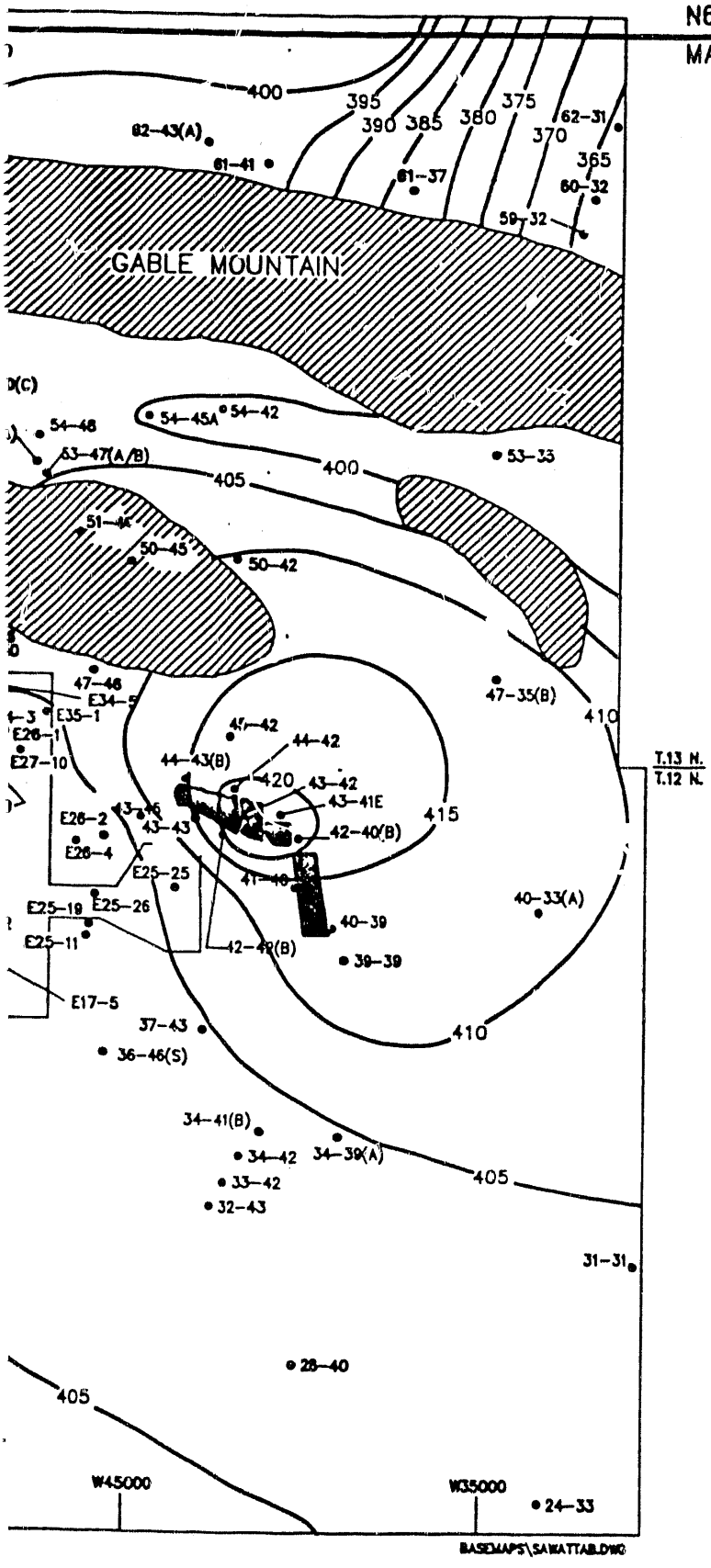


Figure 4

200 Areas Water Table Map June 1990

Water table contours in feet above mean sea level

W22-26 Data points used to prepare map

Ponds

