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1474

Fernald RCRA Groundwater

Monitoring Assessment

RCRA Groundwater Quality Assessment Program Progress Report

Revision 1

For The

U. S. Department Of Energy
Feed Materials Production Center

Prepared By

Westinghouse Materials Company
Of Ohio

May 1990

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RCRA GROUNDWATER QUALITY ASSESSMENT PROGRAM PROGRESS REPORT REVISION 1 MAY 1990

05/01/90

250
REPORT

RCRA WELL DATA TO DATE

VER-DICT	WELL #	CONSTITUENT	SAMPLING ROUNDS 1	2	3	4	5	6	7	TOTAL NON-DETECTS	TOTAL SAMPLES TAKEN	NON-DETECTS OVER TOTAL	STAT. METH. AND CONCL. ***	COMMENTS
	1080	pH	8.4	7.35	7.55	7.2	7.5	6.99	7.1	0	7	0.00	2a	
	1081	pH	7.2	7.2	7.1	7.1	7.19	6.86	6.8	0	7	0.00	1	
	1082	pH	7.3		7	7.4	7.02	6.65	6.05	0	6	0.00	2a	
	1083	pH	7	7.2	7.2	7.1	6.8	7.1	7.2	0	7	0.00	1	
	2043	pH	7.25	7.12	7.28	7	7.5	6.4	7.28	0	7	0.00		
	2066	pH	7.6	6.5	6.72	7.25	7.2	7.5	7.3	0	7	0.00		
	2010	pH	7.21	6.93	7.1		6.99	6.8	6.6	0	6	0.00	1	T.L. = > 8.230
	2013	pH	7.3	7.27	6.88	7.42	7.25	7.25	7.37	0	7	0.00	1	or < 6.041
	2019	pH	6.8	7.3	8.1	7	7.2	7	6.7	0	7	0.00	1	
	2021	pH	7.15	7.3	7.4	7.1	7.6	7.1	7.4	0	7	0.00	1	
	2027	pH	6.7	7.2	7.1	6.92	6.8	6.38	7	0	7	0.00	1	
	2037	pH	7.19	7.33	6.69	7.15	7.1	7	6.95	0	7	0.00	1	
	2051	pH	7.2	7.04	7.3	7.15	7.05	6.4	7.04	0	7	0.00	1	
	2055	pH					7.22	7.19		0	2	0.00	1	
	2084	pH	6.8	7	7.1	7	6.75	6.55	6.7	0	7	0.00	1	
	3043	pH	7.4	7.62	7.37	7.3	7.37	7.1	7.35	0	7	0.00		
	3066	pH	7.12	7	7.18	7.4	6.92	7.1	7.1	0	7	0.00		
	3001	pH	7.34	7.4	8	7.1	7.48	7.34	7.45	0	7	0.00	2a	T.L. = > 7.818
	3008	pH	6.87	7.7	7.48	7.31	7.86	7.25	7.55	0	7	0.00	2a	or < 6.658
	3010	pH	6.74	6.89	7.3	7.1	6.76	6.9	7	0	7	0.00	1	
	3013	pH	7.1	7.2	6.35	8.2	7.05	7.08	7.2	0	7	0.00	2a	
*	3019	pH	6.6	6.9	7	7	7	6.9	6.9	0	7	0.00	2b	
	3024	pH	7.5	7.21	7.41	7	7.25	7.2	7.34	0	7	0.00	1	
	3037	pH	6.9	6.78	7	6.85	6.85	6.85	6.95	0	7	0.00	1	
	3051	pH	7.2	7.25	7.27	7.4	6.9	7.19	6.88	0	7	0.00	1	
	3055	pH	6.8	7	7.3	7	7.1	7	7.15	0	7	0.00	1	
*	3084	pH	6.6	6.9	7.38	7.2	6.98	6.65	6.84	0	7	0.00	2b	
	4001	pH	7.4		7.51	7.1	7.6	7.4	7.49	0	6	0.00	1	
	4008	pH	7.4	7.5	7	7	7.3	7.4	7.65	0	7	0.00	1	
	4010	pH				7.1	7.36	7.6	7.39	0	4	0.00	1	
	4013	pH				7	7.25	7.38	7.35	0	4	0.00	1	

* Constituent found in statistically significant amount(s) ** Signifies an outlier *** See Cross Reference listing number ? Background well with relatively high values

RCRA Groundwater Quality Assessment Program Progress Report

Executive Summary

This report is being generated to fulfill a commitment made by the Department of Energy at the Feed Materials Production Center (DOE-FMPC) to the Ohio Environmental Protection Agency (OEPA) in March, 1990. The purpose is to update the OEPA and the USEPA on the progress made in determining the presence or absence of hazardous wastes or hazardous waste constituents found in the groundwater at the FMPC, their concentrations, and rates and extent of migration.

The site specific constituents found in statistically significant quantities are listed in Table 4 of this report, as well as the wells in which they are significant. The concentrations of these constituents has been determined through 6 rounds of sample data. The extent of migration has been estimated by the isoconcentration diagrams in Appendix I for each site specific constituent in Table 4. The rate of migration of groundwater has been estimated for each of the geologic zones under the FMPC. Efforts are currently underway to estimate the rate of migration of site specific parameters. However, these rates cannot be greater than the rate of migration of the groundwater itself. Once retardation coefficients are established the specific rate of migrations for each site parameter can be calculated.

Six rounds of data analysis have been incorporated into this report. Statistical procedures, as defined in the Statistical Analysis Of Ground-Water Monitoring Data At RCRA Facilities, Interim Final Guidance document and 40 CFR 265 were used to identify wells with statistically significant concentrations of site specific parameters as defined in the March 1989 revision of the Groundwater Quality Assessment Program Plan. The results of this analysis have indicated that 33 of the 37 downgradient wells in the RCRA program contain statistically significant concentrations above background of some site specific parameters. Isoconcentration diagrams were generated for those parameters in the analysis found to be present in statistically significant amounts.

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List Of Acronyms

EPA - Environmental Protection Agency

OEPA - Ohio Environmental Protection Agency

USEPA - United States Environmental Protection Agency

CFR - Code of Federal Regulations

RCRA - Resource Conservation and Recovery Act

CERCLA - Comprehensive Environmental Response Compensation and Liability Act

DOE - Department Of Energy

FMPC - Feed Materials Production Center

RI/FS - Remedial Investigation and Feasibility Study

GQAPP - Groundwater Quality Assessment Program Plan

CV - Coefficient of Variation

MCL - Maximum Concentration Limit

ND - Not Detectable

ppm - Part Per Million

ppb - Part Per Billion

PQL - Practical Quantitation Limit

TL - Tolerance Limit

VOC - Volatile Organic Compound

RCRA Groundwater Quality Assessment Program Progress Report

1.0 Purpose

The Feed Materials Production Center (FMPC) is currently conducting an assessment of the groundwater quality in the vicinity of Waste Pit 4, one of six (6) inactive waste disposal units (pits) at the FMPC. This assessment is outlined in the Groundwater Quality Assessment Program Plan (GQAPP) for Waste Pit 4 At The Feed Materials Production Center, Revision 1, March 1989. These six (6) pits are located together in the FMPC Waste Pit Area northwest of the FMPC production area. Waste Pit 4, which has undergone interim closure, is regulated under the Resource Conservation and Recovery Act (RCRA) due to the disposal of barium salts in this pit from 1980 to 1983.

The purpose of this assessment is to determine:

(a) The concentrations of any hazardous waste or hazardous waste constituents in the groundwater which can be attributed to leakage from Waste Pit 4; and

(b) The rate and extent of migration for any hazardous waste or hazardous waste constituents in the groundwater which can be attributed to leakage from Waste Pit 4.

SUMMARY OF RCRA GROUNDWATER MONITORING ACTIVITIES THROUGH 1988

A RCRA detection monitoring program for FMPC Waste Pit 4 was initiated in August 1985. Samples were collected and analyzed from 41 wells under this detection program from August 1985 to November 1987 (RCRA Rounds 1-5). In accordance with OAC 3745-65-93 and 40 CFR 265.93, the OEPA and the United States Environmental Protection Agency (USEPA) were notified by the DOE on November 13, 1987 that FMPC Waste Pit No. 4 could be affecting groundwater quality. This notification was based on statistical comparisons conducted on the analytical results of groundwater samples, monitored for parameters used

as indicators of groundwater contamination, which were taken from wells upgradient and downgradient of Waste Pit No. 4. These comparisons indicated that statistically significant changes had occurred in several indicator parameters that were monitored in wells upgradient and downgradient of Waste Pit 4.

On November 25, 1987 a RCRA Groundwater Quality Assessment Program Plan for Waste Pit No. 4 was submitted to the OEPA and the USEPA. This plan stated that the groundwater assessment program for Waste Pit No. 4 would be conducted as part of the ongoing Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Remedial Investigation/Feasibility Study (RI/FS) at the FMPC. The RCRA and CERCLA monitoring programs were consolidated due to the similarity of objectives for the RCRA groundwater assessment and the RI/FS program. Consequently, data for the RCRA groundwater quality assessment program was collected during the first four rounds of sampling for the RI/FS program.

In March 1989, following the four rounds of combined RCRA Assessment and RI/FS sampling, a revision of the RCRA Groundwater Quality Assessment Program Plan (GQAPP) was submitted to the OEPA and USEPA in March 1989. A revision was necessary to incorporate comments from the OEPA and to focus on site specific parameters. That plan discussed the selection of 43 wells and 28 site specific non-radiological parameters for the continuation of the RCRA Groundwater Quality Assessment Monitoring Program. The basis for the selection of these wells and site specific parameters was the RCRA detection monitoring program data and the combined RCRA Assessment and RI/FS program data available at that time. Table 1 lists the 43 RCRA Assessment wells and the 28 site specific parameters. A detailed discussion of the rationale for the selection of these wells and parameters is presented in the revised GQAPP issued to the OEPA in March 1989. This report addresses only those parameters selected in March 1989 for the RCRA Groundwater Quality Assessment Program.

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TABLE 1

Selected RI/FS Wells and Site Specific Parameters for the RCRA Assessment Program

PARAMETERS	RATIONALE
Cobalt	A
Beryllium	A
Zinc	A
Vanadium	A
Nickel	A
Copper	A
Magnesium	A
Calcium	A
Aluminum	A
Barium	A
Chromium	A
Lead	A
Silver	A
Iron	A
Fluoride	A
Nitrate	A,B
Chloride	A,B
Sulfate	A,B
pH	I
Conductivity	I
TOC	I
TOX	I
Tetrachloroethane	A
Methylene chloride	B
Dichloroethane	B
Acetone	B
Trichloroethene	C
Toluene	B

UPGRADIENT TILL WELLS

1024 1004
1052

DOWNGRADIENT TILL WELLS

1027
1080
1079
1004
1074
1031
1028
1072
1030
1038
1081
1083
1082
1025

UPGRADIENT SAND & GRAVEL WELLS

2066/3066
2043/3043

DOWNGRADIENT SAND & GRAVEL

3001/4001
2084/3084
2021
2019/3019
2027
2010/3010/4010
2013/3013/4013
2051/3051
2055/3055
3008/4008
3024
2037/3037

A Major constituent of Pit 4
B Constituent found in waste pit area groundwater
C Constituent of Pit 4
I Groundwater Contamination Indicator Parameter Per OAC 3745-65-92(A)(3)

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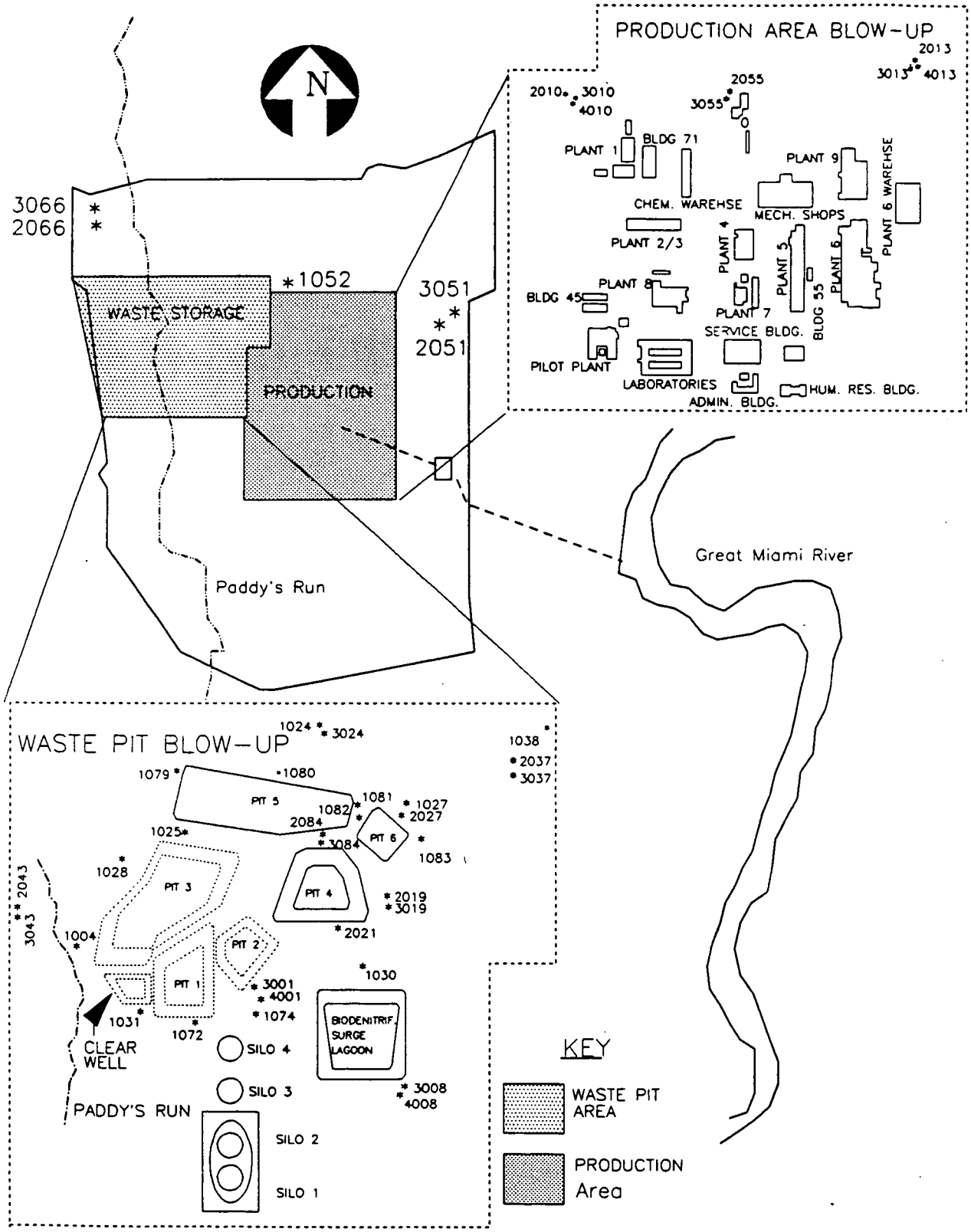
Description of Assessment Well Locations

The March 1989 revision of the GQAPP discussed the technical difficulties associated with performing a groundwater assessment on Pit 4 exclusive of interference from the other five (5) pits. The conclusions, discussed in detail in the March 1989 revision of the GQAPP, were based on the facts that the waste pits are located very close to each other, and that similar materials had been placed in several of the pits. As a result, forty-three (43) RCRA assessment groundwater monitoring wells were selected at both upgradient and downgradient locations to allow monitoring of the entire Waste Pit Area. Figure 1 provides the locations of the wells being monitored for the RCRA assessment program.

Wells 1024 and 1052 were selected as being the most representative of background for the Waste Pit Area glacial till. These wells are located 500 feet north and 1400 feet northeast of the pit area, respectively. The presence of a groundwater mound in the Waste Pit Area causes flow in the glacial till to be radial. This groundwater flow pattern in the till, influenced the selection of the downgradient till wells. Fourteen downgradient till wells were selected to encircle the Waste Pit Area downgradient from the groundwater mound.

Groundwater in the sand and gravel aquifer flows towards the east. Upgradient sand and gravel well clusters 2066/3066 and 2043/3043 are located, 2300 feet northwest and 1500 feet respectively, west of the Waste Pit Area. These wells are all hydraulically upgradient from the Waste Pit Area. Twenty-three sand and gravel wells, located either east or northeast of the Waste Pit Area, were selected to monitor the groundwater flowing downgradient from the waste pit area.

Figure 1



FMPC RCRA GROUND WATER MONITORING WELLS

FMPC RCRA Groundwater Quality Asssement Program Progress Report

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RCRA Groundwater Quality Assessment Program Progress Report

2.0 Collection of Groundwater Data

Figure 2 provides a diagram of all of the RCRA wells sampled for this assessment. There are four different zones currently monitored through the program. The 1000 series wells monitor a saturated zone in the till, the 2000 series wells monitor the upper portions for a sand and gravel aquifer, the 3000 series wells monitor the sand and gravel aquifer at its boundary with a clay lens. The 4000 series wells monitor the sand and gravel region below the blue clay layer. These zones are shown in Figures 3,4, and 5. Eight rounds of data have been gathered to date from the RCRA assessment which started in November 1987, the list below indicates the time of each round of sampling.

Round	
1	May 1988
2	August 1988
3	November 1988
4	February 1989
5	June 1989
6	August 1989
7	November 1989
8	February 1990

Data from rounds 1-6 were used for the assessment described in this report. Data from rounds 7 and 8 are not currently in a form that can be analyzed. Table 1 provides a list of the site specific constituents sampled for under the RCRA program. Arsenic, Manganese, Phenols, and Sodium have been added to the list of site specific constituents subsequent to revision 1 of the GQAPP. This addition was made after the fourth round of sampling.

Figure 2

RCRA Groundwater Quality Assessment Program Progress Report

RCRA Well Locations For Groundwater Assessment

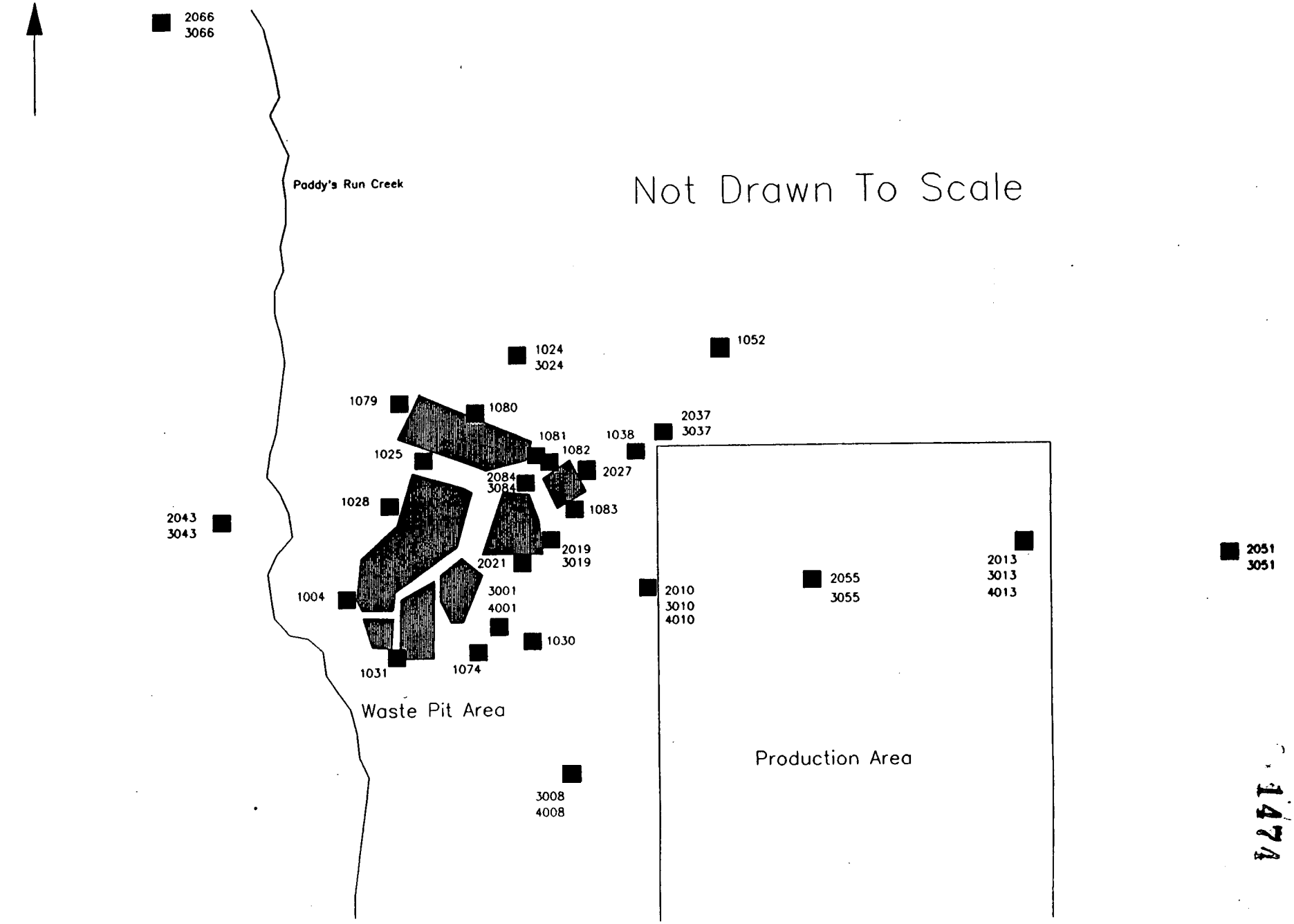


Figure 3

RCRA Groundwater Quality Assessment Program Progress Report

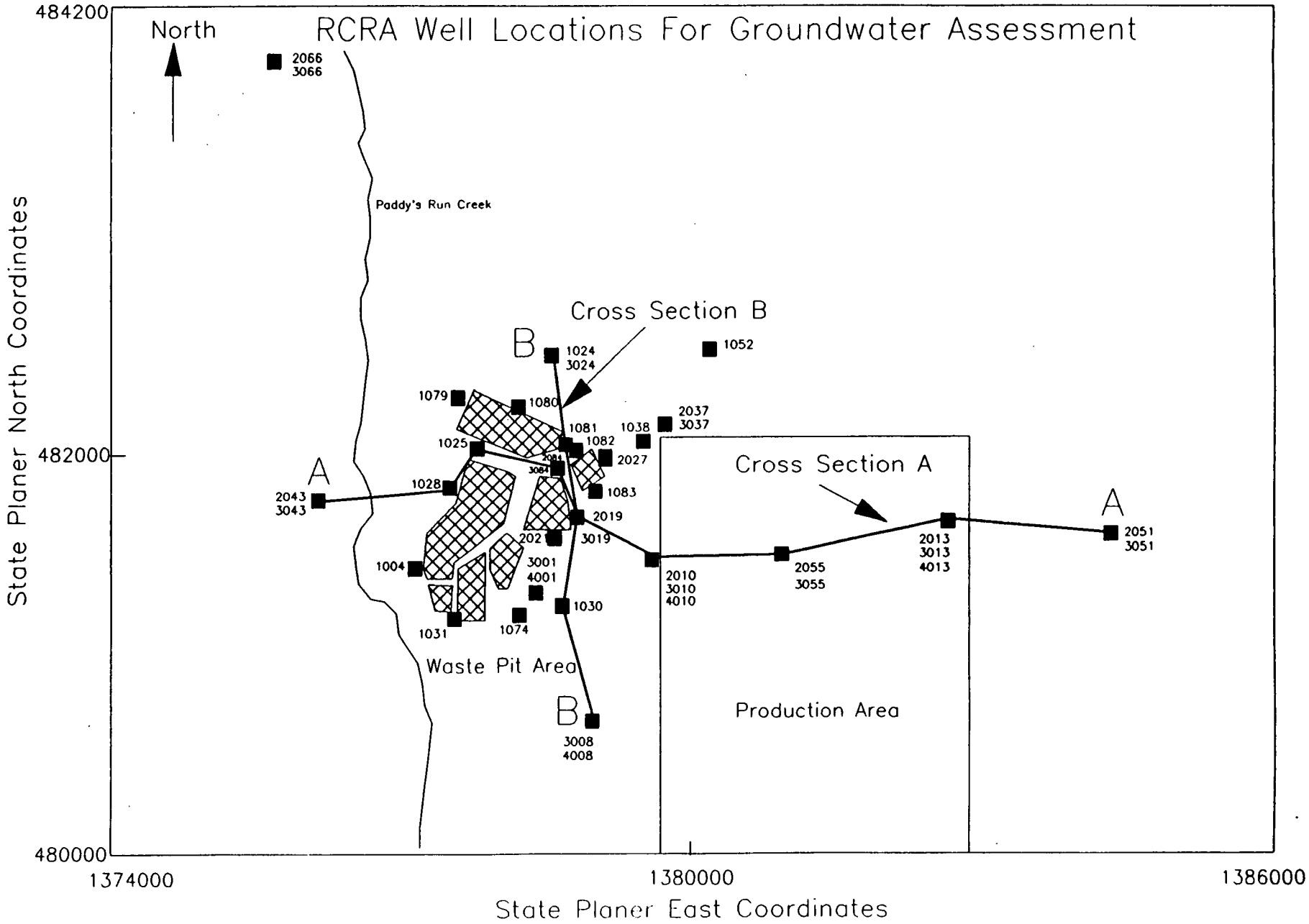


Figure 4

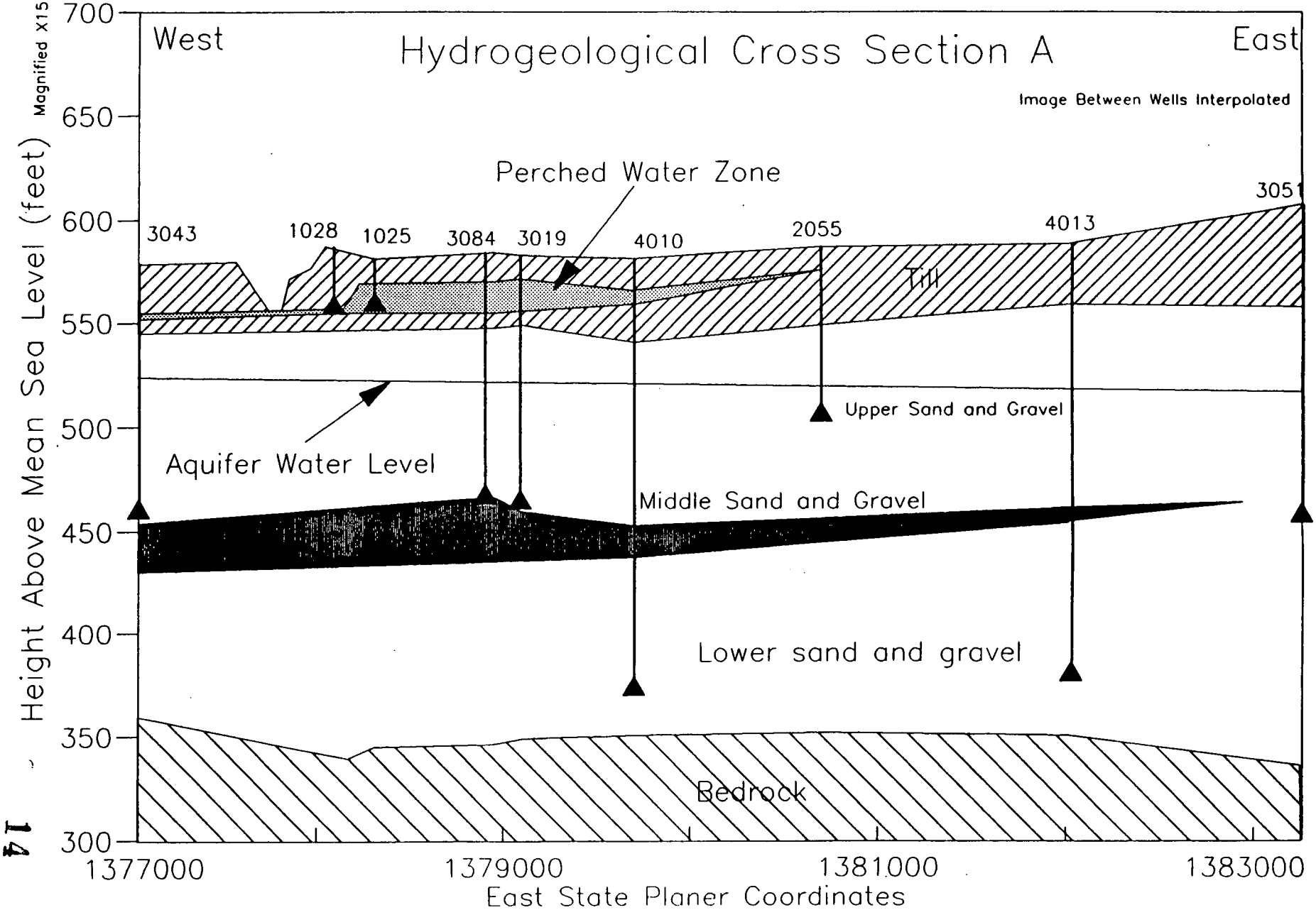
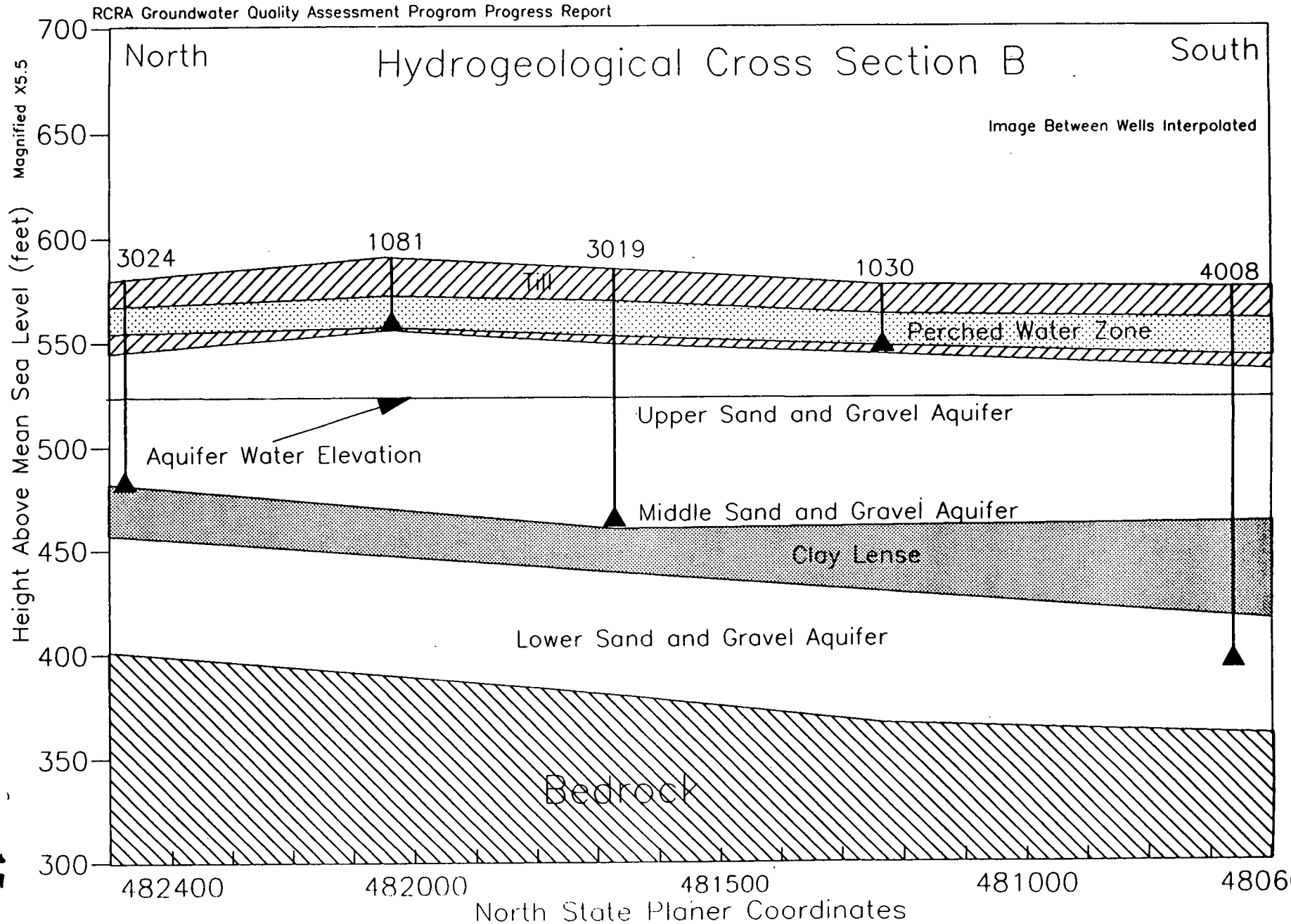

Hydrogeological Cross Section A
West
East
Image Between Wells Interpolated
Magnified X15.5
Height Above Mean Sea Level (feet)
700
650
600
550
500
450
400
350
300
3043
1028
1025
3084
3019
4010
2055
4013
3051
Perched Water Zone
Till
Upper Sand and Gravel
Aquifer Water Level
Middle Sand and Gravel
Lower sand and gravel
Bedrock
1377000
1379000
1381000
1383000
East State Planer Coordinates

Figure 5


RCRA Groundwater Quality Assessment Program Progress Report
North
Hydrogeological Cross Section B
South
Image Between Wells Interpolated
Magnified X5.5
Height Above Mean Sea Level (feet)
700
650
600
550
500
450
400
350
300
3024
1081
3019
1030
4008
Till
Perched Water Zone
Upper Sand and Gravel Aquifer
Aquifer Water Elevation
Middle Sand and Gravel Aquifer
Clay Lense
Lower Sand and Gravel Aquifer
Bedrock
482400
482000
481500
481000
480600
North State Planer Coordinates

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3.0 Statistical Analysis

Several different statistical methods were used to evaluate the FMPC RCRA groundwater quality data. The choice of a particular statistical test depended on the nature of the data. The most important consideration was given to the proportion of values in the data set that fell below the limit of analytical detection. In general, if most of the values were below the detection limit a Test of Proportions procedure was used, unless the proportion was over 90%, which was the case with the volatile organic compounds (VOCs), since they are not naturally occurring. In these special instances, a comparison was made of the detectable values to the appropriate Practical Quantitation Limit (PQL). This method is similar to the one approved by the state of Illinois EPA for determining a statistically significant quantity of a VOC in a compliance well.

In several other instances there was limited groundwater data available and the average proportion of non-detects (NDs) was minimal. Frequently, in these cases, the data deficiency was for only one or two compliance wells within a given group. Under these circumstances, a comparison was made between the detectable values from those compliance wells and a tolerance limit constructed from data representing the two respective background wells. A determination as to possible statistical significance was based on these comparisons.

In numerous other cases there were several quantified measurements taken from each well within a given group. In these instances, a tolerance interval was constructed from the background well data and each value from the compliance wells was compared to this limit. If any value or sequence of values were outside the interval, then this may be evidence of statistically significant concentrations. This possibility was further investigated by performing a Student's t Test between the two background wells and the affected downgradient well(s).

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Please note that the statistical analyses performed in this study provides only a quantitative assessment of the groundwater quality. Other factors (e. g., hydrogeologic and qualitative) must be taken into consideration when determining the status (i. e., contaminated vs. not contaminated) of a particular well.

A more detailed description of each statistical procedure used as well as several flowcharts which briefly identify the methodology incorporated into this assessment can be found in Appendix II.

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4.0 Rates and Extent of Migration

To determine the rates of migration, many factors influencing groundwater and contaminant transport must be considered. Extensive research has been conducted to develop information about these factors. Table 2 lists the 2 major zones or medium through which the groundwater travels and all of the technical information applicable to groundwater flow. Recharge to the aquifer occurs through 2 mechanisms. Recharge from rainfall has been estimated at 6 in/yr (Geotrans 1985). Recharge from the bedrock has been estimated at 38 gpd per linear foot of valley wall (Spieker 1968b). Recharge also occurs from the Great Miami River and Paddy's Run at different times in the season, infiltration rates from or to the Great Miami River have been estimated at 240,000 gpd per acre of riverbed (Dove 1961)(Spieker 1968).

The hydraulic gradient in the aquifer can be determined by the water table elevation maps located in Appendix I. The vertical hydraulic conductivity of the till above the sand and gravel aquifer has been 0.025 ft/day (Geotrans 1985). Lateral groundwater velocities have been estimated at between 0.004 and 0.04 ft/day in the till adjacent to pit 4 (Dames and Moore, Task C Report, 1985). The horizontal hydraulic conductivity in the sand and gravel is high, approximately 2000 gpd/foot squared (Spieker 1968a). The vertical hydraulic conductivity is 2.5 feet/day (Geotrans 1985).

From the technical information, a calculation of the horizontal bulk velocity (feet/day) for the sand and gravel aquifer has been determined to be 0.2674 ft/day, this value was determined by using the gradient across the Waste Pit and Production Area and the hydraulic conductivity of the sand and gravel aquifer. The equation used for this calculation and the variables are shown below:

<u>Bulk Velocity</u> = Groundwater gradient*horizontal hydraulic conductivity*conversion factor

Groundwater Gradient is taken from the water table maps in Appendix I, when considering the Waste Pit and Production Areas, the gradient is approximately 5 feet per 5000 feet, or 0.001 ft./ft.

Horizontal Hydraulic Conductivity is 2000 gallons per day/square foot from reference in Table 2.

The Conversion Factor is used to translate gal. per day/ft^2 into $ft.^3/ft.^2$/day. The conversion factor used was 0.1337 $ft.^3/ft.^2$/day/gal. per day/ft^2.

Thus; Bulk velocity = 0.001*2000*0.1337

= 0.2674 ft./day

The direction of the flow for the till and the sand and gravel aquifer can be seen in the water table elevation maps in Appendix I. The flow in the till is radially outward from a rise of water located between Waste Pits 3 and 4. However, the flow in the till is considerably slower in the horizontal direction than it is for the vertical direction, and the Waste pits are deep enough to effect the ability of the groundwater to move freely. The flow direction in the sand and gravel aquifer is generally toward the southeast, but variations have occurred do to the seasons.

A final noteworthy factor in determining the rate of migration of hazardous waste or constituents in groundwater is to determine the retardation coefficient for each parameter in each medium of interest. Laboratory results for this information are not available for all of the site specific parameters outlined in this report.

The application of this coefficient on a groundwater migration calculation will decrease, not increase, the rate of migration of a constituent. Thus it can be assumed that the average horizontal migration of constituents cannot be greater than 0.04 feet per day in the till and 0.2674 feet per day in the sand and gravel aquifer.

The extent of migration of constituents which have statistically significant concentration when compared to background have been determined using isoconcentration diagrams. The diagrams in Appendix I have been developed from the most recent round of data available from the laboratories. The isoconcentration lines are only an interpolation of groundwater concentrations but do indicate the best representation of the extent of migration to date. As further data is collected and more in depth research is completed, the isoconcentration maps will be updated.

Table 2

Geophysical Information On Groundwater Flow

Till Medium	Sand And Gravel Medium
Permeability 5 gal. per day (Dove 1961)	Transmissivity 300,000-500,00 gal. per day per foot (IT 1988)
Discharge to the Aquifer 38 gal/day per linear foot of valley (Spieker 1968b)	Storage coefficient 0.1 (Spieker 1968a)
Horizontal hydraulic conductivity 0.3 gal./day per sq. ft. (IT 1988)	Horizontal hydraulic conductivity 2000 gal./day per sq. ft. (Spieker 1968a)
Porosity 0-0.1 (IT 1988)	Vertical hydraulic conductivity 2.5 feet/day (GeoTrans 1985)
	Porosity 0.2-0.3 (IT 1988)

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5.0 Discussion Of Results

Table 3 lists the 33 wells that have constituent concentrations which are statistically above background concentration levels. These include 11 till wells (1000 series), 9 upper aquifer (2000 series) wells, 10 middle aquifer (3000 series) wells, and 3 lower aquifer wells (4000 series). The lower aquifer wells (4000 series) were compared to middle aquifer background data. The comparison of the lower aquifer wells to the middle aquifer background values was made because the lower aquifer has no upgradient well defined by the assessment program. Table 4 contains a list of all of the site specific constituents or hazardous substances which the statistical analysis identified in statistically significant quantities. Of the site specific constituents included in this table, Sodium, Calcium, Chloride, Nitrates, and Sulfates have the highest concentrations. The concentrations of these constituents range from a just above background to hundreds of ppm. Fluoride concentrations were less than 1 ppm and found to be statistically significant in only one well(1031), with a concentration ranging from 0.2 to 0.7 ppm above background. Nitrates in well 1025 range from 80 to 125 ppm above a non-detectable background.

Because of the number of waste pits and location of the Waste Pits, it is difficult to determine any one to be the source of the site specific constituents. The results of this assessment are not conclusive as to which waste pit is the source of the site specific constituents. Regions of interest can be defined where most of the statistically significant concentrations exist. Wells 1031, 1025, 1028, 1081, 2027, 2051, 2084, and 3084 had more than 5 site specific constituents statistically significant compared to background levels. The regions including the wells above can be broken down into two regions as indicated in Figure 6. To look into the trends indicated by the statistical results, isoconcentration diagrams were used to determine the spatial distribution of the site specific constituents that were determined to have statistically significant concentration levels compared to background.

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Table 3

Wells Exhibiting Statistically Significant Concentrations Above Background

Well ID	Number of Parameters
1031	8*
1025	9*
1028	8*
1030	3
1033	5*
1074	5*
1079	2
1080	3
1081	7*
1082	5*
1083	5*
2010	4
2019	4
2021	4
2027	7*
2037	4
2051	5*
2084	9*
3010	4
3019	5*
3037	4
3084	6*
4013	4
3001	2
3008	1
3013	2
3055	2
4001	1
4008	1
3024	2
2013	1
2055	1
3051	2

* - Wells exhibiting the highest number of site specific parameters above background

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Table 4

Site Specific Constituents Found to Have Statistically Significant Concentrations

Constituent	Wells Found to Have Elevated Concentrations
Calcium	1025, 1028, 1030, 1031, 1038, 1074, 1079, 1080, 1081, 1082, 1083, 2010, 2019, 2021, 2027, 2037, 2051, 2084, 3010, 3019, 3037, 3084, 4013
Chloride	1025, 1028, 1031, 1038, 1074, 1081, 1082, 1083, 2027, 2084
Conductivity	1025, 1028, 1030, 1031, 1074, 1081, 1082, 2010, 2019, 2021, 2027, 2051, 2084
Fluoride	1031
Iron	2027, 2037, 2051, 2084
Magnesium	1025, 1028, 1030, 1038, 1074, 1079, 1080, 1081, 1082, 1083, 2027, 2051, 2084, 3084, 4013
Manganese	1025, 1038, 2010, 2027, 2037, 2051, 2084, 3001, 3008, 3010, 3013, 3019, 3037, 3055, 3084, 4001, 4008, 4013
Nickel	1028, 1074
Nitrates	1025, 1028, 1031, 1081, 1083, 2019, 2021, 2084, 3010, 3019, 3024, 3037, 3084
pH	1025, 1028, 1031, 1038, 3019, 3084
Sodium	1025, 1031, 1080, 1081, 2084
Sulfate	1025, 1028, 1081, 1082, 2010, 2013, 2019, 2021, 2027, 2037, 2051, 2055, 2084, 3001, 3010, 3013, 3019, 3024, 3037, 3051, 3055, 3084, 4013
Total Organic Halides	1031

Figure 6

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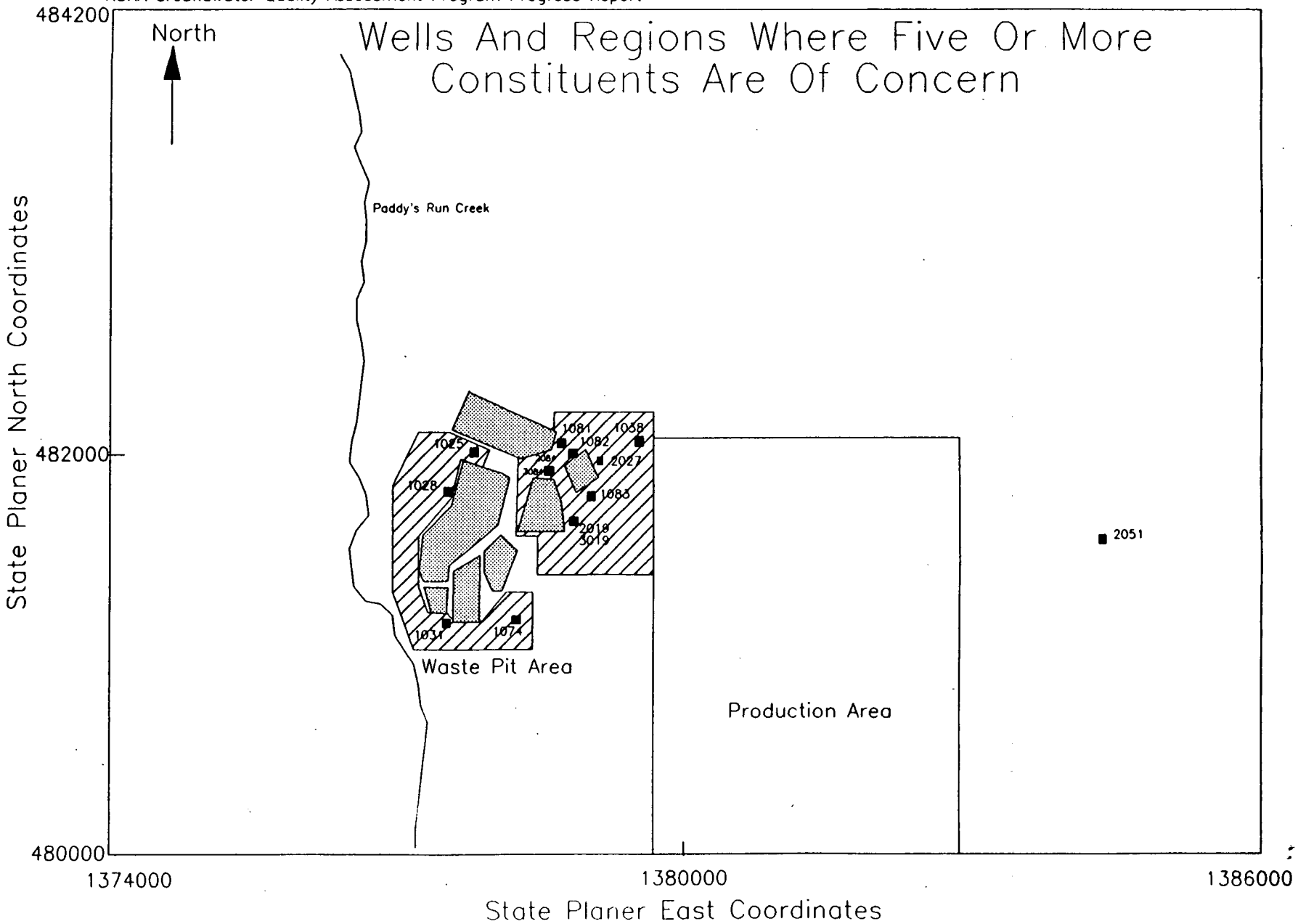

RCRA Groundwater Quality Assessment Program Progress Report

RCRA 40 CFR 264 APPENDIX IX PARAMETERS

Of the constituents listed above, only Nickel is an Appendix IX hazardous wastes or hazardous waste constituent. 1,1-Dichloroethane, Tetrachloroethene, and Trichloroethene have been found in one sample from well 1031 with concentrations of 30 ppb, 300 ppb, and 530 ppb respectively, but more rounds of data will have to be analyzed before this single data point can be verified. The fact that values for volatile compounds are detectable, some in concentrations over 100 times the PQL, is of concern, and round 7 will be looked at closely to verify the significance of these one sample concentrations. Nickel has been found in concentrations ranging between 27 and 180 ppb in background wells. Wells 1028 and 1074 have been determined to be significantly above background with concentrations ranging from non-detectable to 981 ppb. Well 1028 has on occasion turned up dry, so it only has one data point available for comparison, further samples will be needed to determine the significance of Nickel in well 1028.

In the past there have been other volatile compounds with quantifiable data points, as seen from the tables in Appendix III, but these values have been discarded because subsequent rounds indicate non-detectable concentrations. In the case of 2-Propanone, Methylene Chloride, and Toluene, these compounds have been found in sample blanks sent to the laboratory for quality assurance for some past rounds. Data for the compounds listed above is suspect for the rounds where the blanks were contaminated.

Isoconcentration Diagrams

Site specific constituents found to have concentrations which were statistically higher than background were contoured in isoconcentration diagrams. The 10 site specific constituents and two indicator parameters were plotted for the 1000, 2000, 3000, and 4000 series wells. Water elevations were also plotted for the till and the sand and gravel aquifer. The isoconcentration diagrams were produced by

taking known values sampled from wells and performing linear interpolation between the data to determine the isoconcentration lines. A homogeneous medium was assumed that did not take into account the influences of groundwater gradient and geochemistry on constituent migration. Do to the simplifications used to produce the isoconcentration diagrams, the resulting lines are only a representation of groundwater concentrations and do not consider the effects of groundwater flow on concentrations. Because of the complex groundwater gradient in the till, and the effects of the waste pits on water migration, more information is needed to determine isoconcentration lines in this zone. Actual concentrations were marked for each well in order to help determine spatial trends. The deep aquifer or 4000 series maps do not include isoconcentration lines due to the fact that 4013 is located a great distance from the Waste Pit area and there is not sufficient data between the Waste Pits and Well 4013. An attempt to draw isoconcentration lines on the 4000 series maps would not accurately portray the effects of water flow. Actual sample concentrations were included on these maps for a spatial comparison.