Areas where the basalt surface is generally above the water table

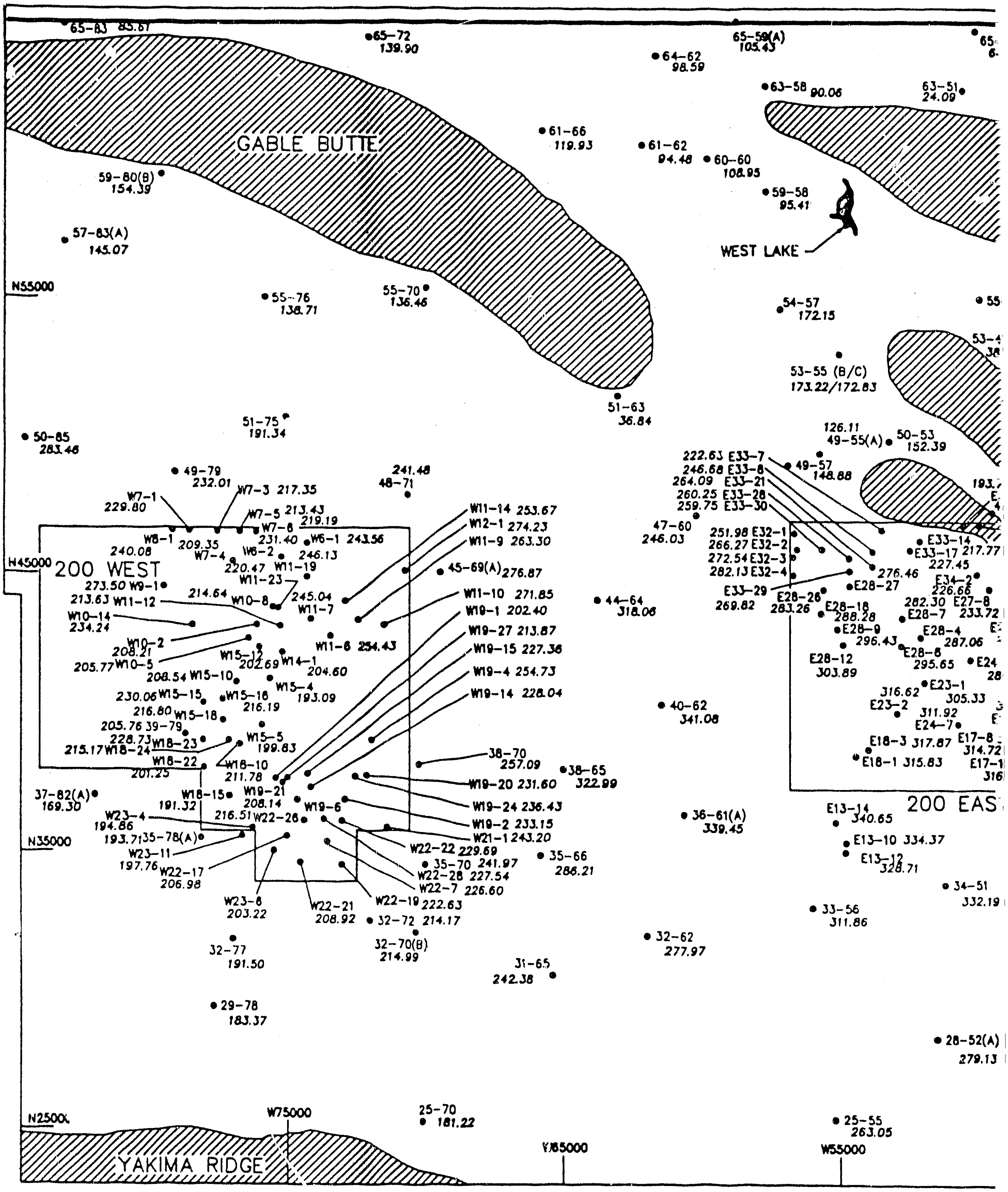
The 200 Areas water table map has been prepared by the Geosciences Group, Environmental Division, Westinghouse Hanford Company.

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

0 1 Mile

0 1 Kilometer

-N-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63-51 24.09
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51-63 36.84
50-85 283.46
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241.48 48-71
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W7-3 217.35
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W7-4 240.08
231.40
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W6-2 246.13
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W11-19
W11-23
W9-1 273.50
W11-12 213.63
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205.76 39-79
228.73 W18-23
W18-24 215.17
W15-5 199.83
W18-22 201.25
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W18-15 191.32
W19-21 208.14
216.51 W22-26
W19-6
W23-4 194.86
193.71
W23-11 197.76
W22-17 206.98
W23-8 203.22
W22-21 208.92
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W12-1 274.23
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W22-19 222.63
222.63 E33-7
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264.09 E33-21
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227.45
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E23-2 311.92
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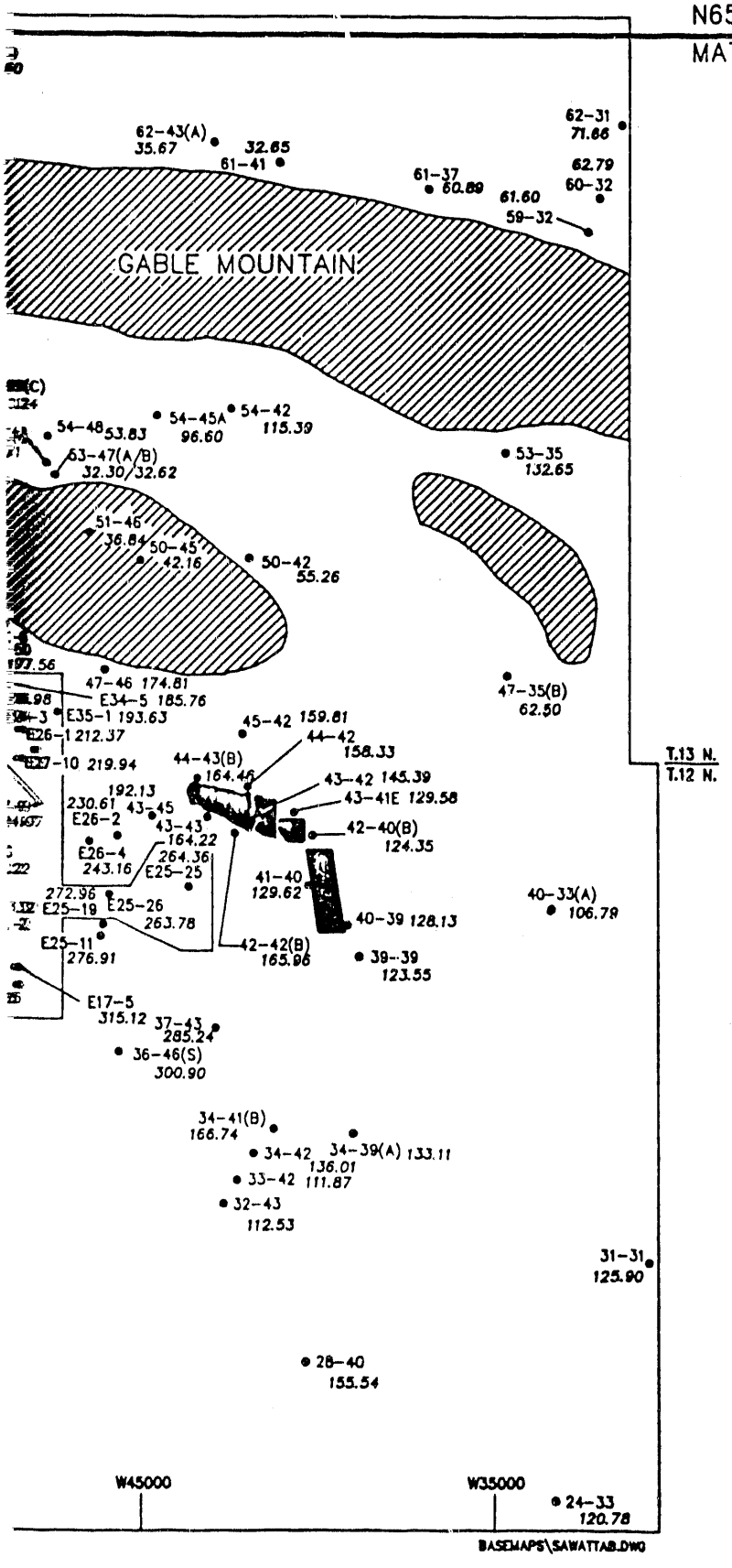


Figure 5
200 Areas
Depth-to-Water Map
June 1990

298.91 — Depth to water, as measured from well reference mark (generally top of casing) to ground water surface.

W22-26 — Data points used to prepare map

Ponds

Areas where the basalt surface is generally above the water table

The 200 Areas depth-to-water map has been prepared by the Geosciences Group, Environmental Division, Westinghouse Hanford Company.