The concentration diagrams for the till wells indicate higher concentrations of the parameters around the pits in two regions. The first region includes wells 1025, 1028, and 1031. These three wells are downgradient of Waste Pits 5, 3, 1 and the clearwell. The second region includes 1081, 1082, 1083, and 1030, wells that are located downgradient of Waste Pits 2, 4, 5, and 6. These regions are labeled 1 and 2 on Figure 7. In the upper sand and gravel aquifer, a region including wells 2010, 2027, 2037, and 2084 shows higher concentrations of some constituents than the surrounding aquifer. Figure 7 represents this in regions 2 and 3. Well 2051 is east of the production area as shown on Figure 9. Well 2051 has indicated higher concentrations than background, but wells between the waste area and this well do not have as high as or higher concentrations. Regions 2 and 3 are downgradient of the Waste Pit area for the sand and gravel aquifer.

Region 3 on Figure 7 is an area where concentrations are high for the middle of the sand and gravel

aquifer. Wells 3010, 3019, 3037, and 3084 have been used as reference wells for region 3. All these wells have more than three site specific constituents with significantly higher concentrations than background. The lower aquifer in this area is beneath a blue clay layer which acts as an aquitard between the 3000 and 4000 series wells. Since the lower aquifer does not have a true upgradient well it was compared to 3000 series upgradient for reference. From this comparison, wells 4001, and 4008 tested high for manganese only, and 4010 did not test high for any site specific constituents. Well 4013 tested high for four site specific constituents and in many cases ranged much higher than the other 4000 series wells. Well 4013 is the furthest RCRA well east of the Waste Pit area which monitors the lower aquifer.

Geophysical information from well borings indicate that the blue clay aquitard separating the middle from the lower aquifer is not continuous. Around well 4013 the blue clay layer begins to diffuse and thin. After a comparison between well 4013 and its surrounding wells, it was found that well 4013 was higher in concentration than 3013, which monitors the aquifer above well 4013. It was also higher in many concentrations than 3055, which monitors the middle aquifer upgradient of well 4013, and higher than 4010, which monitors the lower aquifer upgradient of well 4013. From visual inspection and construction information on well 4013, the quality of this well has come into question, therefore the data gathered from the well is suspect.

Figure 7

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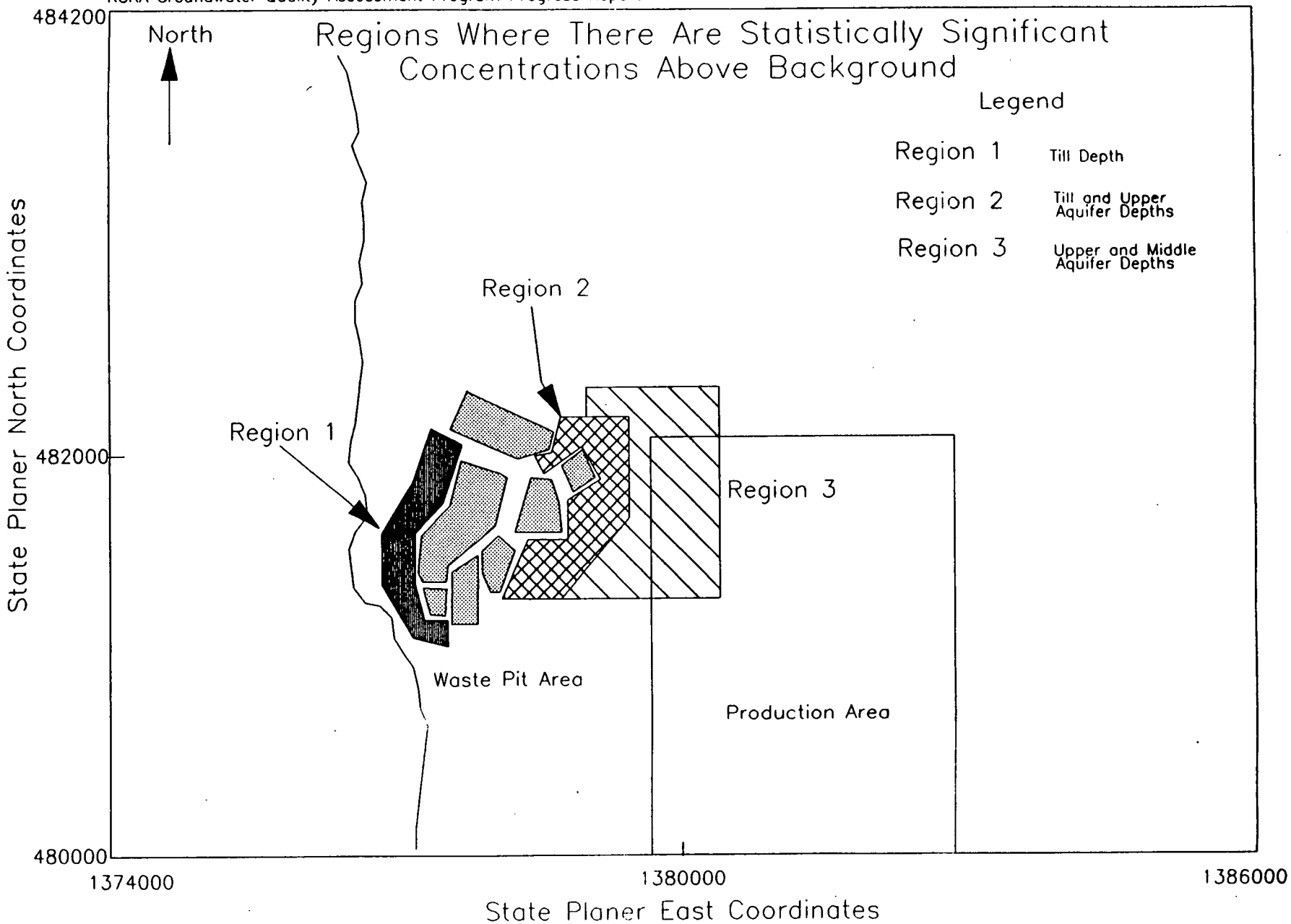

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6.0 Conclusions

The determination required pursuant to 40 CFR 265 to establish which hazardous waste or hazardous waste constituents in the groundwater is ongoing. Results to date are listed in Table 4. These constituents have been determined to be significant out of a list of site specific parameters. An APPENDIX IX sampling round was completed in August of 1989 for a number of wells. This data will be used to modify the site specific list if other compounds are found in significant quantities.

The determination of concentrations of constituents is completed with 6 rounds of sample data available to show average values and seasonal effects. The tables in Appendix III can be used to reference the concentrations of all site specific constituents. Further rounds of data are being gathered to determine any increases in the concentrations of all site specific parameters.

The determination of the rates of migration will be completed when the retardation coefficients or distribution coefficients are determined for the site specific constituents with significant concentrations in the groundwater. This information is being developed for the RI/FS program at the FMPC, and corresponding data will be used for the rates of migration in the RCRA Assessment Program. It has been stated that the constituents cannot move faster than the groundwater, so a conservative estimate of the rates of migration are the bulk velocities of the groundwater in the till and the sand and gravel.

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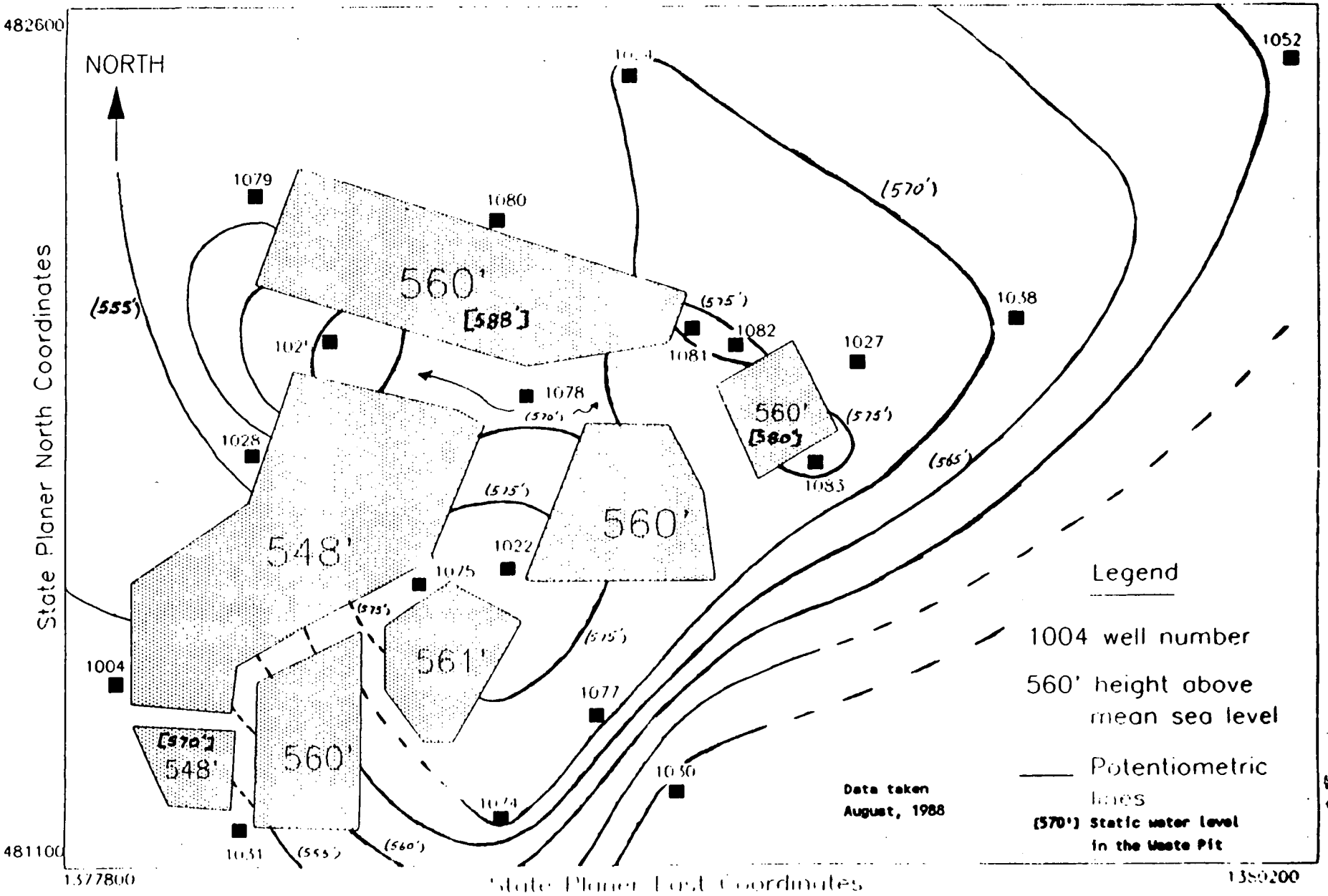
APPENDIX I

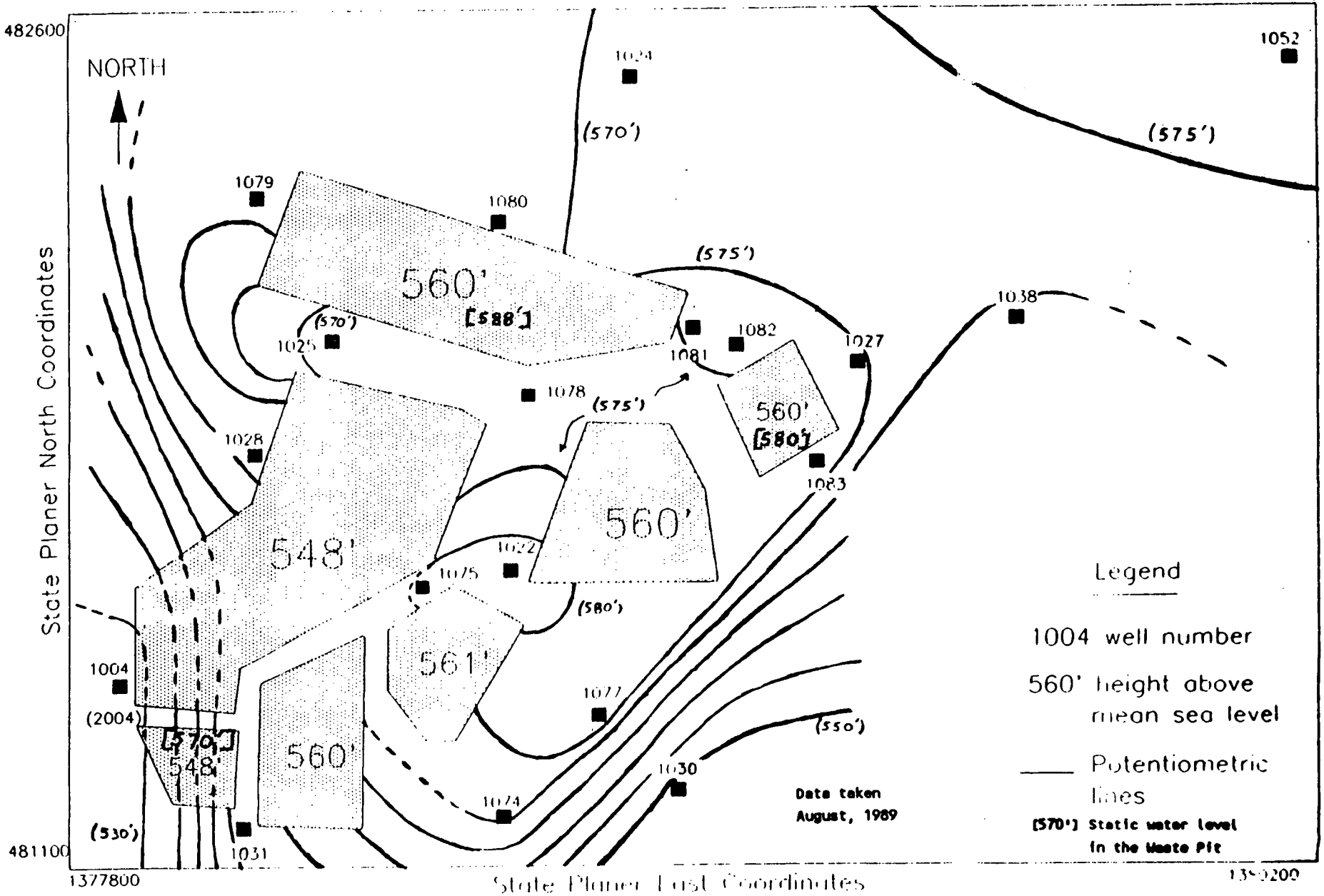
Isoconcentration Diagrams

Revision 1
May 11, 1990

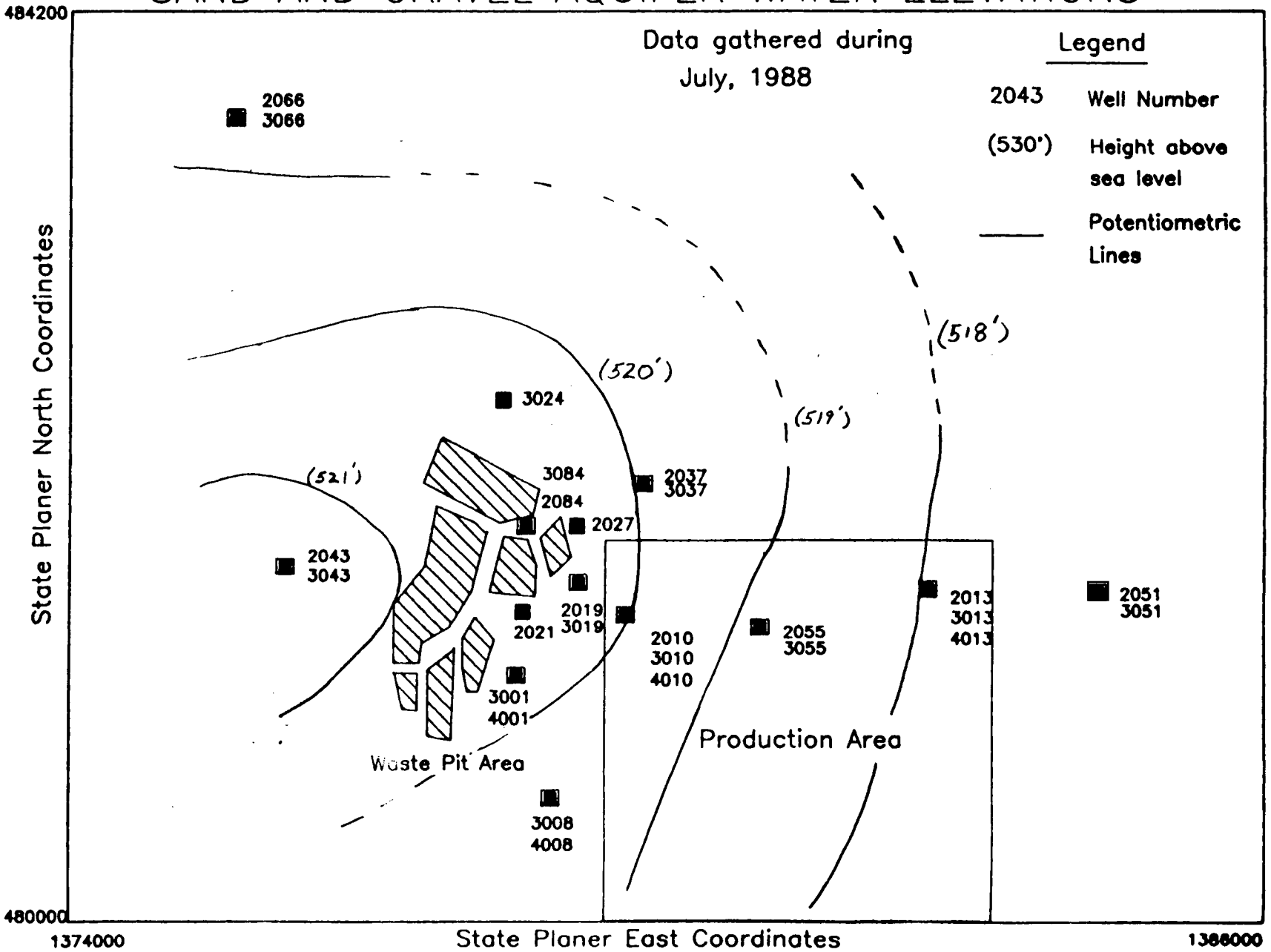
PERCHED WATER TABLE ELEVATIONS IN THE TILL



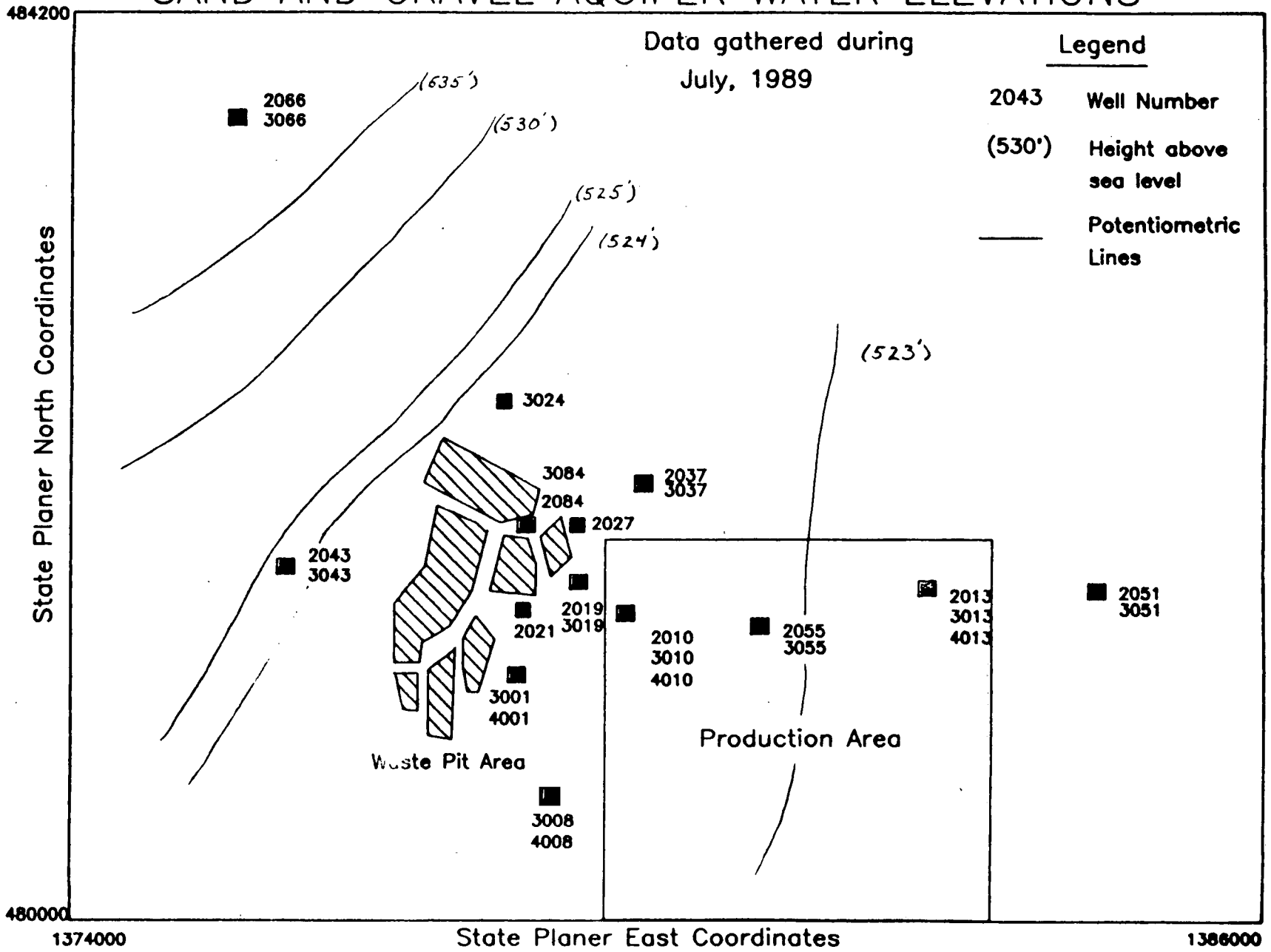
PERCHED WATER TABLE ELEVATIONS IN THE TILL



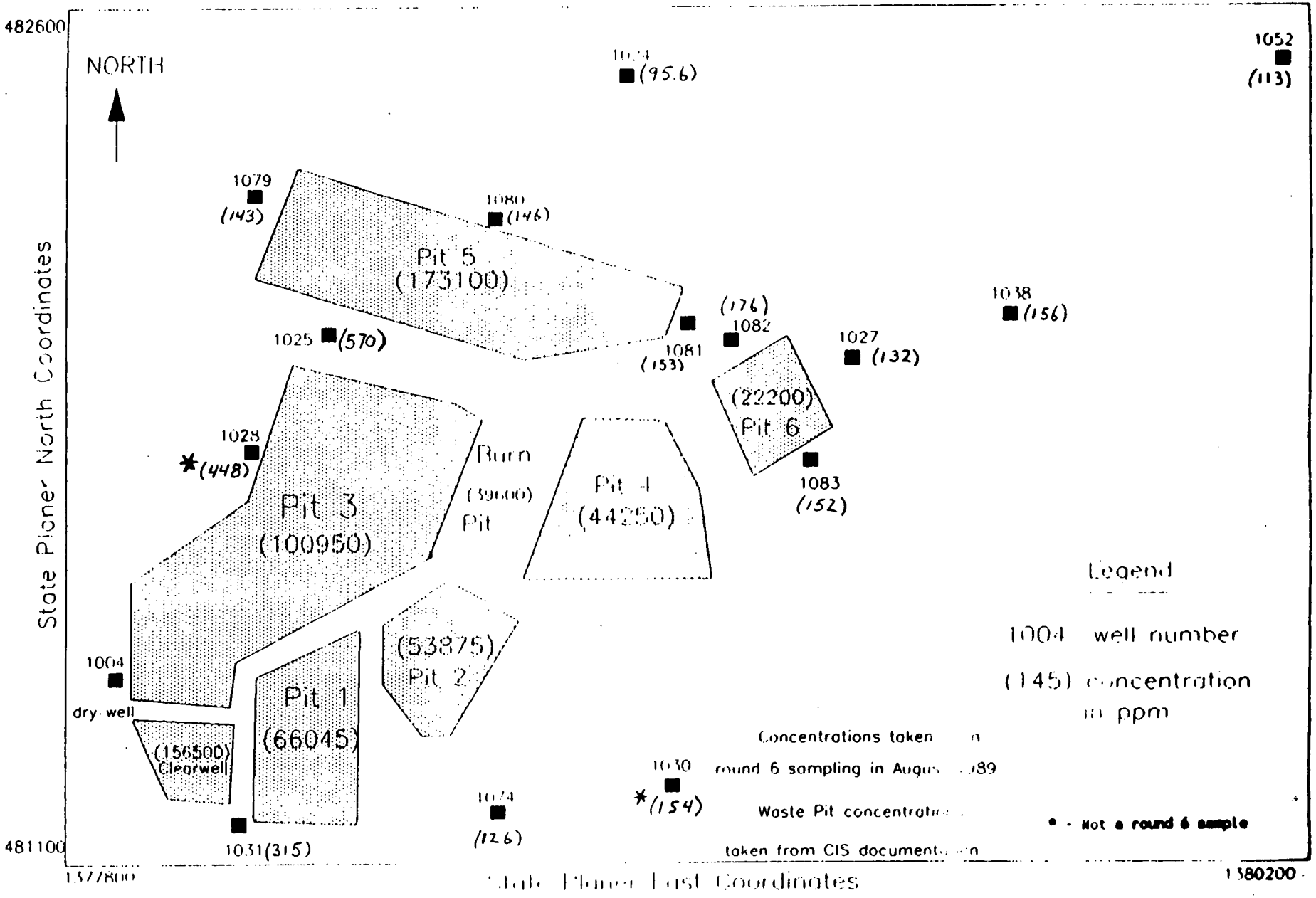
SAND AND GRAVEL AQUIFER WATER ELEVATIONS



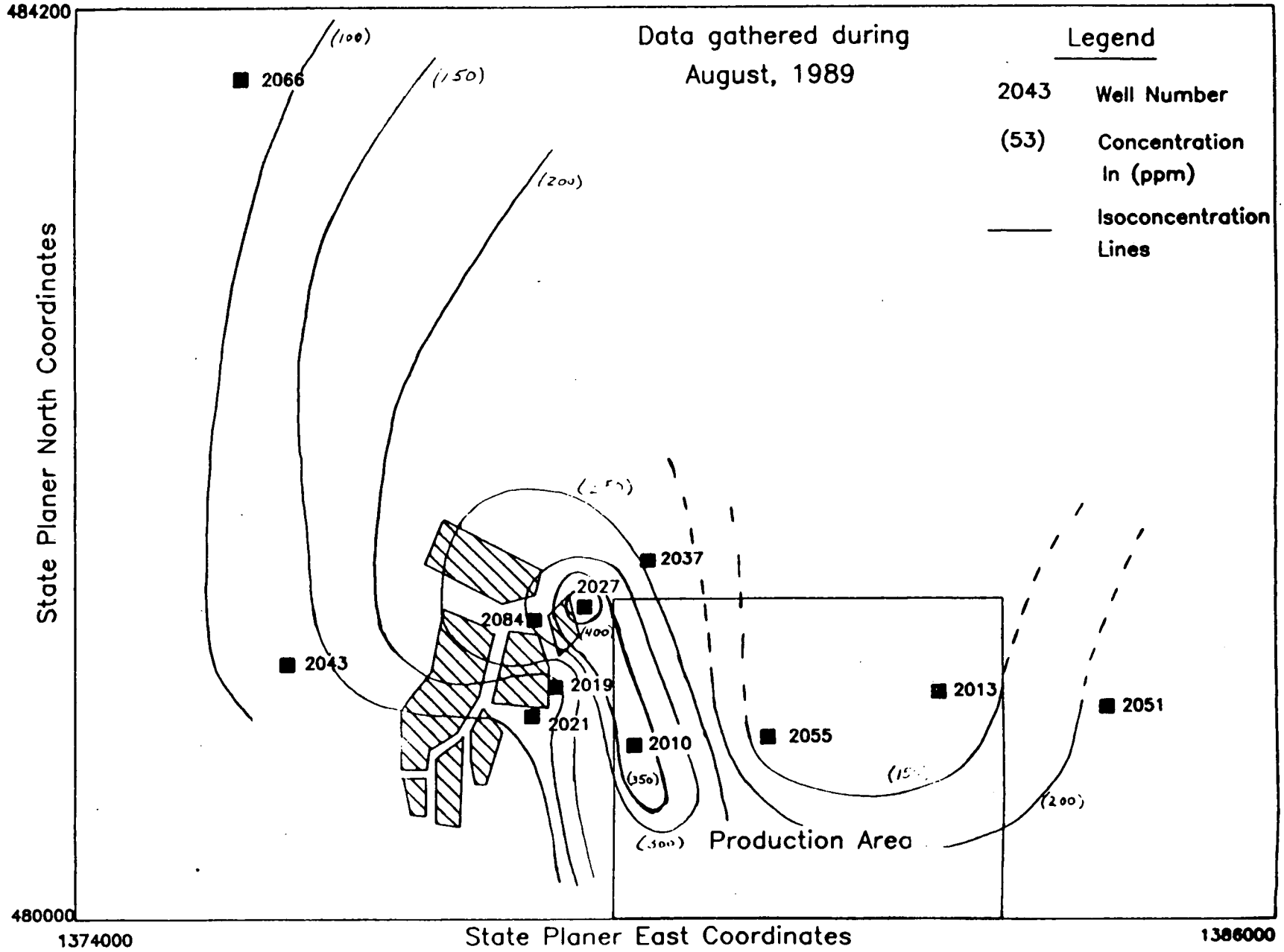
SAND AND GRAVEL AQUIFER WATER ELEVATIONS



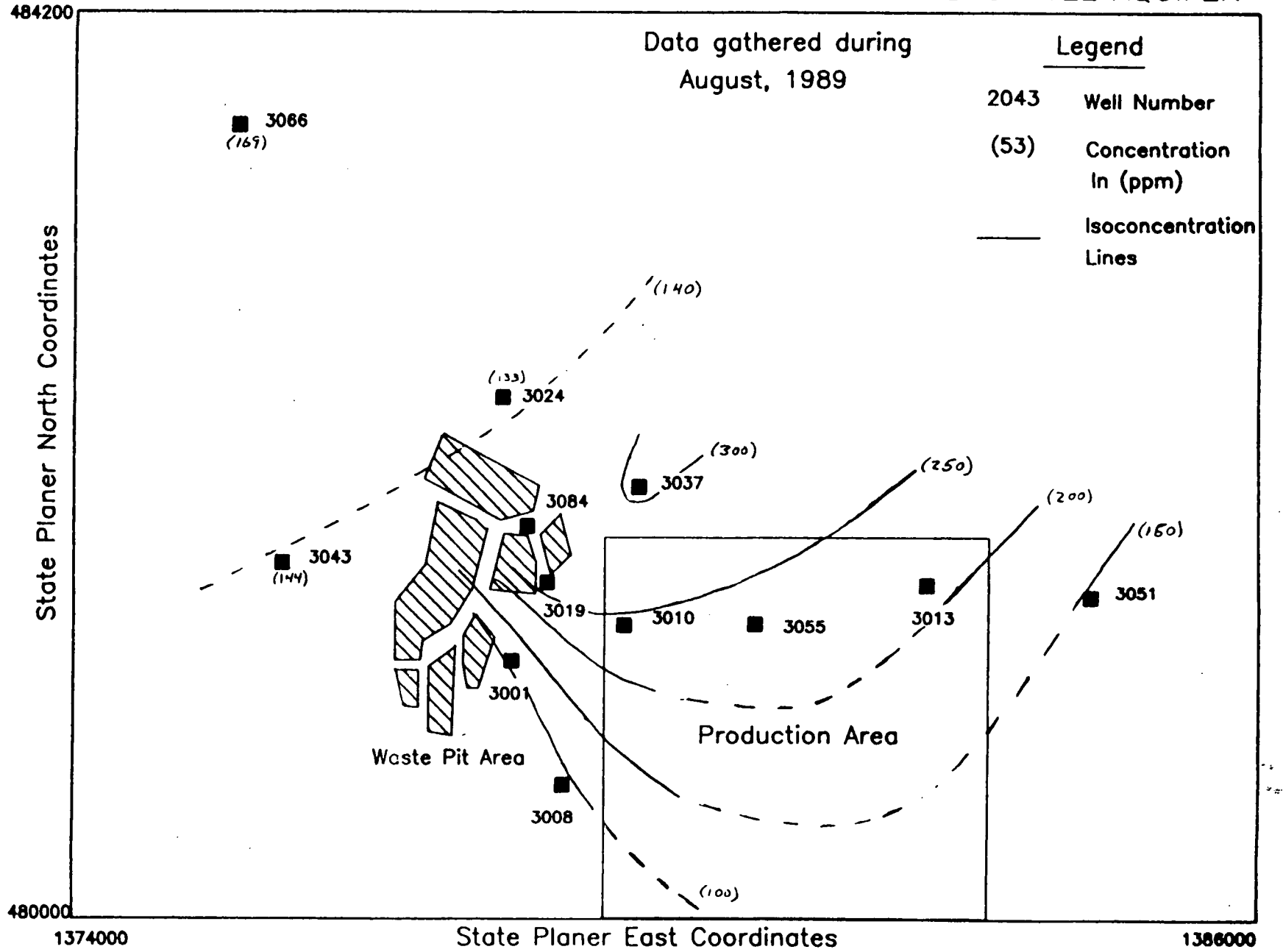
CALCIUM CONCENTRATIONS AT THE WASTE PITS AND TILL WATER



CALCIUM CONCENTRATIONS IN THE UPPER PORTION OF THE SAND AND GRAVEL AQUIFER



CALCIUM CONCENTRATIONS IN THE MIDDLE OF THE SAND AND GRAVEL AQUIFER



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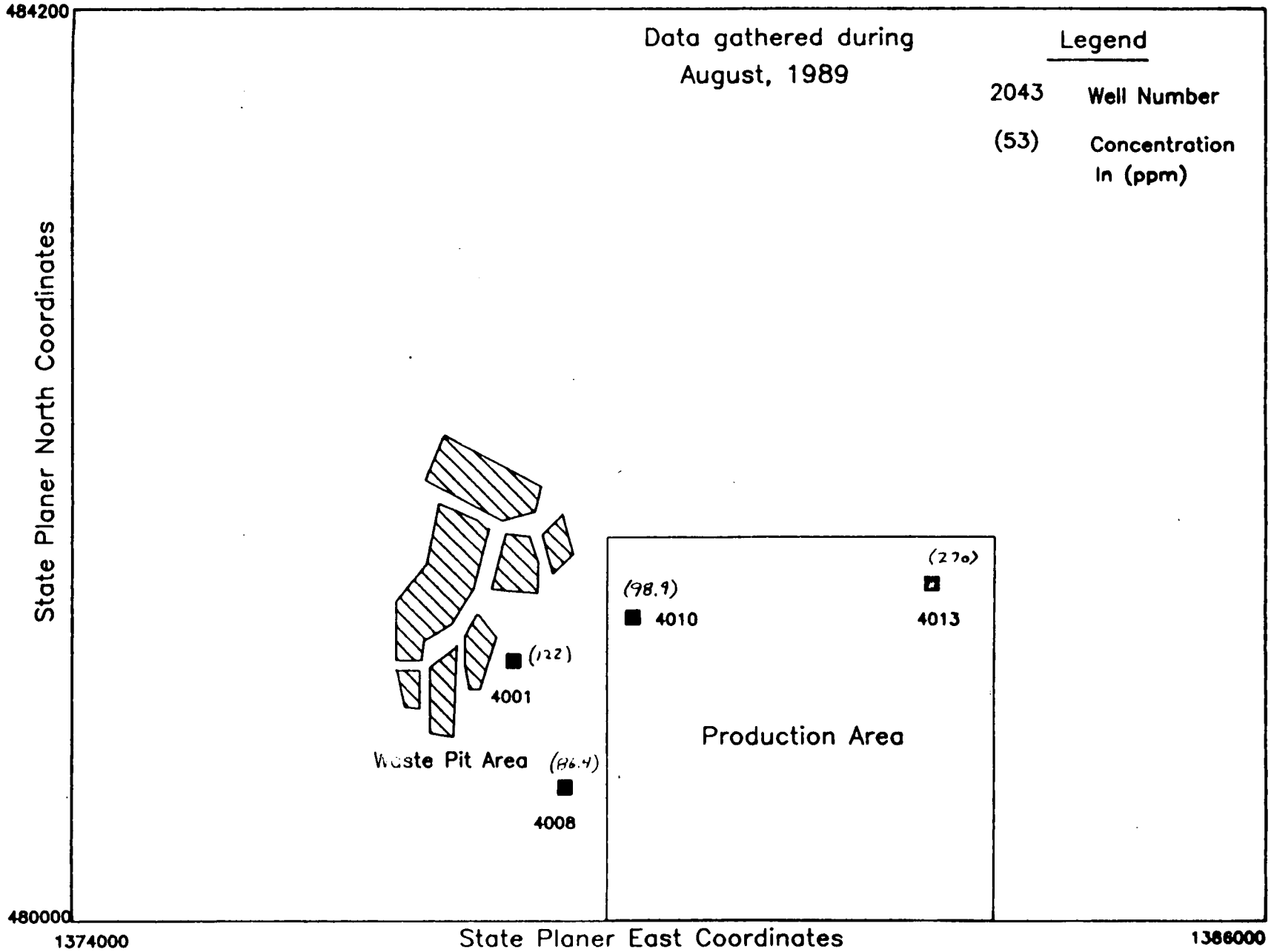
CALCIUM CONCENTRATIONS IN THE LOWER PORTION OF THE SAND AND GRAVEL AQUIFER



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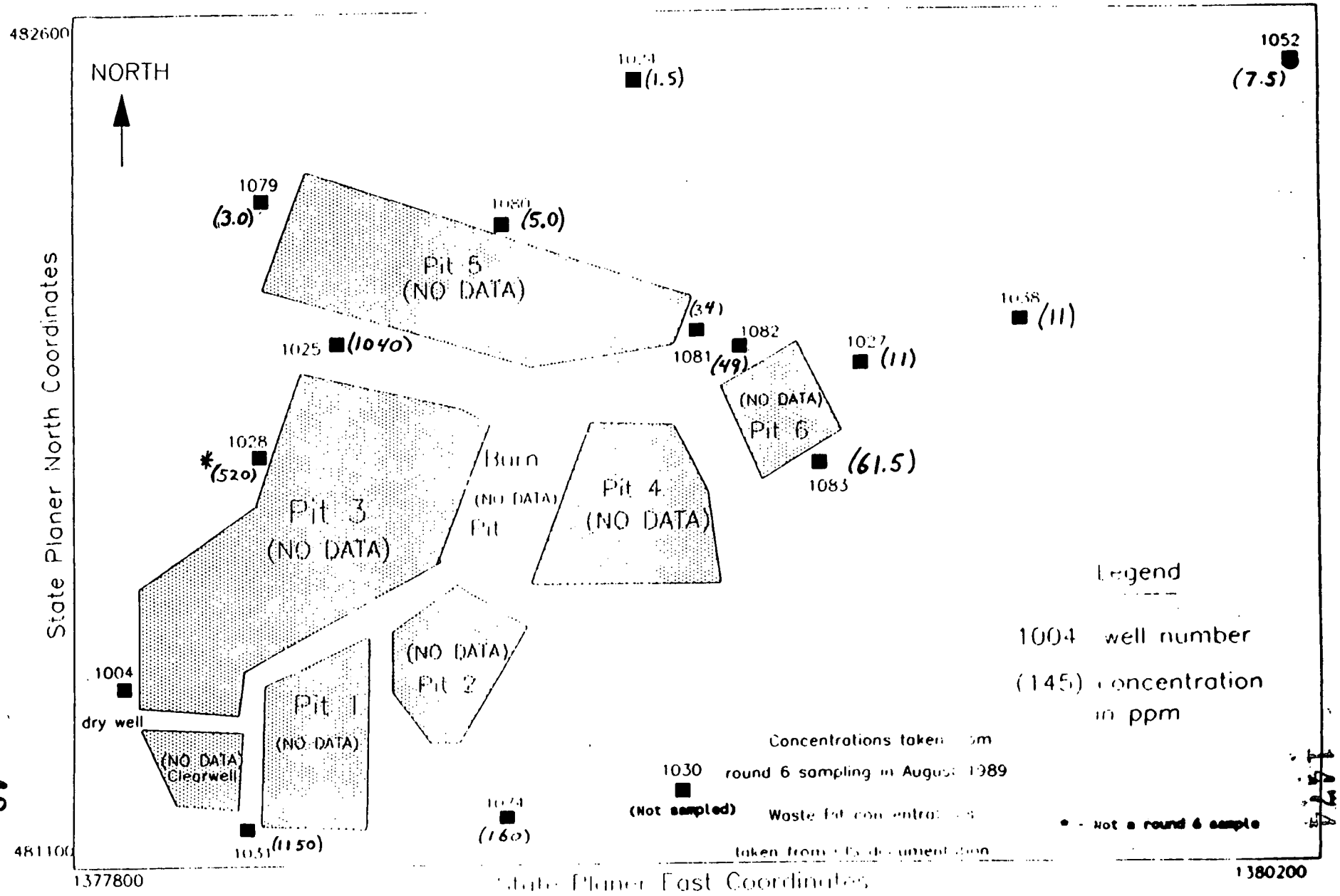
CHLORIDE CONCENTRATIONS IN THE WASTE PITS AND WELL WATER



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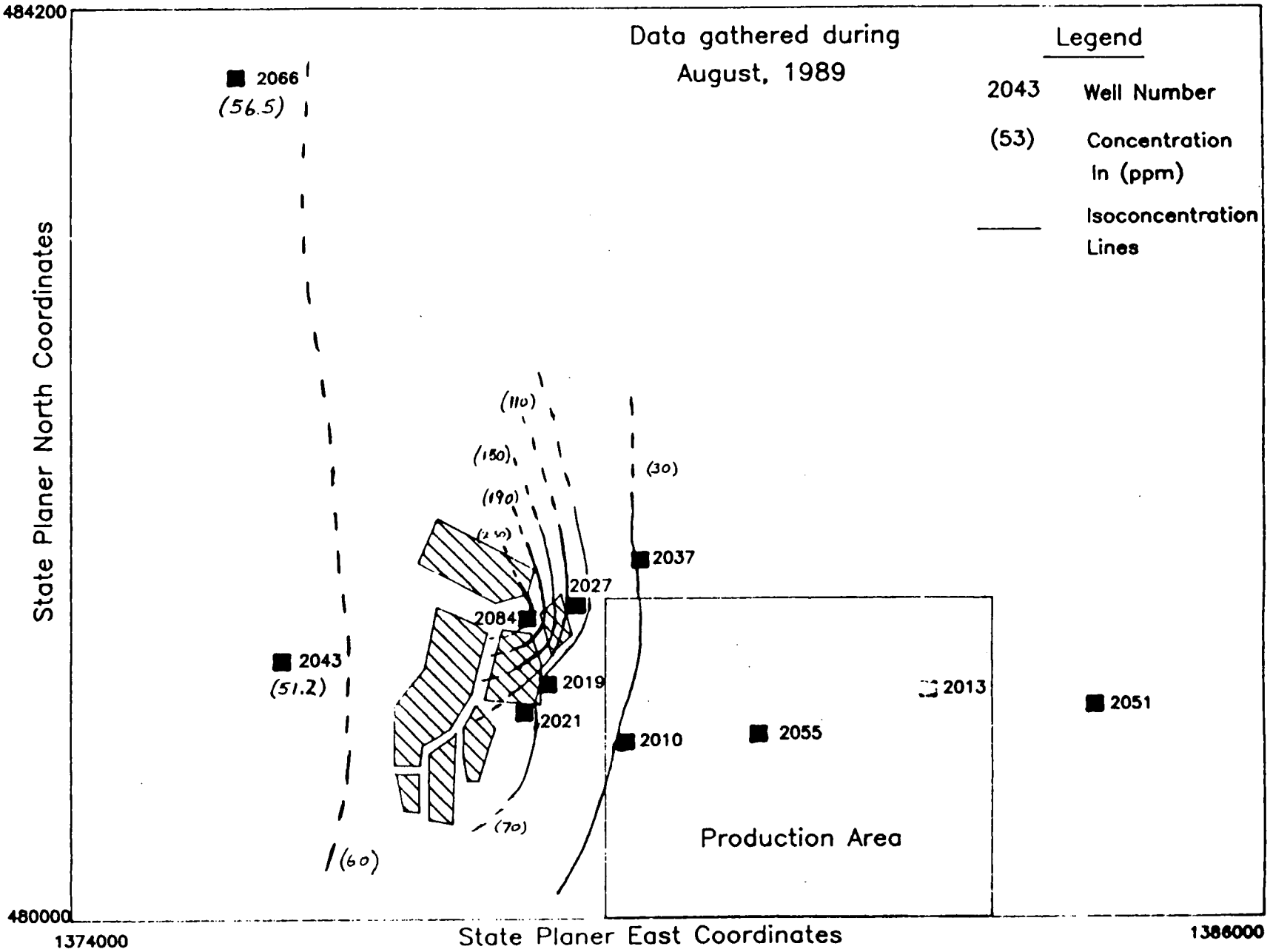

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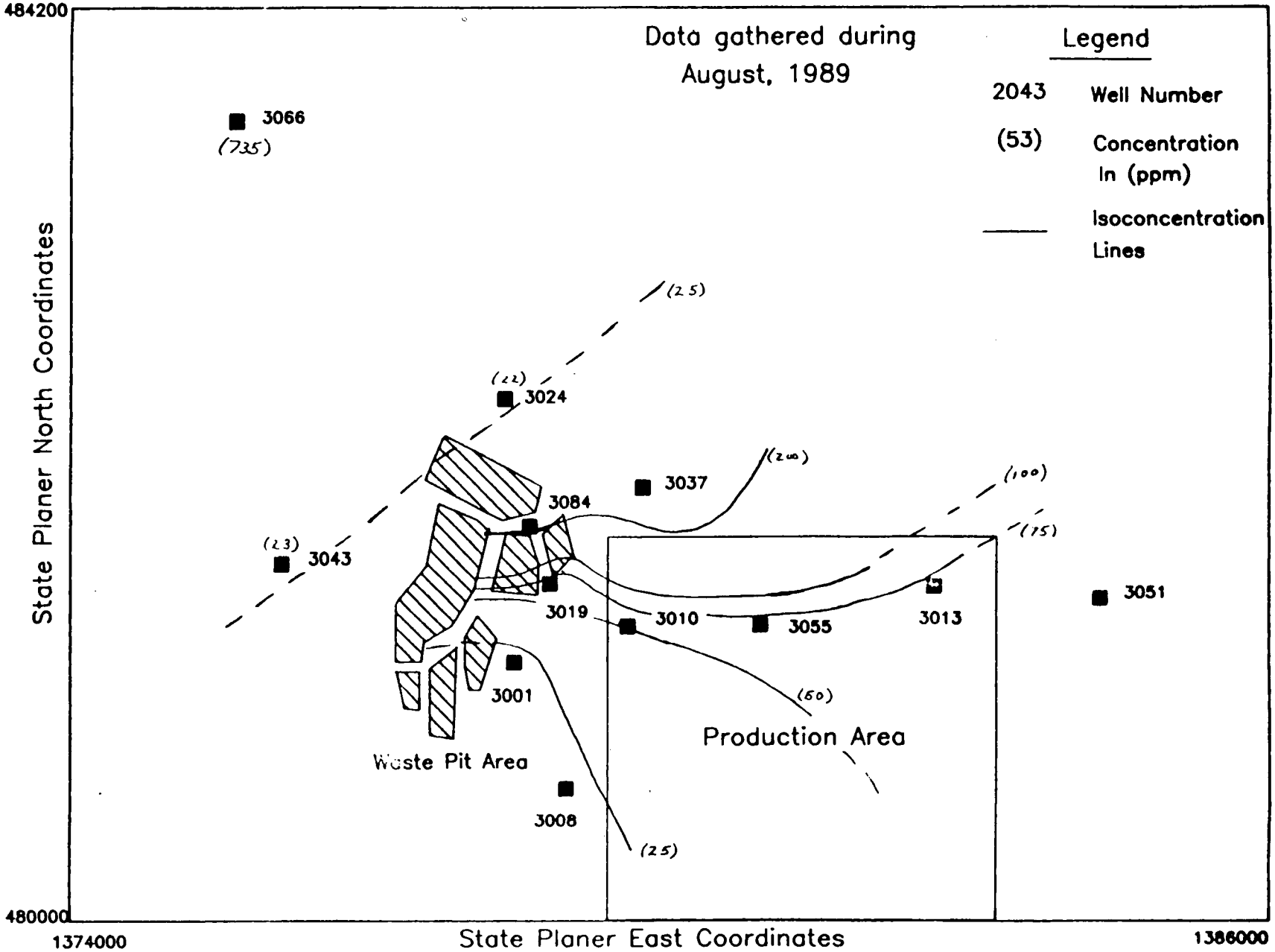

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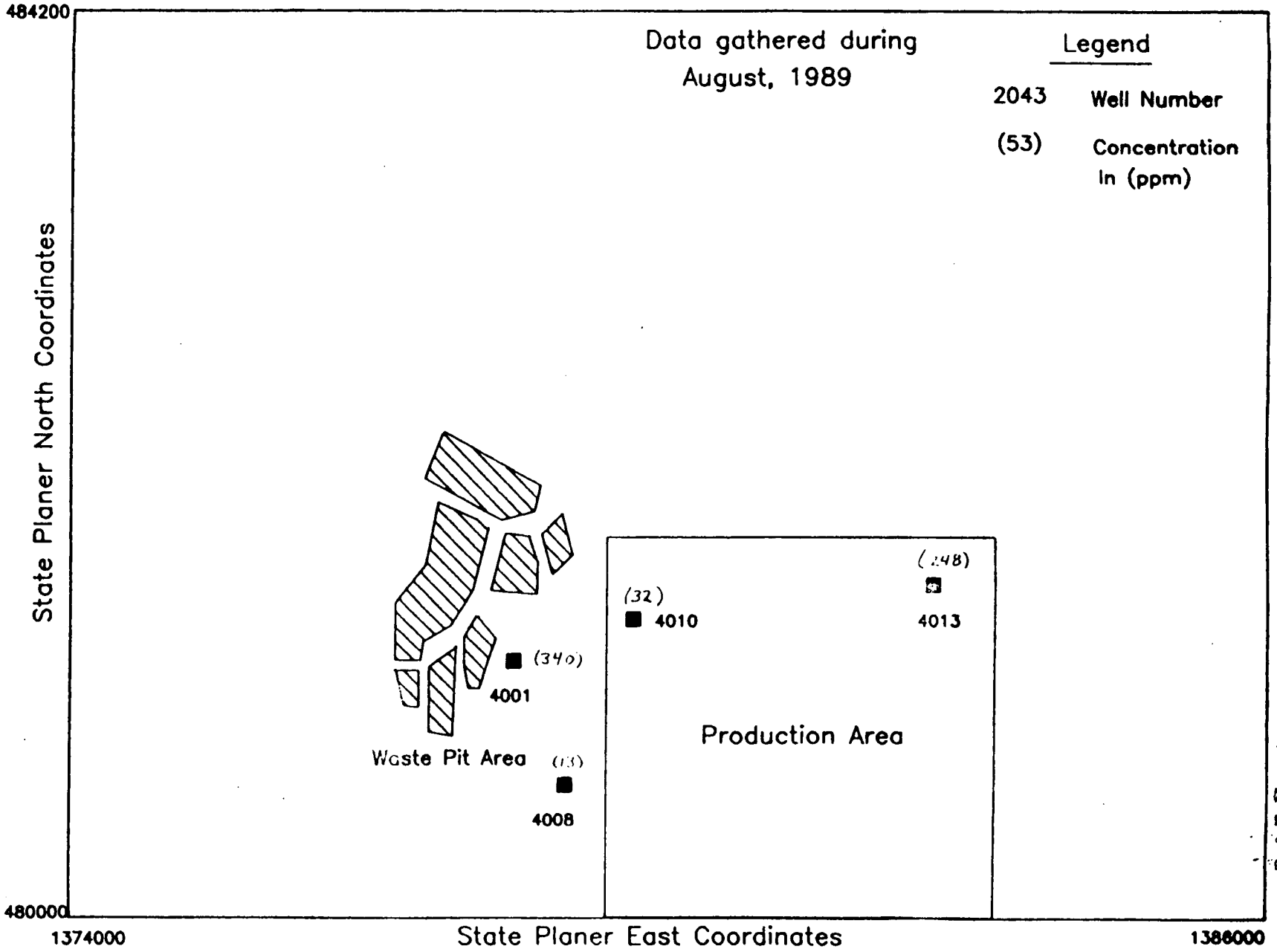
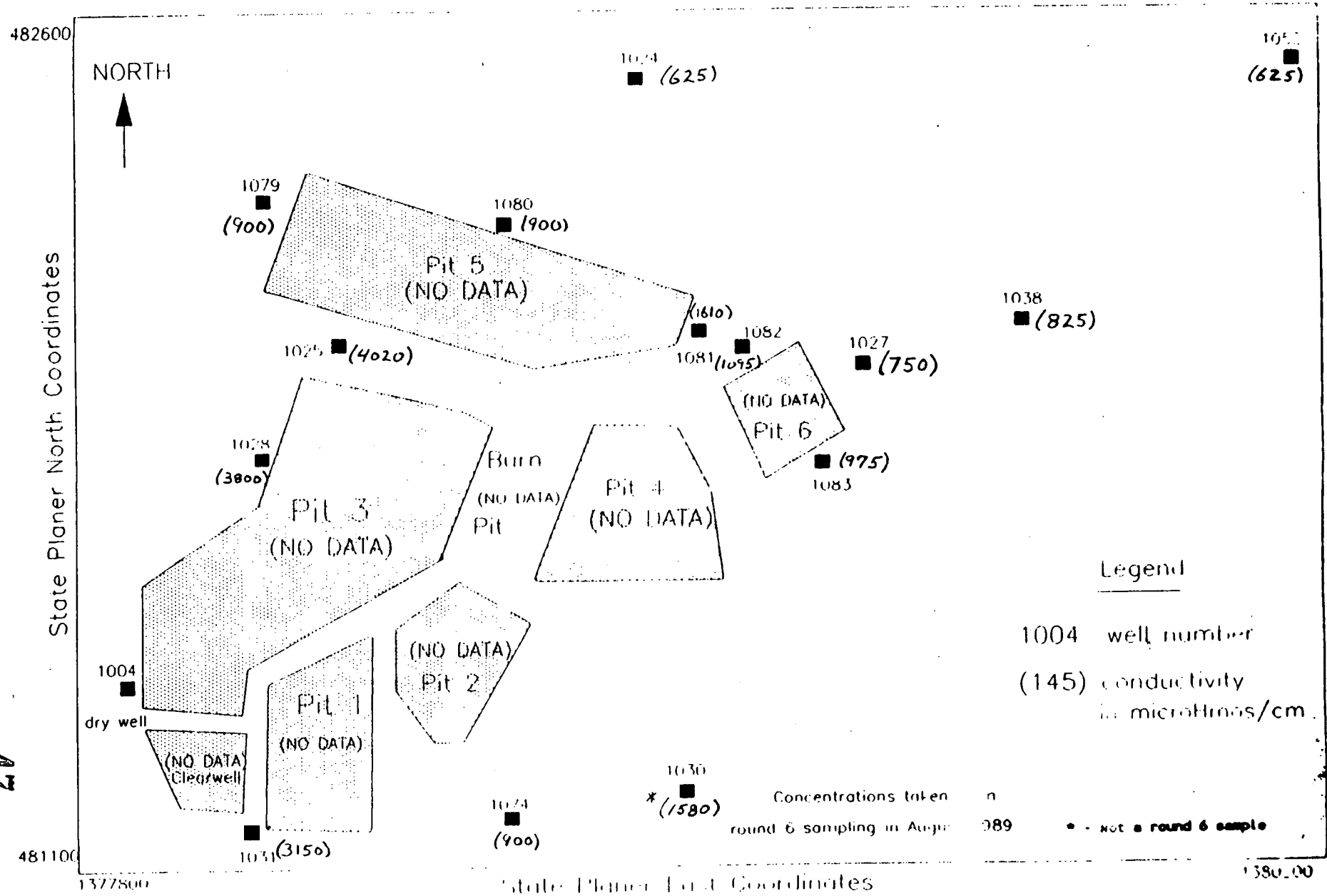
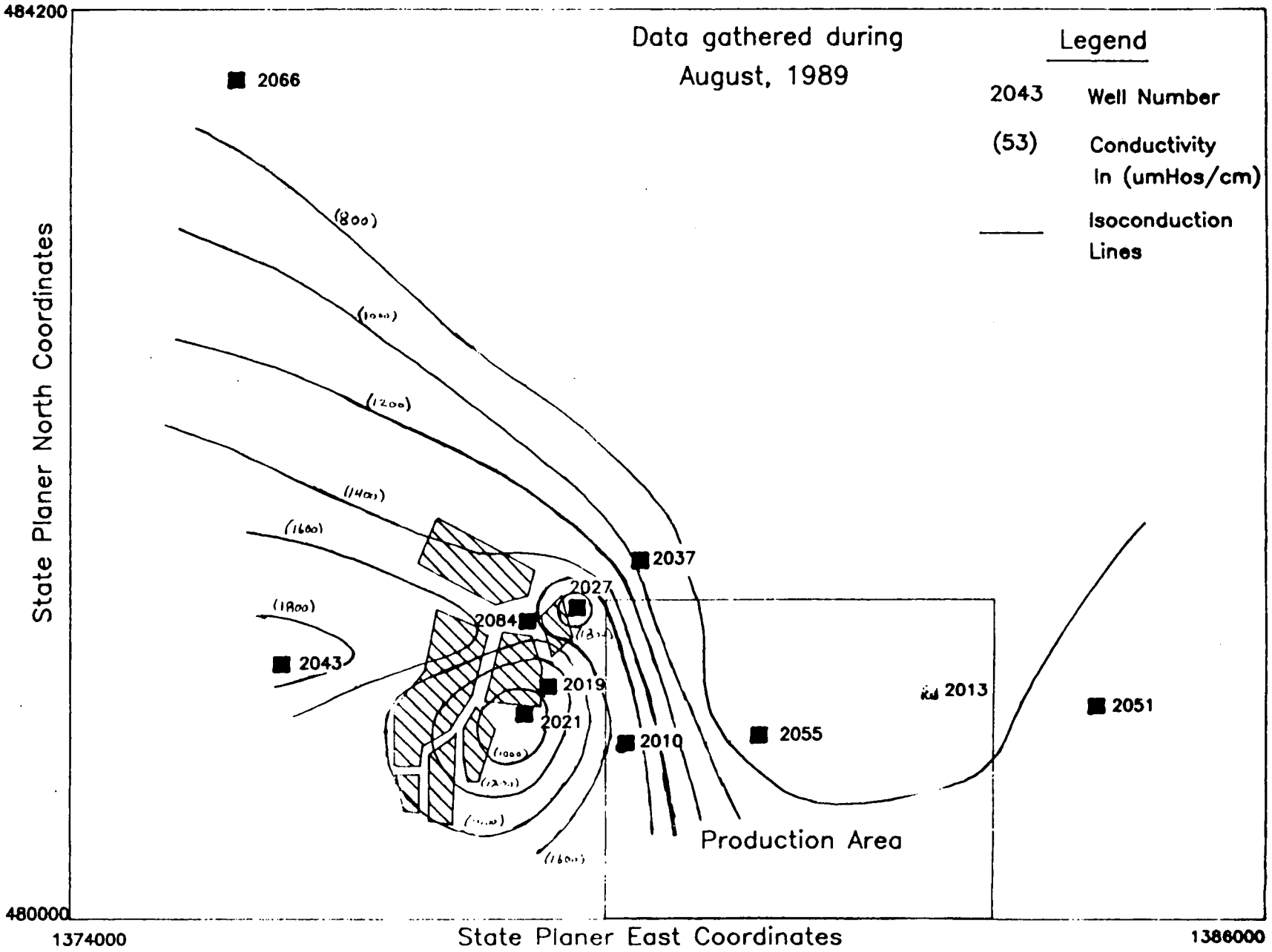


CONDUCTIVITY IN THE WASTE PITS AND TILL WATER



CONDUCTIVITY IN THE UPPER PORTION OF THE SAND AND GRAVEL AQUIFER



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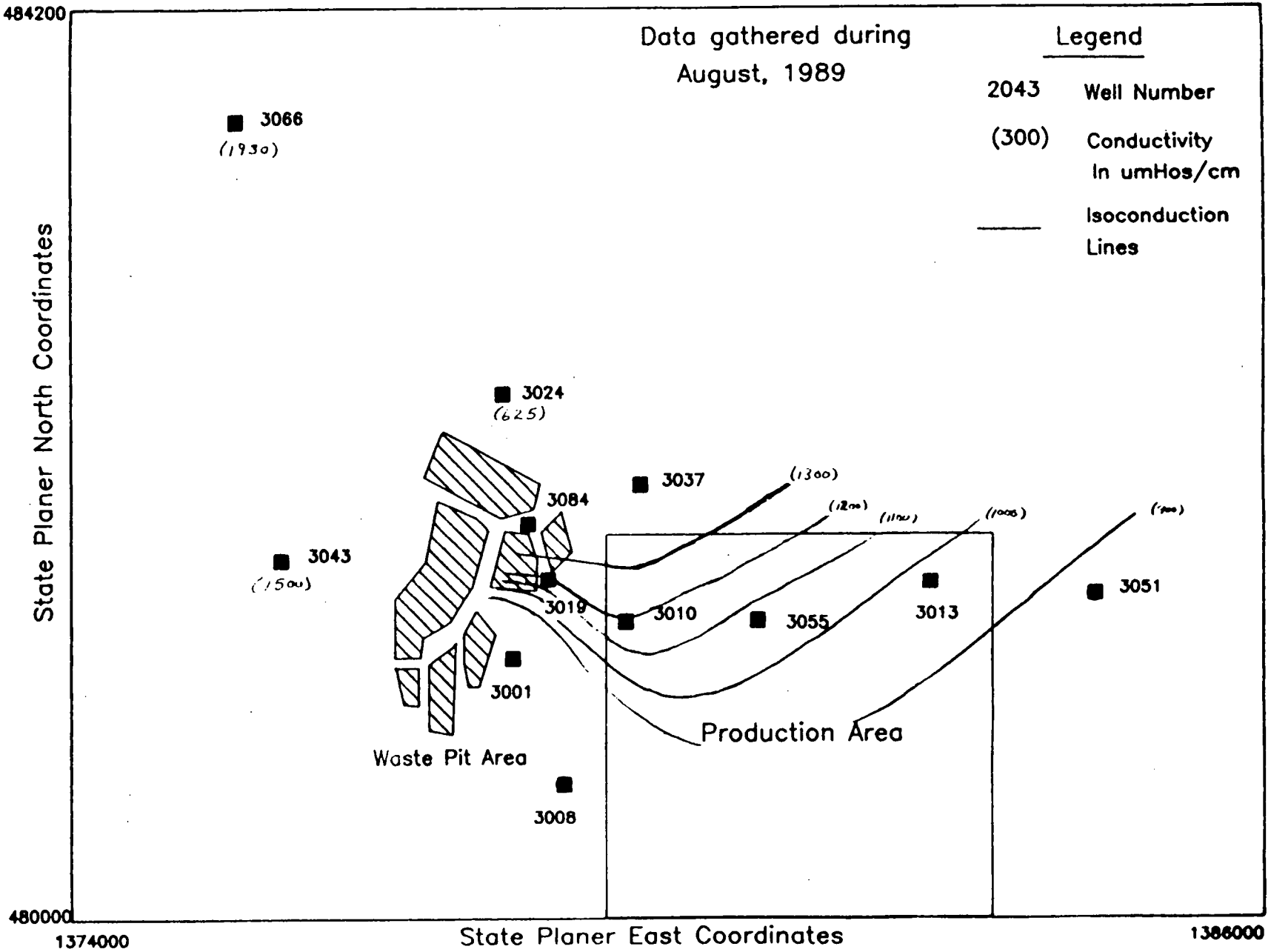
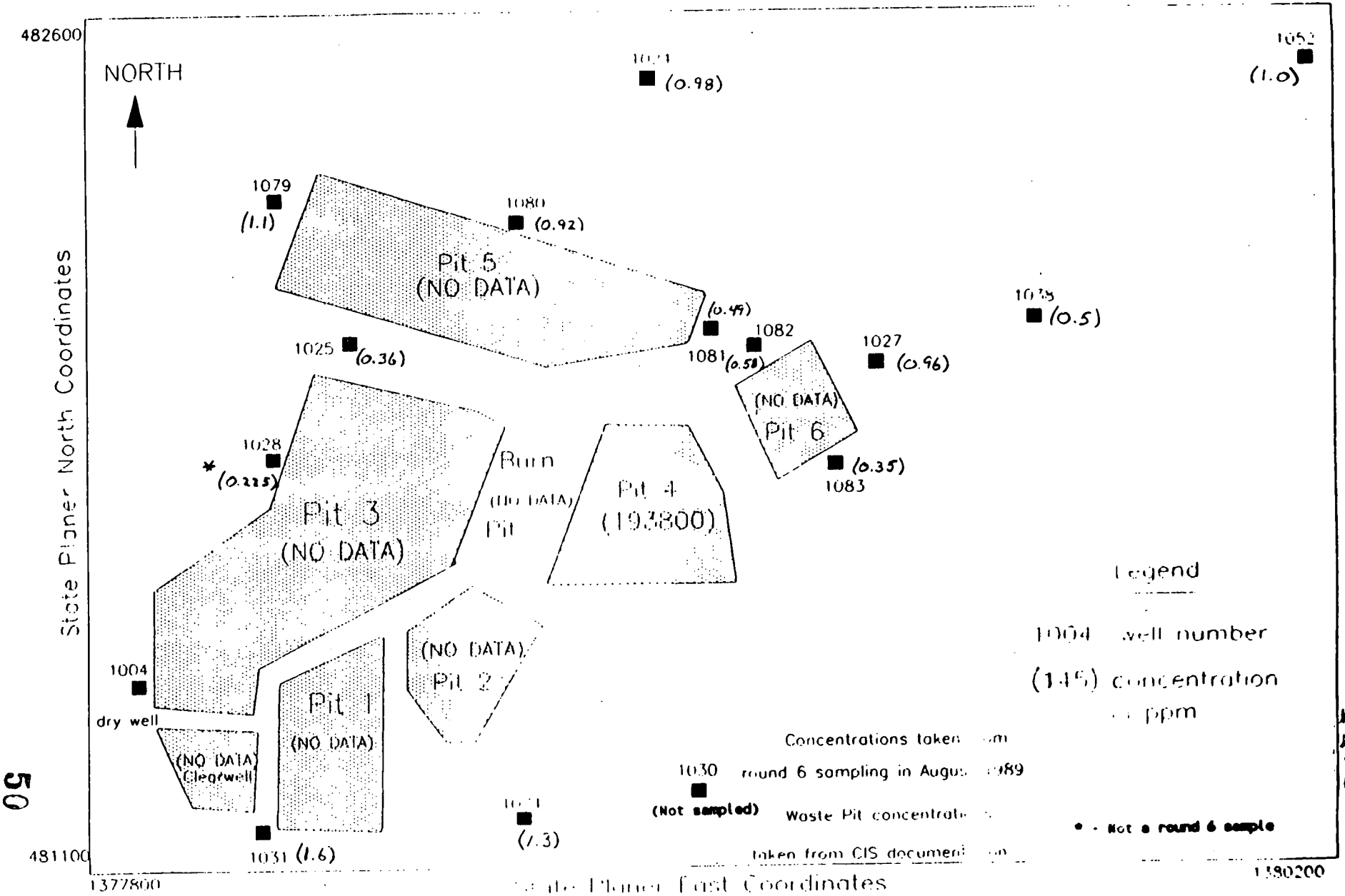
CONDUCTIVITY IN THE MIDDLE OF THE SAND AND GRAVEL AQUIFER



FLUORIDE CONCENTRATIONS IN THE WASTE PITS AND THE WATER



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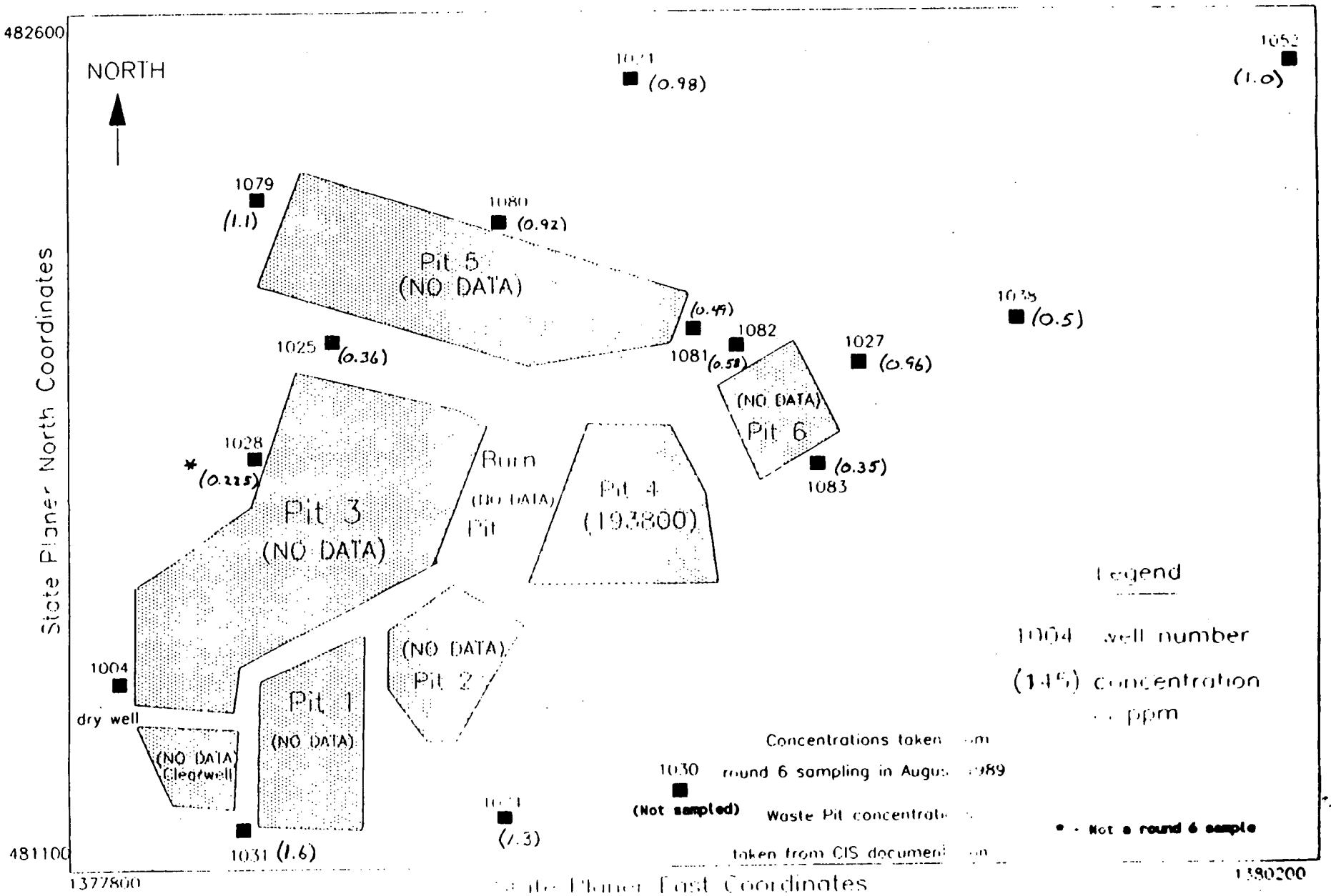
FLUORIDE CONCENTRATIONS IN THE WASTE PITS AND THE WATER



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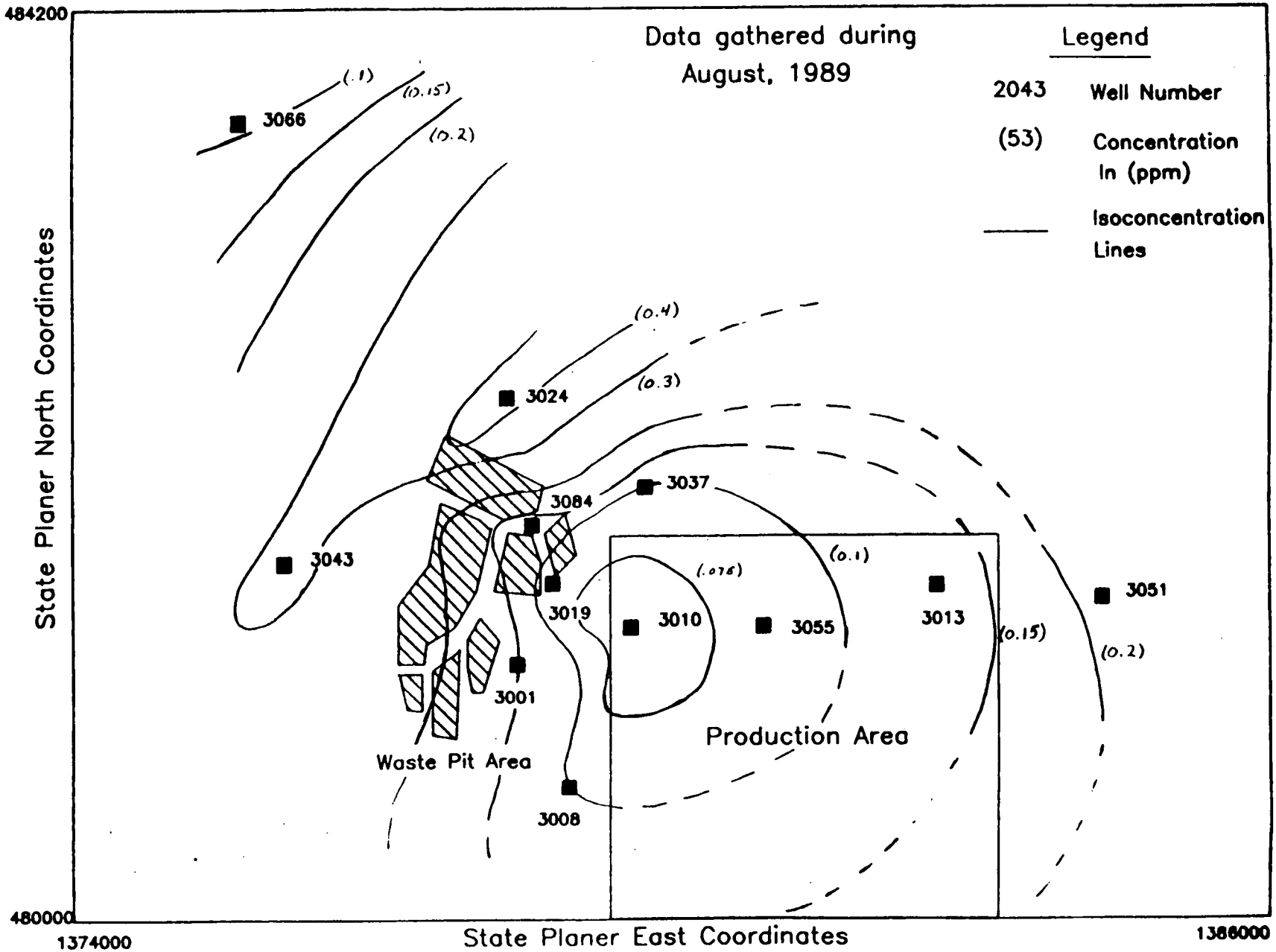
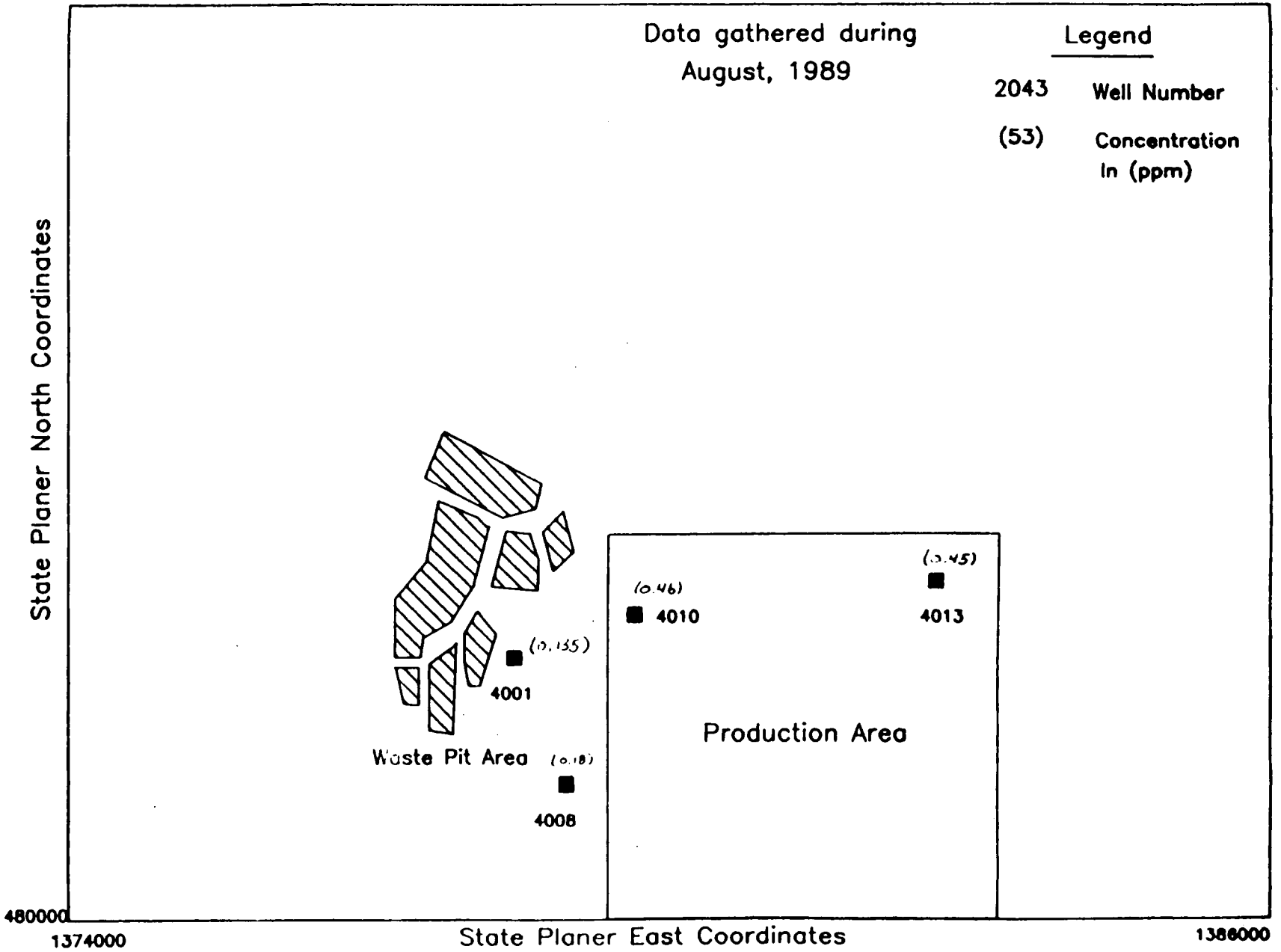
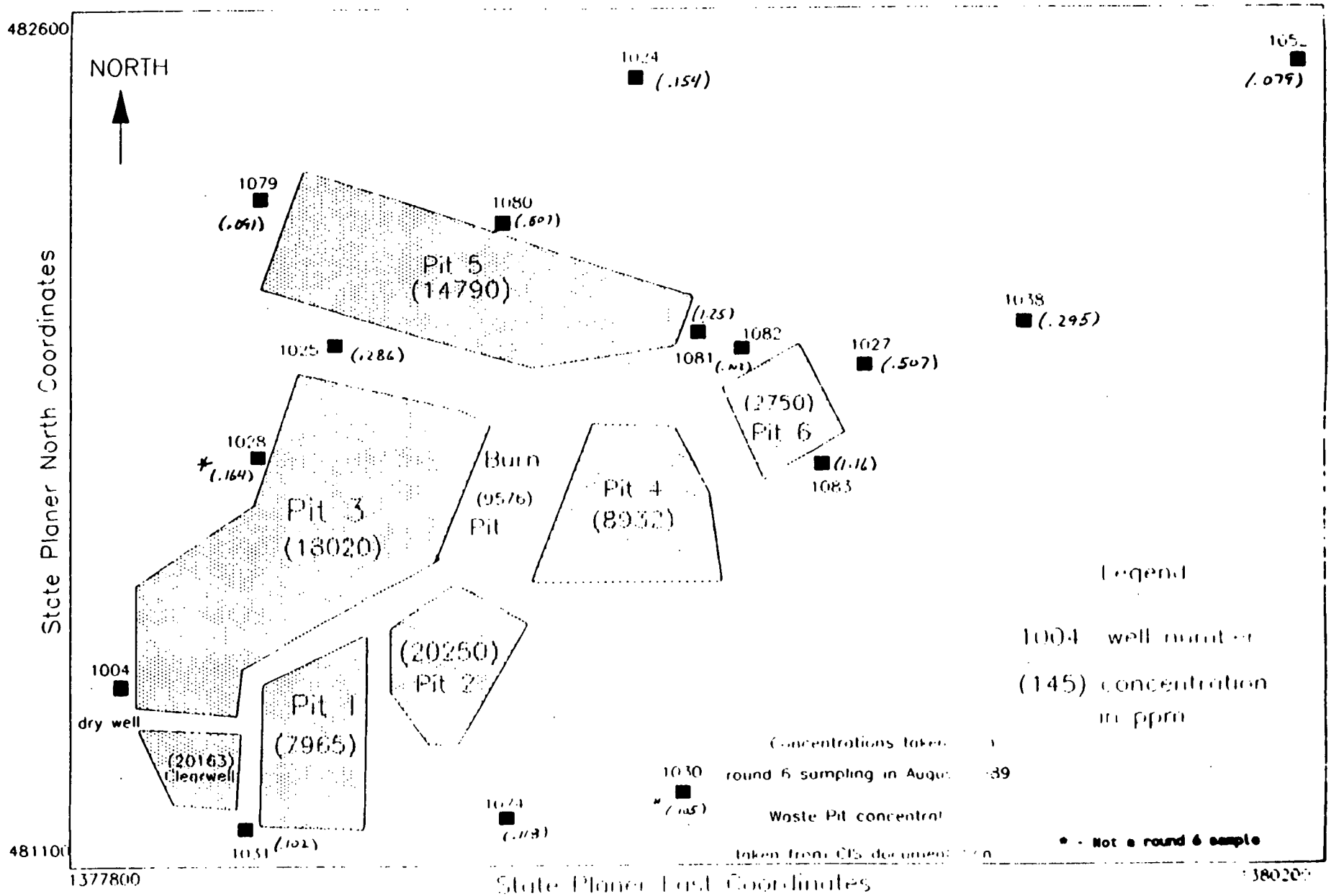


FLUORIDE CONCENTRATIONS IN THE LOWER PORTION OF THE SAND AND GRAVEL AQUIFER



IRON CONCENTRATIONS IN THE WASTE PITS AND THE WATER



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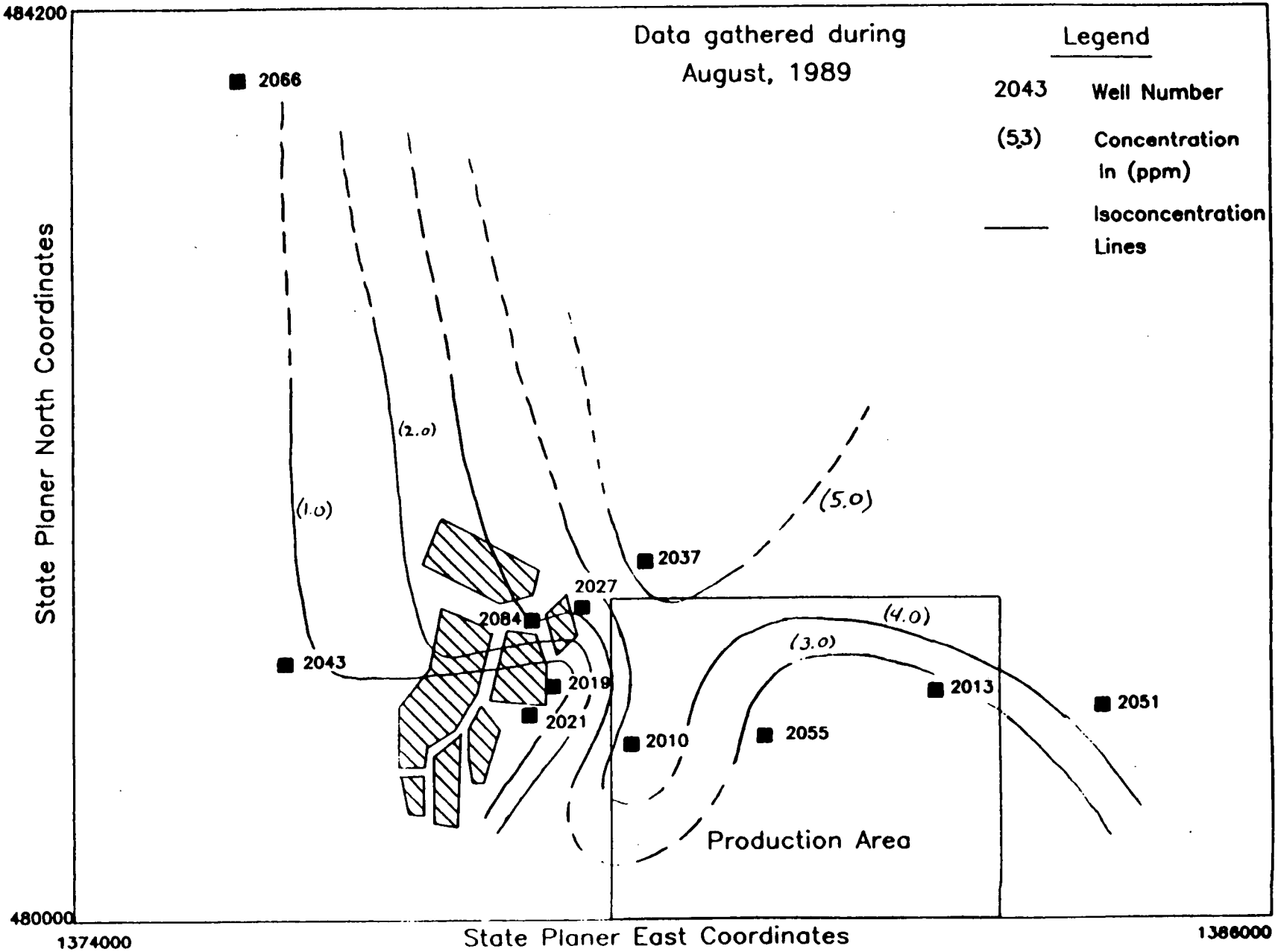
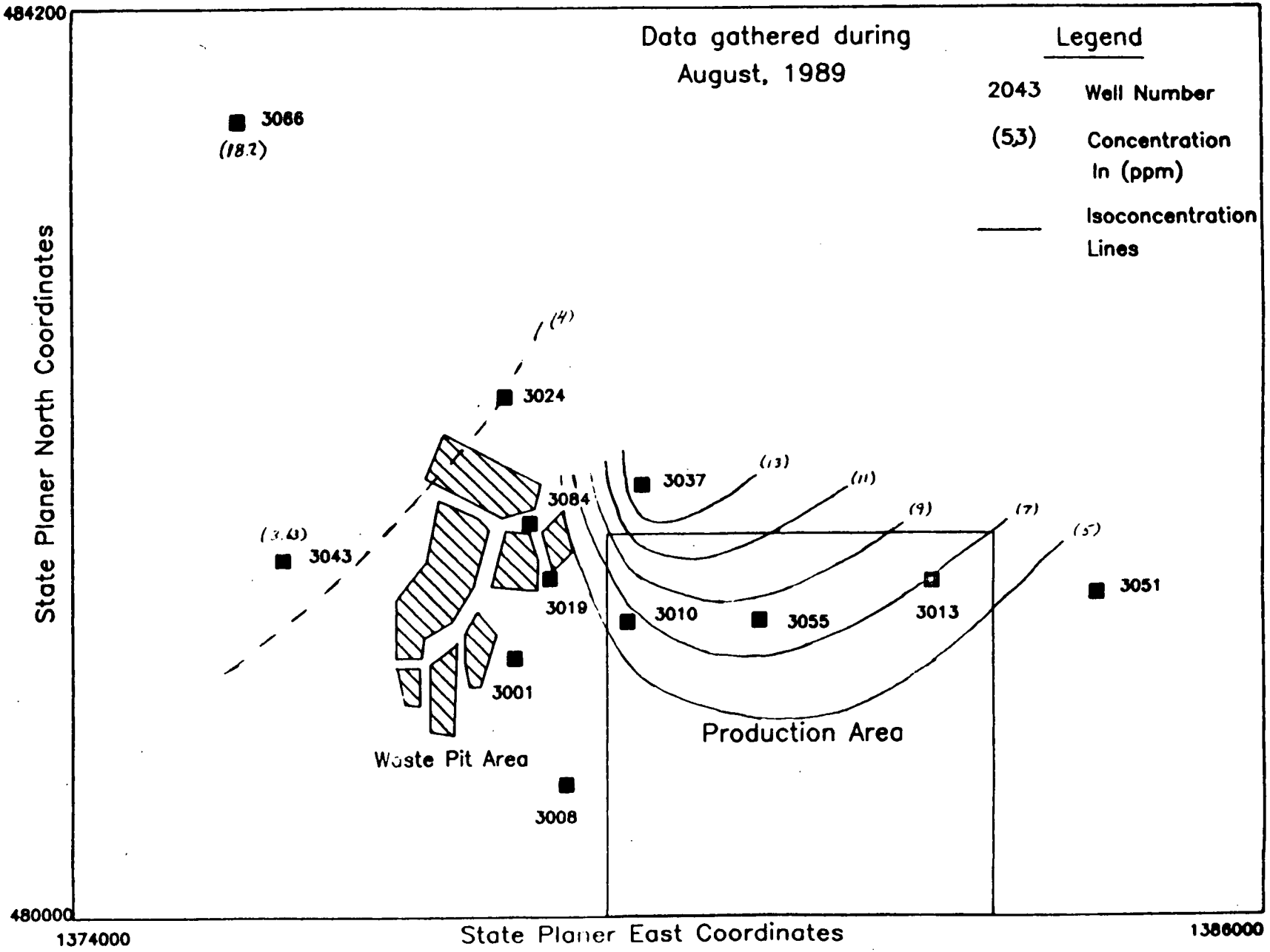


IRON CONCENTRATIONS IN THE MIDDLE OF THE SAND AND GRAVEL AQUIFER



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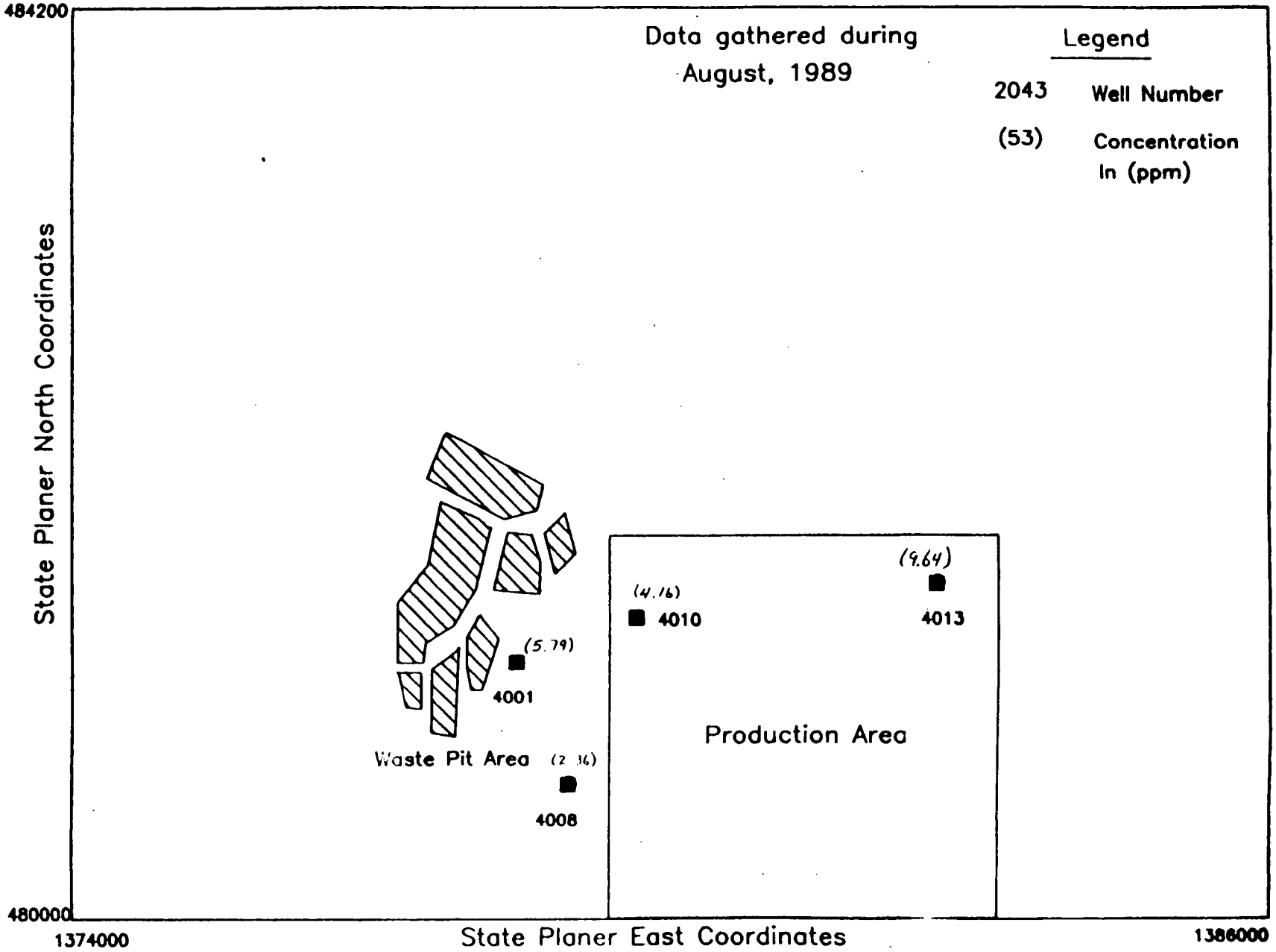
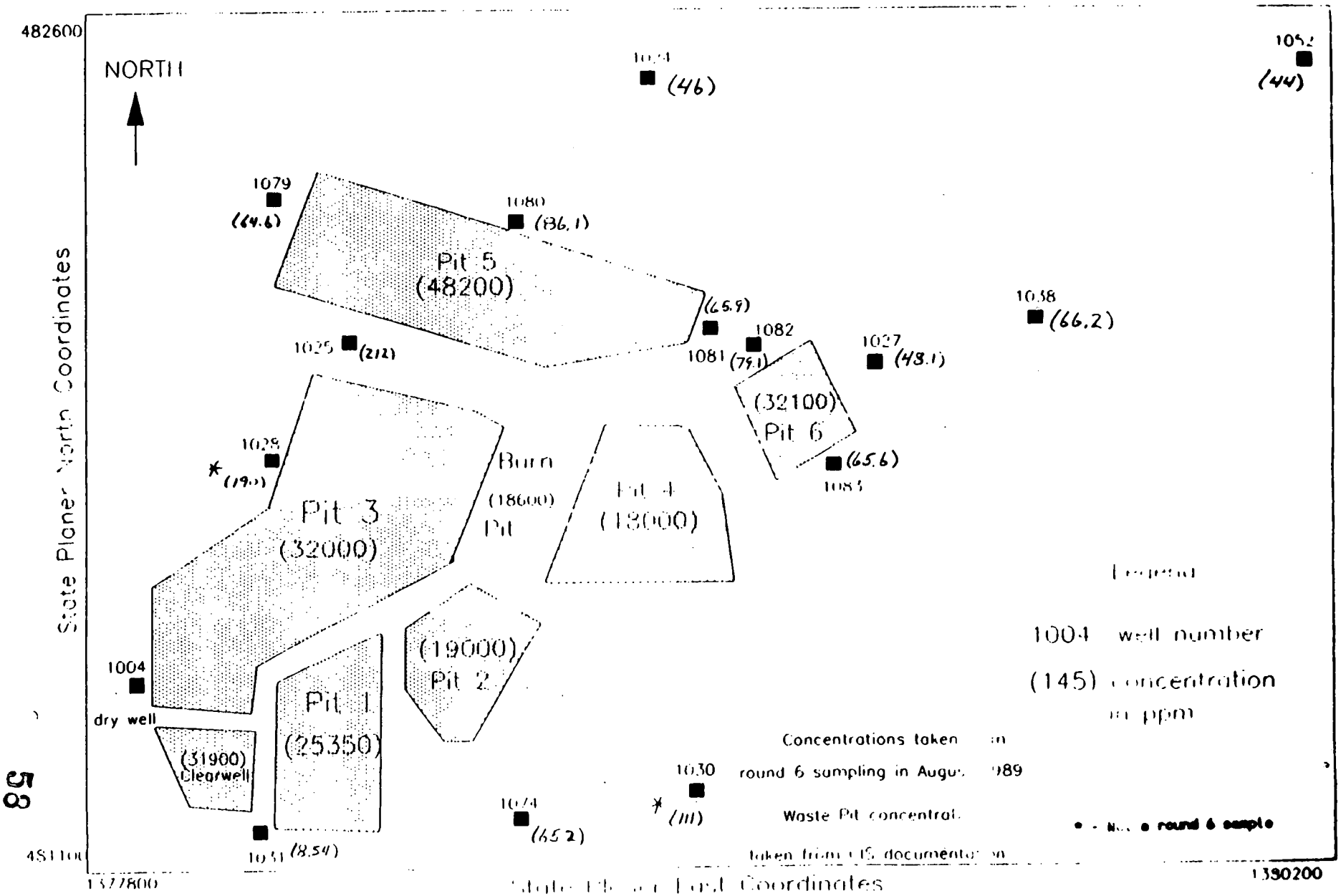


MAGNESIUM CONCENTRATIONS IN THE WASTE PITS AND HILL [illegible]