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

0 1 Mile

0 1 Kilometer

-N-

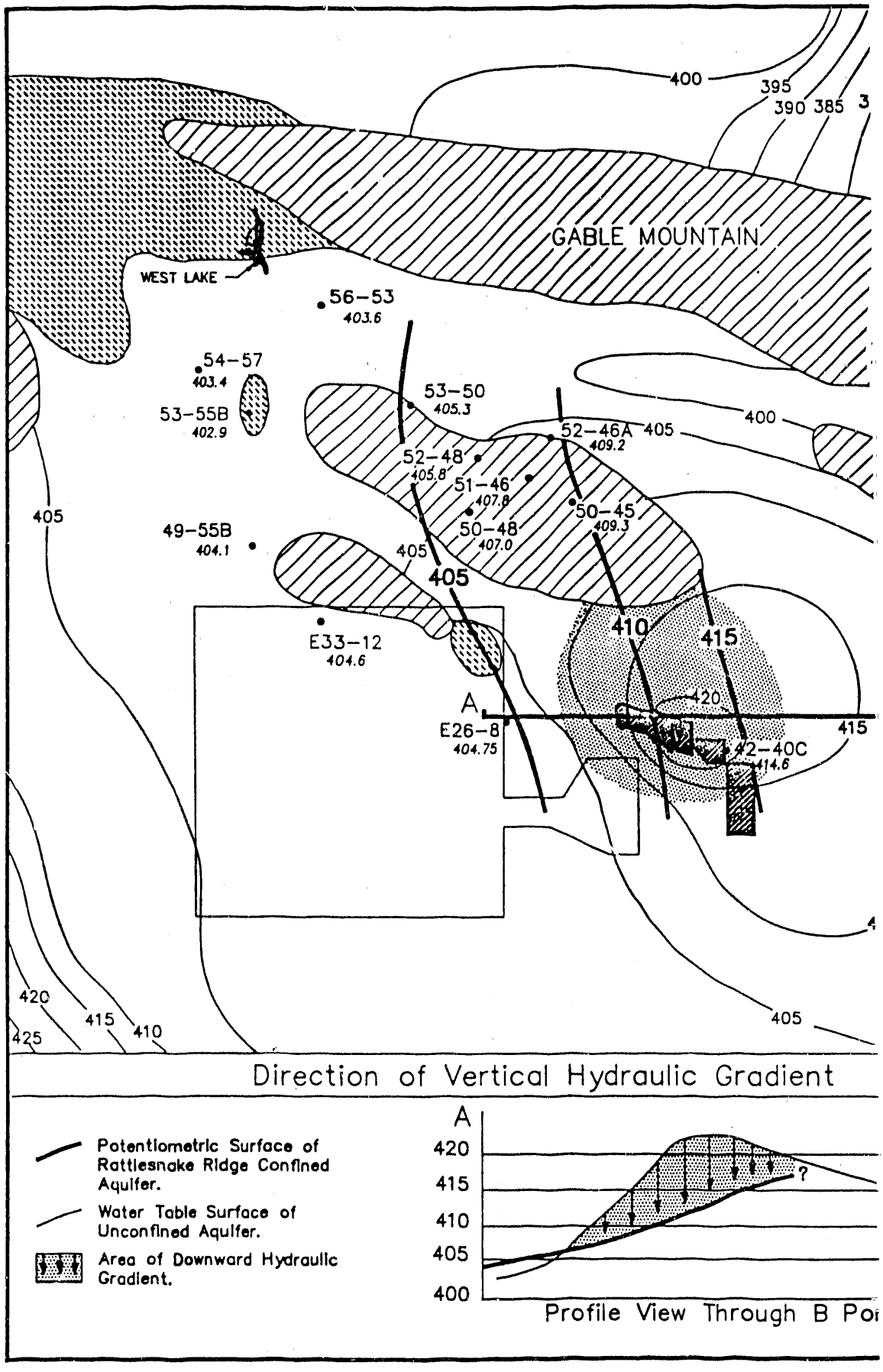
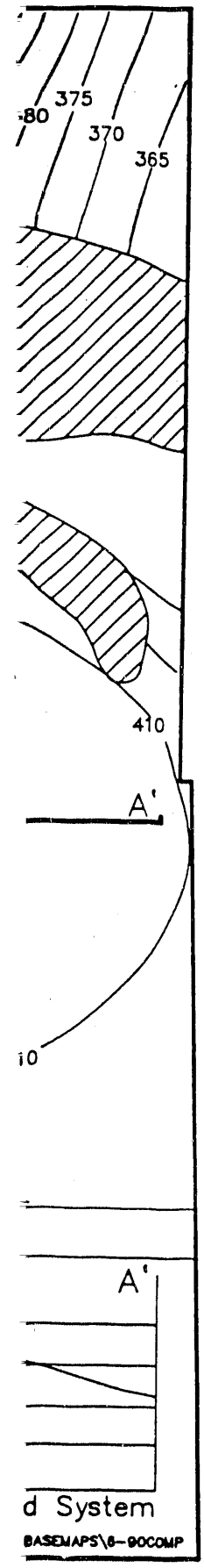