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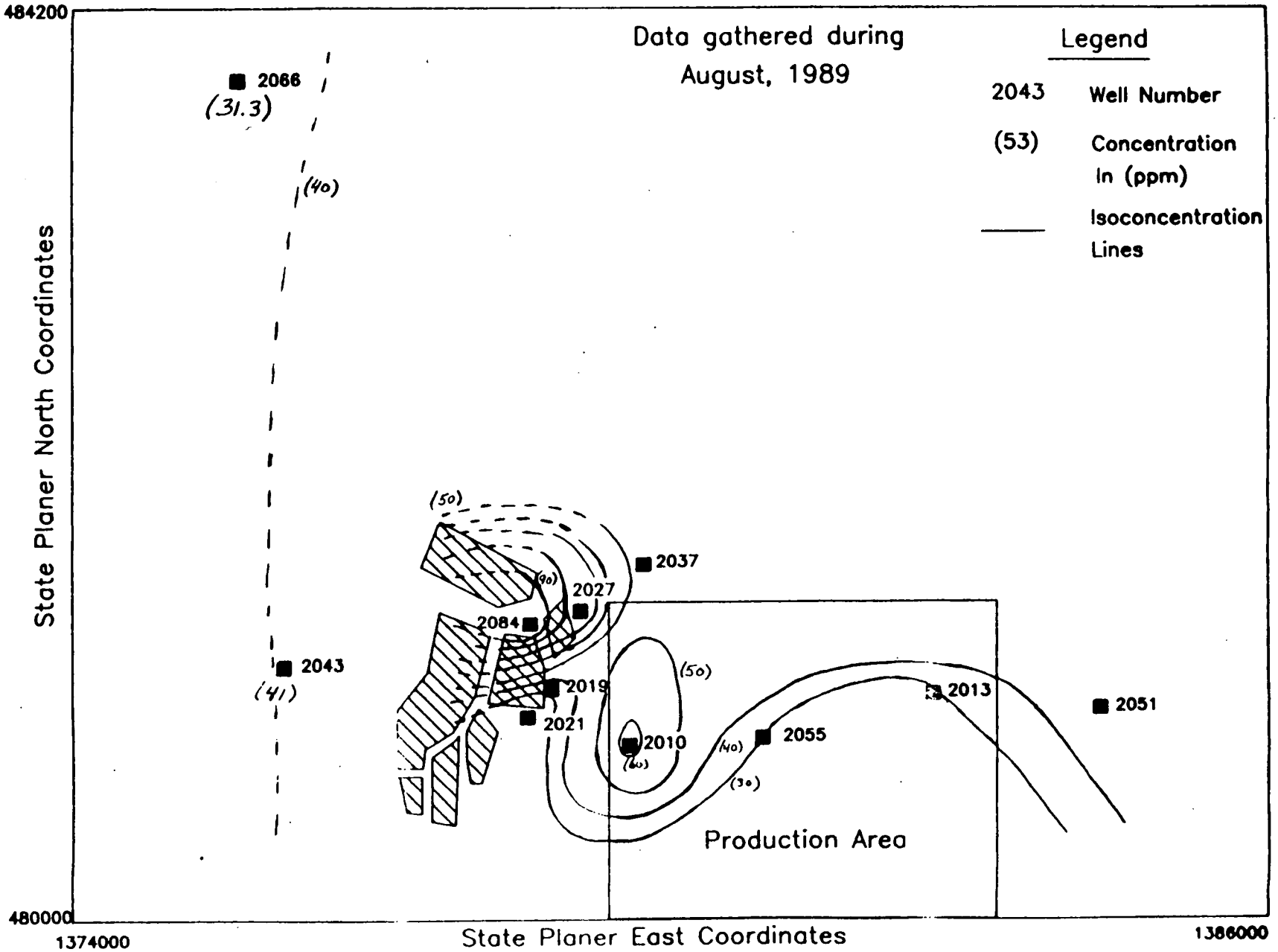

pH IN THE LOWER PORTION OF THE SAND AND GRAVEL AQUIFER

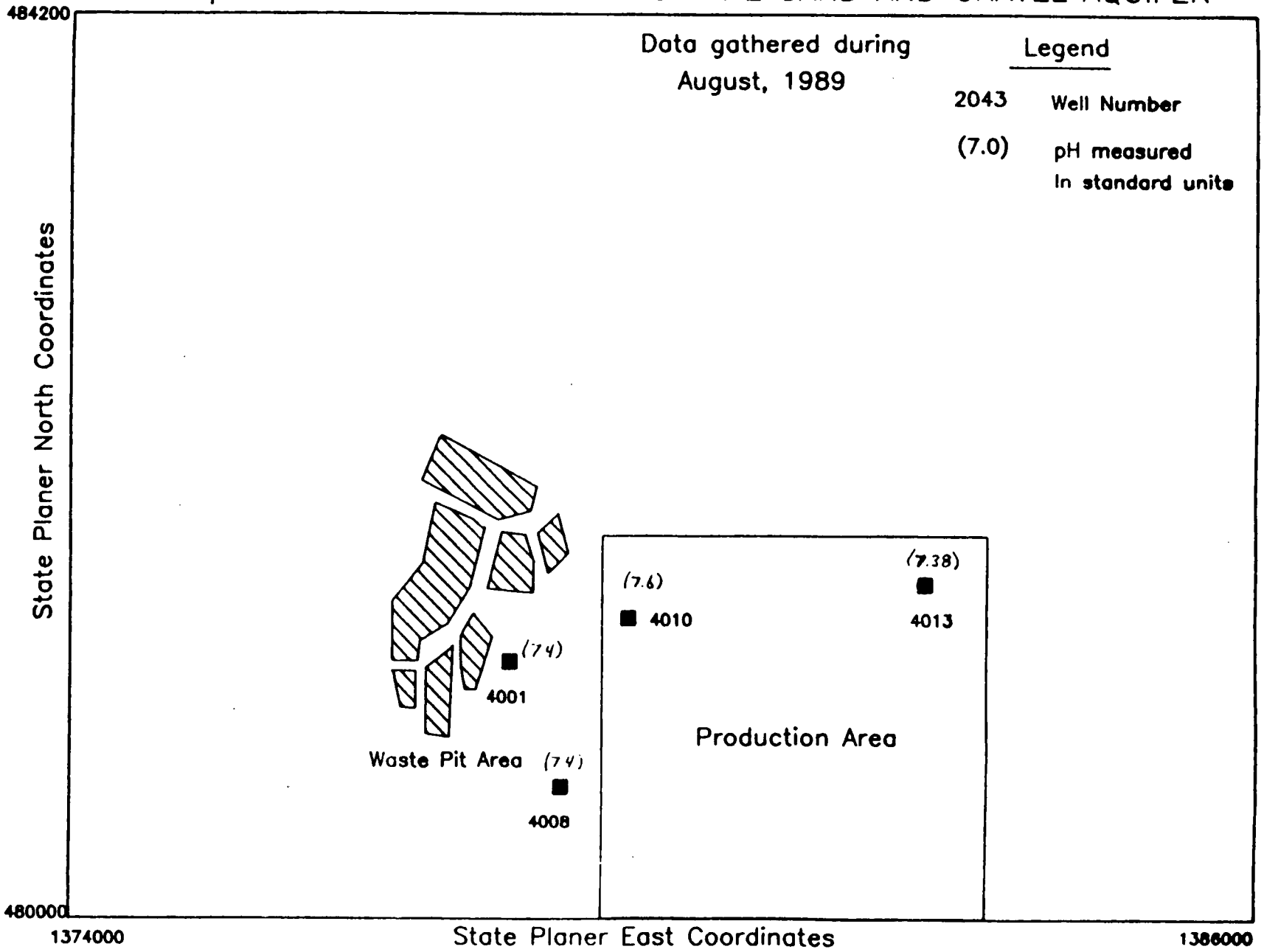

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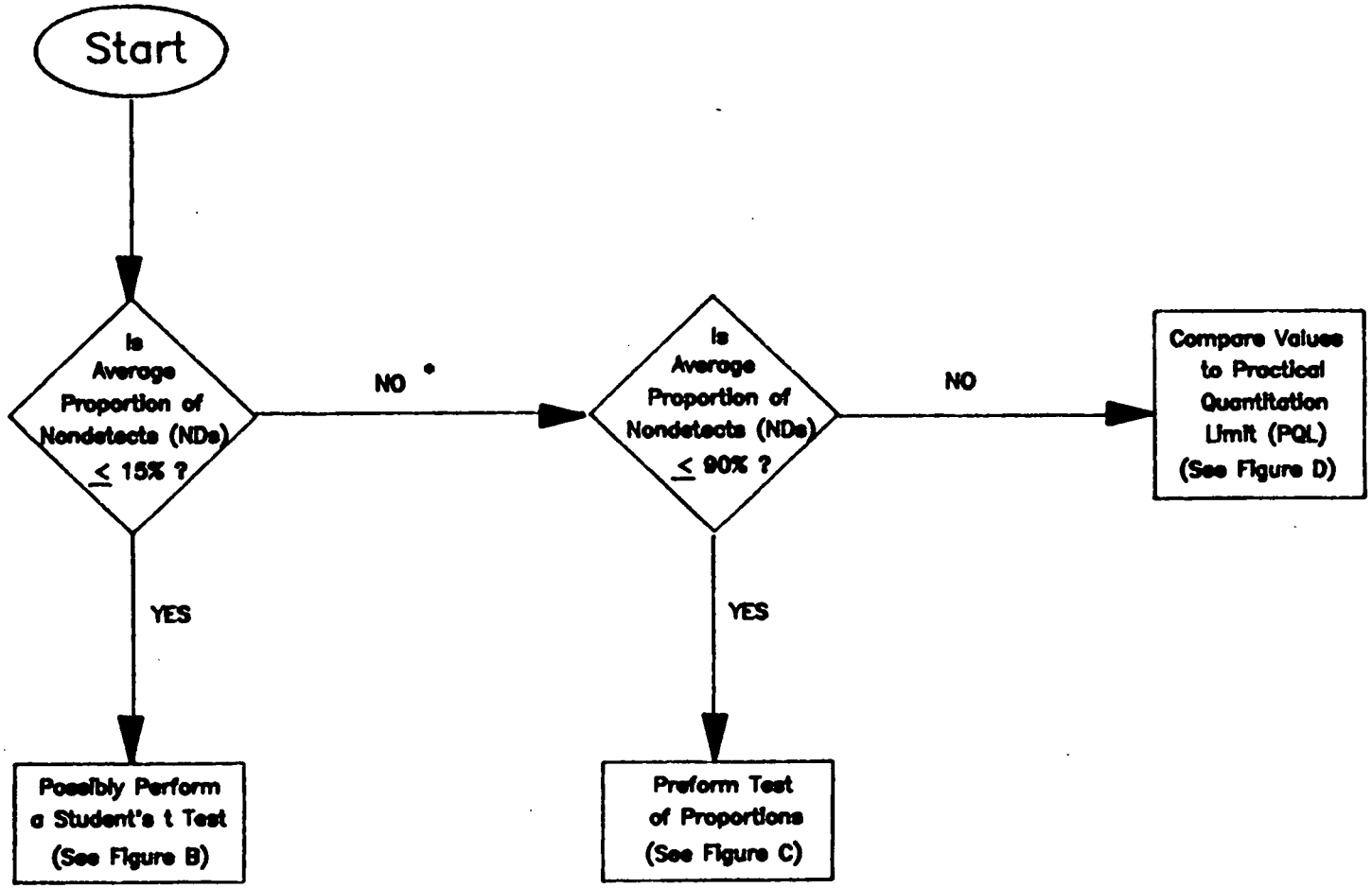
Figure A
Criteria for the Selection of a Statistical Method to Analyze RCRA Groundwater Data



• No Group of Wells Exhibited an Average Proportion of Nondetects Between 15% and 30%

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APPENDIX II

Statistical Analysis Methods

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DESCRIPTION OF STATISTICAL TECHNIQUES USED IN RCRA GROUNDWATER ASSESSMENT

The criteria for determining which statistical method to use for each data set is shown in Figure A. A description of each of the statistical methods is provided in this Appendix. **Please note that the specific methodologies described below apply specifically to analyzing the data in Appendix III and are not necessarily meant to be applicable to future combinations of data.**

Student's t Test

The assumptions underlying the derivation of the Student's t are: independence, normality, and homogeneous variance. Mathematical statisticians have found that moderate departures from normality and homogeneous variance (which is the least critical) do not have a very marked effect on the distribution of the t statistic. A test for non-normality, i. e., a coefficient-of-variation (or CV) and a test for homogeneous variance, i. e., an F statistic were calculated in several instances but were deemed not to be significant.

A minimum of 20 samples is recommended to conduct a meaningful test for normality. The Student's t Test compares the mean of a test group against the mean of a control group. None of these groups was comprised of a sample size of 20 or more. Due to the Central Limit Theorem and since extreme violations from the normality assumption could not be proven none of the analytical data was transformed to make them conform to the normal distribution.

The assumption of independence is much more serious, however. Independence was assumed since the wells were purged completely when sampled and due to the fact that they were sampled quarterly, which should allow sufficient time for migration of the constituents.

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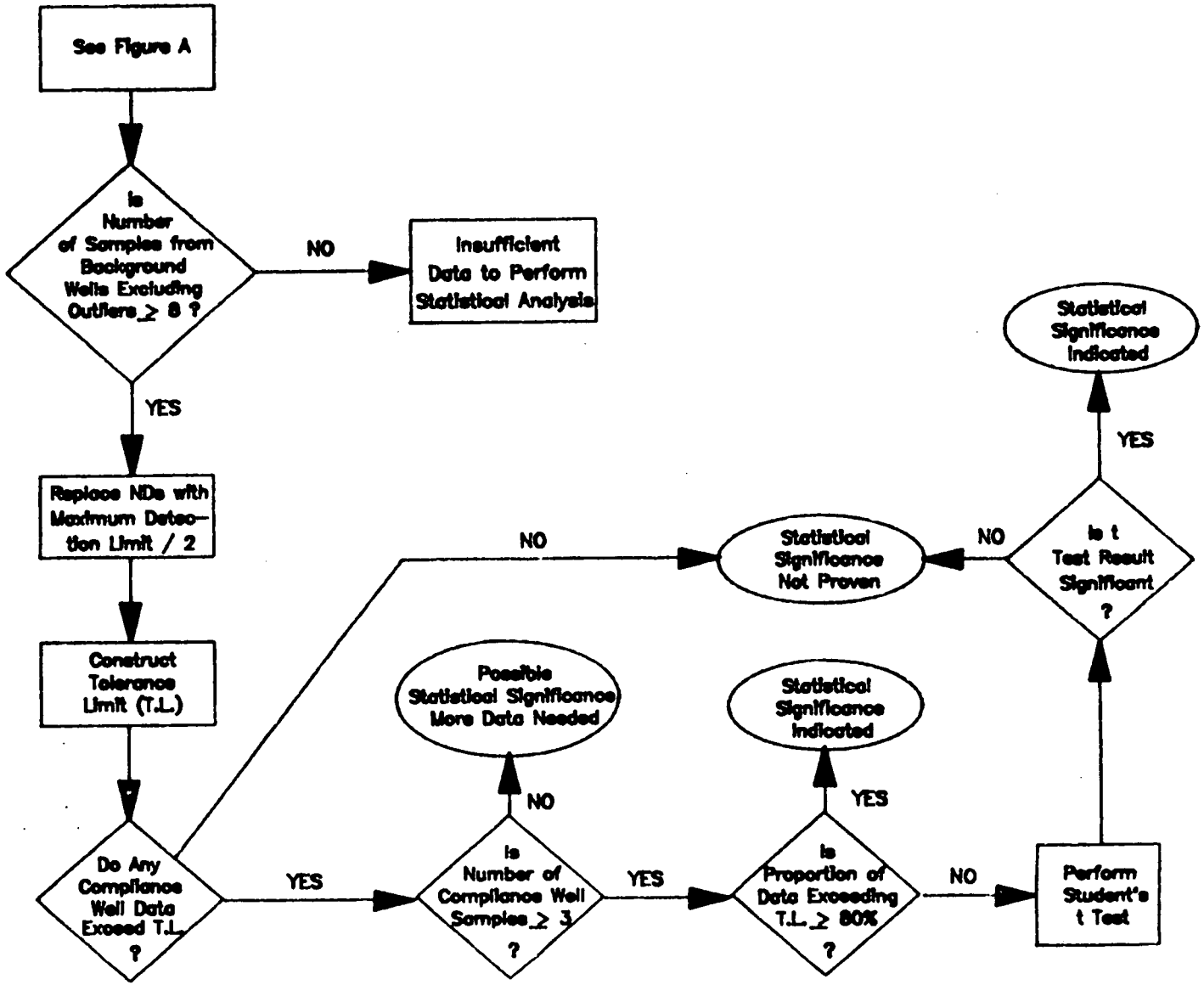
Lotus 1-2-3 software was utilized for performing all calculations. Due to the abundance of data that qualified for a Student's t Test (see Figures A and B), the compliance wells were first screened to determine if any data exceeded a calculated tolerance limit (T.L). A Student's t Test was then performed only if one or more values from a compliance well exceeded this T.L.

A one-sided T.L.[1] was constructed based on 95% confidence and 95% coverage of the data representing the two background wells. There must have been at least eight analyses available from the background wells in order to construct a meaningful T.L.

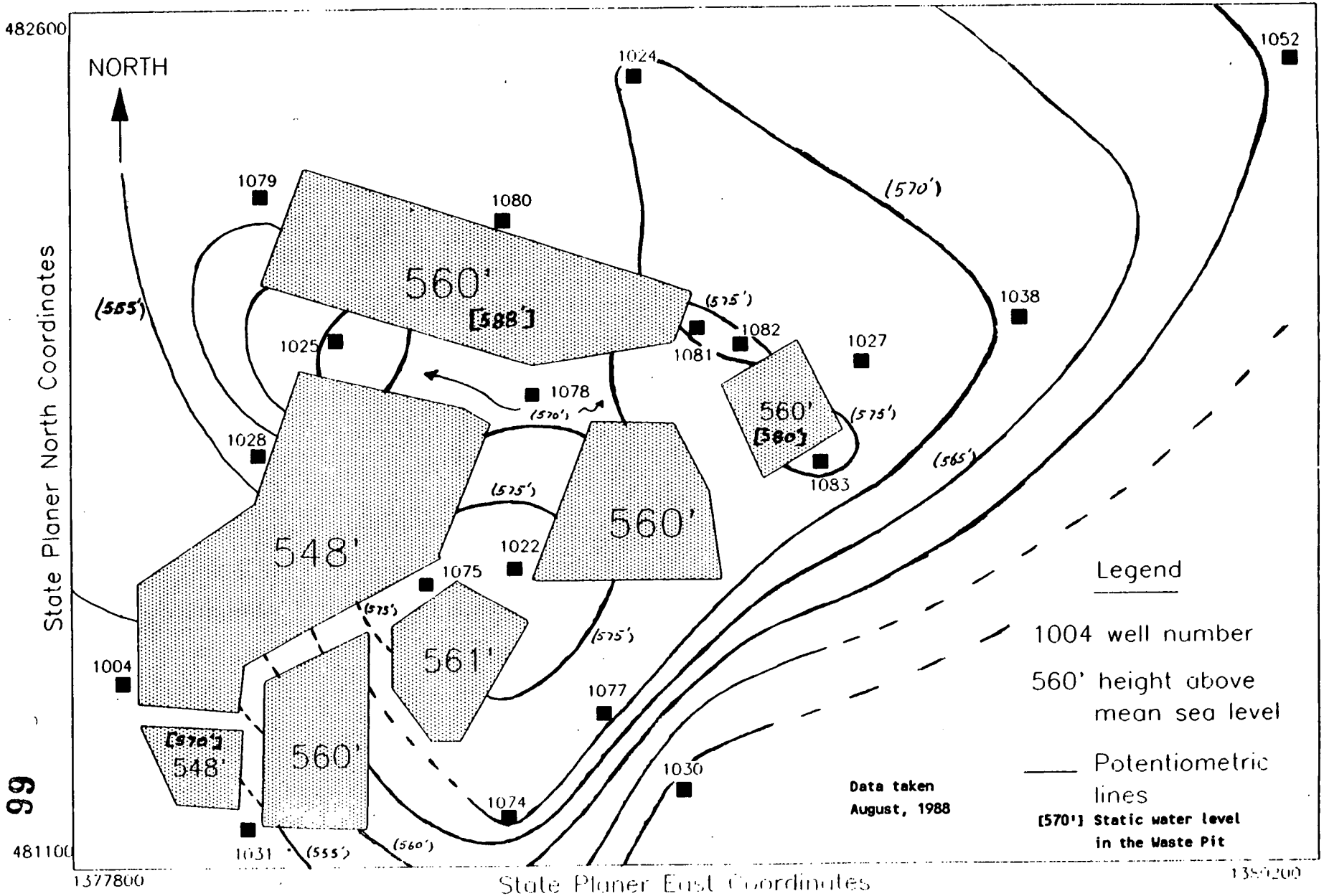
Each background well was examined individually for statistical outliers using the Dixon test. All statistical outliers were excluded when constructing the T.L. This was done to provide a T.L. that would conservatively screen the monitored data. An exception was made for Conductivity (wells 3043 and 3066) because the outlier for each of these background wells fit in with the data from the other background well. The two background wells were considered one unit when calculating their central tendency and dispersion of data. The mean and variance were needed to create the T.L. and to perform the Student's t Test.

1 An exception to this was when tolerance limits for pH were determined. A two-sided tolerance interval or limits was calculated for screening the compliance well data. This was because a pH that was too high or too low could be evidence of a statistically significant value.

Figure B
Student's t Test Logic Diagram



PERCHED WATER TABLE ELEVATIONS IN THE TILL



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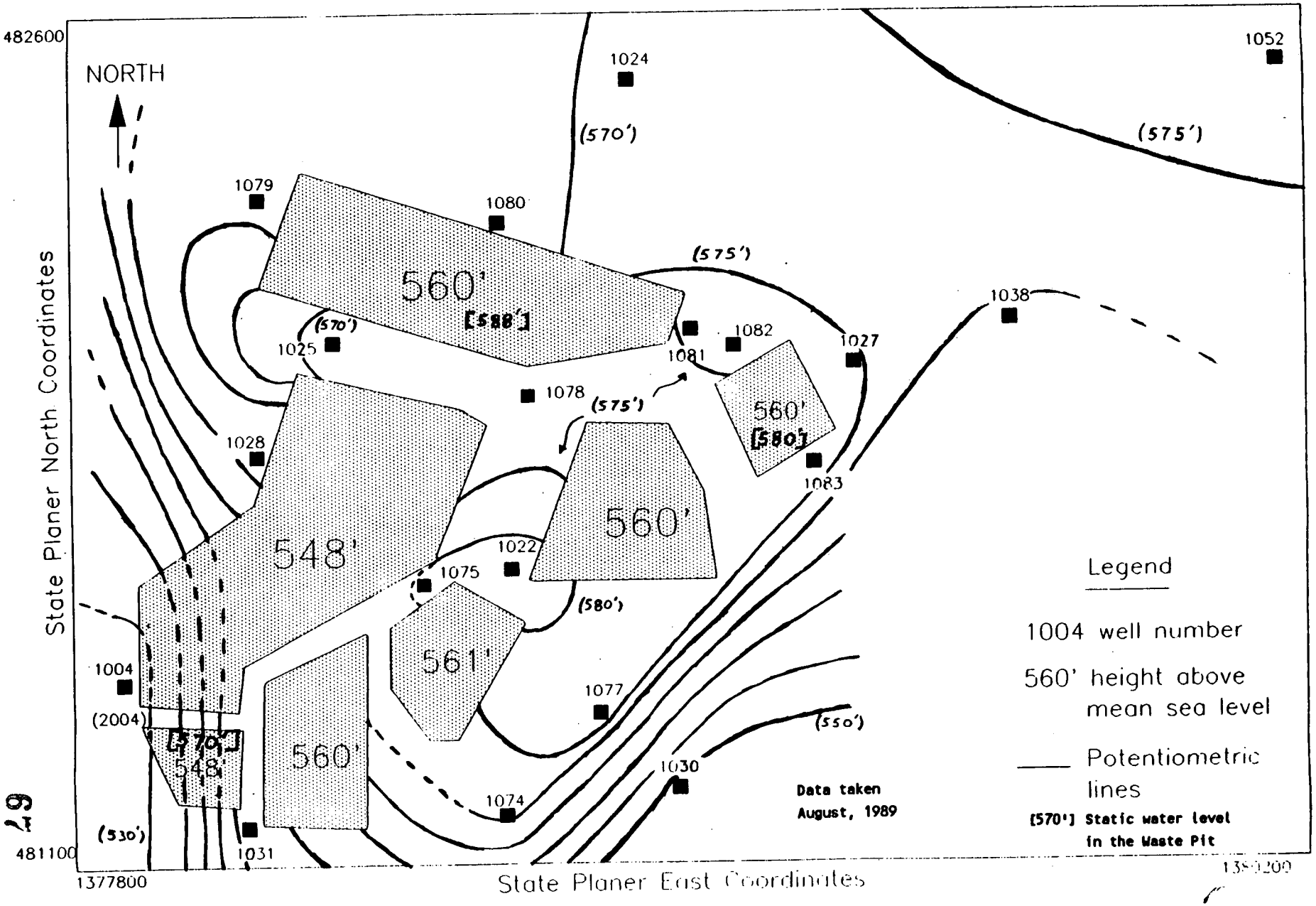
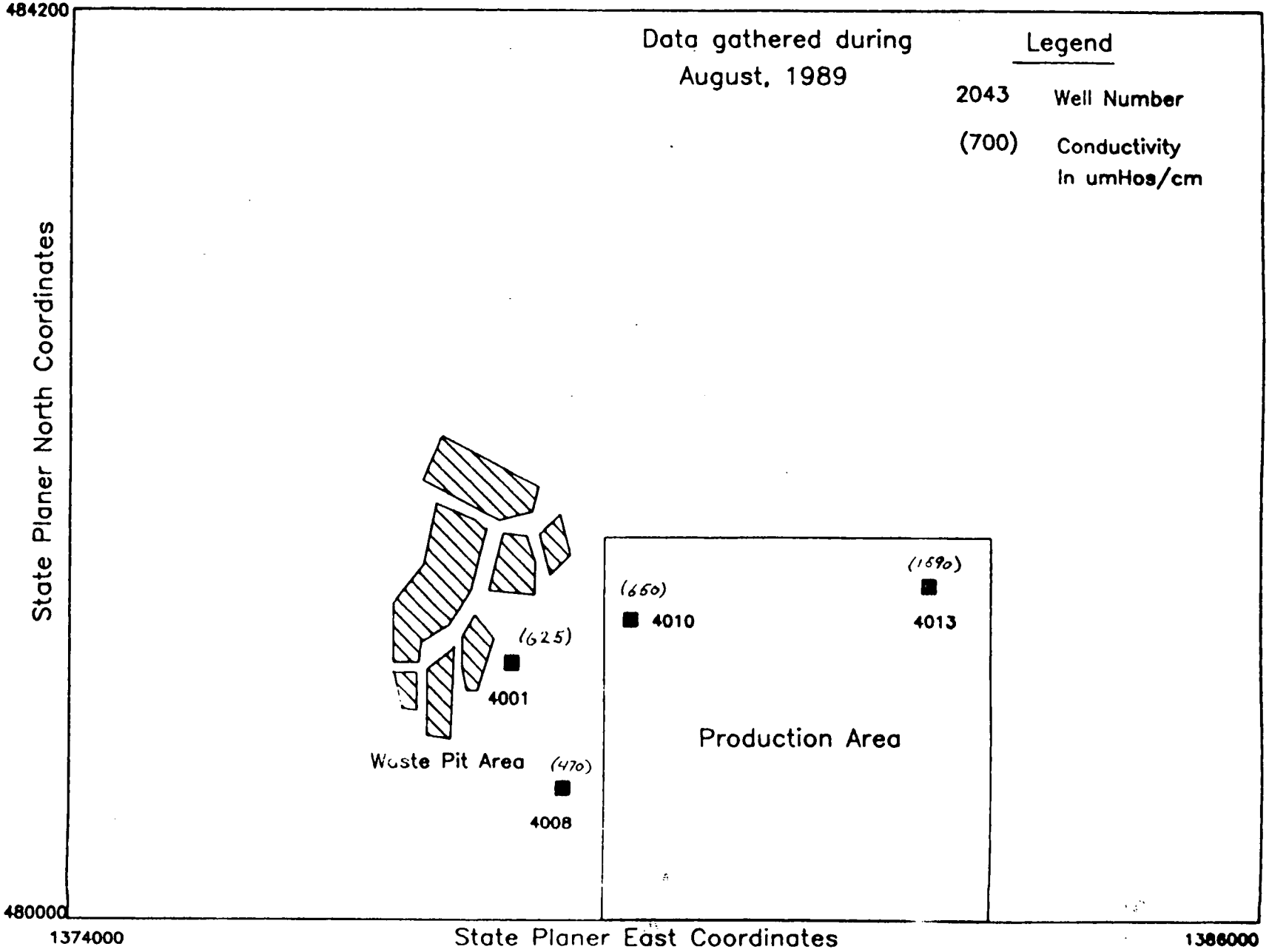
PERCHED WATER TABLE ELEVATIONS IN THE TILL

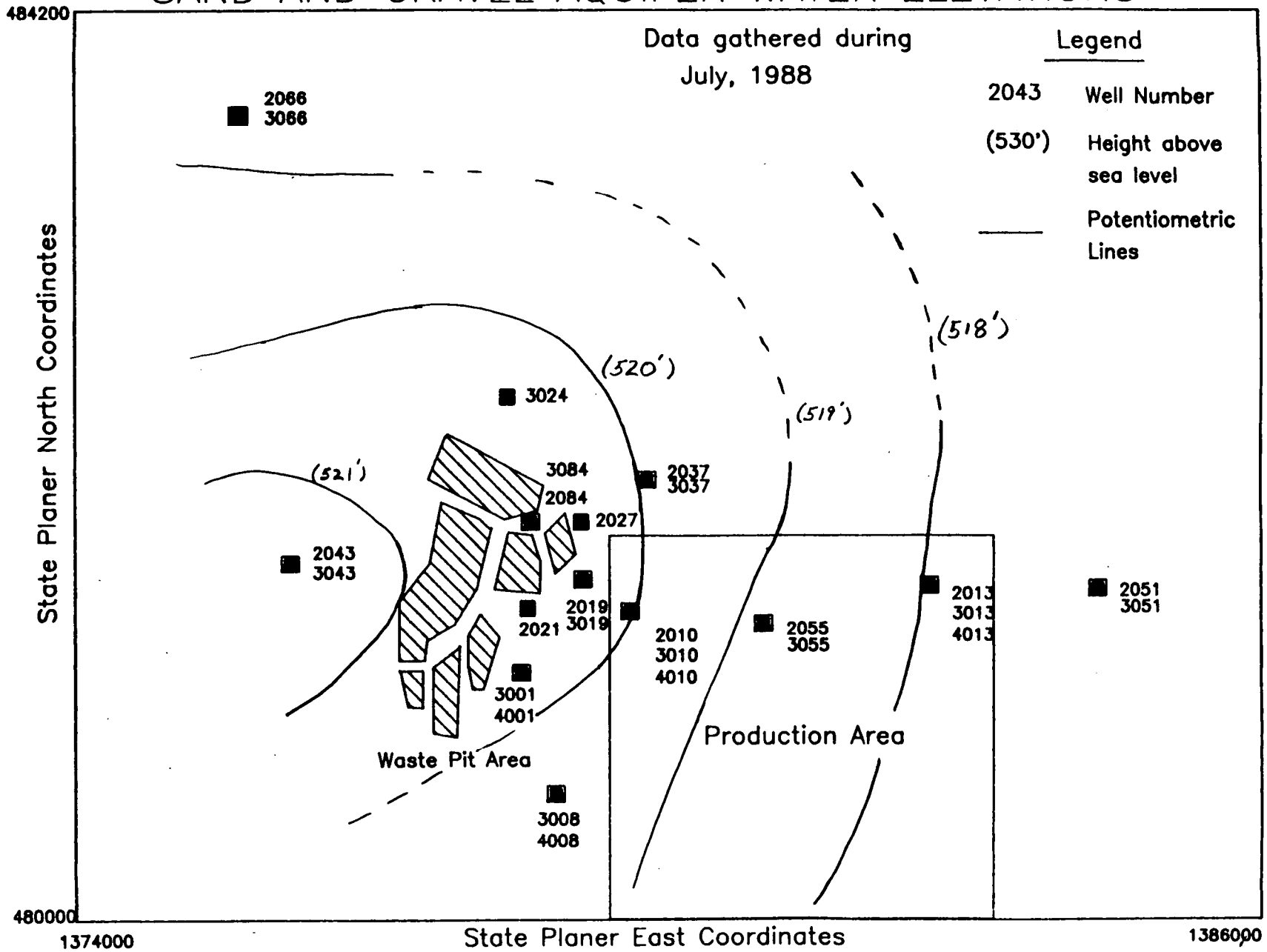


CONDUCTIVITY IN THE LOWER PORTION OF THE SAND AND GRAVEL AQUIFER



1474

SAND AND GRAVEL AQUIFER WATER ELEVATIONS



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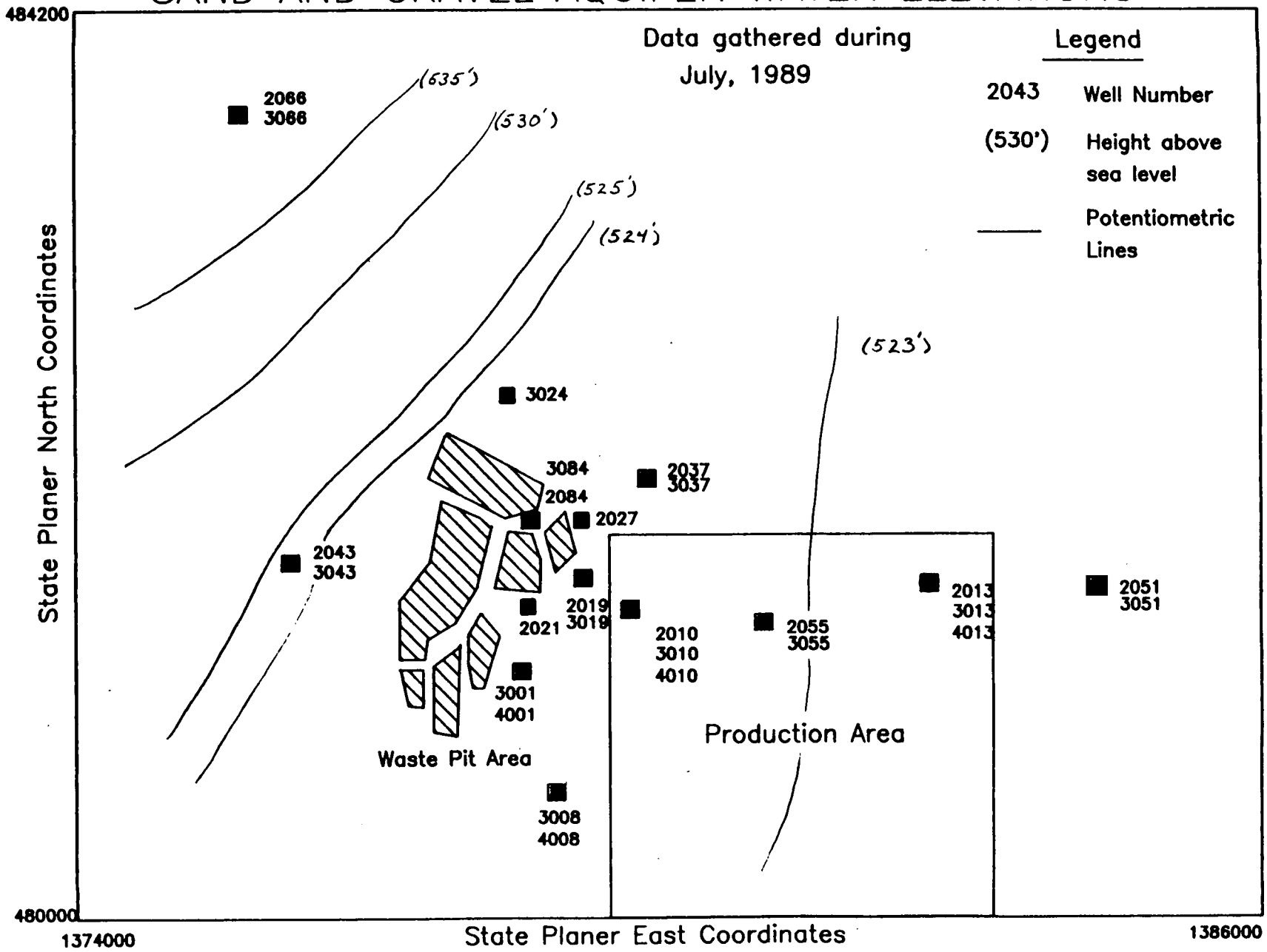
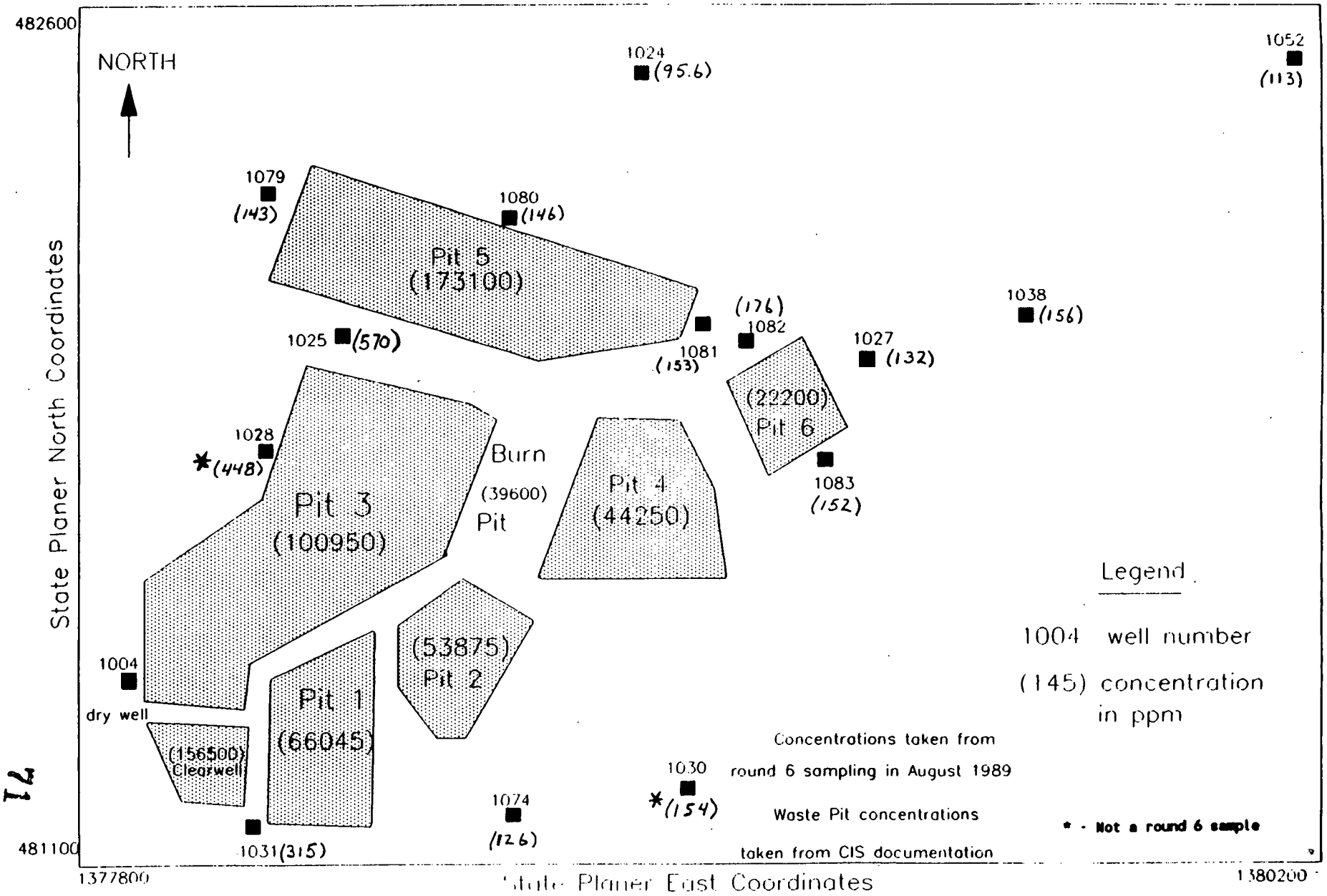
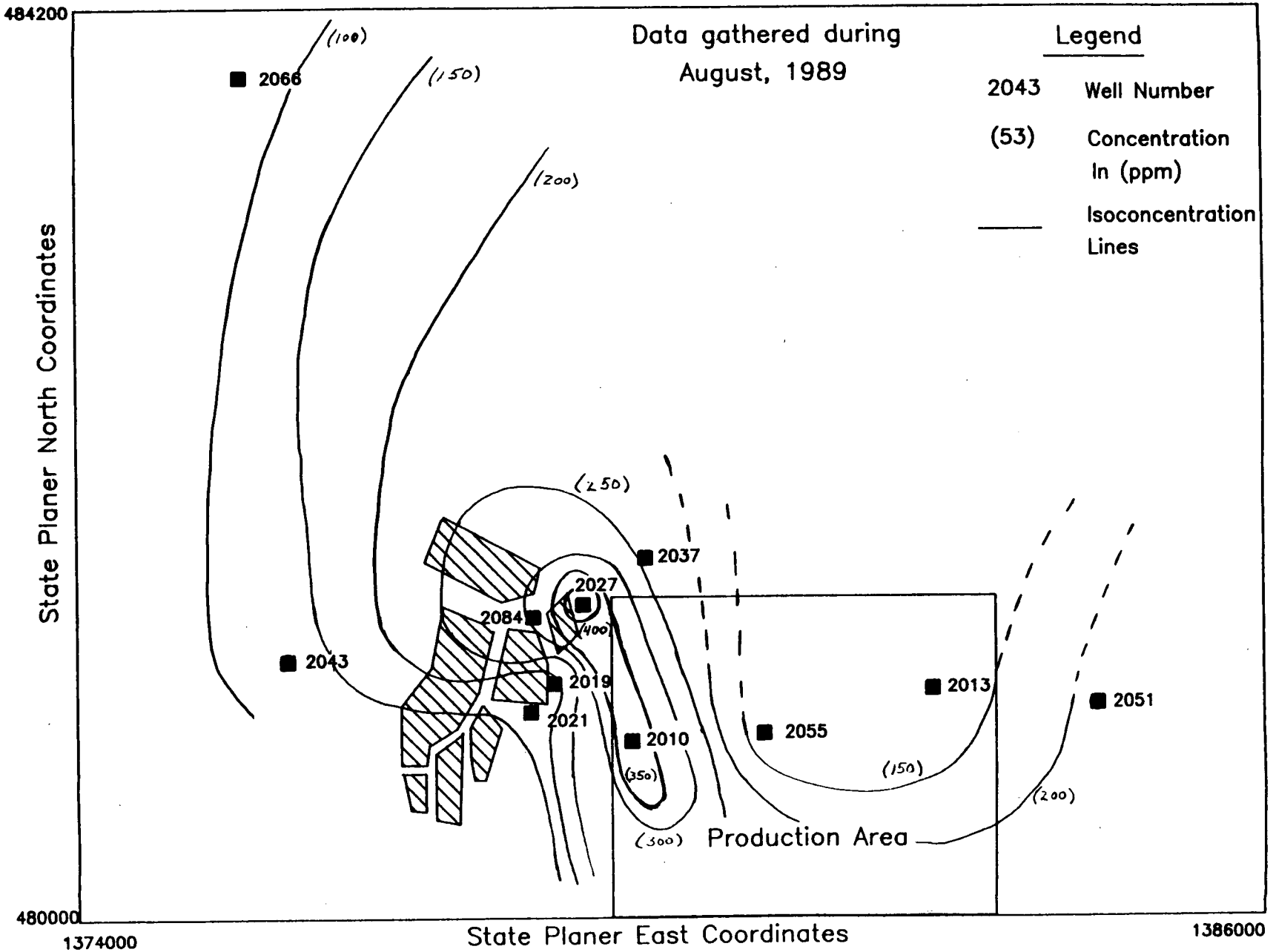
SAND AND GRAVEL AQUIFER WATER ELEVATIONS



CALCIUM CONCENTRATIONS IN THE WASTE PITS AND TILL WATER



CALCIUM CONCENTRATIONS IN THE UPPER PORTION OF THE SAND AND GRAVEL AQUIFER



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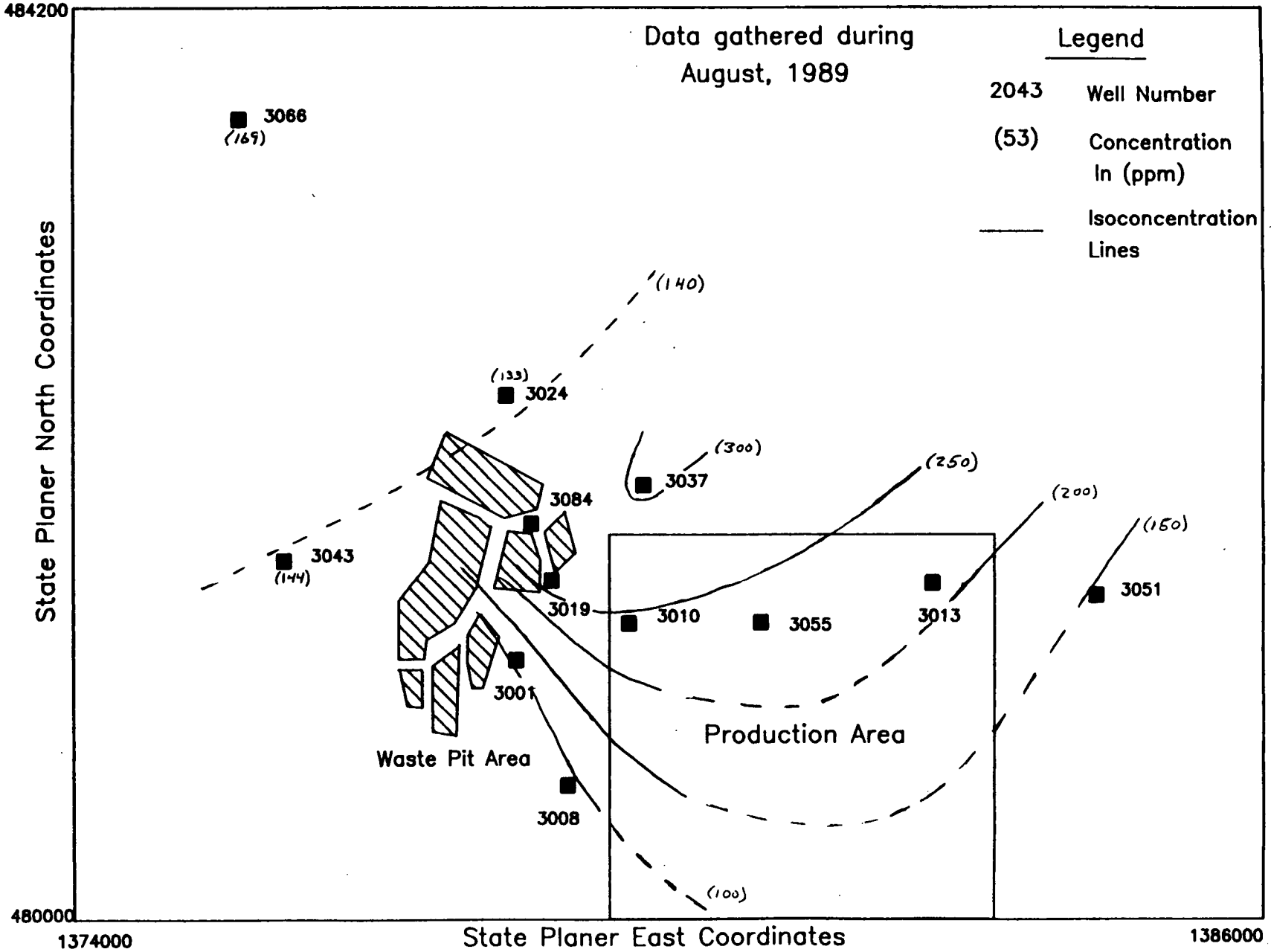