400
395
390 385
GABLE MOUNTAIN
WEST LAKE
56-53
403.6
54-57
403.4
53-55B
402.9
53-50
405.3
52-46A
409.2
405
400
52-48
405.8
51-46
407.8
50-45
409.3
50-48
407.0
49-55B
404.1
405
405
410
415
E33-12
404.6
A
420
E26-8
404.75
415
42-40C
414.6
420
415
410
425
405
Direction of Vertical Hydraulic Gradient
Potentiometric Surface of Rattlesnake Ridge Confined Aquifer.
Water Table Surface of Unconfined Aquifer.
Area of Downward Hydraulic Gradient.
A
420
415
410
405
400
?
Profile View Through B Por

Figure 6

Comparison of Potentiometric Surface of the Rattlesnake Ridge Confined Aquifer with the Water Table of the Unconfined Aquifer

June 1990



Potentiometric surface of the Rattlesnake Ridge confined aquifer in feet above mean sea level

Water table contours in feet above mean sea level

Area of complete erosion of the Elephant Mountain Member (from RHO-RE-ST-12)

Area of downward hydraulic gradient

50-45 / 405 • Wells in confined aquifer used to prepare map

Pond

Generalized basalt above water table, as inferred 6/84

The Rattlesnake Ridge aquifer, which is confined by the Elephant Mountain Member, is monitored quarterly in the eastern portion of the separations area. The June 1990 water-level measurements in 13 wells completed in the Rattlesnake Ridge interbed were used to contour the potentiometric surface of the aquifer. Areal extent of downward hydraulic gradient from the unconfined aquifer to this confined aquifer is inferred from the water-table map and the contours of the potentiometric surface of the Rattlesnake Ridge. This area represents the zone in which downward flow might occur if a pathway is available due to complete erosion of the Elephant Mountain Member or sufficiently high hydraulic conductivity in the basalt. A profile view through the B Pond system shows the relationship between the unconfined water table and the potentiometric surface of the Rattlesnake Ridge confined aquifer.

The potentiometric surface of the Rattlesnake Ridge confined aquifer map has been prepared by the Geosciences group, Environmental Division, Westinghouse Hanford Company.

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

-N-

0 1 Mile

0 1 Kilometer

Table 2. June 1990 Water Level Measurement Data, 200 Areas. (Sheet 1 of 8)

Well	Depth to Water, ft	Elevation, ft above msl	
		Adjusted Casing	Water Level
299-E13-10	334.37	738.84	404.47
299-E13-12	328.71	731.34	402.63
299-E13-14	340.65	745.15	404.50
299-E16-01[Q]	287.76	696.44	408.68
299-E17-18	316.65	720.65	404.00
299-E17-05	315.12	718.69	403.57
299-E17-08	314.72	718.38	403.66
299-E18-01	315.83	720.24	404.42
299-E18-03	317.87	722.04	404.17
299-E23-01	305.33	709.65	404.32
299-E23-02	316.62	720.64	404.02
299-E24-18[N]	315.26	719.28	404.02
299-E24-19[N]	289.54	693.65	404.11
299-E24-02	313.32	717.47	404.15
299-E24-07	311.92	716.01	404.09
299-E24-08	284.22	688.81	404.59
299-E25-11	276.91	681.28	404.38
299-E25-19	272.96	677.20	404.24
299-E25-25	264.36	669.42	405.06
299-E25-26	263.78	668.52	404.74
299-E25-27[N]	271.40	676.08	404.68
299-E25-37[N]	268.97	673.29	404.32
299-E25-38[N]	269.00	673.52	404.52
299-E25-40[N]	261.42	665.71	404.29
299-E25-41[N]	266.91	671.26	404.35
299-E26-01	212.37	617.25	404.89
299-E26-02	230.61	635.30	404.69
299-E26-04	243.16	647.76	404.60
299-E27-10	219.94	624.47	404.53
299-E27-11[N]	239.31	643.29	403.98
299-E27-12[N]	256.82	660.95	404.13
299-E27-13[N]	264.94	668.99	404.05

LEGEND:

[N] Not located on maps to improve visual clarity.
[Q] Questionable data - not included on map.
[P] Located on piezometric surface map.
[S] Supplemental data wells not in operational network.