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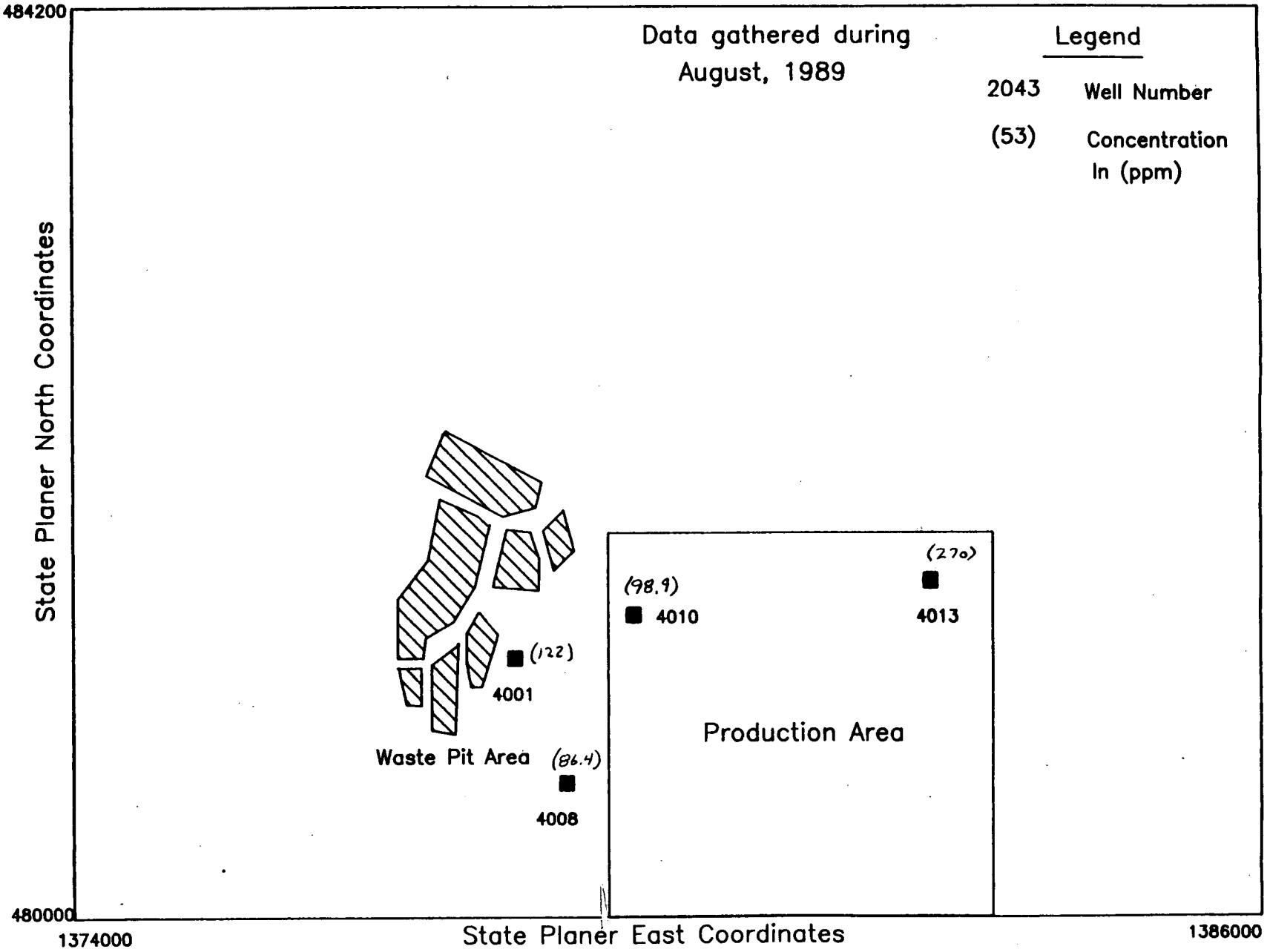
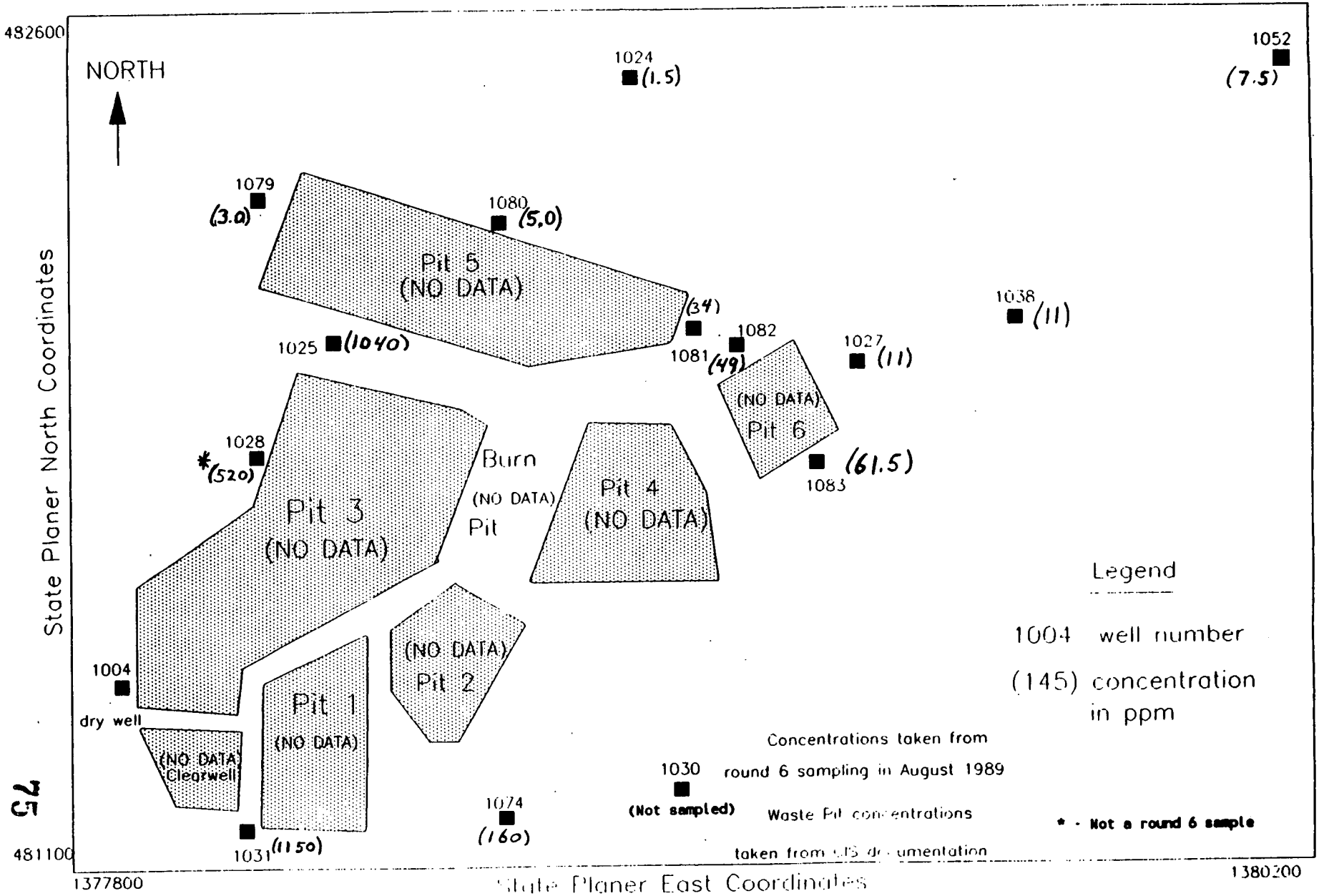


CHLORIDE CONCENTRATIONS IN THE WASTE PITS AND TILL WATER



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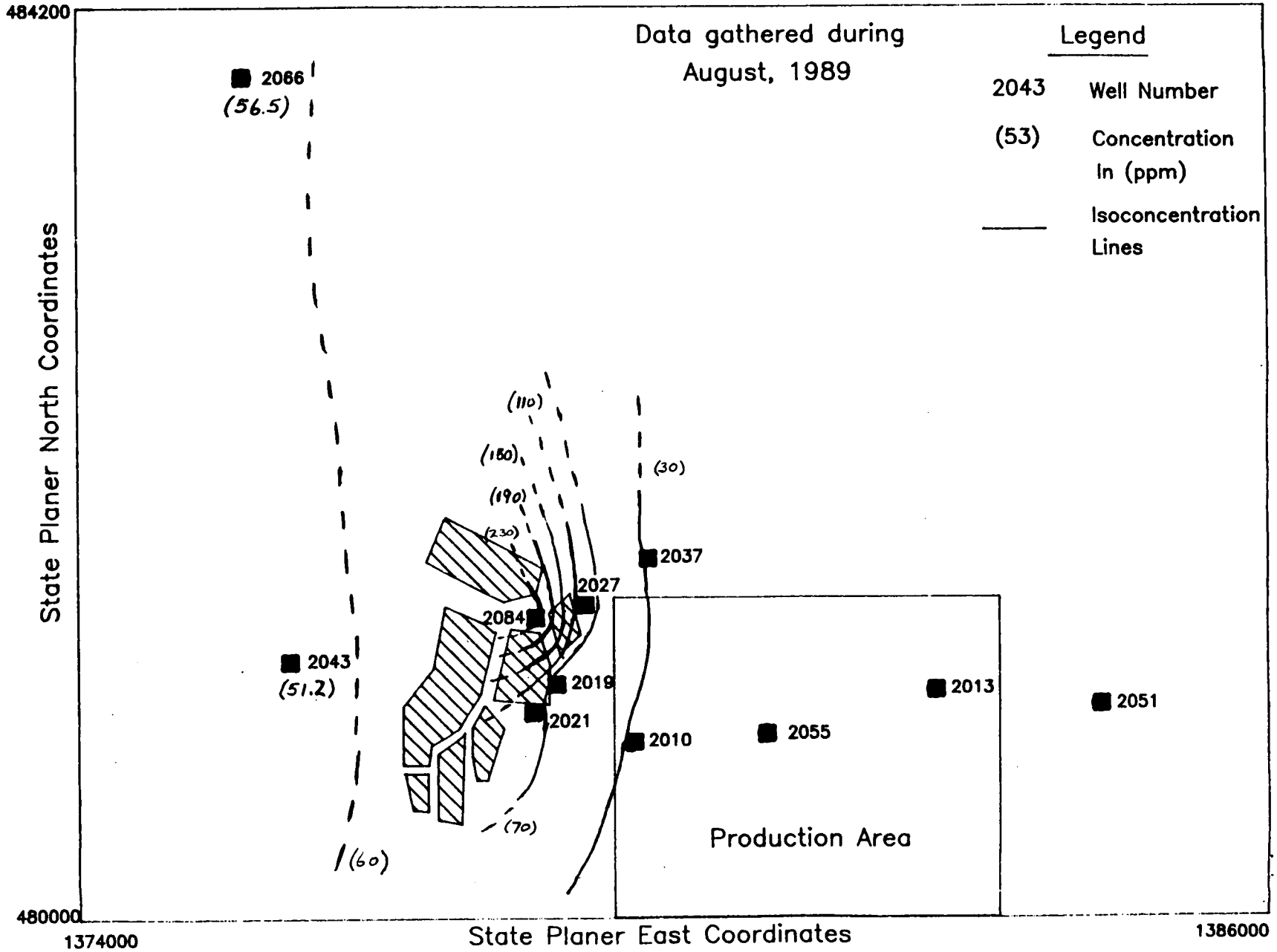
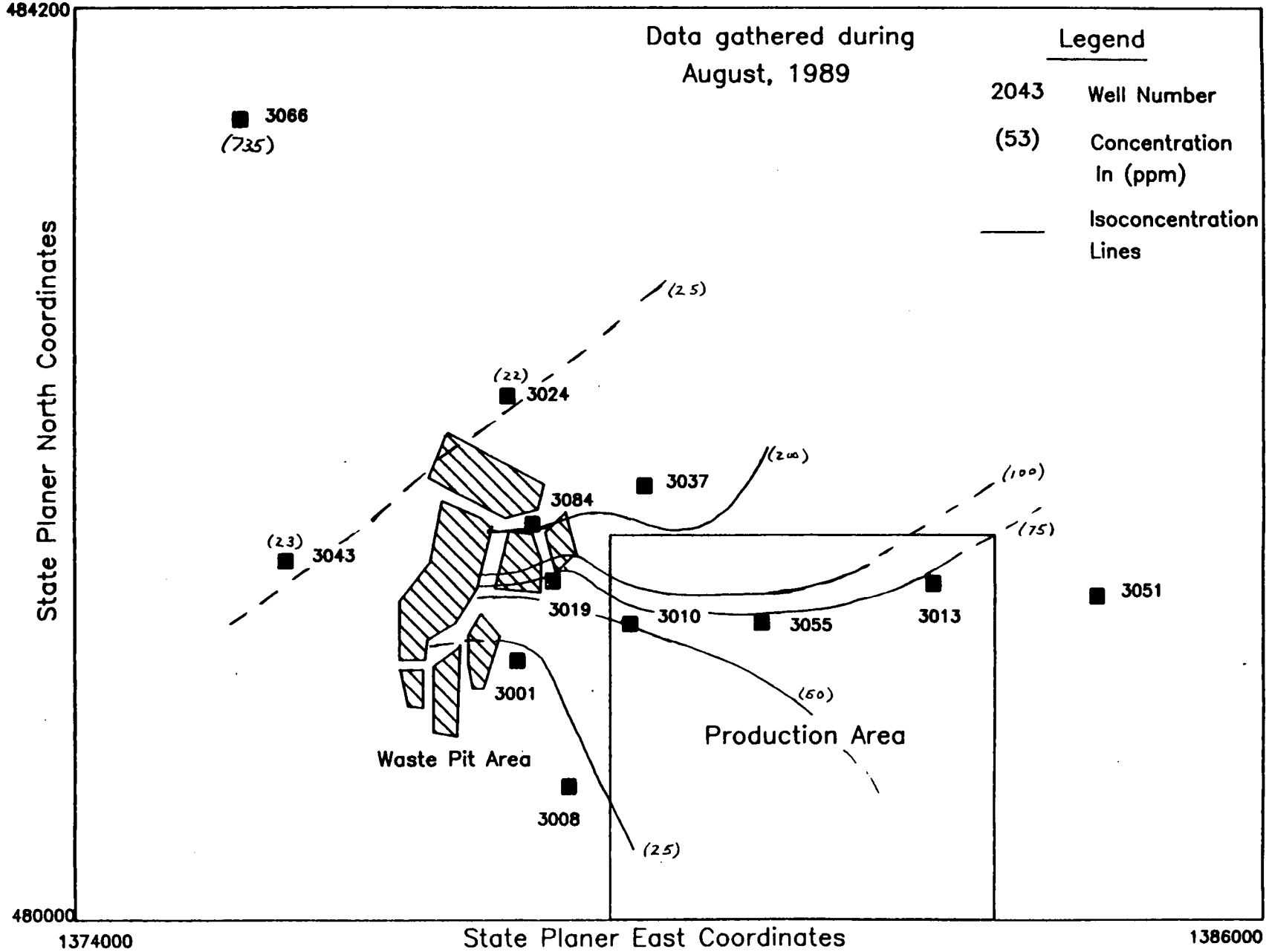
CHLORIDE CONCENTRATIONS IN THE UPPER PORTION OF THE SAND AND GRAVEL AQUIFER



CHLORIDE CONCENTRATIONS IN THE MIDDLE OF THE SAND AND GRAVEL AQUIFER



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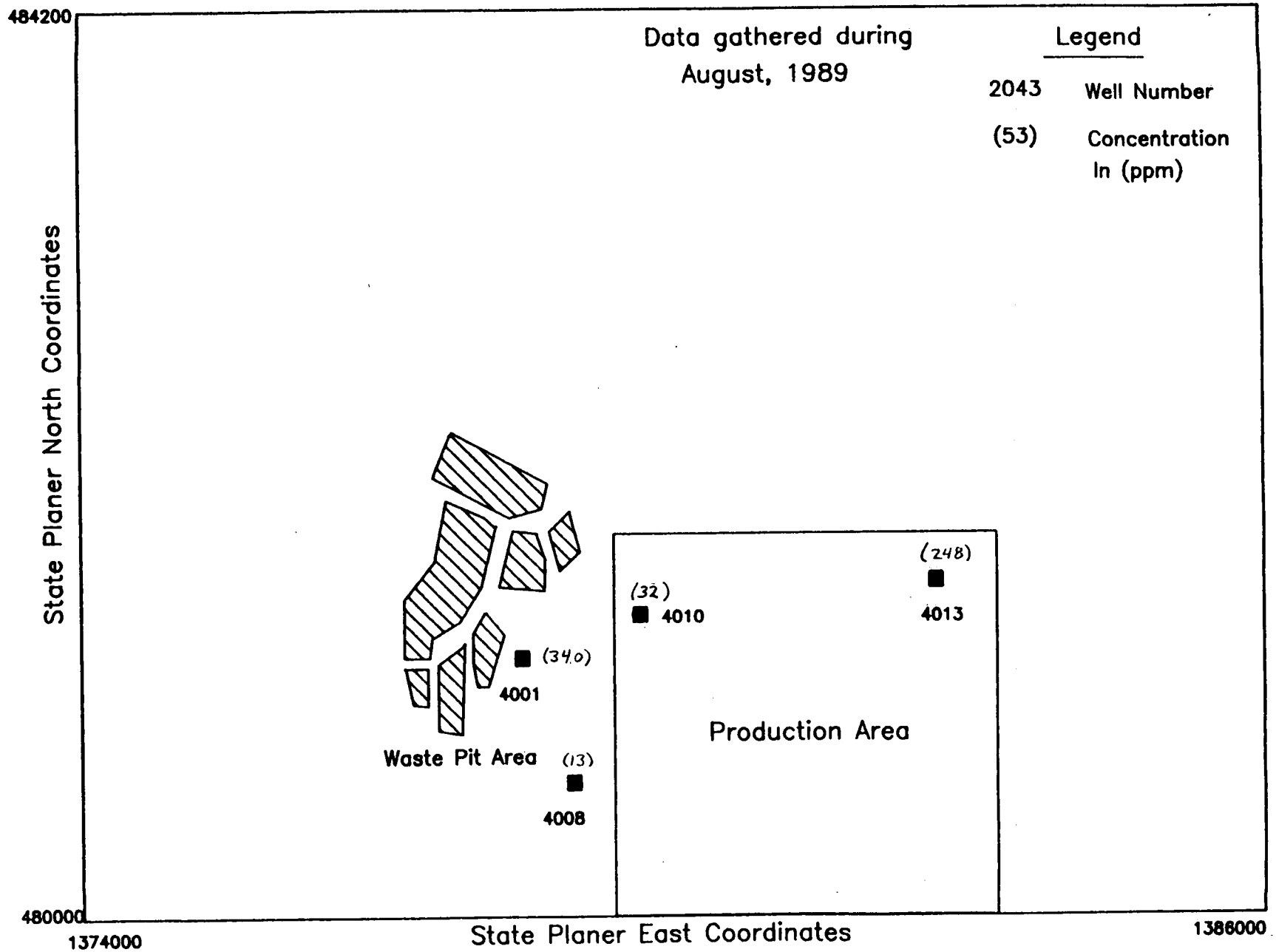
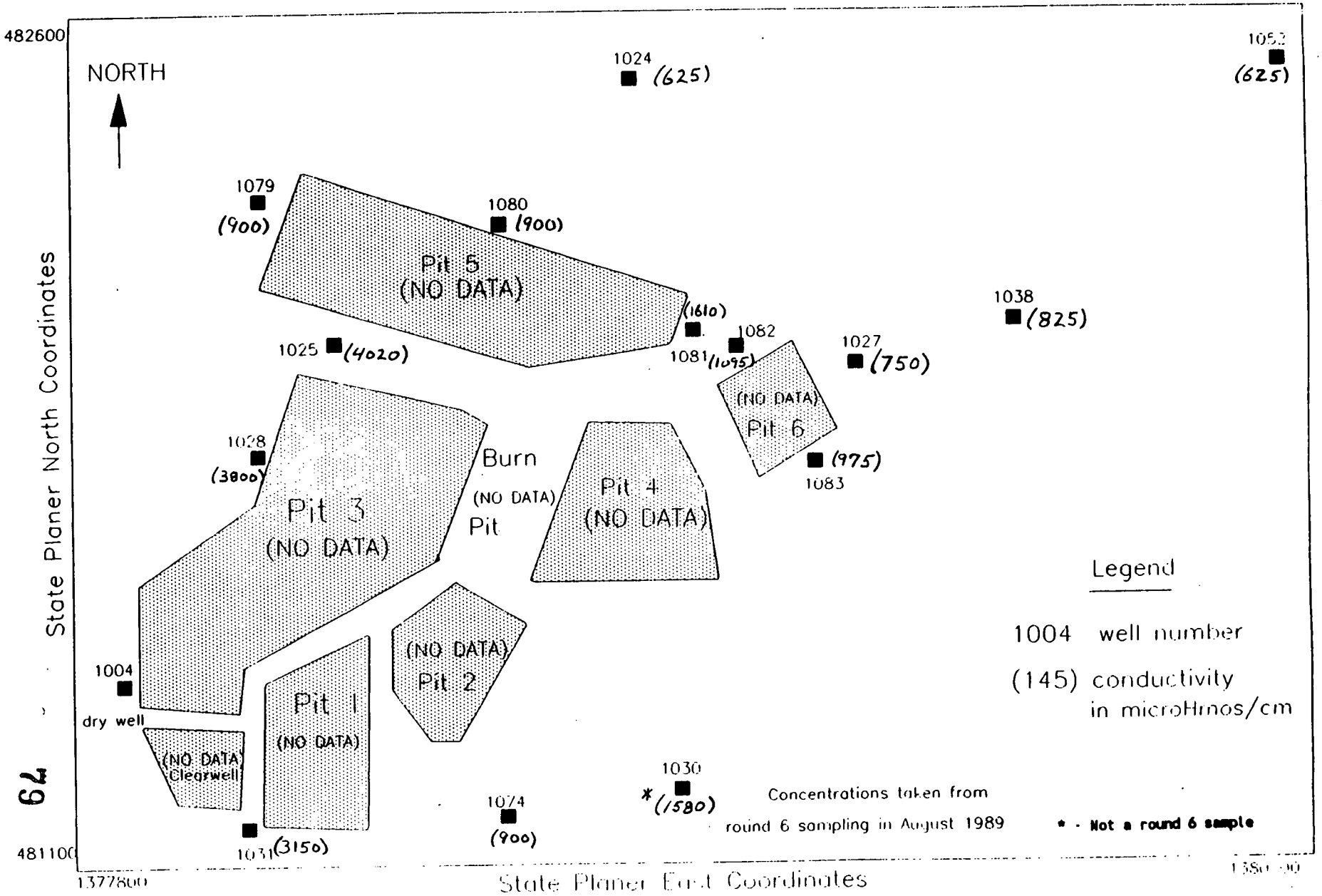
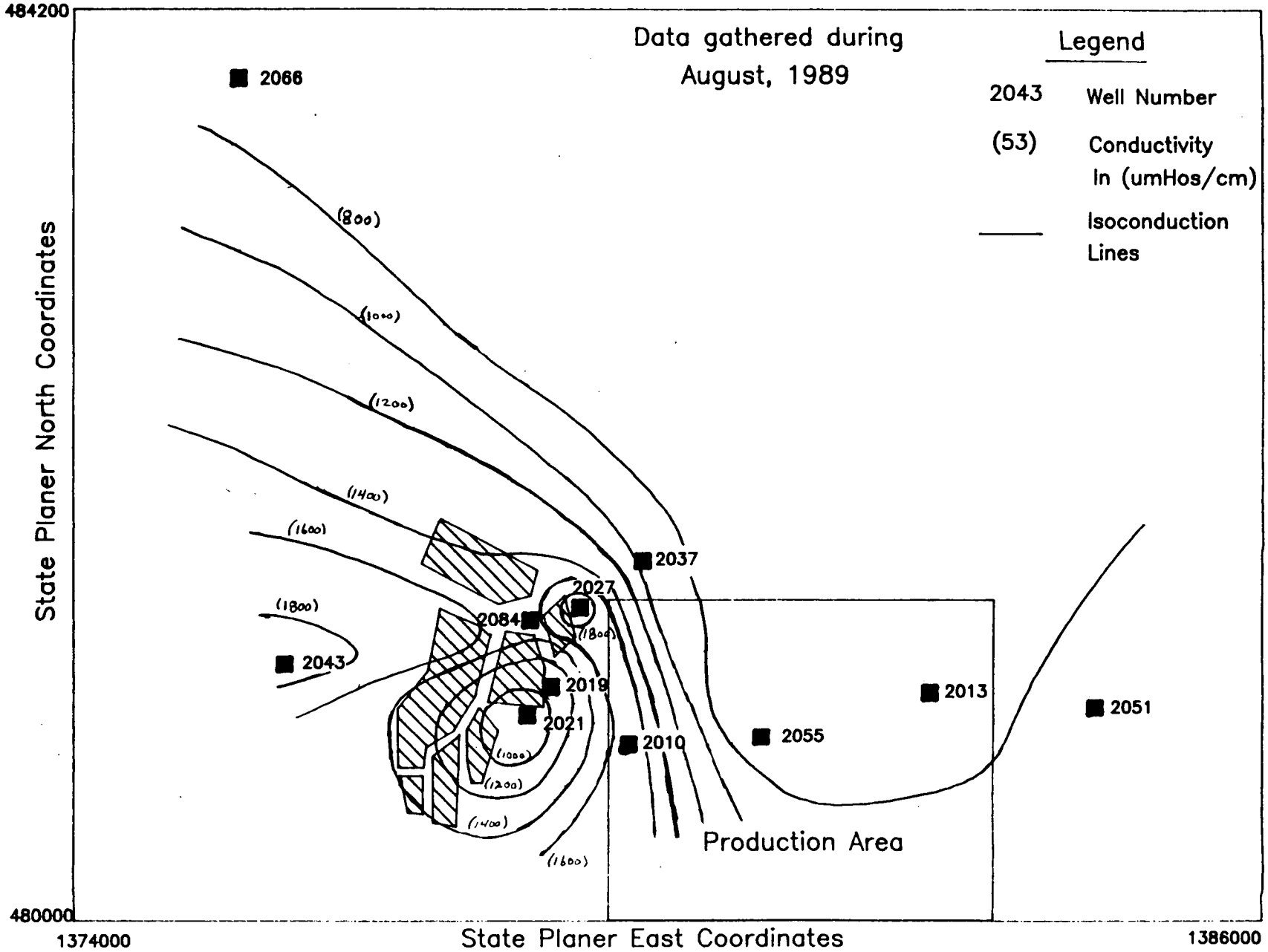


CONDUCTIVITY IN THE WASTE PITS AND TILL WATER



CONDUCTIVITY IN THE UPPER PORTION OF THE SAND AND GRAVEL AQUIFER



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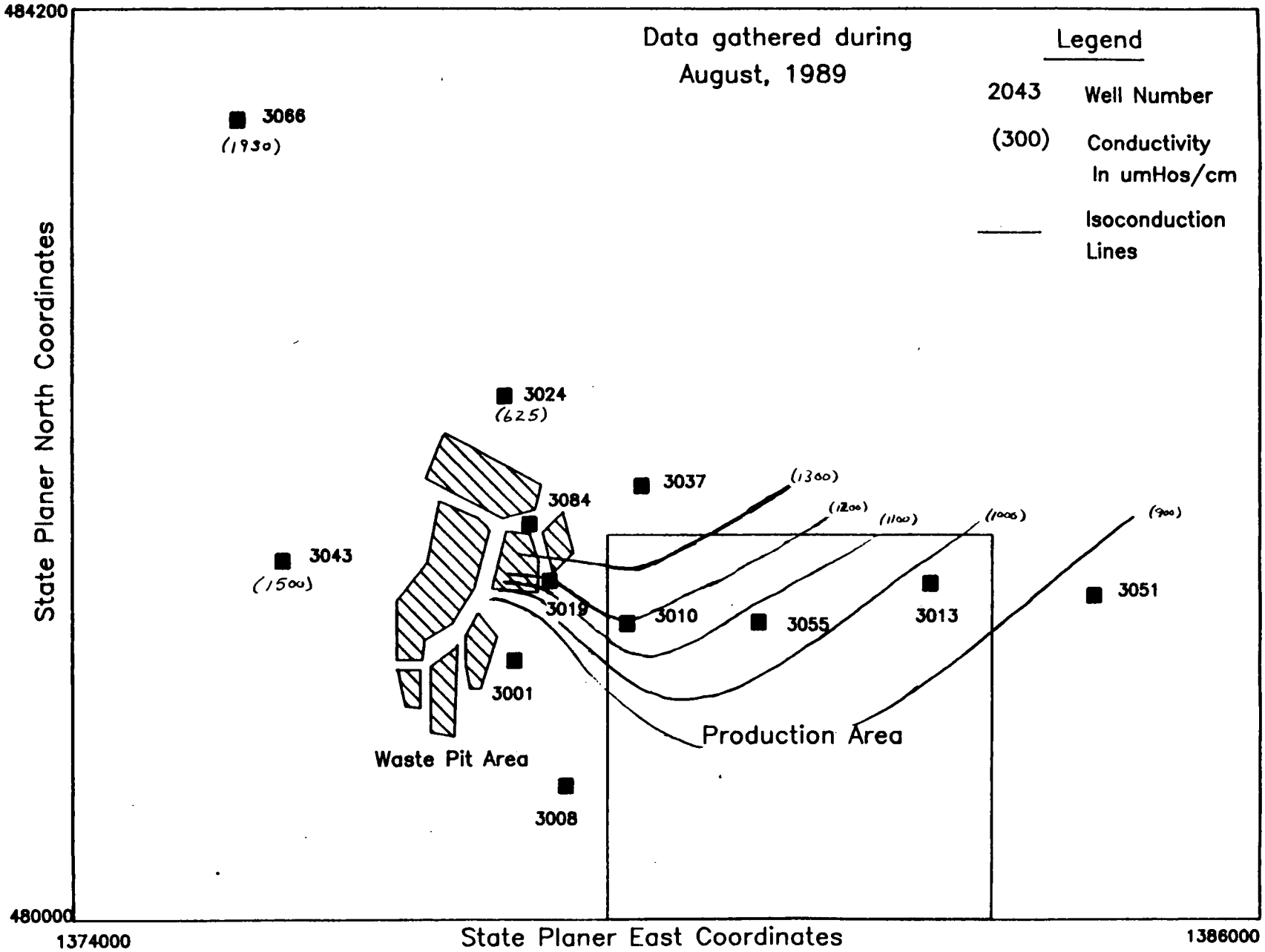
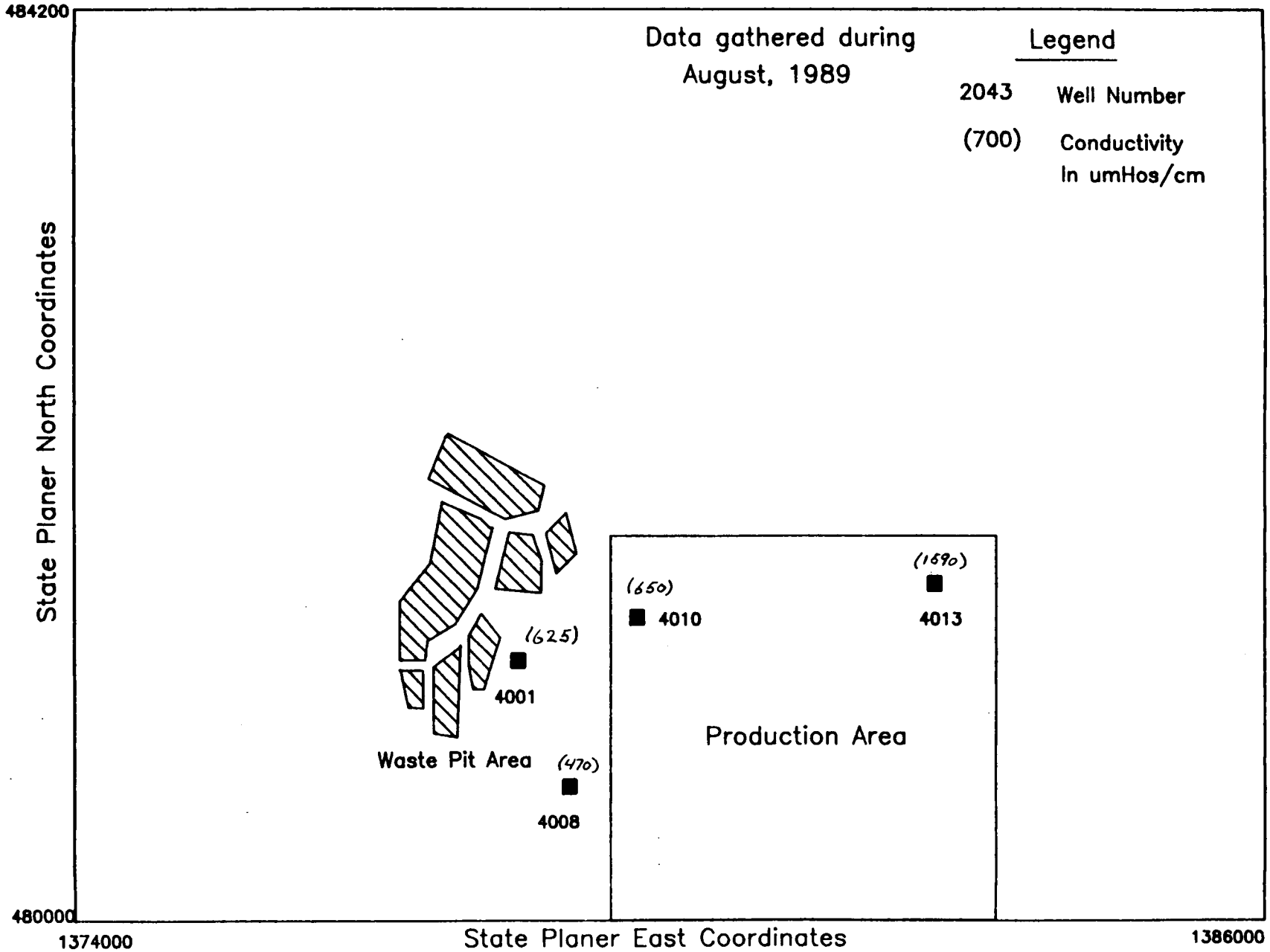


CONDUCTIVITY IN THE LOWER PORTION OF THE SAND AND GRAVEL AQUIFER



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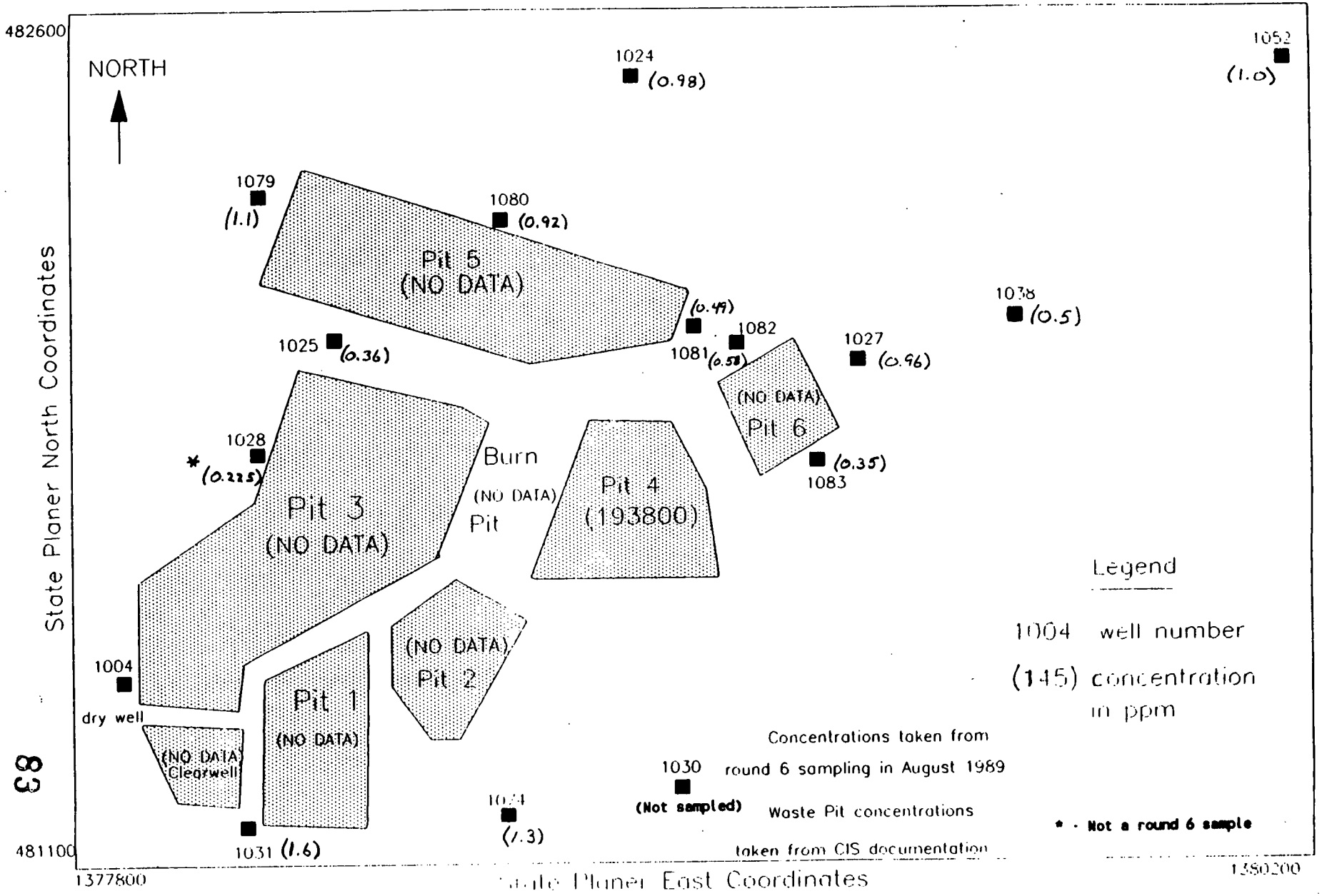
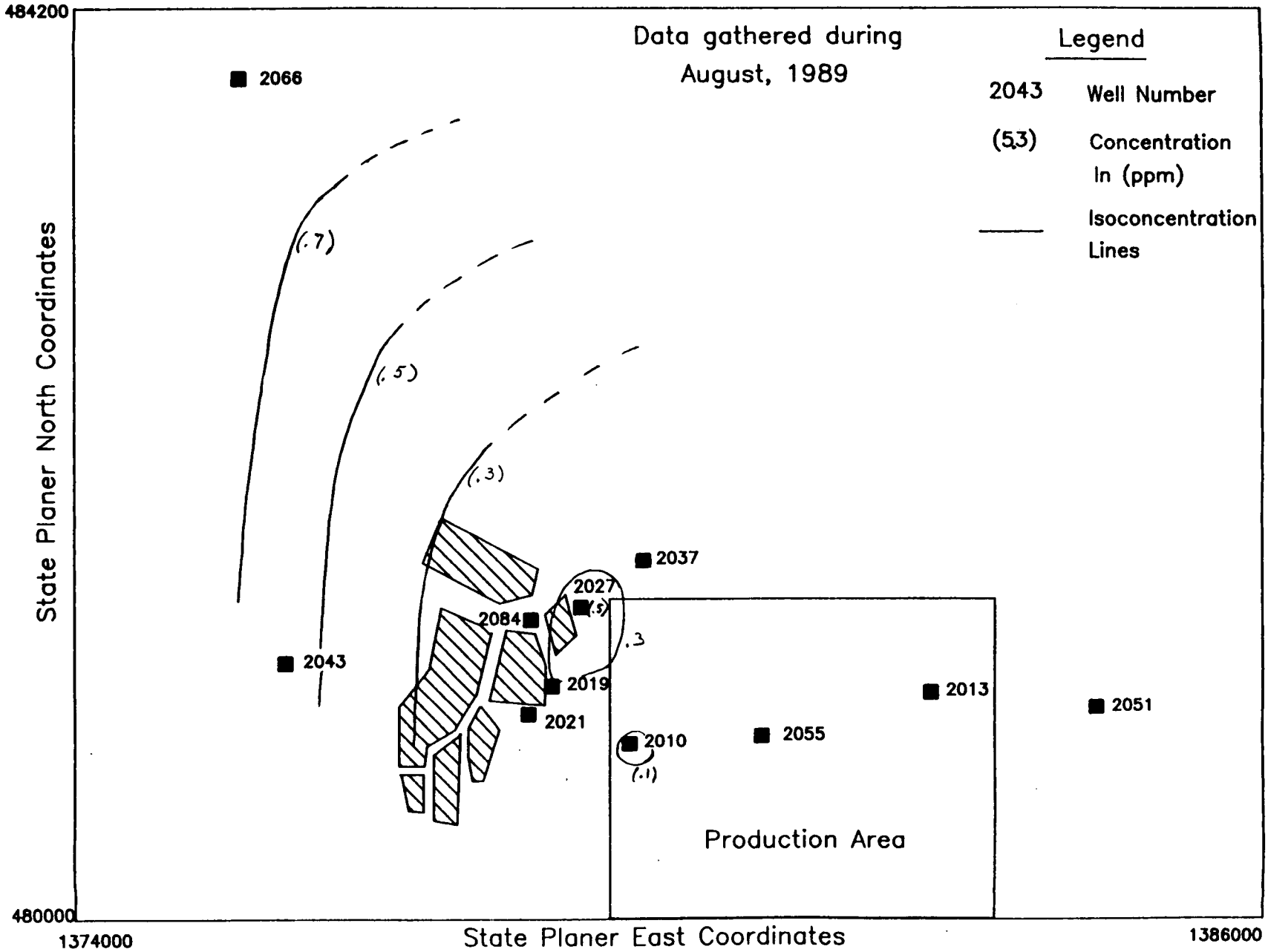
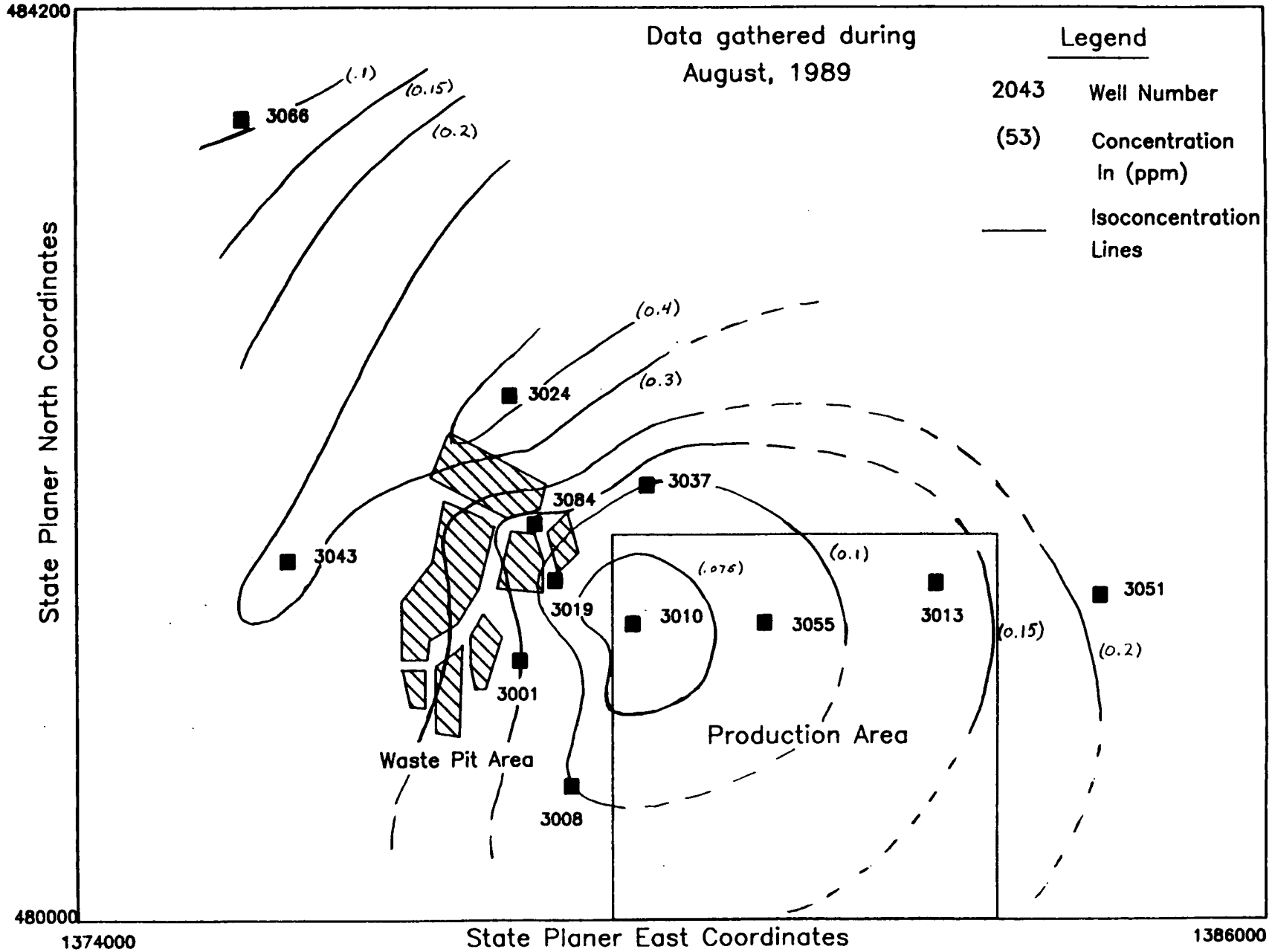
FLUORIDE CONCENTRATIONS IN THE WASTE PITS AND TILL WATER



FLUORIDE CONCENTRATIONS IN THE UPPER PORTION OF THE SAND AND GRAVEL AQUIFER



FLUORIDE CONCENTRATIONS IN THE MIDDLE OF THE SAND AND GRAVEL AQUIFER



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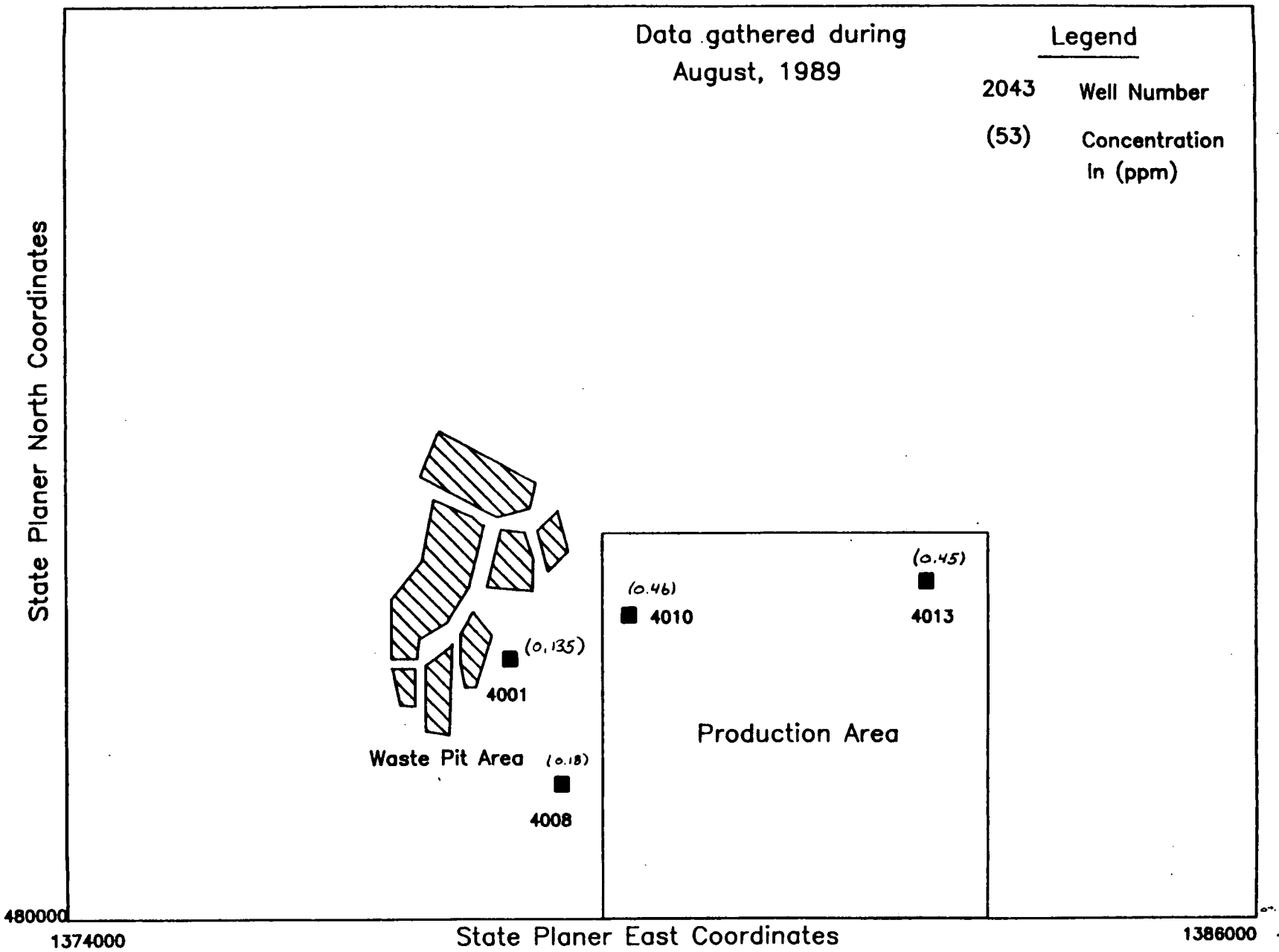
FLUORIDE CONCENTRATIONS IN THE LOWER PORTION OF THE SAND AND GRAVEL AQUIFER



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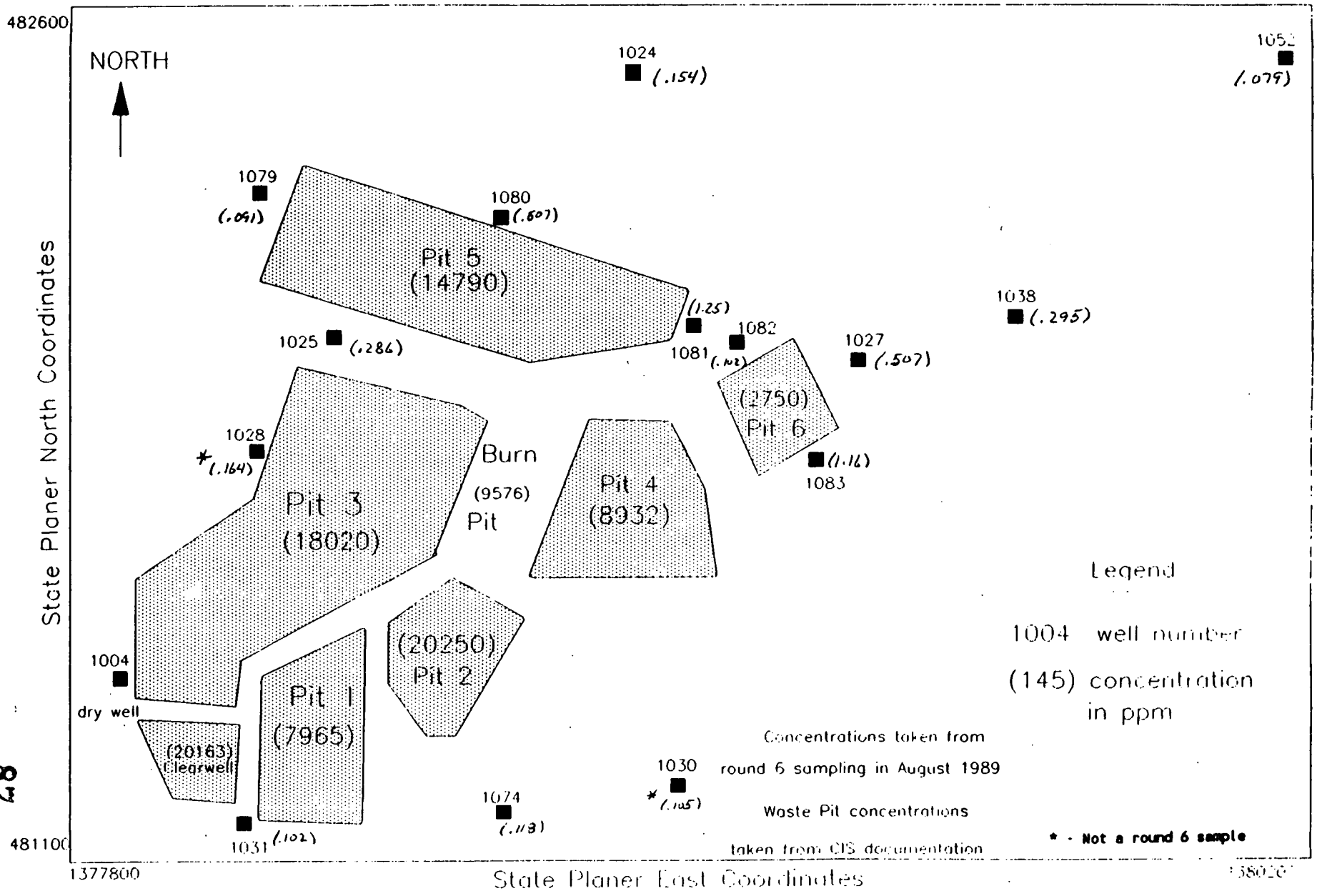
IRON CONCENTRATIONS IN THE WASTE PITS AND TILL WATER



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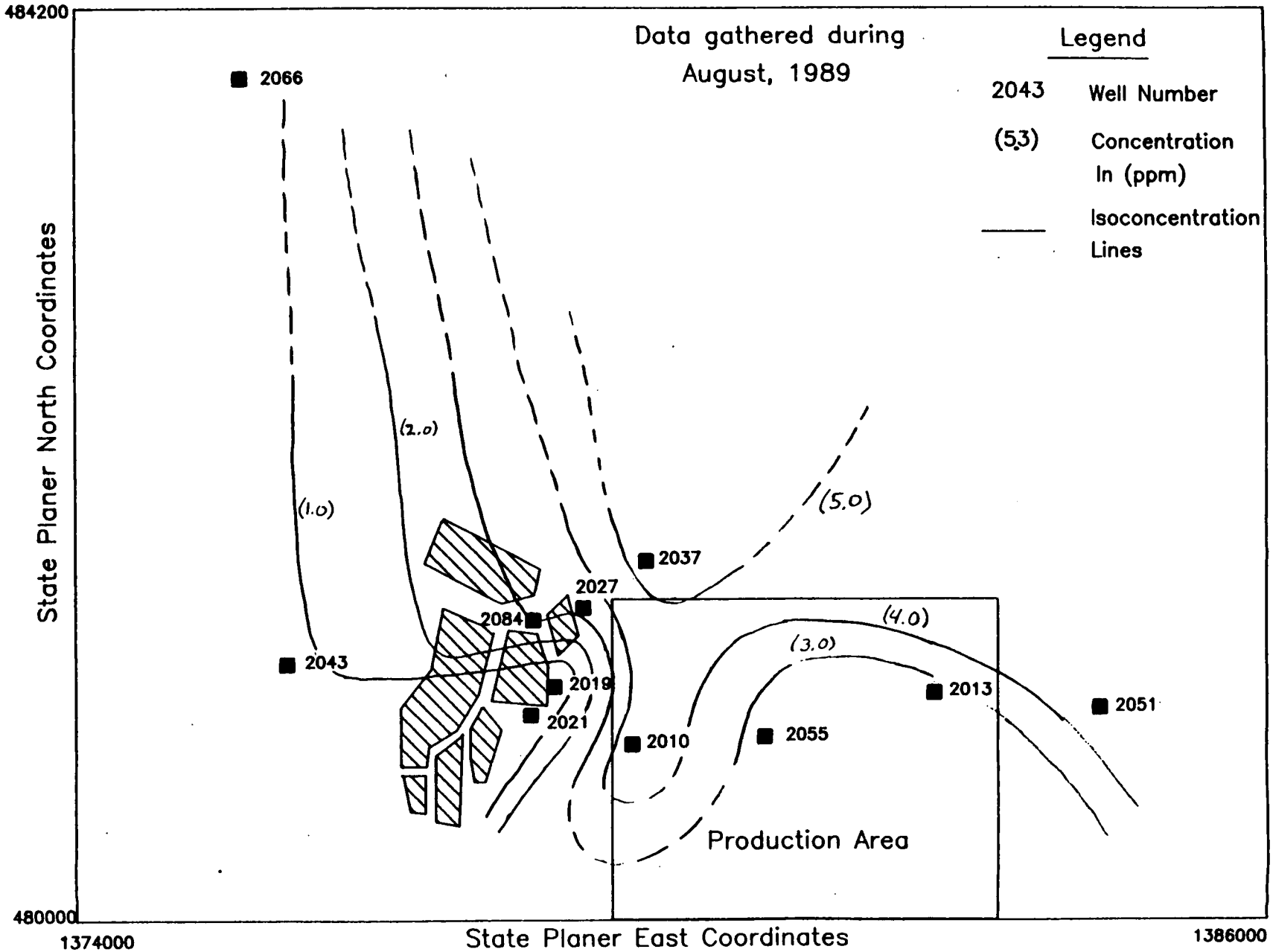
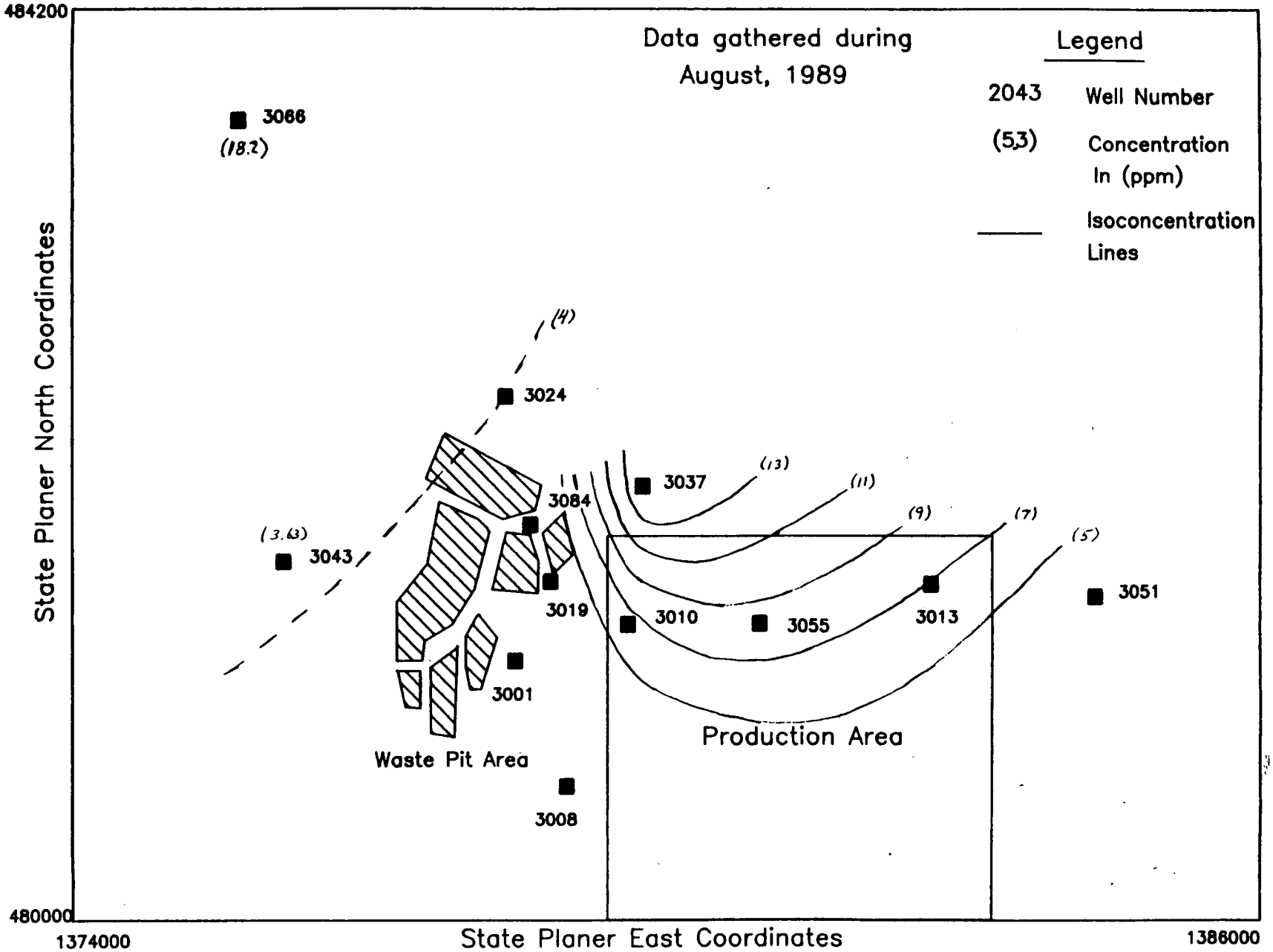
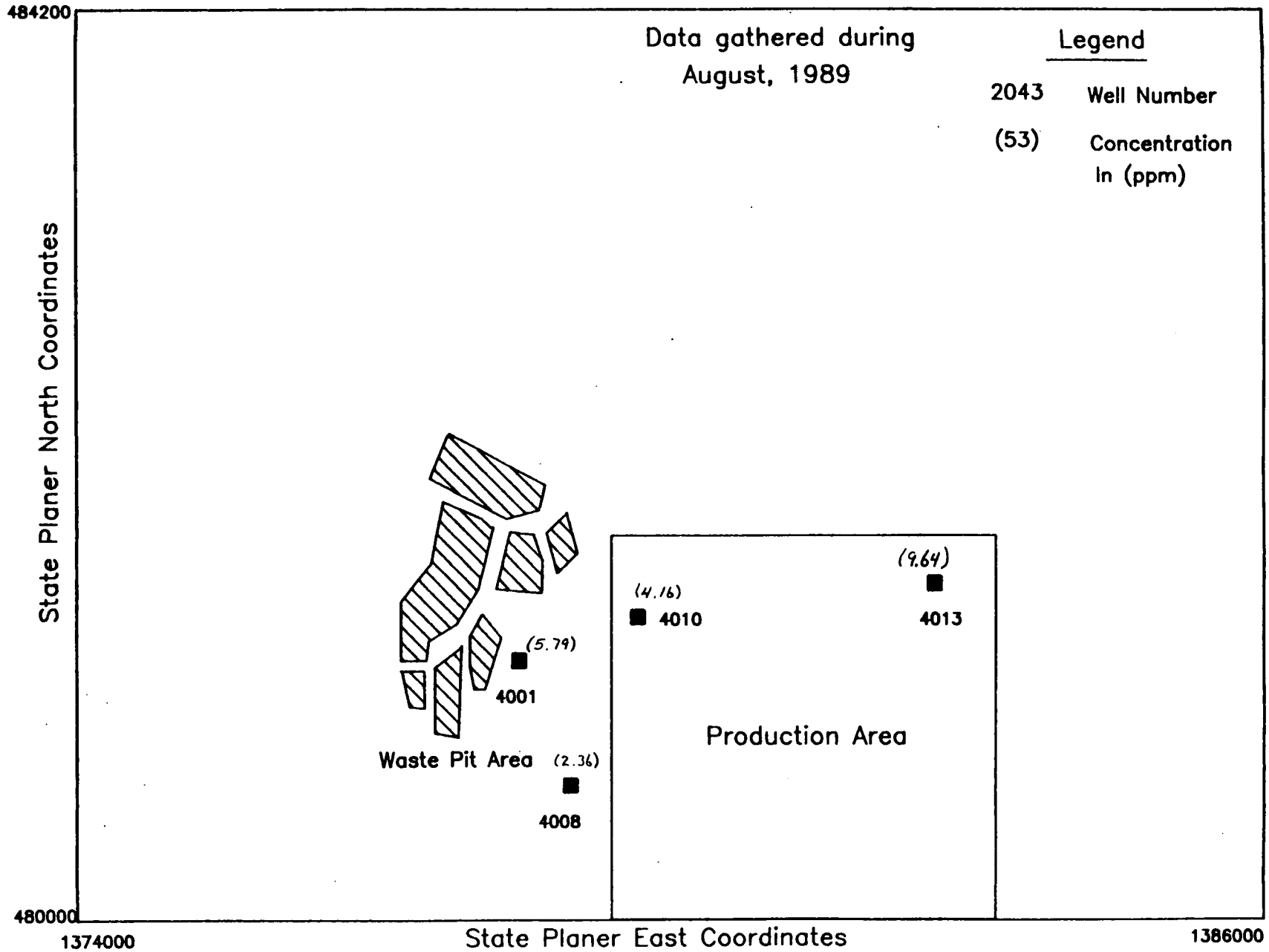
IRON CONCENTRATIONS IN THE UPPER PORTION OF THE SAND AND GRAVEL AQUIFER



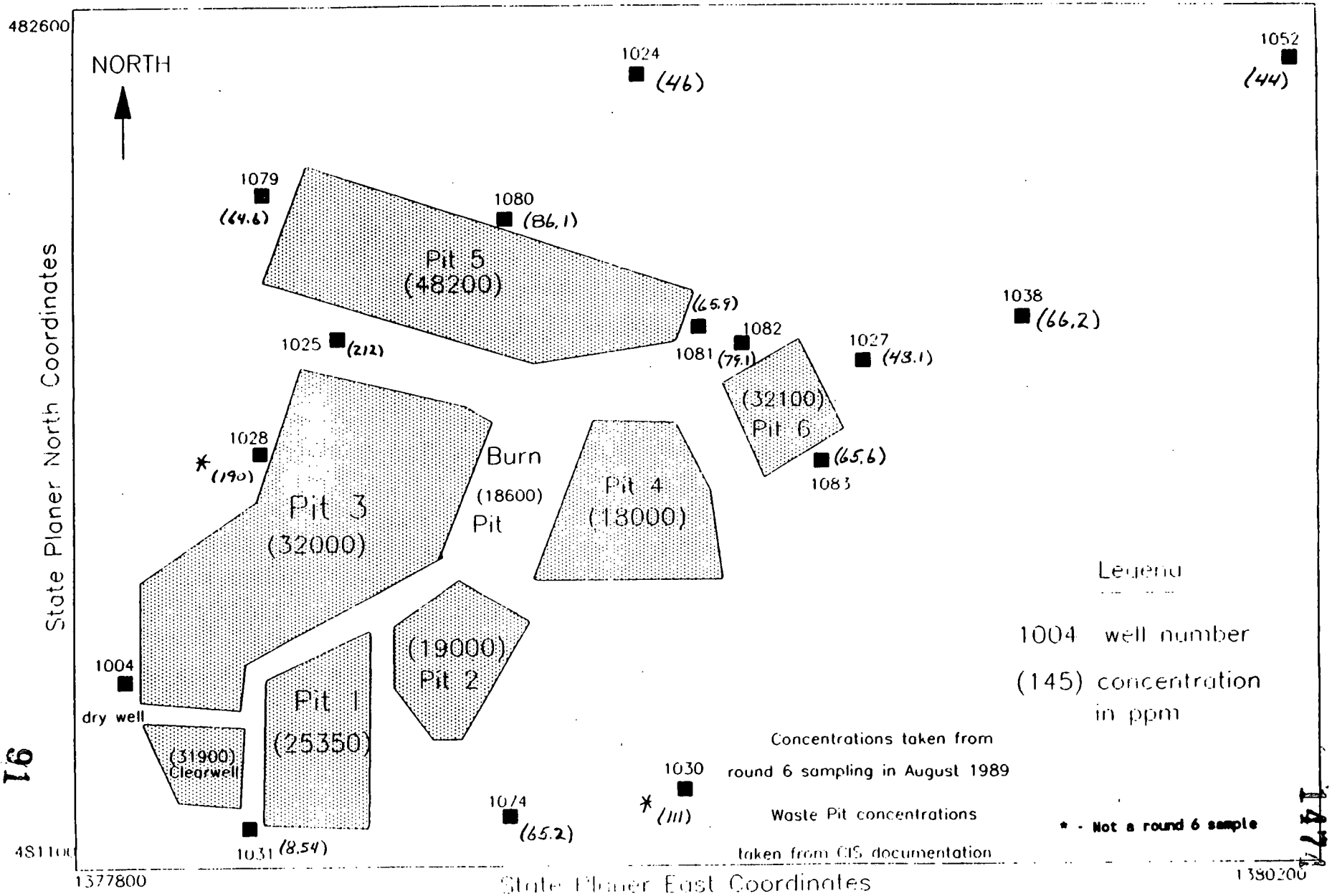
IRON CONCENTRATIONS IN THE MIDDLE OF THE SAND AND GRAVEL AQUIFER



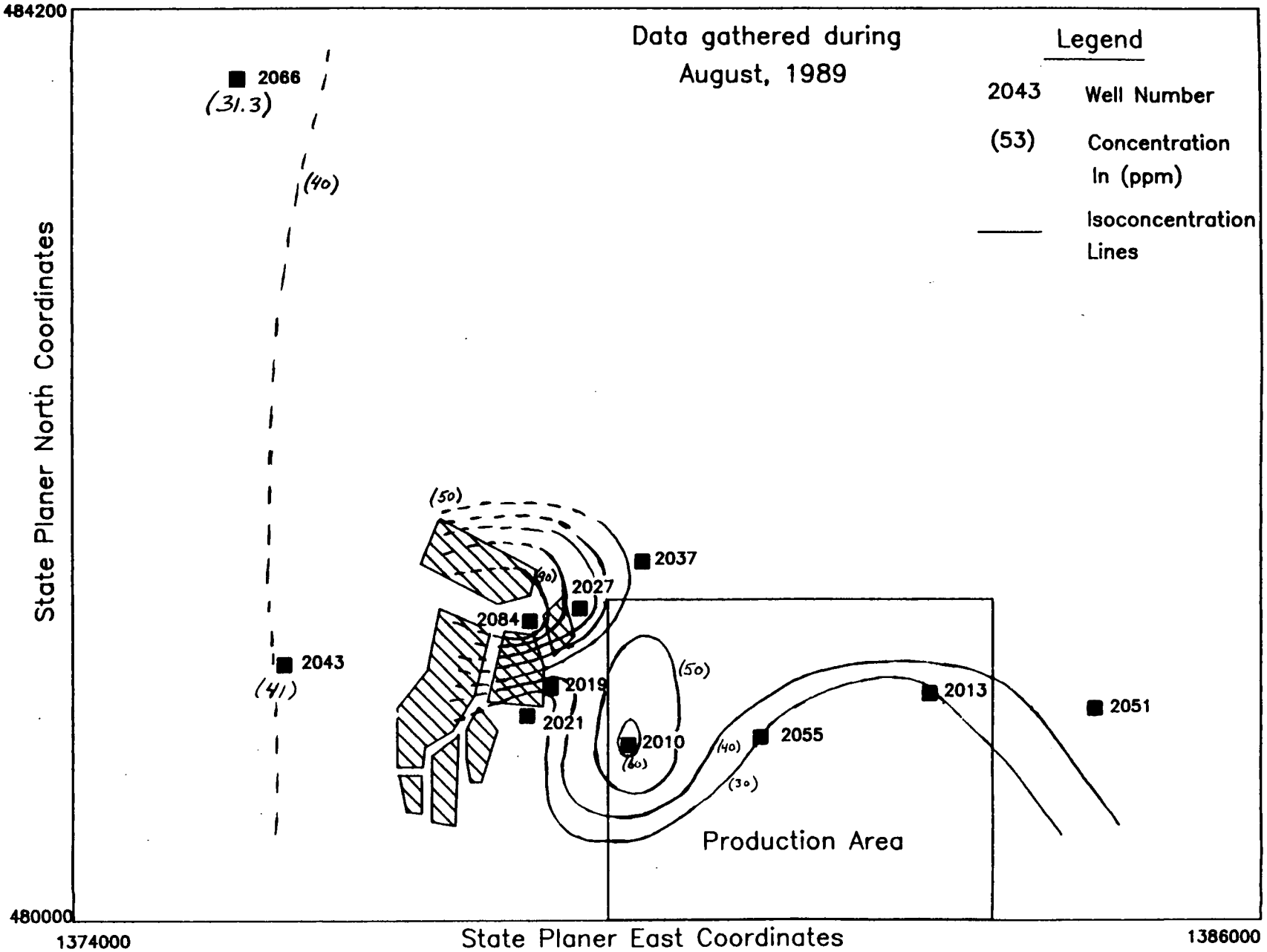
IRON CONCENTRATIONS IN THE LOWER PORTION OF THE SAND AND GRAVEL AQUIFER



MAGNESIUM CONCENTRATIONS IN THE WASTE PITS AND TILL WATER



MAGNESIUM CONCENTRATIONS IN THE UPPER PORTION OF THE SAND AND GRAVEL AQUIFER



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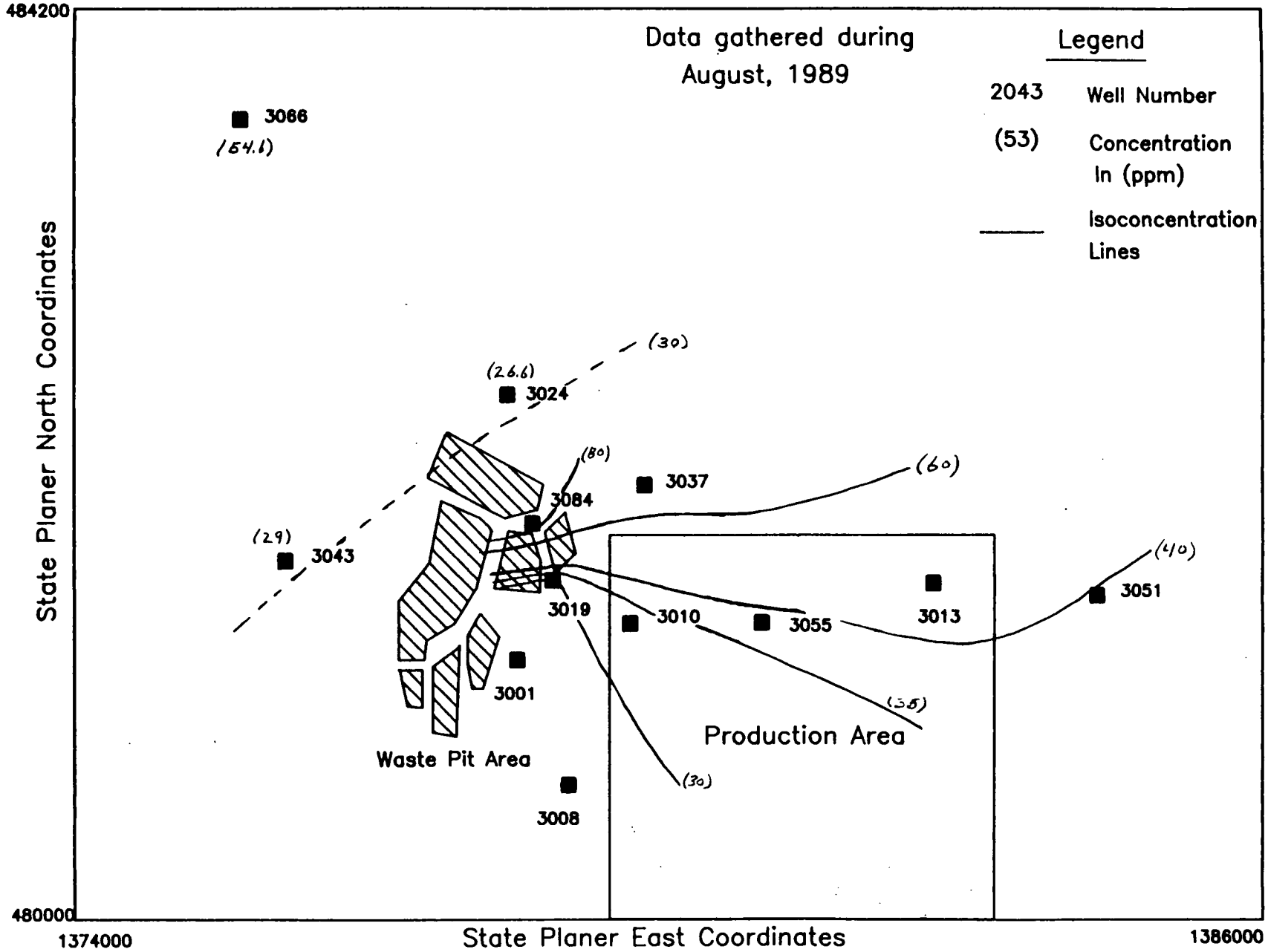
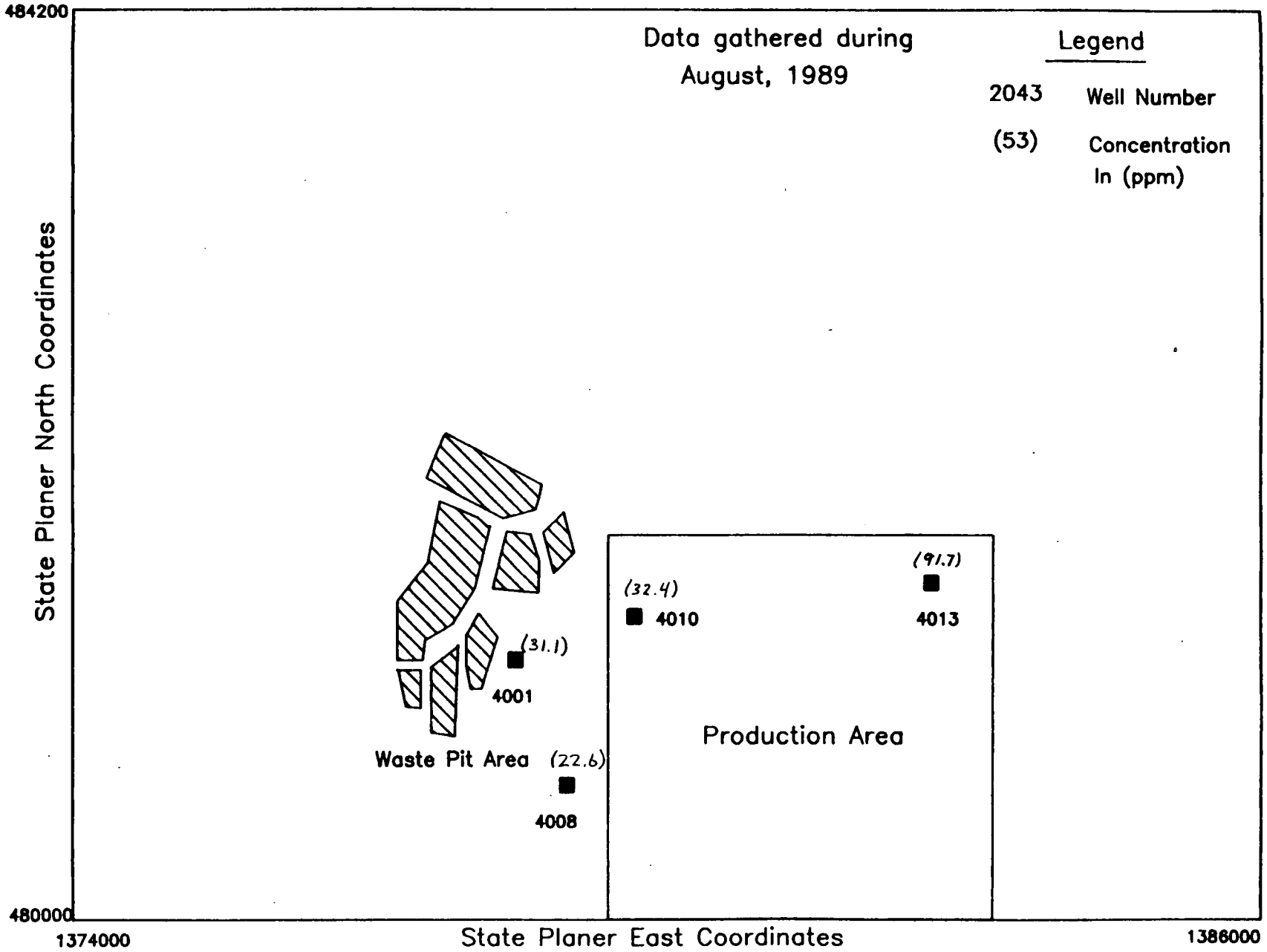
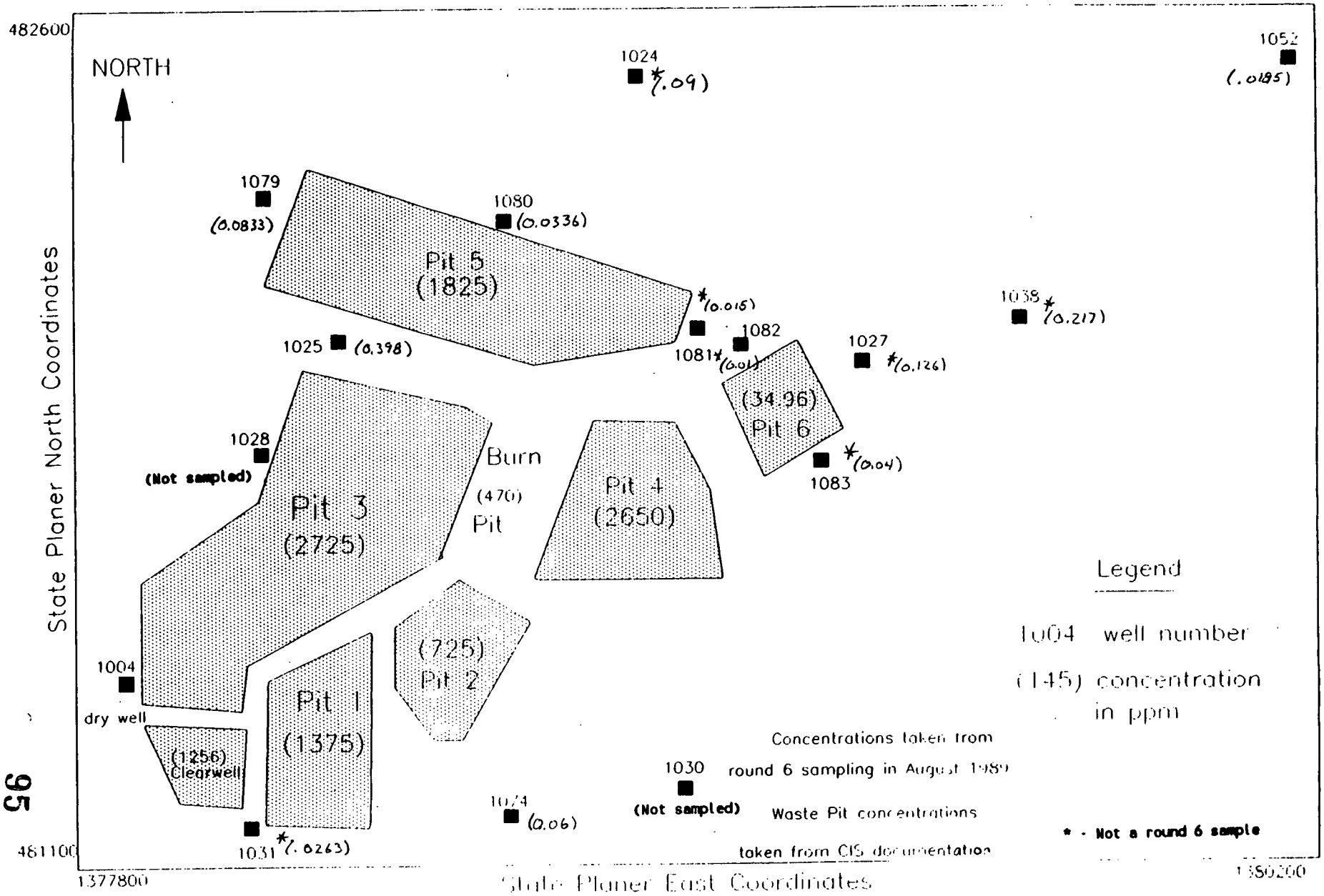


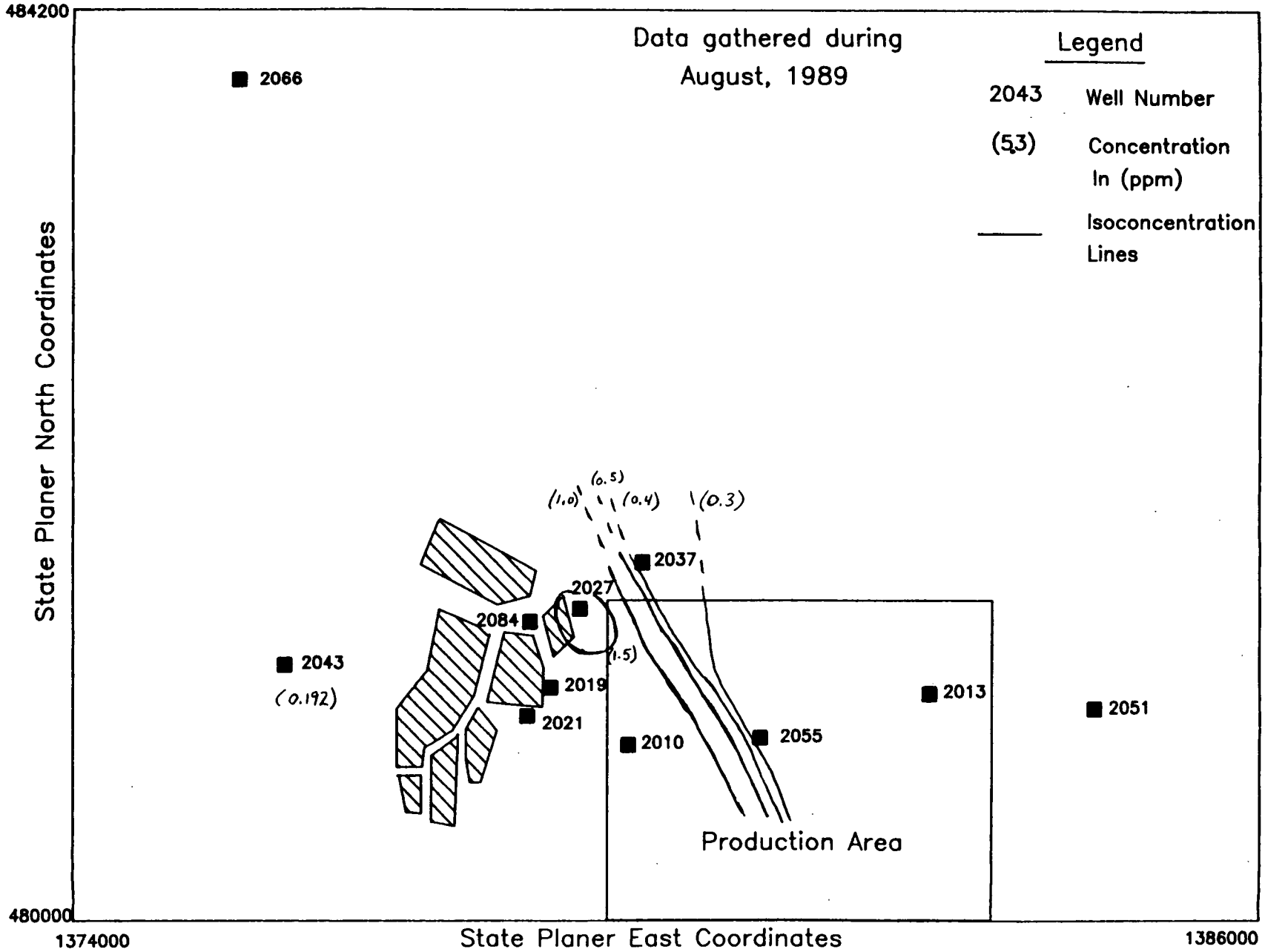
MAGNESIUM CONCENTRATIONS IN THE LOWER PORTION OF THE SAND AND GRAVEL AQUIFER



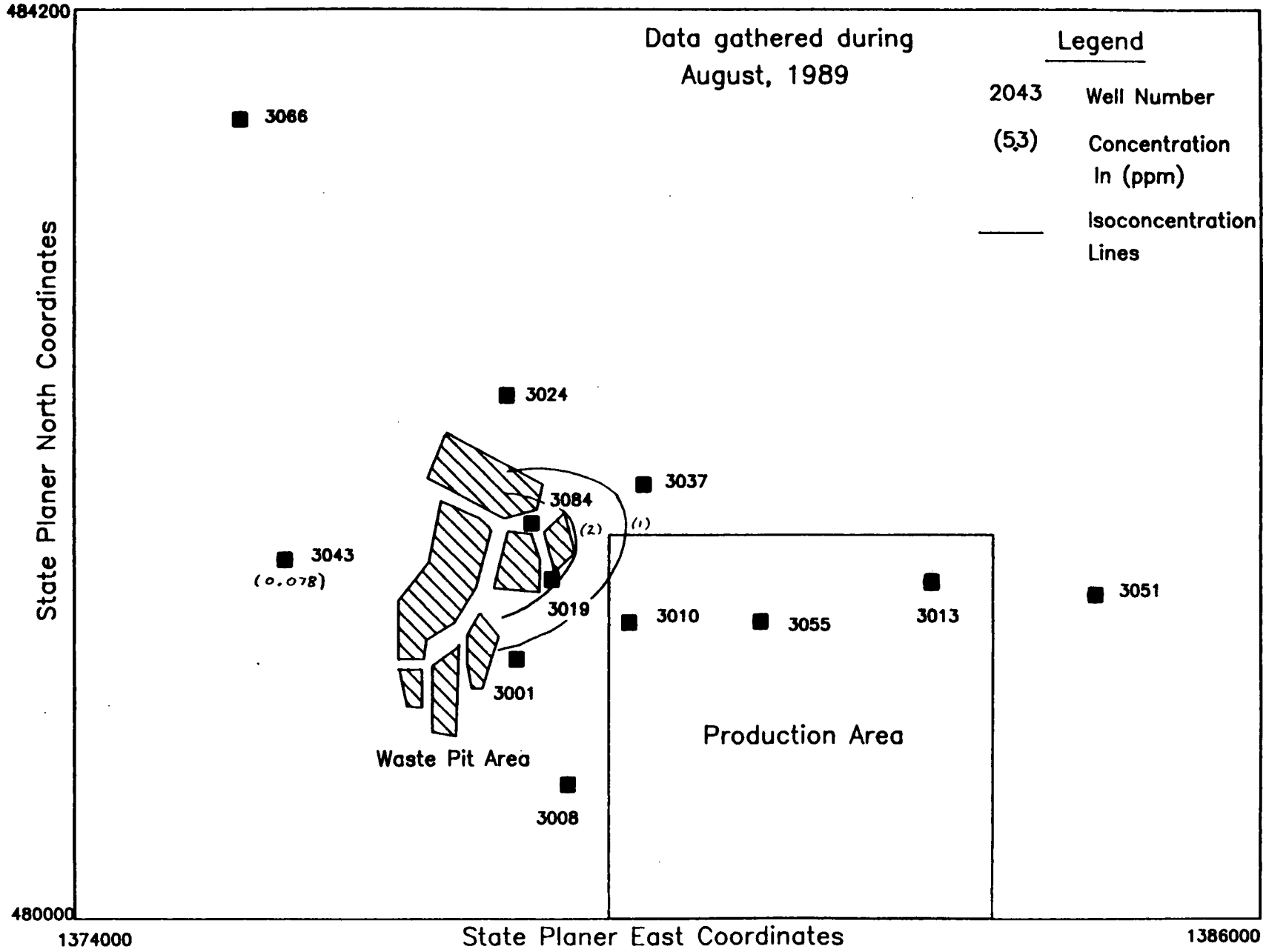
MANGANESE CONCENTRATIONS IN THE WASTE PITS AND TILL WATER



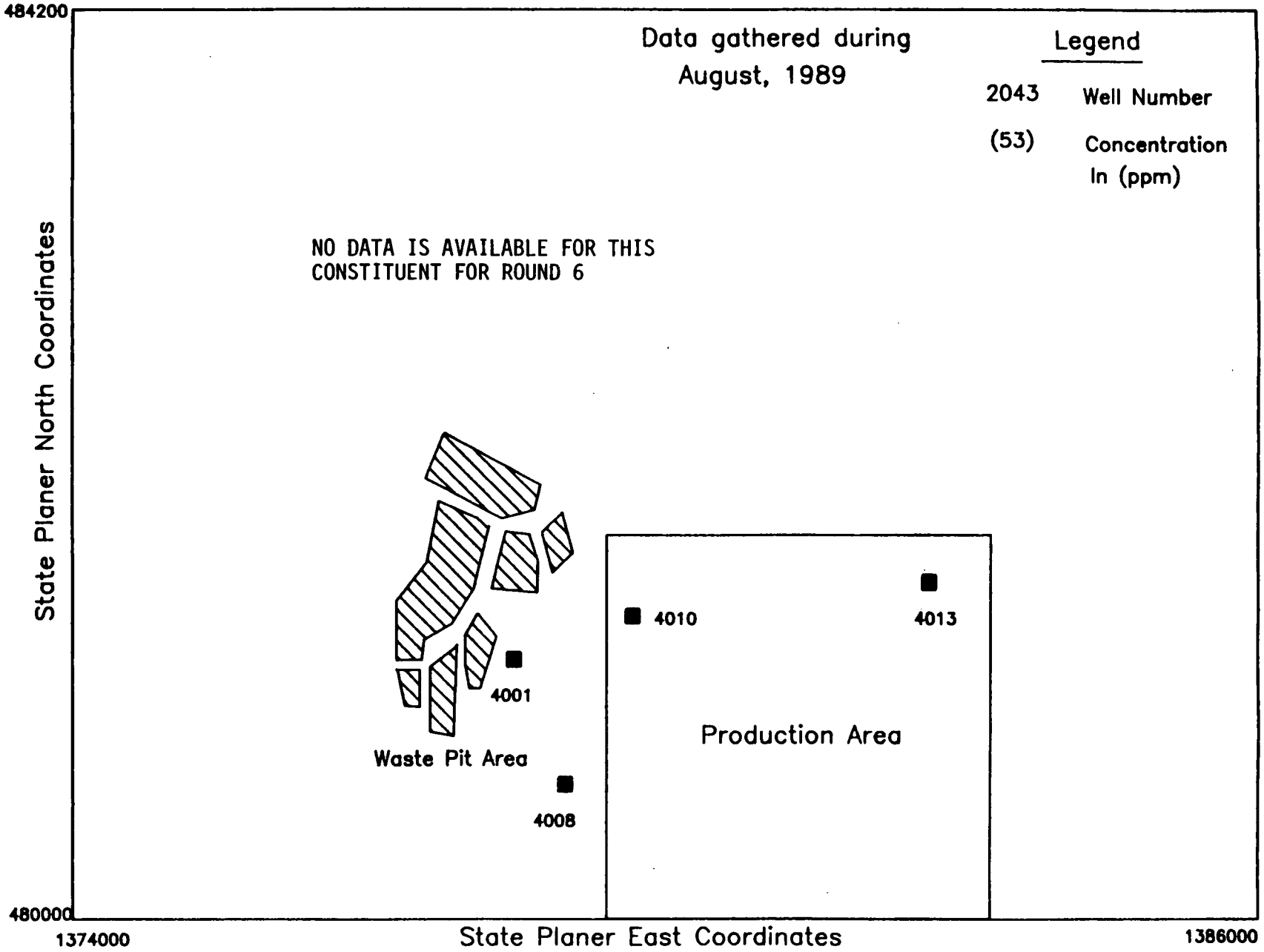
MANGANESE CONCENTRATIONS IN THE UPPER PORTION OF THE SAND AND GRAVEL AQUIFER



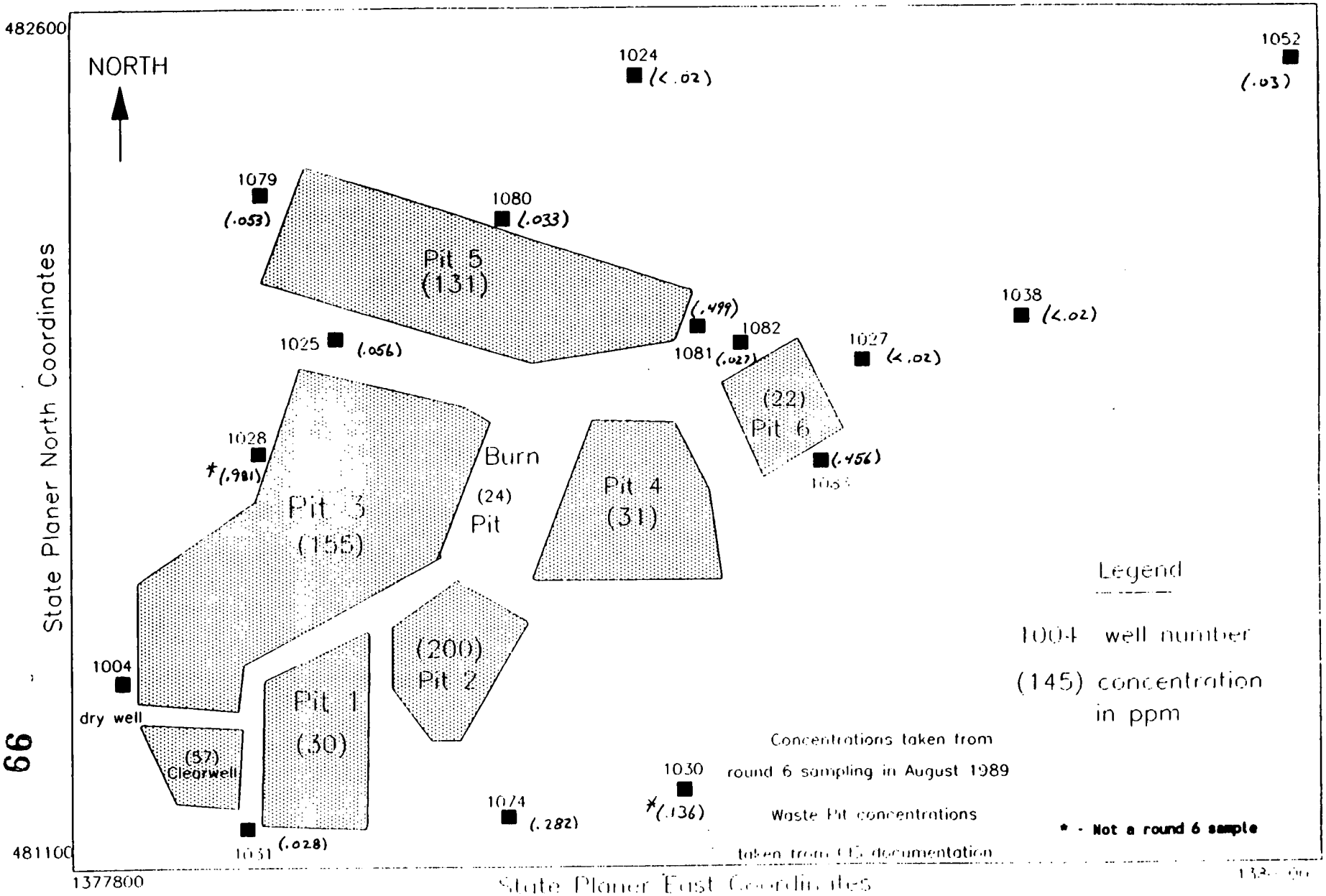
MANGANESE CONCENTRATIONS IN THE MIDDLE OF THE SAND AND GRAVEL AQUIFER



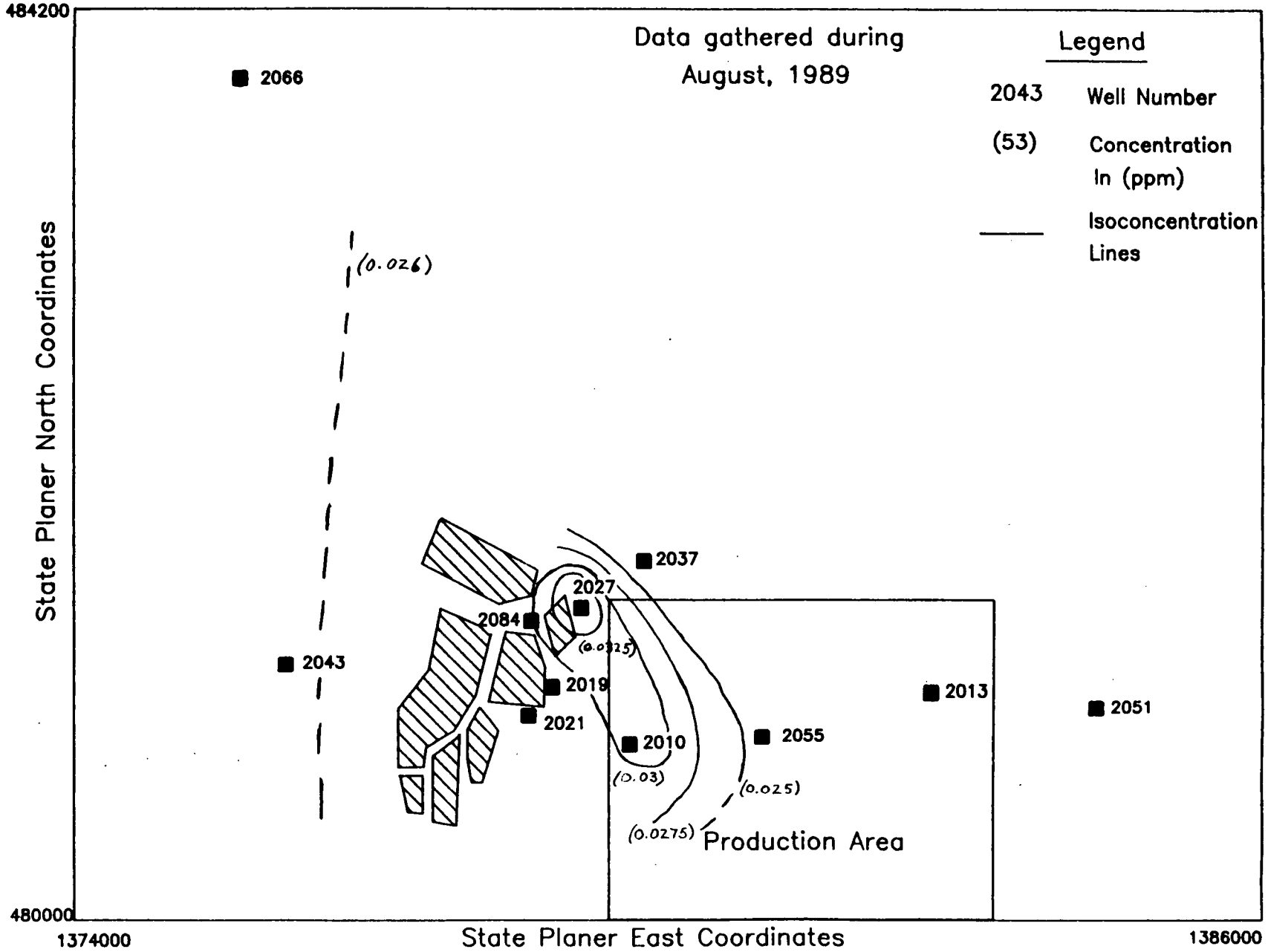
MANGANESE CONCENTRATIONS IN THE LOWER PORTION OF THE SAND AND GRAVEL AQUIFER



NICKEL CONCENTRATIONS IN THE WASTE PITS AND TILL WATER



NICKEL CONCENTRATIONS IN THE UPPER PORTION OF THE SAND AND GRAVEL AQUIFER



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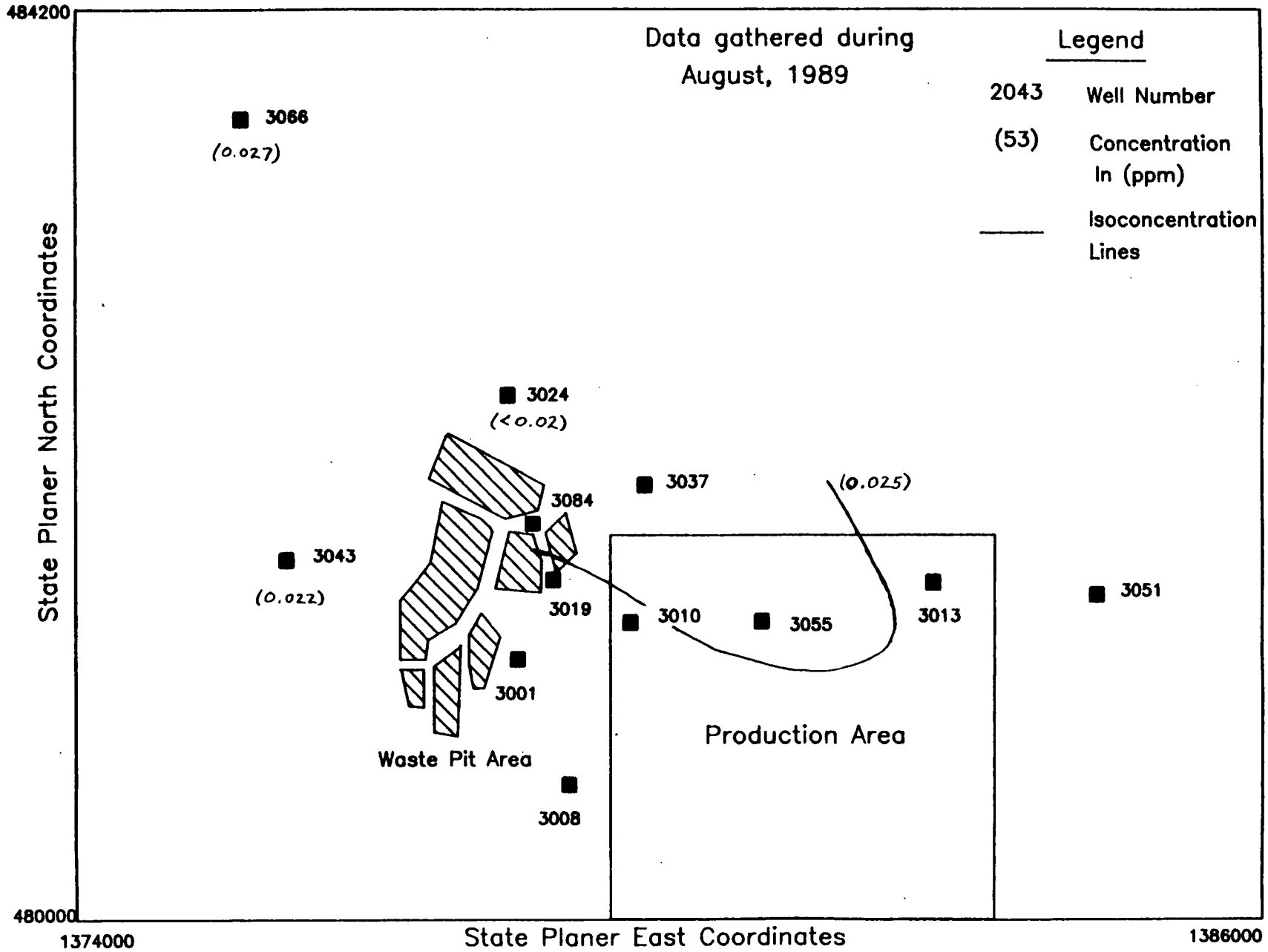