Table 2. June 1990 Water Level Measurement Data, 200 Areas. (Sheet 2 of 8)

Well	Depth to Water, ft	Elevation, ft above msl	
		Adjusted Casing	Water Level
299-E27-14[N]	254.18	658.34	404.16
299-E27-15[N]	248.88	652.67	403.79
299-E27-08	233.72	637.83	404.11
299-E27-09	224.97	629.21	404.24
299-E28-12	303.89	708.60	404.71
299-E28-17	303.32	708.56	405.24
299-E28-18	288.28	692.58	404.30
299-E28-26	283.26	687.26	404.00
299-E28-27	276.46	680.37	403.91
299-E28-04	287.06	691.55	404.49
299-E28-06	295.65	700.11	404.46
299-E28-07	282.30	685.91	403.61
299-E28-09	296.43	700.77	404.34
299-E32-01	251.98	656.17	404.19
299-E32-02	266.27	670.06	403.79
299-E32-03	272.54	676.51	403.97
299-E32-04	282.13	685.88	403.75
299-E32-05[N]	278.28	682.14	403.86
299-E33-12[P]	218.39	623.00	404.61
299-E33-14	217.77	622.12	404.35
299-E33-17	227.45	631.65	404.20
299-E33-21	264.09	668.13	404.04
299-E33-28	260.25	664.23	403.98
299-E33-29	269.82	673.77	403.95
299-E33-30	259.75	663.70	403.95
299-E33-31[N]	243.26	647.28	404.02
299-E33-32[N]	255.96	659.83	403.87
299-E33-33[N]	236.15	640.17	404.02
299-E33-07	222.63	626.58	403.95
299-E33-08	246.68	650.73	404.05
299-E34-02	226.66	630.80	404.14
299-E34-03	206.98	611.52	404.54

LEGEND:

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[P] Located on piezometric surface map.
[S] Supplemental data wells not in operational network.

Table 2. June 1990 Water Level Measurement Data, 200 Areas. (Sheet 3 of 8)

Well	Depth to Water, ft	Elevation, ft above msl	
		Adjusted Casing	Water Level
299-E34-05	185.76	590.79	405.03
299-E34-06	193.74	597.83	404.09
299-E34-07[N]	199.95	604.27	404.32
299-E35-01	193.63	598.31	404.68
299-W10-14	234.24	699.43	465.19
299-W10-15[N]	209.98	675.64	465.66
299-W10-16[N]	206.91	672.76	465.85
299-W10-02	208.21	674.33	466.12
299-W10-05	205.77	672.31	466.54
299-W10-08	214.64	680.33	465.69
299-W11-10	271.85	728.89	457.04
299-W11-12	213.63	679.58	465.95
299-W11-14	253.67	715.16	461.49
299-W11-19	246.13	707.00	460.87
299-W11-23	220.47	685.86	465.39
299-W11-06	254.43	716.23	461.80
299-W11-07	245.04	709.11	464.07
299-W11-09	263.30	722.94	459.64
299-W12-01	274.23	726.46	452.23
299-W14-01	204.60	665.83	461.23
299-W14-09[Q]			
299-W15-10	208.54	676.00	467.46
299-W15-12	202.69	671.00	468.31
299-W15-15	230.06	697.96	467.90
299-W15-16	216.19	684.89	468.70
299-W15-18	216.80	685.71	468.91
299-W15-19[N]	223.99	691.60	467.61
299-W15-20	231.96	698.36	466.40
299-W15-04	193.09	662.00	468.91
299-W15-05	199.83	670.68	470.85
299-W18-10	211.78	682.63	470.85

LEGEND:
- [N] Not located on maps to improve visual clarity.
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- [S] Supplemental data wells not in operational network.