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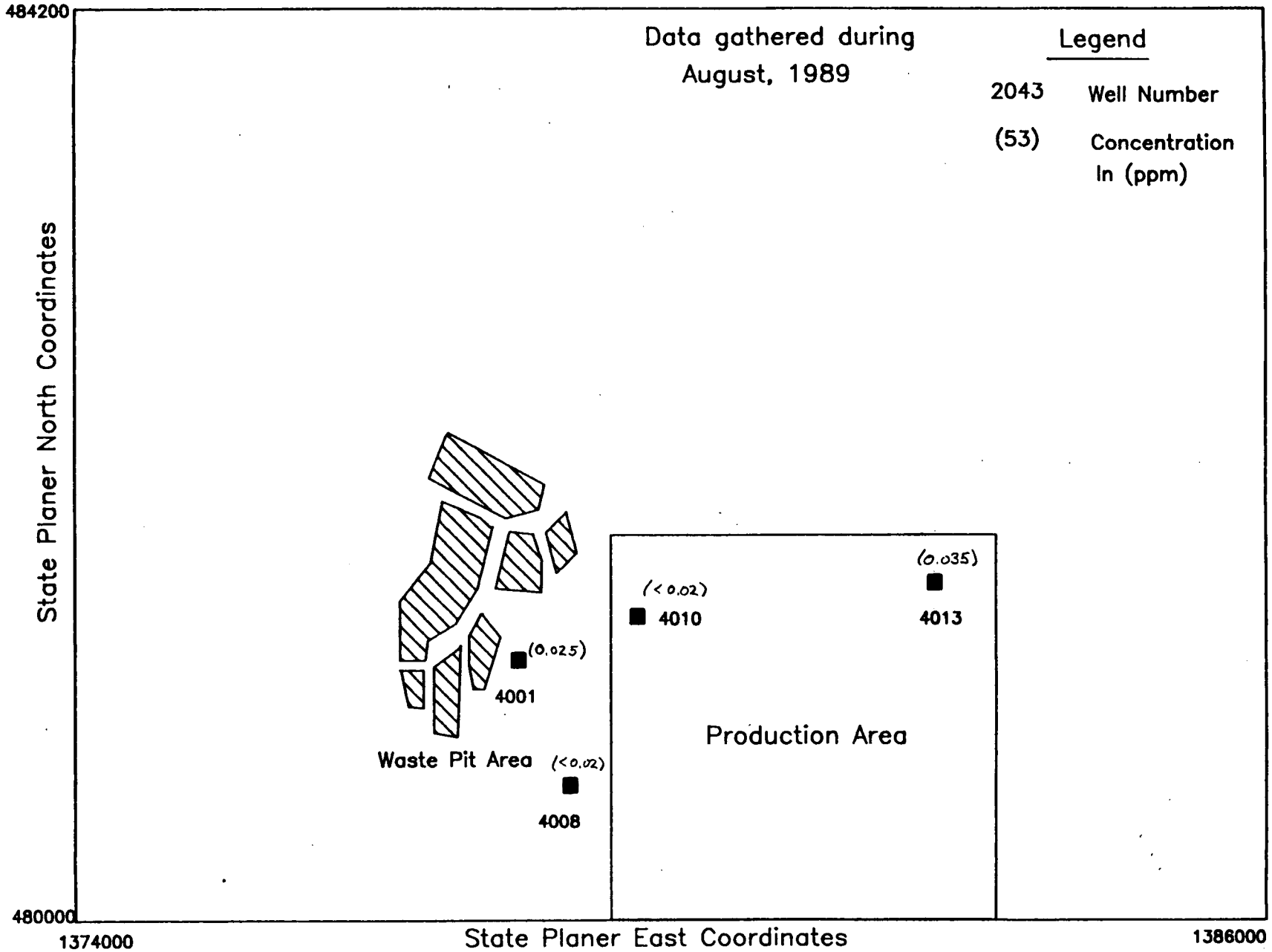
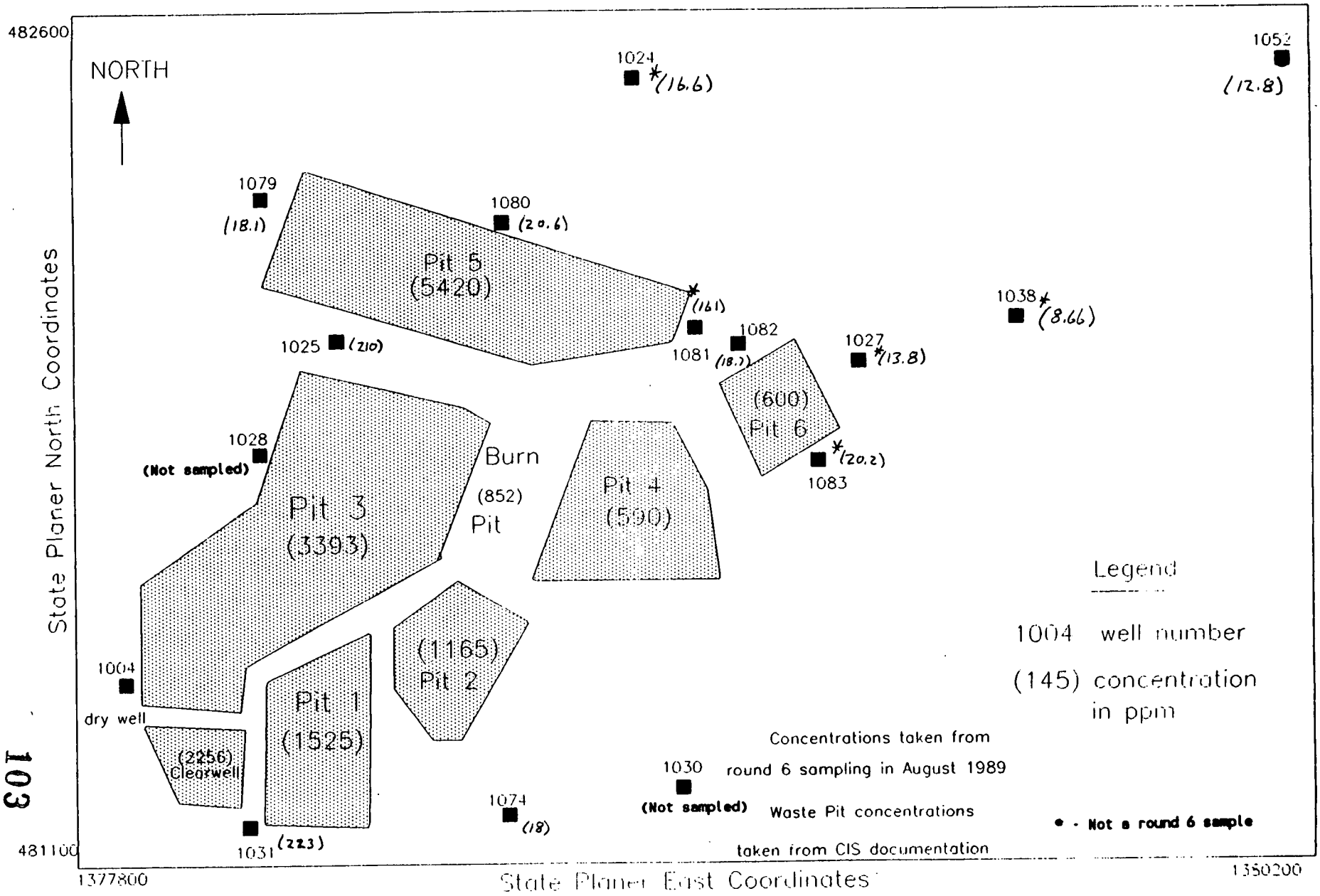
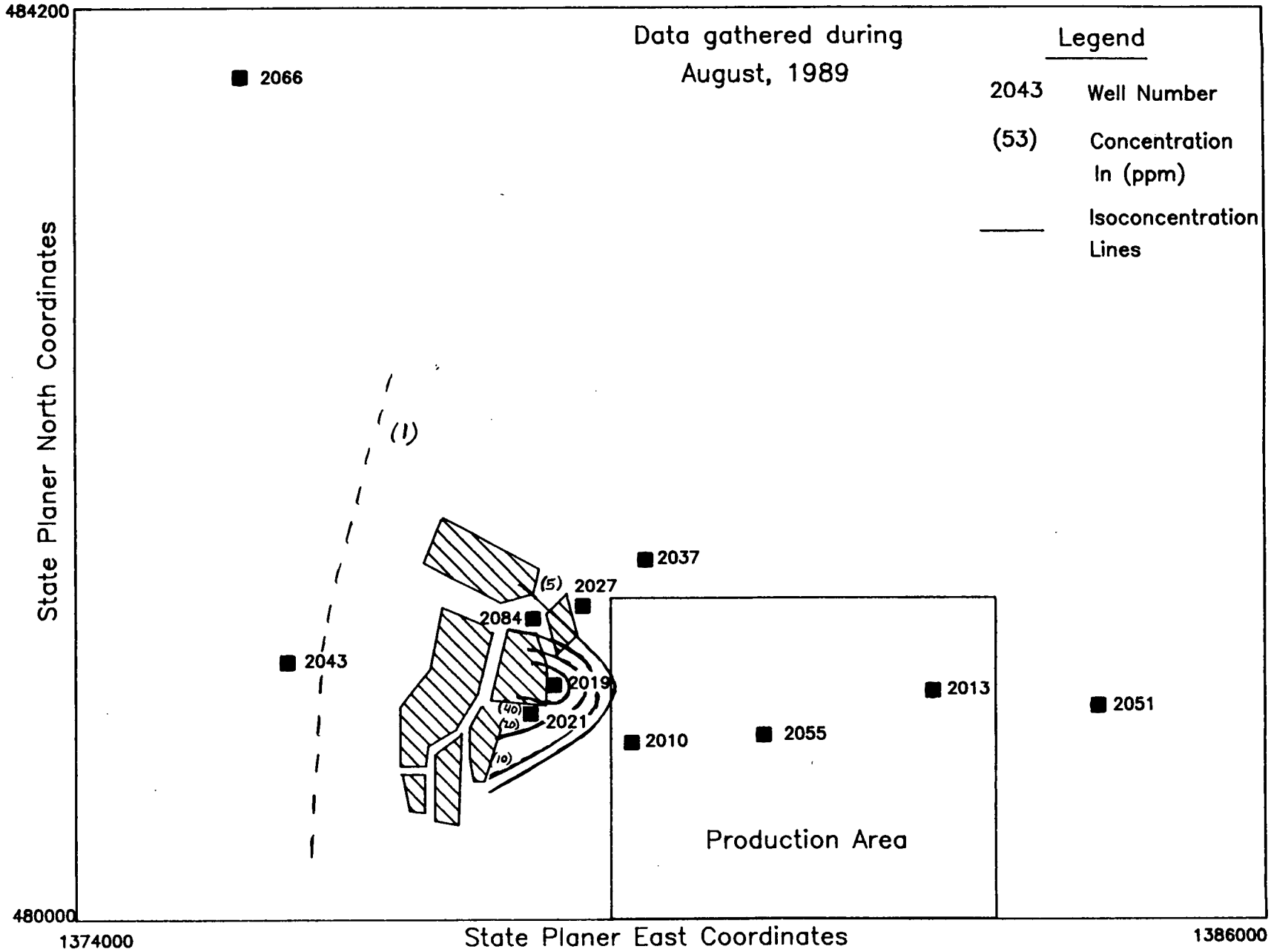


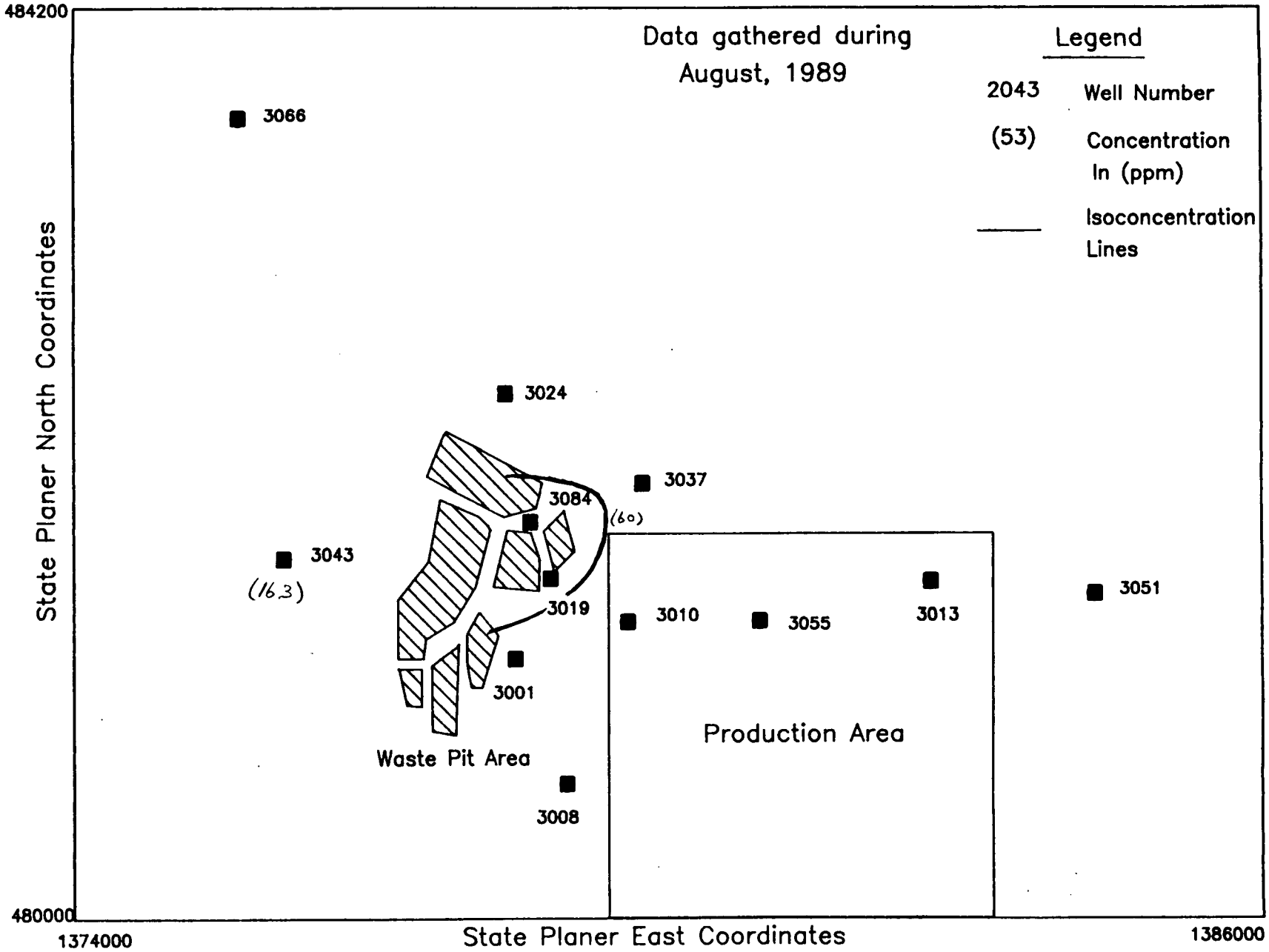
SODIUM CONCENTRATIONS IN THE WASTE PITS AND TILL WATER



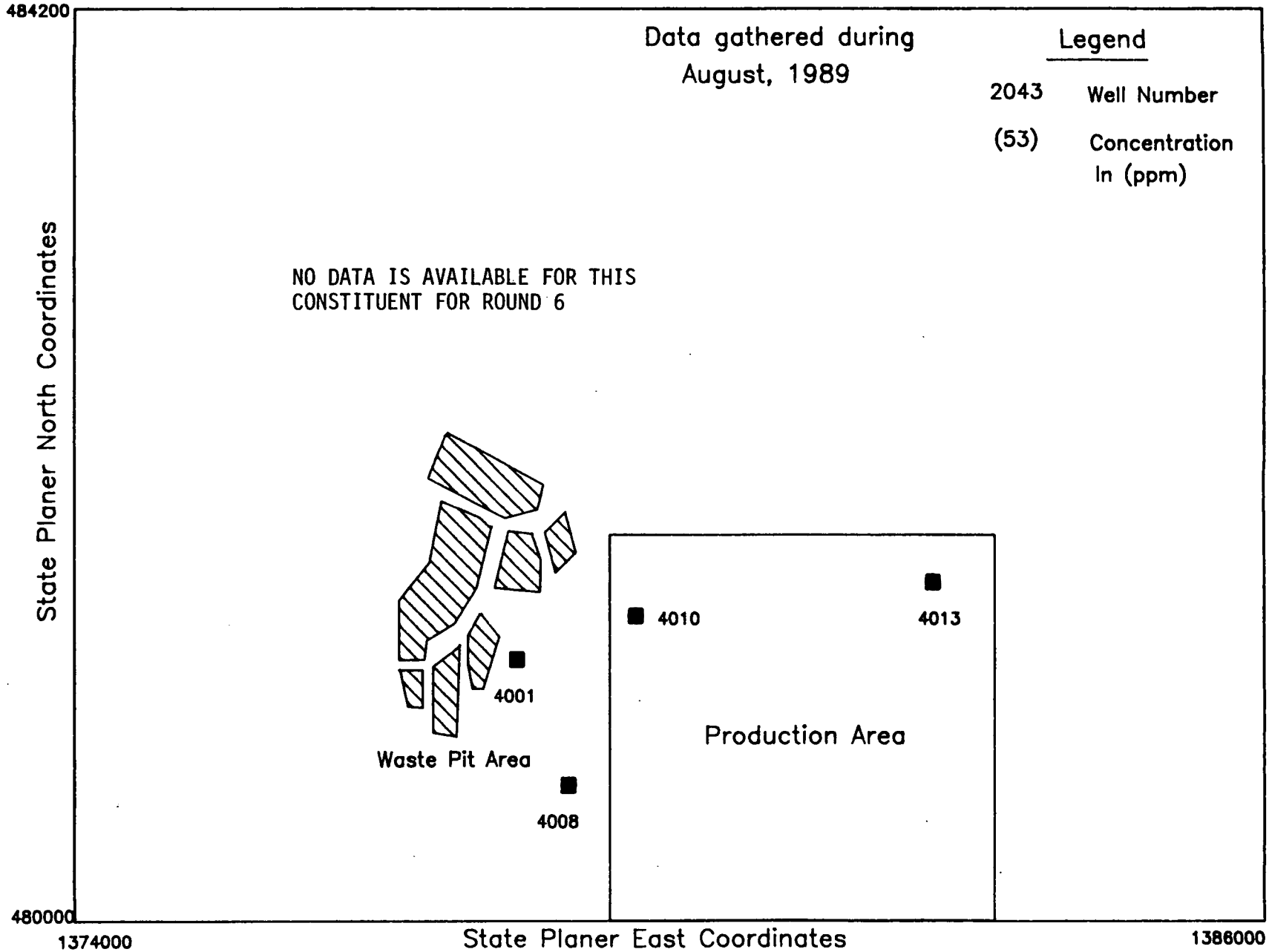
SODIUM CONCENTRATIONS IN THE UPPER PORTION OF THE SAND AND GRAVEL AQUIFER



SODIUM CONCENTRATIONS IN THE MIDDLE OF THE SAND AND GRAVEL AQUIFER



SODIUM CONCENTRATIONS IN THE LOWER PORTION OF THE SAND AND GRAVEL AQUIFER



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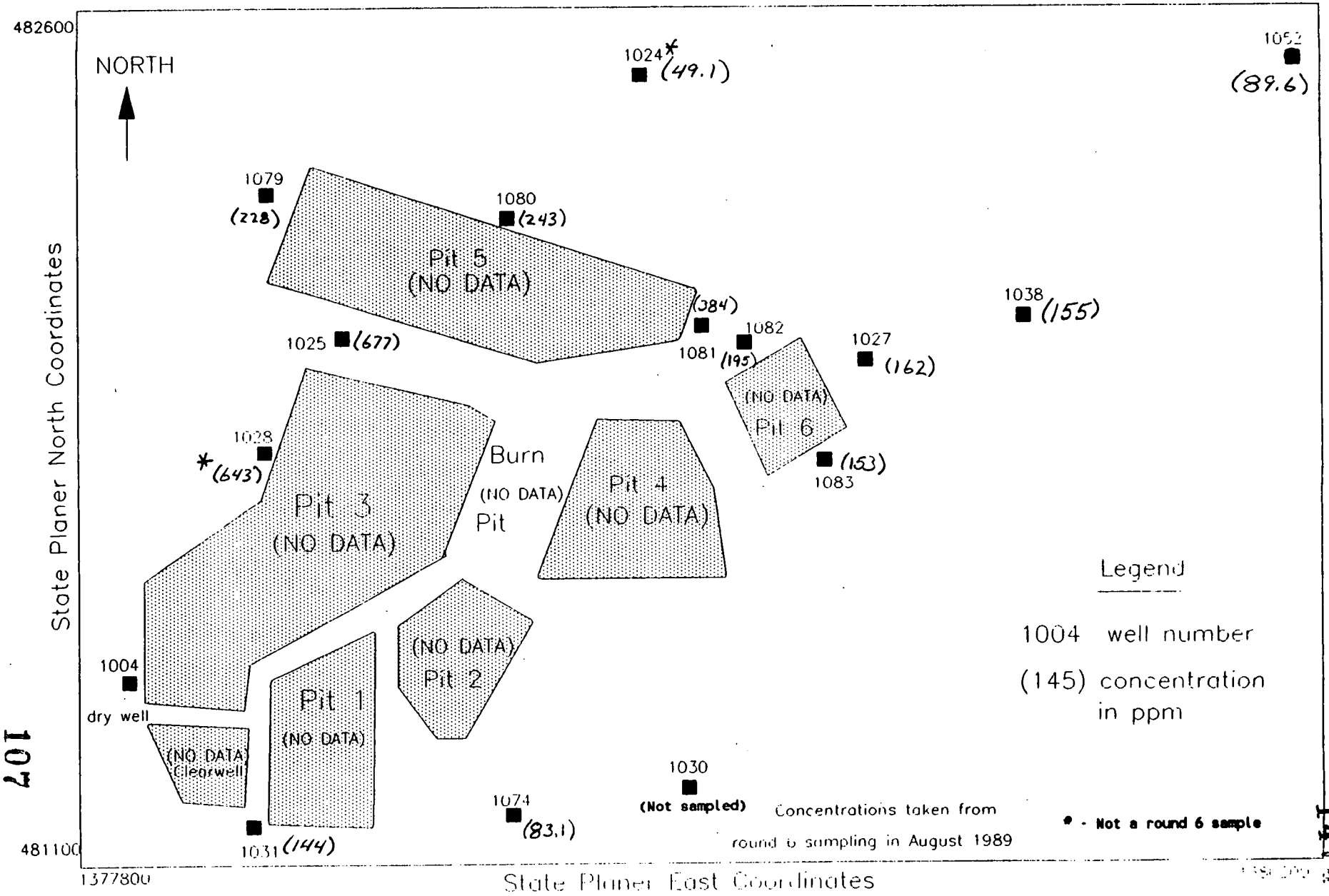
SULFATE CONCENTRATIONS IN THE WASTE PITS AND TILL WATER



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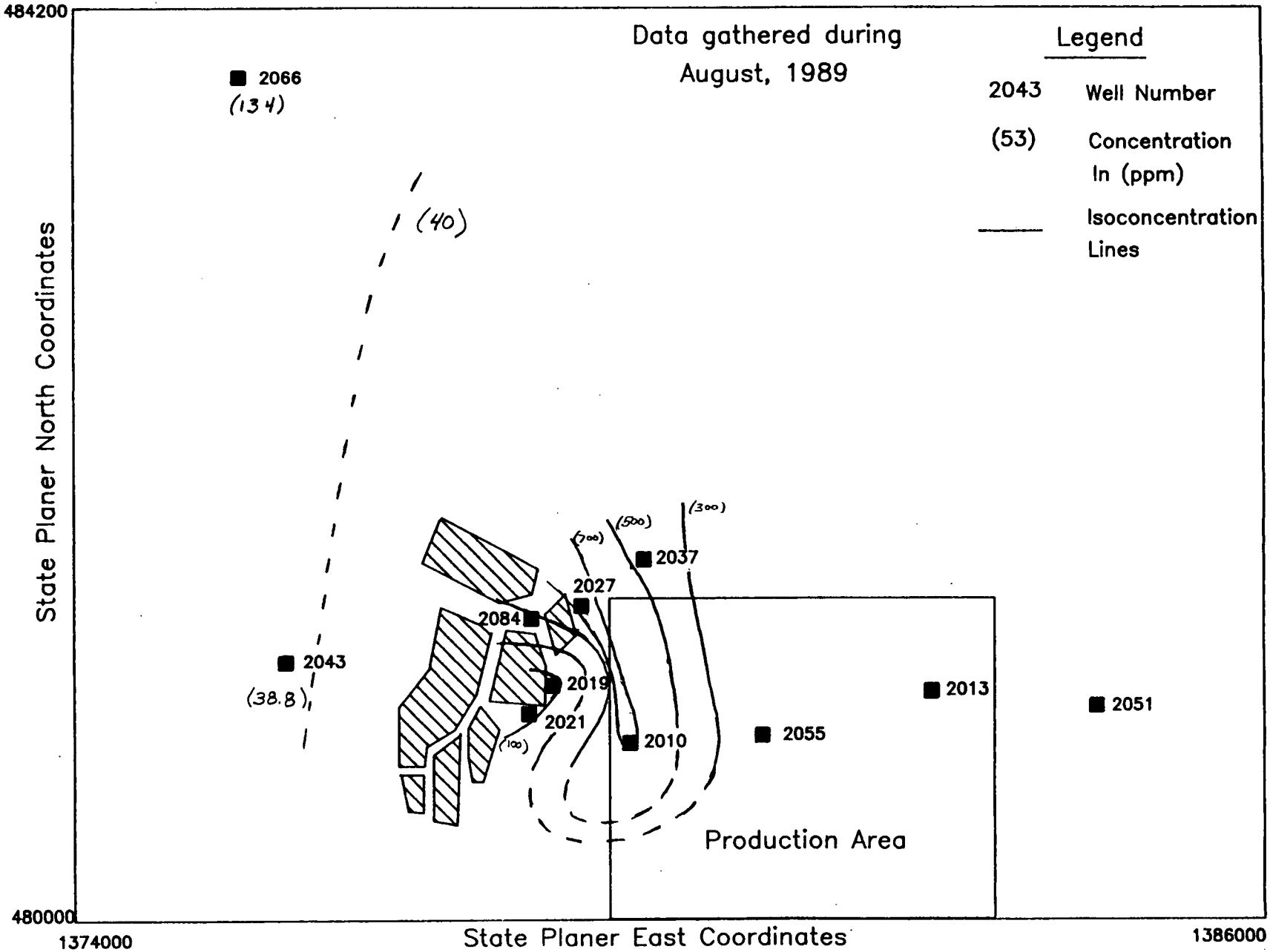
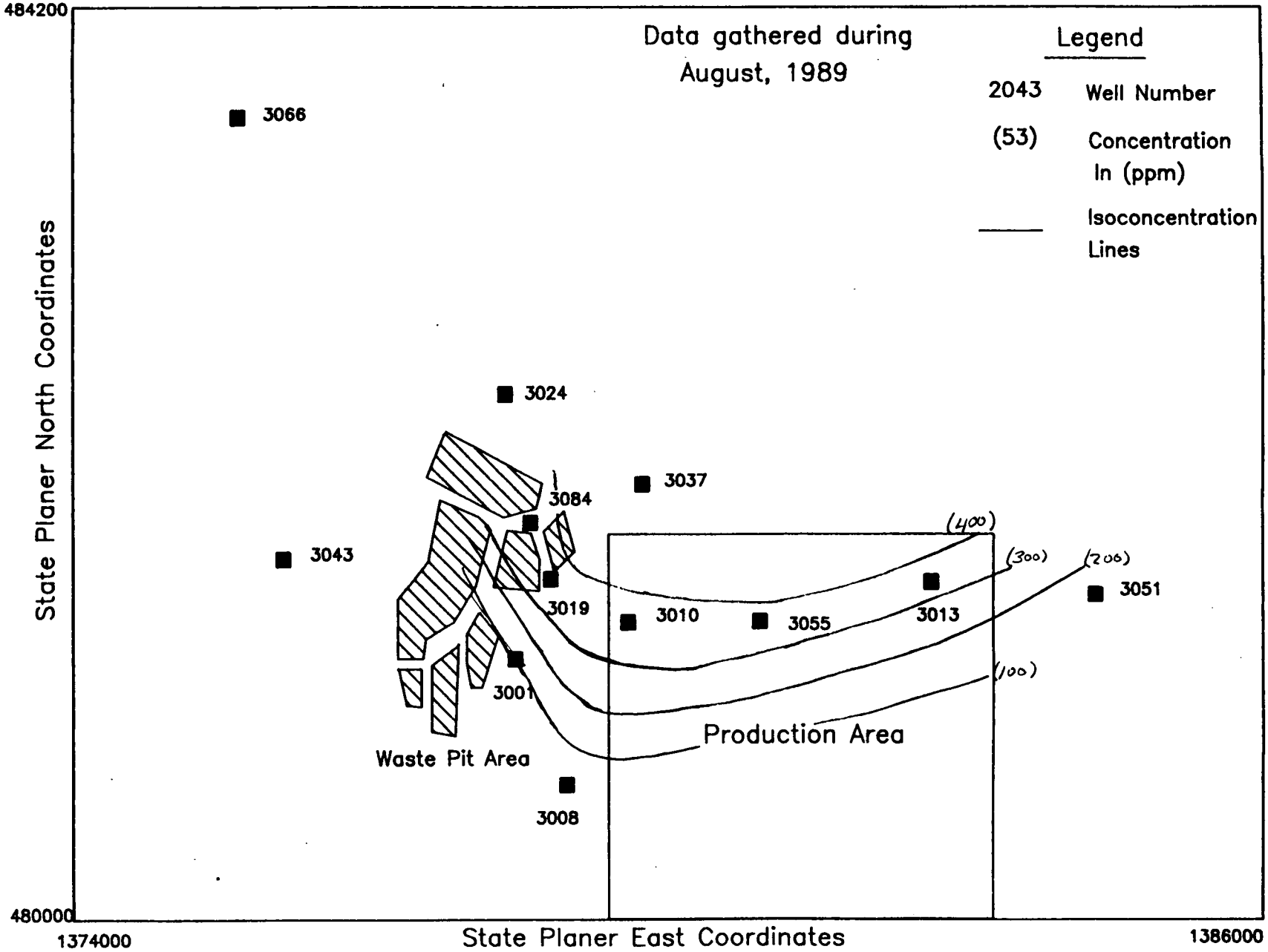
SULFATE CONCENTRATIONS IN THE UPPER PORTION OF THE SAND AND GRAVEL AQUIFER



SULFATE CONCENTRATIONS IN THE MIDDLE OF THE SAND AND GRAVEL AQUIFER



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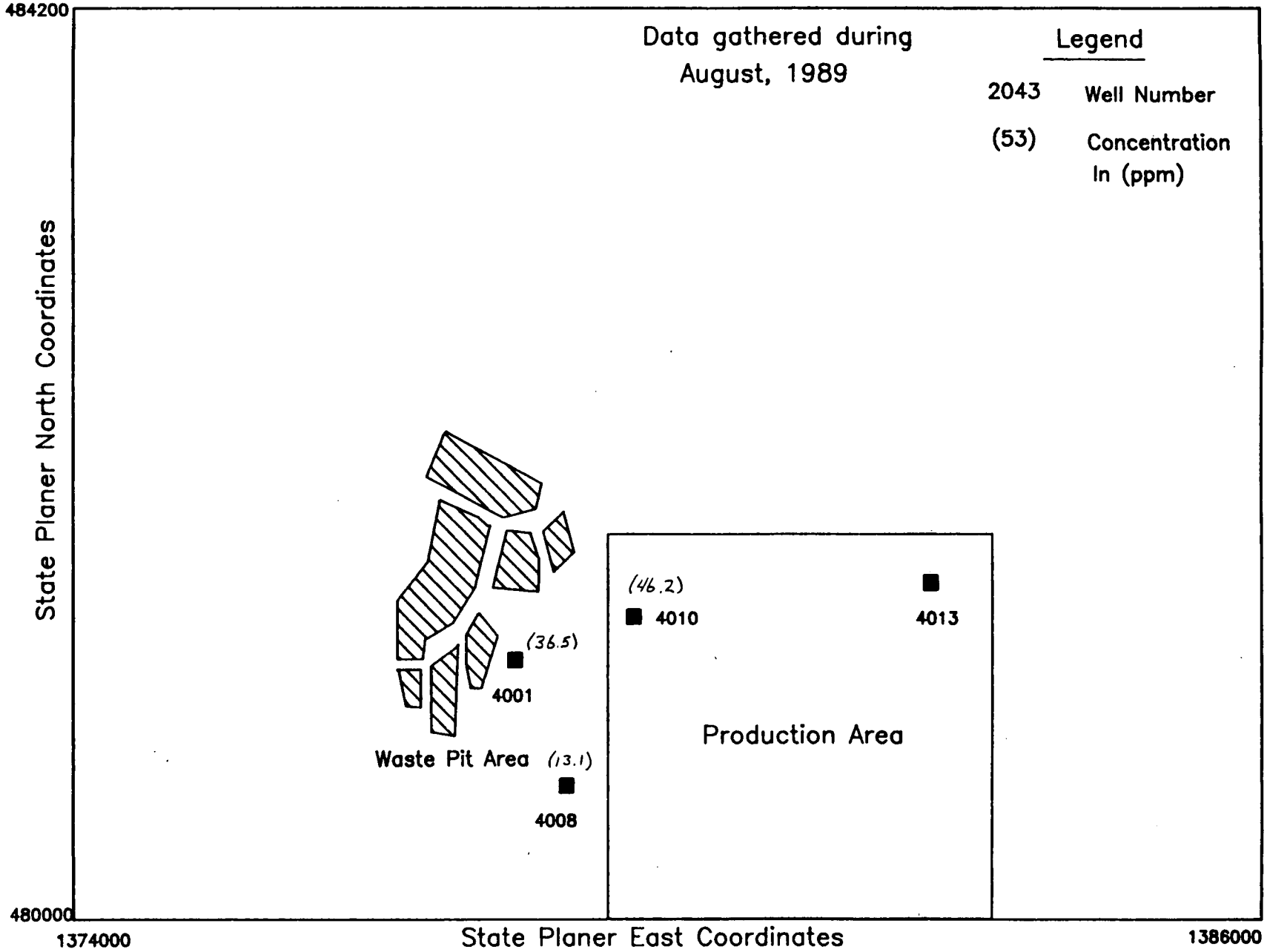
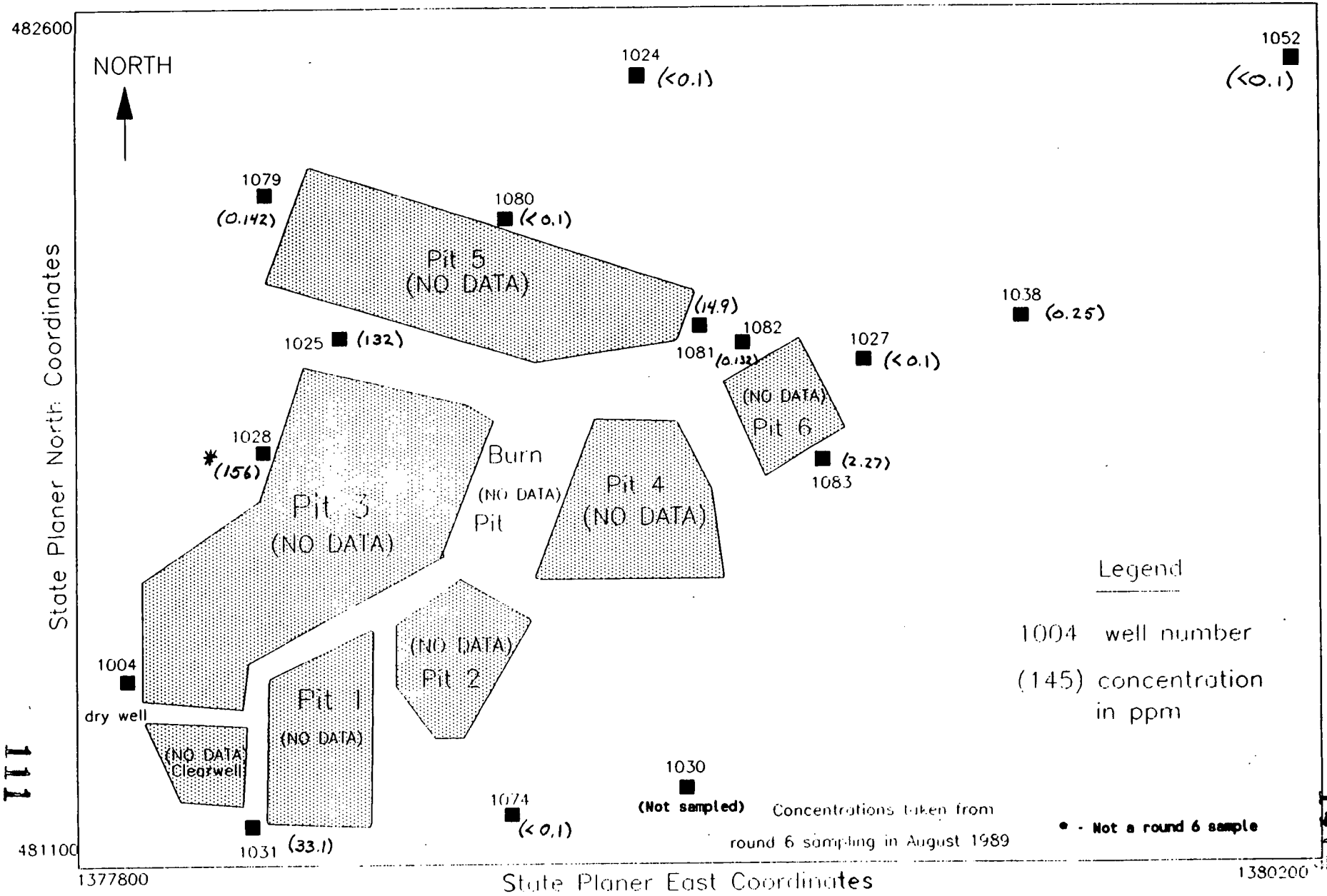