Table 2. June 1990 Water Level Measurement Data, 200 Areas. (Sheet 4 of 8)

Well	Depth to Water, ft	Elevation, ft above msl	
		Adjusted Casing	Water Level
299-W18-15	191.32	660.76	469.44
299-W18-22	201.25	668.49	467.24
299-W18-23	288.73	696.81	468.08
299-W18-24	215.17	684.35	469.18
299-W18-26[N]	231.01	699.05	468.04
299-W19-01	202.40	673.77	471.37
299-W19-14	228.04	693.21	465.17
299-W19-15	227.36	693.28	465.92
299-W19-02	233.15	694.04	460.89
299-W19-20	231.60	691.04	459.44
299-W19-21	208.14	678.53	470.39
299-W19-24	236.43	696.95	460.52
299-W19-27	213.87	683.65	469.78
299-W19-28[N]	240.48	703.09	462.61
299-W19-29[N]	240.11	701.87	461.76
299-W19-04	254.73	715.26	460.53
299-W19-06[Q]	220.92	700.00	479.08
299-W21-01	243.20	699.26	456.06
299-W22-17	206.98	671.62	464.64
299-W22-19	222.63	681.26	458.63
299-W22-21	208.92	670.00	461.08
299-W22-22	229.69	690.05	460.36
299-W22-26	216.51	680.30	463.79
299-W22-28	227.54	689.00	461.46
299-W22-07	226.60	687.41	460.81
299-W23-11	197.76	664.14	466.38
299-W23-04	194.86	662.82	467.96
299-W23-06	203.22	667.00	463.78
299-W6-01	243.56	702.53	458.97
299-W6-02	231.40	692.45	461.05
299-W7-01	229.80	690.71	460.91
299-W7-03	217.35	676.14	458.79

LEGEND:
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- [P] Located on piezometric surface map.
- [S] Supplemental data wells not in operational network.

Table 2. June 1990 Water Level Measurement Data, 200 Areas. (Sheet 5 of 8)

Well	Depth to Water, ft	Elevation, ft above msl	
		Adjusted Casing	Water Level
299-W7-04	209.35	671.69	462.34
299-W7-05	213.43	673.05	459.62
299-W7-06	219.09	678.64	459.55
299-W7-07[N]	215.27	674.94	459.67
299-W7-08	228.93	687.35	458.42
299-W7-09	230.79	692.11	461.32
299-W8-01	240.08	701.33	461.25
299-W9-01	273.50	737.73	464.23
699-24-33	120.78	524.21	403.43
699-25-55	263.05	676.55	413.50
699-25-70	181.22	629.78	448.56
699-28-40	155.54	559.44	403.90
699-28-52A	279.13	684.67	405.54
699-29-78	183.37	647.05	463.68
699-31-31[S]	125.90	529.32	403.42
699-31-65	242.38	683.09	440.71
699-32-43	112.53	516.62	404.09
699-32-62	277.97	707.09	429.12
699-32-70B	214.99	666.68	451.69
699-32-72	214.17	668.16	453.99
699-32-77	191.50	653.74	462.24
699-33-42	111.87	516.00	404.13
699-33-56	311.86	717.03	405.17
699-34-39A	133.11	537.07	403.96
699-34-41B[S]	166.74	570.89	404.15
699-34-42	136.01	540.20	404.19
699-34-51	332.19	736.76	404.57
699-35-66	286.21	725.65	439.44
699-35-70	241.97	693.72	451.75
699-35-78A	193.71	660.65	466.94
699-36-46S	300.90	704.33	403.43
699-36-61A	339.45	748.11	409.66

LEGEND:
[N] Not located on maps to improve visual clarity.
[Q] Questionable data - not included on map.
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[S] Supplemental data wells not in operational network.

Table 2. June 1990 Water Level Measurement Data, 200 Areas. (Sheet 6 of 8)

Well	Depth to Water, ft	Elevation, ft above msl	
		Adjusted Casing	Water Level
699-37-43	285.24	690.17	404.93
699-37-82A	169.30	636.75	467.45
699-38-65	322.99	753.33	430.34
699-38-70	257.09	710.67	453.58
699-39-39	123.55	536.65	413.10
699-39-79	205.76	673.52	467.76
699-40-33A	106.79	518.05	411.26
699-40-39	128.13	541.84	413.71
699-40-62[S]	341.08	747.78	406.70
699-41-40	129.62	545.94	416.32
699-42-40B	124.35	546.46	422.11
699-42-40C[P]	131.57	546.16	414.59
699-42-42B	165.96	583.23	417.27
699-43-41E	129.58	550.86	421.28
699-43-41F	129.59	551.01	421.42
699-43-42[S]	145.39	566.36	420.97
699-43-43	164.22	579.37	415.15
699-43-45	192.13	597.68	405.55
699-44-42	158.33	579.22	420.89
699-44-43B	164.46	580.12	415.66
699-44-64	318.06	725.60	407.54
699-45-42	159.81	577.33	417.52
699-45-69A[S]	276.89	725.46	448.57
699-47-35B	62.50	476.65	414.15
699-47-46A	174.81	580.14	405.33
699-47-50	174.56	583.87	406.31
699-47-60	246.03	649.84	403.81
699-48-71	241.48	688.15	446.67
699-49-55A	126.11	530.14	404.03
699-49-55B[P]	126.28	530.33	404.05
699-49-57	148.88	552.81	403.93

LEGEND:

[N] Not located on maps to improve visual clarity.
[Q] Questionable data - not included on map.
[P] Located on piezometric surface map.
[S] Supplemental data wells not in operational network.

Table 2. June 1990 Water Level Measurement Data, 200 Areas. (Sheet 7 of 8)

Well	Depth to Water, ft	Elevation, ft above msl	
		Adjusted Casing	Water Level
699-49-79	232.01	689.20	457.19
699-50-42	55.26	466.84	411.58
699-50-45	42.16	451.41	409.25
699-50-53	152.39	556.30	403.91
699-50-85	283.46	739.35	455.89
699-51-46	36.84	444.63	407.79
699-51-63	165.84	571.84	406.00
699-51-75	191.34	641.51	450.17
699-52-46A[P]	46.38	455.61	409.23
699-52-48[P]	60.24	466.06	405.82
699-53-35	132.65	530.66	398.34
699-53-47A	32.30	438.28	405.98
699-53-47B	32.62	438.58	405.96
699-53-48A	38.71	442.45	403.74
699-53-48B	38.23	442.71	404.48
699-53-50[P]	38.93	444.21	405.29
699-53-55B	173.22	576.16	402.94
699-53-55C	172.83	576.08	403.25
699-54-42	115.39	511.49	396.10
699-54-45A	96.60	494.29	397.69
699-54-48	53.83	457.02	403.19
699-54-57	172.15	575.58	403.43
699-55-40[Q]	133.10	543.13	410.03
699-55-50C	41.24	444.43	403.19
699-55-70	136.46	569.03	432.57
699-55-76	138.71	583.24	444.53
699-56-53[P]	30.72	434.34	403.62
699-57-83A[S]	145.07	577.96	432.89
699-59-32	61.60	424.29	362.69
699-59-58	95.41	497.77	402.36
699-59-80B	154.39	583.25	428.86
699-60-32	62.79	425.30	362.51

LEGEND:
- [N] Not located on maps to improve visual clarity.
- [Q] Questionable data - not included on map.
- [P] Located on piezometric surface map.
- [S] Supplemental data wells not in operational network.

Table 2. June 1990 Water Level Measurement Data, 200 Areas. (Sheet 8 of 8)

Well	Depth to Water, ft	Elevation, ft above msl	
		Adjusted Casing	Water Level
699-60-60	108.95	512.03	403.08
699-61-37	60.89	442.94	382.05
699-61-41	32.65	428.92	396.27
699-61-62	94.48	497.51	403.03
699-61-66	119.93	522.18	402.25
699-62-31	71.66	434.12	362.46
699-62-43A	35.67	432.30	396.63
699-63-51	24.09	424.54	400.45
699-63-58	90.06	491.90	401.84
699-64-62	98.59	500.25	401.66
699-65-50	66.60	467.06	400.46
699-65-59A	105.43	506.96	401.53
699-65-72	139.90	540.28	400.38
699-65-83	85.61	485.63	400.02

LEGEND:

[N] Not located on maps to improve visual clarity.
[Q] Questionable data - not included on map.
[P] Located on piezometric surface map.
[S] Supplemental data wells not in operational network.

END

DATE FILMED

02/21/91