NITRATE CONCENTRATIONS IN THE WASTE PITS AND TILL WATER



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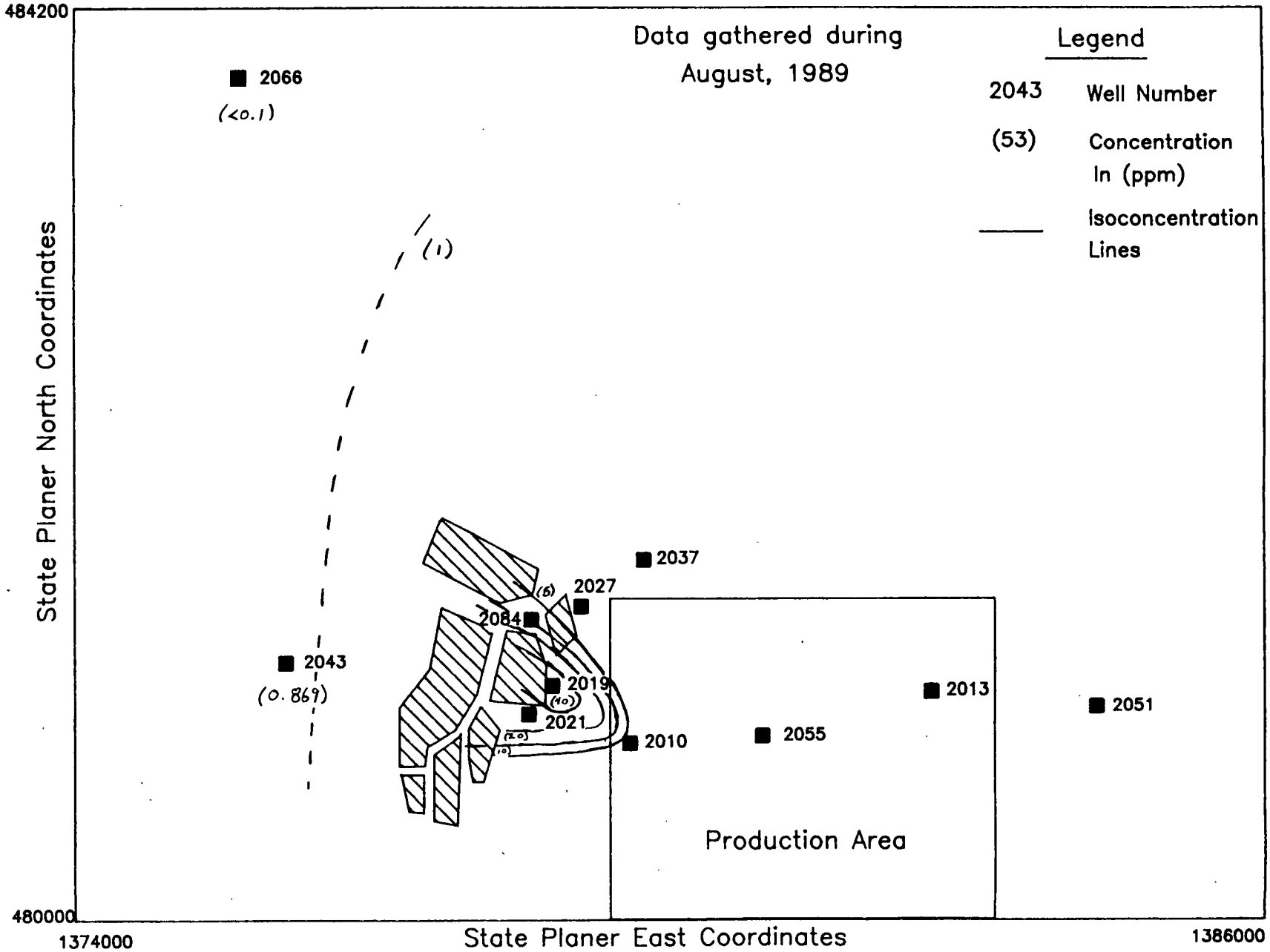
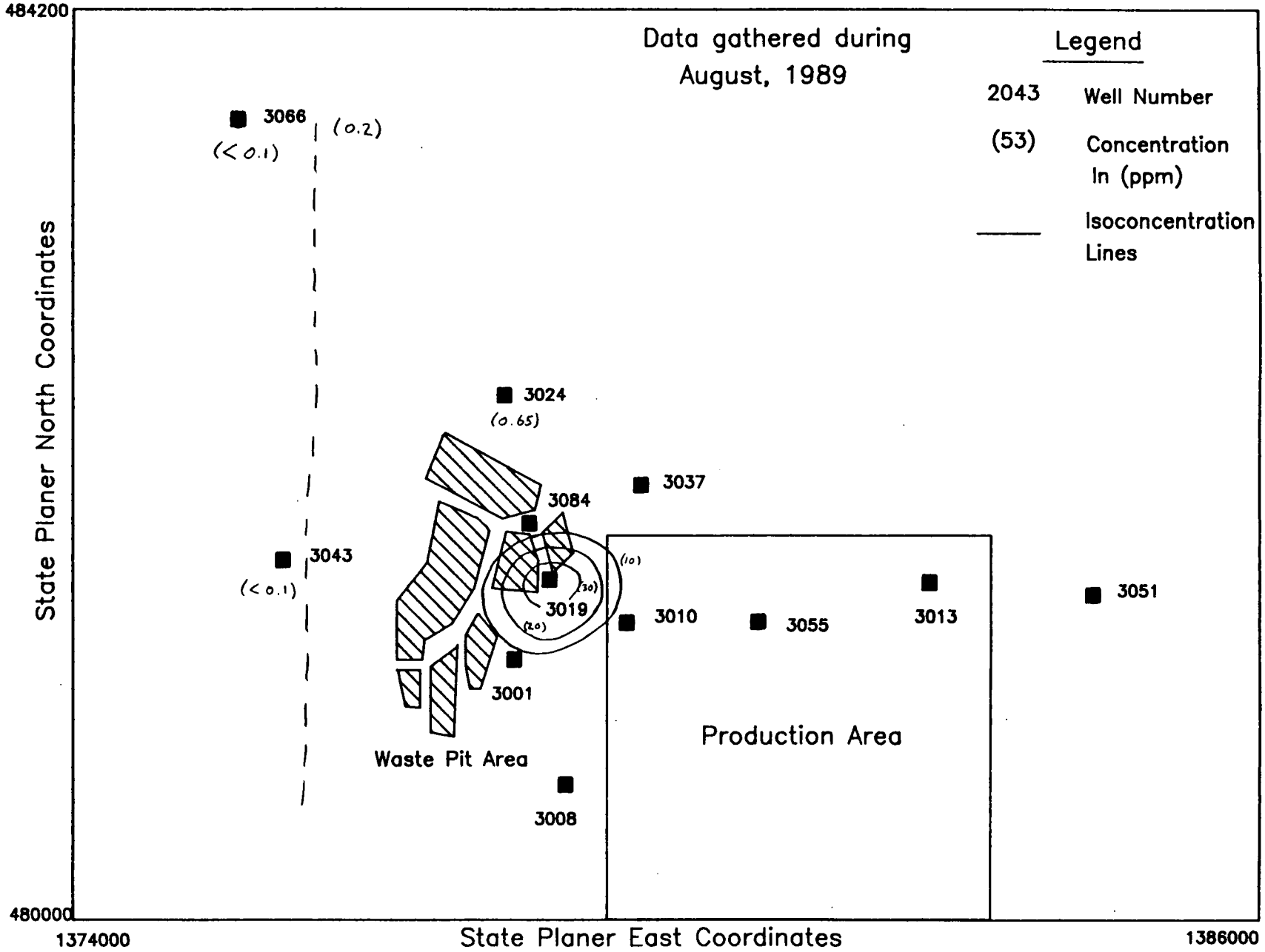
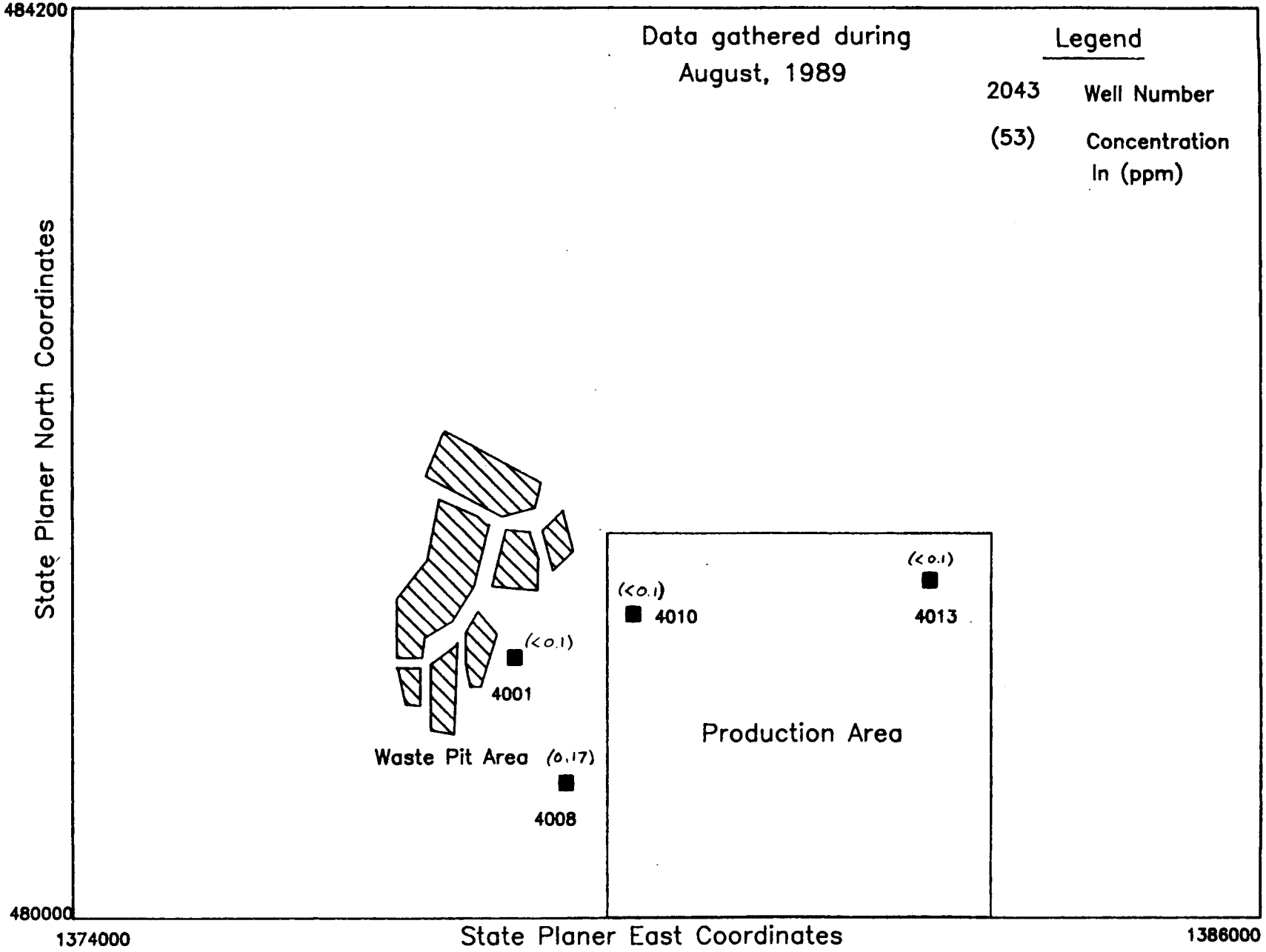
NITRATE CONCENTRATIONS IN THE UPPER PORTION OF THE SAND AND GRAVEL AQUIFER



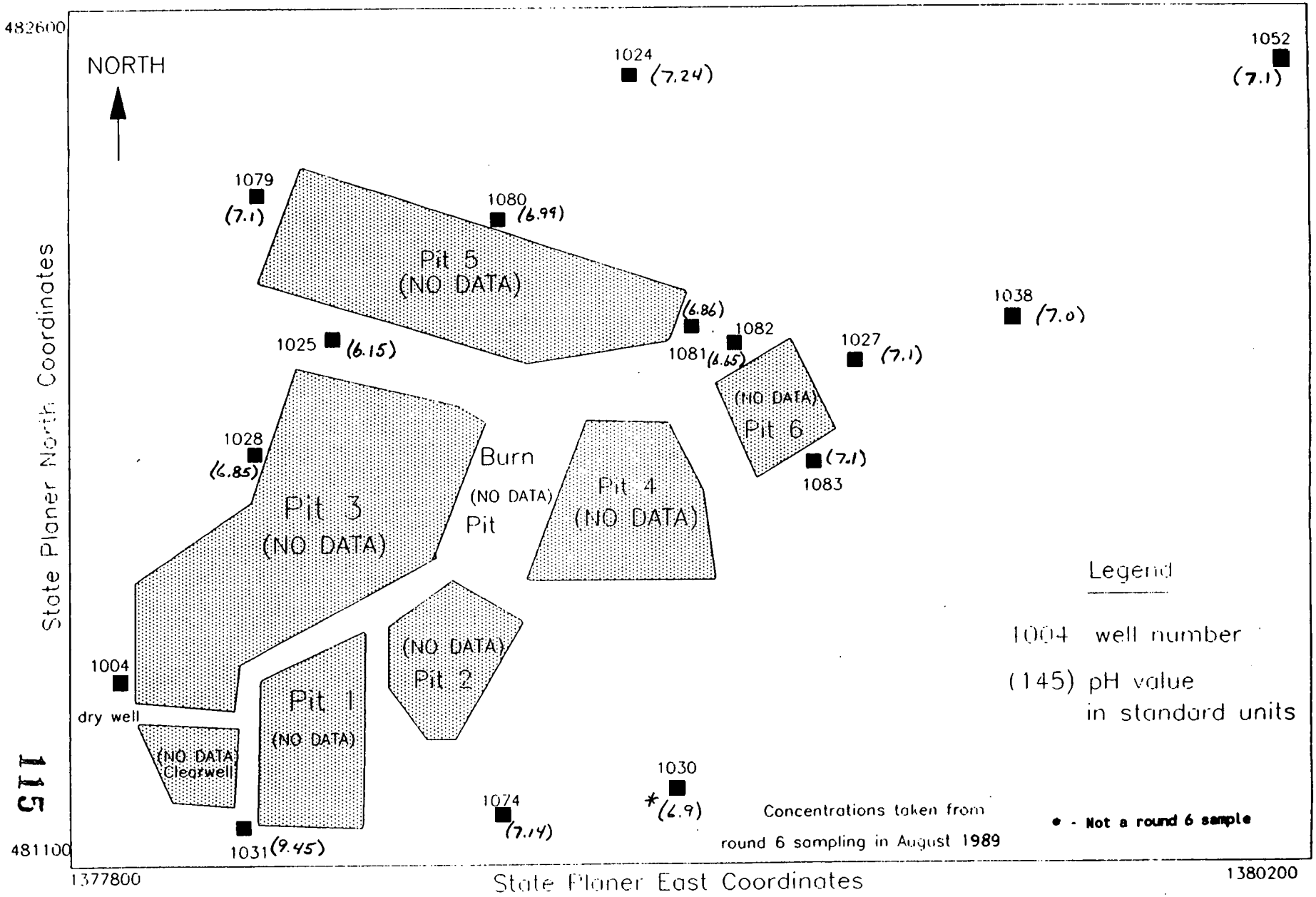
NITRATE CONCENTRATIONS IN THE MIDDLE OF THE SAND AND GRAVEL AQUIFER



NITRATE CONCENTRATIONS IN THE LOWER PORTION OF THE SAND AND GRAVEL AQUIFER



pH IN THE WASTE PITS AND TILL WATER



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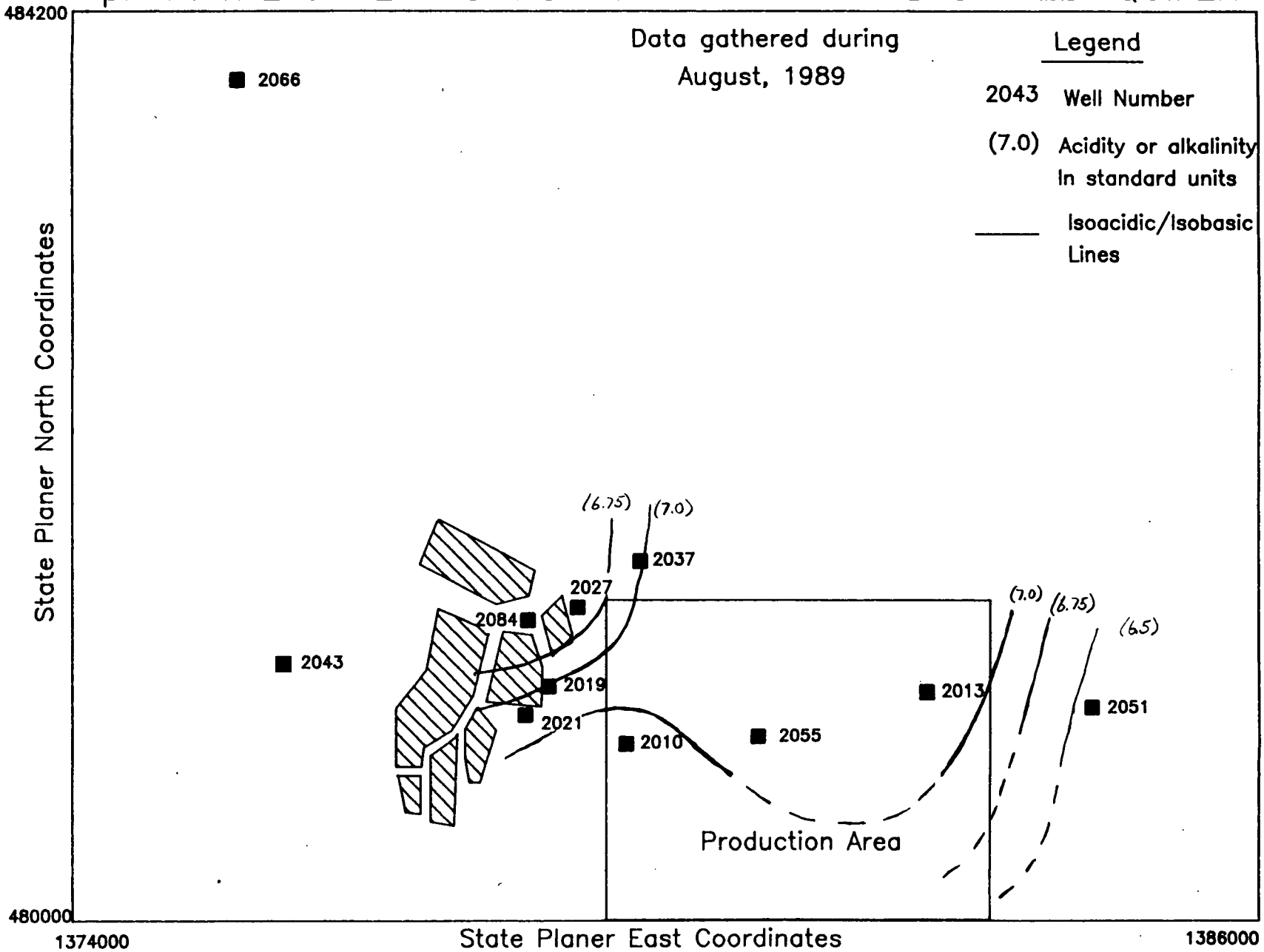
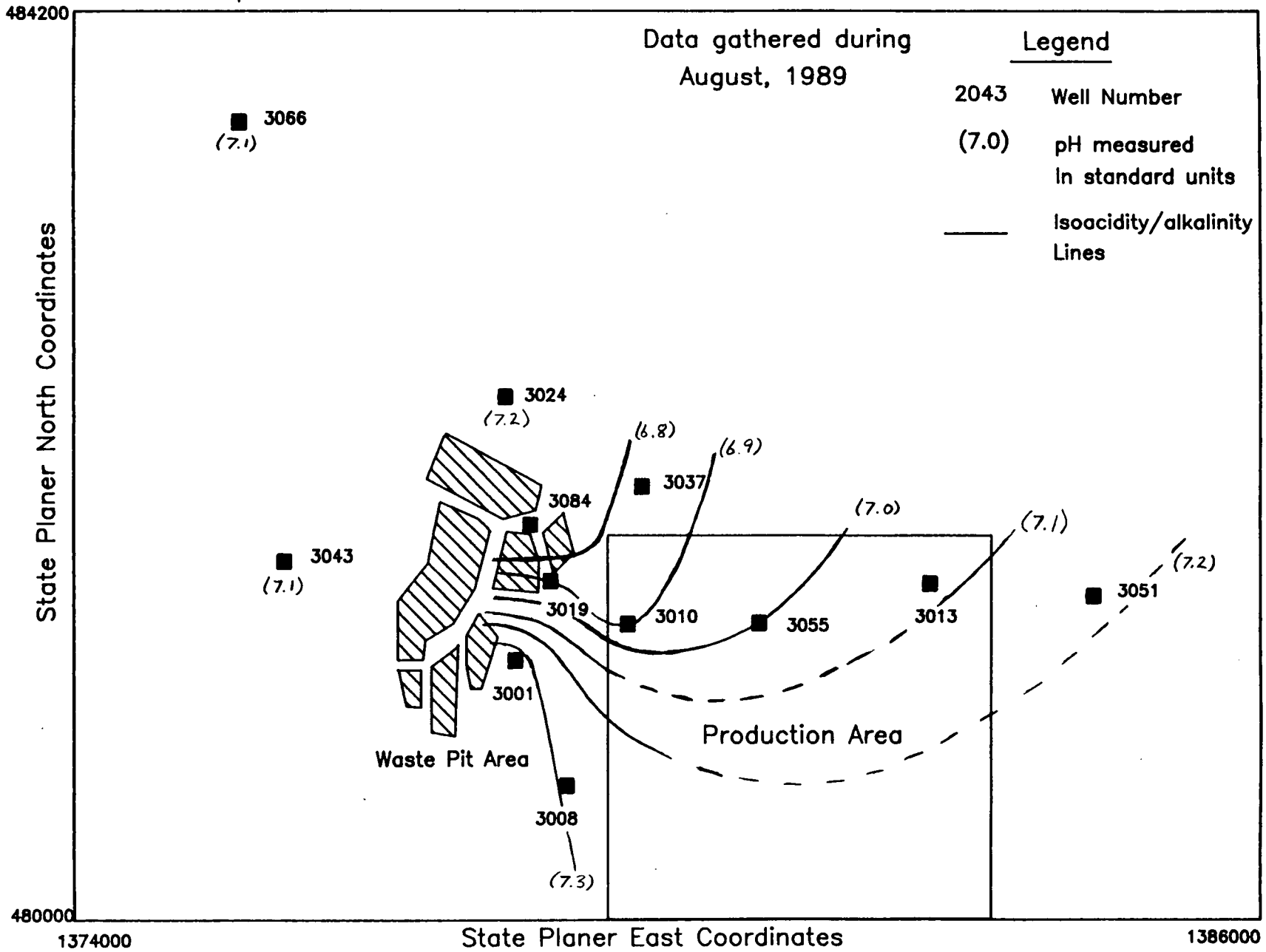
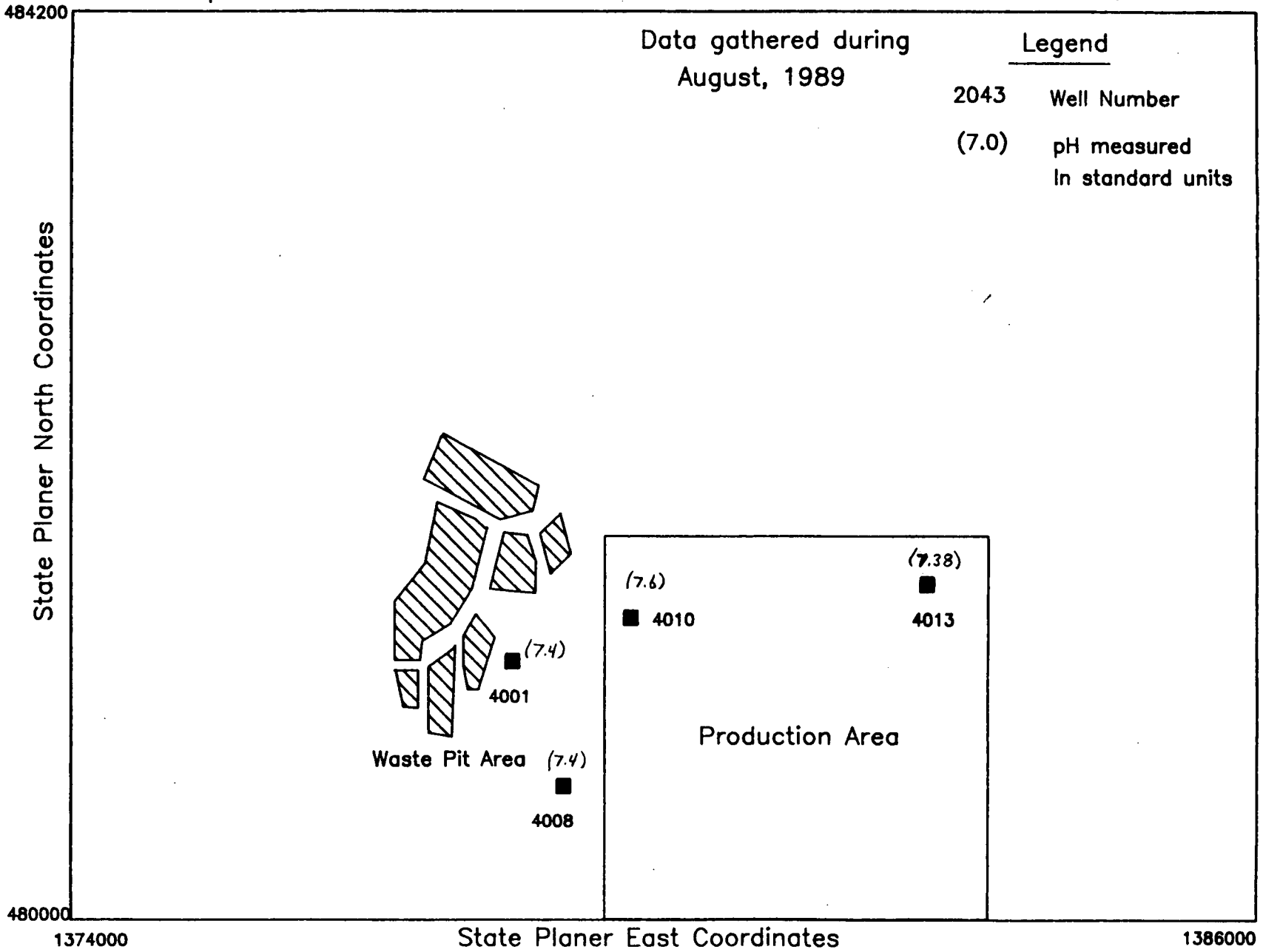
pH IN THE UPPER PORTION OF THE SAND AND GRAVEL AQUIFER



pH IN THE MIDDLE OF THE SAND AND GRAVEL AQUIFER



pH IN THE LOWER PORTION OF THE SAND AND GRAVEL AQUIFER



RCRA Groundwater Quality Assessment Program Progress Report

The Student's t Test calculated a range for the difference between the means of the background constituent concentration vs. the individual compliance well constituent concentration with an alpha error of 1%[2]. A one-tailed test of significance was used[3]. If the range for the difference overlapped zero, then the H_o: η_B-η_C = 0 was not contradicted by the available data and the compliance well was determined

to not show evidence of statistically significant concentrations. If the range had negative values at both ends (except for pH), then the compliance well was determined to show statistically significant concentrations and the null hypothesis that there was no statistically significant difference between the two means was rejected.

Since Lotus 1-2-3 was used to calculate the standard deviation (or s) of the sample data, a slight adjustment was made to the spreadsheet calculation. The spreadsheet calculates s by dividing the square root of the sum of squared deviations from their mean by the square root of n instead of by the square root of n-1. In other words, the Lotus formula erroneously assumes that s is an unbiased estimator of the population standard deviation σ. Therefore, when the standard deviation of a sample was calculated, the Lotus-calculated standard deviation was multiplied by the square root of n and divided by the square root of n-1.

2 The USEPA Interim Final Guide for "Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities," pp. 2-4, item no. 2 states that an alpha error of 1% should be applied in this instance.

3 An exception to this was when the interval statement for pH was determined. The alpha error of 0.01 was divided by two, since it involved a two-tailed test of significance.

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Below is an example which illustrates the mechanics of when and how a Student's t Test was performed:

Example

RCRA WELL DATA TO DATE

VERDICT	WELL#	CONSTITUENT	SAMPLING ROUNDS 1	2	3	4	5	6	TOTAL NONDETECTS	TOTAL SAMPLES TAKEN	NONDETECTS OVER TOTAL
	1024	Calcium	83.8	130**	90.4	89	89.2	95.6	0	5	0.0
	1052	Calcium	91.5	100	105	110	99.5	113	0	6	0.0
•	1080	Calcium	94.3	120	114	130	139	146	0	6	0.0

• Constituent found in statistically significant amount(s) ** Signifies a statistical outlier

The concentration found in the second round for background well 1024 was determined to be a statistical outlier with an alpha error of 1% based on the following Dixon test calculations:

$$r = \frac{X_2 - X_1}{X_n - X_1}$$

where X_1 = suspect outlier; X_2 = the value of next larger or smaller magnitude; and X_n = the value at the opposite end of the range.

By substituting actual data one gets:

$$r = \frac{95.6 - 130}{83.8 - 130} = 0.745$$

Since the calculated r is > the critical value for r (i.e., 0.698), 130 ppm calcium is determined to be a statistical outlier.

The following are the calculations for constructing the upper 95% coverage T.L. with a tolerance coefficient of 95%:

n_B = the number of analyses from the two background wells 1024 and 1052, excluding statistical outliers = 11

If n_B = 11, then K (tolerance factor)[4] = 2.815

$\bar{y}_B$ = the average of the analytical data from the two background wells, excluding statistical outliers = 97

SD_B = the standard deviation of the analytical data from the two background wells, excluding statistical outliers = 9.38

4 The K tolerance factor was taken from the USEPA Interim Final Guide for "Statistical Analysis of Groud-Water Monitoring Data at RCRA Facilities," dated April 1989, Appendix B, Table 5.

The one-sided upper tolerance limit (T.L.) = $y_B + K\ SD_B$

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By substituting actual data one gets:
T.L. = 97 + (2.815) (9.38) = 123.39

Compliance well # 1080 has 3 values out of 6 that exceed the T.L. All the criteria for performing a Student's t Test described in Figures A and B are met. The following are the calculations involved in performing such a test using well # 1080 as the test group and background wells 1024 and 1052 as the control group:

The formula used for the Student's t test is:

$$(\bar{y}_B - \bar{y}_C) \pm {}^{t}(n_B + n_C - 2df,\ 0.01) \times \sqrt{\left(\frac{1}{n_B} + \frac{1}{n_C}\right) \times s^2 pooled}$$

where $s^2 pooled = \dfrac{(df_B s_B^2 + df_C s_C^2)}{(df_B + df_C)}$

where $df_B = n_B - 1$ where n_B = number of samples taken from the two background wells, and

$df_C = n_C - 1$ where n_C = number of samples taken from the compliance well.

By substituting the actual data one gets:

$$(97 - 123.9) \pm 2.602_{(11+6-2df,\ 0.01)} \times \sqrt{\left(\frac{1}{11} + \frac{1}{6}\right) \times s^2 pooled}$$

where $s^2 pooled = \dfrac{(10 \times 87.91) + (5 \times 348.6)}{(10 + 5)} = 174.81$

or, if simplified, the range for the difference between the two means becomes:

$-26.9 \pm 2.602 \times 6.71 = -9.4$ through -44.4

Since this interval estimate does not overlap zero, the t Test is considered significant. Consequently, the null hypothesis that there is no statistically significant difference between the two means is contradicted by the available data, and is therefore rejected. The compliance well data is declared to be statistically significant.

The formula used above in performing the Student's t test was derived from the following equation which calculates the t statistic:

$$t = \frac{(\bar{y}_B - \bar{y}_C) - (n_B - n_C)}{\sqrt{\left(\frac{1}{n_B} + \frac{1}{n_C}\right) \times s^2\ pooled}}$$

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Test of Proportions

The Test of Proportions method was used to compare two background wells with a corresponding group of compliance wells when there was a significant proportion of nondetectable (ND) values (see Figures A and C). This method is explained below and is also described in Section 8.1.2 of the USEPA Interim Final Guidance titled, "Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities," dated, April 1989.

Example

RCRA WELL DATA TO DATE

VERDICT WELL#	CONSTITUENT	SAMPLING ROUNDS 1	2	3	4	5	6	TOTAL NONDETECTS	TOTAL SAMPLES TAKEN	NONDETECTS OVER TOTAL
2043	Nitrate	0.1U	0.1U	0.1U	0.1U	0.1U	0.869max	5	6	0.83
2066	Nitrate	0.1U	2.5J	0.1U	0.02U	0.1U	0.1U	5	6	0.83
							totals	10	12	
2010	Nitrate	0.02U	2.5U	0.1U	0.02U	0.1U	0.1U	6	6	1.00
2013	Nitrate	0.1U	5U	0.1U	0.03	0.1U	0.13	4	6	0.67
• 2019	Nitrate	17.0	23.4	24.6	22.0	28.4	60.6	0	6	0.00
• 2021	Nitrate	9.2	0.28	0.1U	53.0	38.6	23.5	1	6	0.17
2027	Nitrate	0.1U	0.11	0.1U	0.02U	0.1U	0.1U	5	6	0.83
2037	Nitrate	0.15	2.5U	0.1U	0.02U	0.1U	0.1U	5	6	0.83
2051	Nitrate	0.1U	0.12	0.1U	0.1U	0.1U		4	5	0.80
2055	Nitrate				0.1U	0.1U		2	2	1.00
• 2084	Nitrate	0.1U	16.0	32.4	2.8	9.01	7.66	1	6	0.17
							totals	28	49	

• Constituent found in statistically significant amount(s) U Signifies Nondetects

Let:

n_b = the total number of background well samples analyzed = 12

n_c = the total number of compliance well samples analyzed = 49

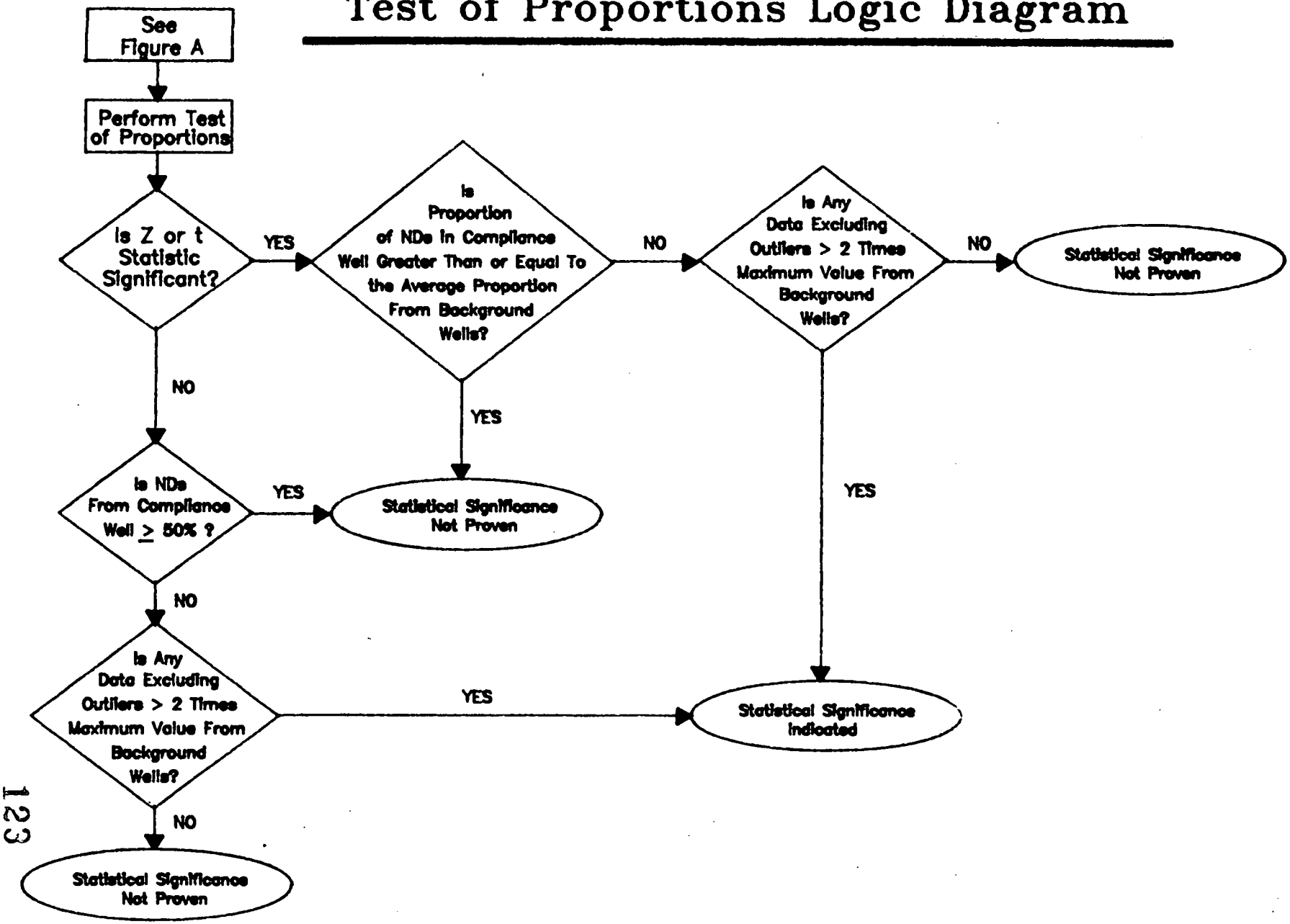
$n = n_b + n_c = 61$

X = the number of background well samples in which the compound was detected = 2

Y = the number of compliance well samples in which the compound was detected = 21

P = the proportion of detected values = $(X + Y)/n = (2 + 21)/61 = 0.377$

Figure C
Test of Proportions Logic Diagram



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Compute:
$nP = 61 \times 0.377 = 23$
$n(1 - P) = 61 \times (1 - 0.377) = 38$
Since both nP and n(1 - P) are both greater than or equal to 5, the normal distribution approximation to the binomial distribution may be used in this example.

Compute the proportion of detects in the background well samples:
$P_b = X/n_b = 2/12 = 0.1666$

Compute the proportion of detects in the compliance well samples:
$P_c = Y/n_c = 21/49 = 0.4285$

Compute the standard error of the difference in proportions:
$S_D = (((X+Y)/(n_b+n_c))\ (1 - (X+Y)/(n_b+n_c))\ (1/n_b + 1/n_c))^{1/2}$
$= (((2+21)/(12+49))\ (1 - (2+21)/(12+49))\ (1/12 + 1/49))^{1/2}$
$= 0.1560$
and form the statistic:
$Z = (P_b - P_c)/S_D = (0.1666 - 0.4285)/0.1560 = -1.677$

Compare the absolute value of the Z statistic to the 97.5 percentile from the standard normal distribution, 1.96. Since this absolute value is less than 1.96, there is no statistically significant evidence that the proportion of samples with nitrate levels above the detection limit differs in the compliance well and background well samples.

A 5% alpha error was employed because the USEPA requires that all RCRA facilities use no less than a 5% alpha error when making multiple well comparisons, which is the case in this example. A two-sided test of significance was applied to provide information about differences in either direction.

However, in an effort to be conservative in identifying all instances of statistical significance, even if the normality test was met and the Z statistic was insignificant, a further evaluation of the data was made. All compliance wells in a group being evaluated by the Test of Proportions method which had less than 50% NDs were compared to twice the maximum value observed from either of the two respective background wells. If any data (that was not a statistical outlier) exceeded this calculated value, the compliance well data was determined to be statistically significant.

To illustrate this, in the example above, the maximum detectable value from the two background wells (2043 and 2066) was 0.869 ppm of nitrate. Two times this value equals 1.738 ppm of nitrate. Compliance wells 2019, 2021, and 2084 each have less than 50% NDs and at least one value, which is not a statistical outlier, that exceeds 1.738 ppm of nitrate. Therefore, these wells are also considered to have statistically significant concentrations.

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Comparisons of Volatile Organic Compounds (VOCs) to Practical Quantitation Limits (PQLs)

A method similar to the one employed by the state of Illinois EPA for evaluating compliance wells by comparing detected values for a VOC to the applicable PQL was incorporated into this assessment. The simple methodology utilized is shown in Figure D. The criteria used is the following:

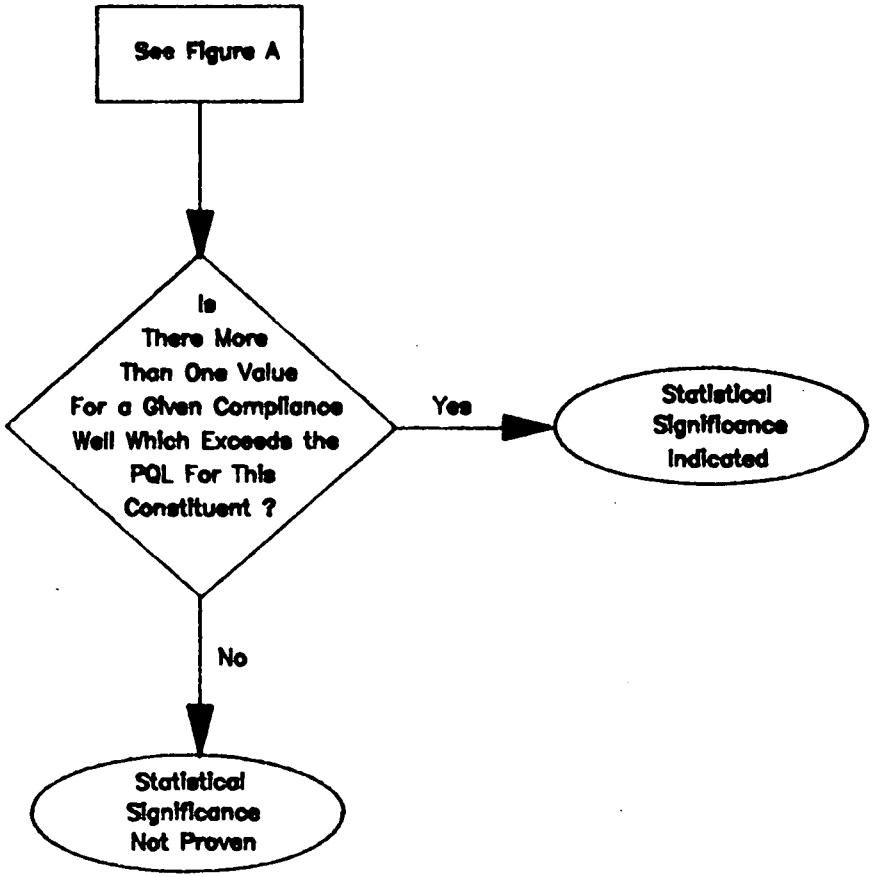
If two or more values for a given compliance well and of a particular VOC exceeded the PQL, then that compliance well was determined to have a statistically significant concentration. If there was only one detectable value with subsequent values indicating non-detectable, or if there was only one value available, then the value in question was considered suspect until further data can support or overturn the detected sample.

1,1-Dichloroethane, Tetrachloroethene, and Trichloroethene have been found in one sample from well 1031 with concentrations of 30 ppb, 300 ppb, and 530 ppb respectively, but more rounds of data will have to be analyzed before this single data point can be verified. The fact that values for volatile compounds are detectable, some in concentrations over 100 times the PQL, is of concern, and round 7 will be looked at closely to verify the significance of these single sample concentrations.

The finding of VOC constituents in blanks sent to the laboratory had an impact on the validity of the data. The sample values found by the laboratory during the round in which blanks turned up contaminated were determined to be suspect. The results of any statistical analysis to be performed on data from rounds in which blanks were contaminated should be qualified with a statement indicating the possibility of laboratory error.

Please note that the specific methodologies described above apply specifically to analyzing the data in Appendix III and are not necessarily meant to be applicable to future combinations of data.

Figure D
Comparison to Practical Quantitation Limit (PQL)



APPENDIX III

Statistical Assessment Data Tables

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Identification of Qualifiers For RCRA Well Data Tables

Organic Qualifiers

U - Indicates compound was analyzed for but not detected. The sample quantitation limit must be corrected for dilution and for percent moisture.

J - Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.

B - This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

E - This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis. This flag will not apply to pesticides/PCB's analyzed by GC/EC methods. If one or more compounds have a response greater than full scale, the sample or extract must be diluted and reanalyzed. If the dilution of the extract causes any compounds identified in the first analysis to be below the calibration range in the second analysis, then the results of both analyses shall be reported on separate Forms I. The Form I for the diluted sample shall have the "DL" suffix appended to the sample number.

Inorganic Qualifiers

U - Indicates compound was analyzed for but not detected. The sample quantitation limit must be corrected for dilution and for percent moisture.

B - The reported value is less than the contract required detection limit (CRDL) but greater than the instrument detection limit (IDL).

W - Post-digestion spike for Furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50% of spike absorbance.

N - Spiked sample recovery not within control limits.

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CROSS REFERENCES TO STATISTICAL METHODS AND CONCLUSIONS

Cross Ref. #	Description
(1)	All data from the compliance well lie below the tolerance limit (T.L.) (or within the T.L.'s for pH) - the concentrations are statistically insignificant.
(2)	The number of samples from the compliance well was $\geq$ 3 and one or more of the values from the compliance well exceeded the respective tolerance limit (T.L.). A Student's t test was performed. The Student's t test calculated a range for the difference between the means of the background wells and the compliance well with an alpha error of 1%.
	(a) The range for the difference between the means overlapped zero; therefore, the H_o: η_B-η_C = 0 was not contradicted by the available data, and the compliance well was determined to have statistically insignificant concentrations.
	(b) The range for the difference between the means had negative values at both ends (except for pH where they were either both negative or both positive); therefore, the compliance well was determined to have a statistically significant amount of the constituent and the null hypothesis that there was no statistical difference between the two means was rejected.
(3)	The number of samples from the compliance well was $\geq$ 3 and approximately 80% or greater of the values exceeded the respective tolerance limit (T.L.). Based on this information, the well was declared to have a statistically significant amount of the constituent and no further test was performed.
(4)	Concluded that the compliance well had a statistically significant amount of the constituent without performing an actual test. This decision was based on the fact that a Student's t test determined another compliance well in the same group (except for pH) had statistically significant amount(s) of the constituent. The evaluated well had a smaller calculated average concentration and either somewhat similar or greater variability than this well.
(5)	A Student's t test was performed, <u>including</u> a high statistical outlier that was associated with this compliance well, and the test was determined to be <u>not significant</u>. The outlier was the only value from this well that significantly exceeded the T.L. This conservative type of methodology was administered because the statistical outliers could not be confirmed due to time constraints.
(6)	A Student's t test was performed, <u>excluding</u> a high statistical outlier that was associated with this compliance well, and the test was determined to still be <u>significant</u>. The outlier as well as several other values from this well significantly exceed the T.L. This type of methodology (i.e. excluding the outlier from the analysis) was administered because the statistical outliers could not be confirmed due to time constraints.

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(7) There was sufficient data from the two background wells to construct a tolerance limit (T.L.), but the compliance well had only 1 or 2 samples to compare to the T.L. Therefore, a valid Student's t test could not have been performed, if called for. The well was evaluated solely by comparing each value to respective T.L. An additional comparison was made to the appropriate MCL, if applicable. This was provided for informational purposes only. All such comparisons can be placed into one of the following categories and verdicts:

Compliance Wells with 1 Value

Criteria	Verdict
(7a) < T.L. and < MCL	O.K.
(7b) < T.L. and no MCL	O.K.
(7c) < T.L. but > MCL	O.K.
(7d) > T.L. and > MCL	Possible statistical significance - more data needed to confirm
(7e) > T.L. and no MCL	Possible statistical significance - more data needed to confirm

Compliance Wells with 2 Values

Criteria	Verdict
(7f) Both values < T.L. and < MCL	O.K.
(7g) Both values < T.L. and no MCL	O.K.
(7h) Both values < T.L. but > MCL	O.K.
(7i) Both values > T.L. and > MCL	Possible statistical significance - more data needed to confirm
(7j) Both values significantly > T.L. but < MCL	Possible statistical significance - more data needed to confirm
(7k) Both values > T.L. and no MCL	Possible statistical significance - more data needed to confirm

(8) The Z or t statistic from the Test of Proportions was insignificant; however, to be conservative a further evaluation of the data was made. All quantified data (excluding statistical outliers) from the compliance wells which had less than 50% NDs were compared to two times the maximum value observed from the two respective background wells. Based on other empirical observations, if any of these measurements exceeded this calculated value, then the affected well was declared to have statistically significant concentration(s) of the constituent. Correspondingly, if the converse were true, then the well was declared to have statistically insignificant concentrations.

(9) The Z or t statistic from the Test of Proportions[1] was insignificant and the proportion of NDs from the compliance well was $\geq$ 50% - the concentrations are statistically insignificant.

(10) The Z statistic from the Test of Proportions[1] was significant (i. e., $|Z| > 1.96$). However, the proportion of NDs in this compliance well was $\geq$ the average proportion of NDs observed in the two respective background wells. Therefore, this well does not indicate statistically significant concentrations.

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(11) The Z statistic from the Test of Proportions[1] was significant (I. e., $|Z| > 1.96$); the proportion of detectables in the background well(s) was significantly higher than in the compliance wells. An additional study is required to determine this cause.

(12) The Z statistic from the Test of Proportions[1] was significant (I. e., $|Z| > 1.96$). Each compliance well which had a smaller proportion of NDs than that experienced by the two respective background wells were evaluated further to quantitatively determine their status. Based on other empirical observations, if any quantified data from these wells (excluding statistical outliers) exceeded two times the maximum value observed from the two background wells, the affected well was determined to have statistically significant concentration(s). Correspondingly, if the converse were true, then the well did not show statistically significant concentrations.

(13) A detectable value of a volatile organic compound (VOC) exceeded twice the Practical Quantitation Limit (PQL); therefore, the affected compliance well was declared to have a statistically significant amount of the constituent[2].

(14) Two or more values of a volatile organic compound (VOC) from within this group of compliance wells exceeded the Practical Quantitation Limit (PQL). Therefore, those compliance wells with values exceeding the PQL were declared to have statistically significant concentration(s)[2].

(15) All compliance well data were less than or equal to background well data, the Practical Quantitation Limit (PQL), or the detection limit - the concentrations are statistically insignificant.

(16) From within its group of compliance wells, this well had the only detectable value for this specific volatile organic compound (VOC). The value exceeded the Practical Quantitation Limit (PQL) but was less than or equal to two times the PQL. A measurement bias or error is therefore assumed, and the well is declared to have statistically insignificant concentration(s)[2].

(17) Not enough data to perform a meaningful statistical analysis.

Footnotes

1 The Test of Proportions statistical method is described in the USEPA Interim Final Guide titled, "Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities," dated, April 1989 (see Section 8.1.2).

2 The rationale for this type of methodology is based on a similar comparison of a VOC detectable measurement to the PQL that has been mandated by the state of Illinois EPA.

RCRA WELL DATA TO DATE

VER-DICT	WELL #	CONSTITUENT	SAMPLING ROUNDS 1	2	3	4	5	6	7	TOTAL NON-DETECTS	TOTAL SAMPLES TAKEN	NON-DETECTS OVER TOTAL	STAT. METH. AND CONCL. ***	COMMENTS
	1024	1,1-Dichloroethane					0.005 U			1	1	1.00		
	1052	1,1-Dichloroethane					0.005 U	0.005 U		2	2	1.00		
	1025	1,1-Dichloroethane	0.005 U				0.005 U	0.005 U		3	3	1.00	15	PQL = 0.005
	1027	1,1-Dichloroethane					0.005 U	0.005 U		2	2	1.00	15	
	1028	1,1-Dichloroethane					0.005 U			1	1	1.00	15	
	1030	1,1-Dichloroethane					0.005 U			1	1	1.00	15	
	1031	1,1-Dichloroethane						0.03		0	1	0.00	13	
	1038	1,1-Dichloroethane					0.005 U	0.005 U		2	2	1.00	15	
	1074	1,1-Dichloroethane	0.005 U				0.005 U	0.005 U		3	3	1.00	15	
	1079	1,1-Dichloroethane					0.005 U	0.005 U		2	2	1.00	15	
	1080	1,1-Dichloroethane					0.005 U	0.005 U		2	2	1.00	15	
	1081	1,1-Dichloroethane					0.005 U	0.005 U		2	2	1.00	15	
	1082	1,1-Dichloroethane					0.005 U	0.005 U		2	2	1.00	15	
	1083	1,1-Dichloroethane	0.005 U				0.002 U	0.005 U		3	3	1.00	15	
	2043	1,1-Dichloroethane					0.005 U	0.005 U		2	2	1.00		
	2066	1,1-Dichloroethane					0.005 U	0.005 U		2	2	1.00		
	2010	1,1-Dichloroethane	0.005 U				0.005 U	0.005 U		3	3	1.00	15	PQL = 0.005
	2013	1,1-Dichloroethane					0.005 U			1	1	1.00	15	
	2019	1,1-Dichloroethane	0.005 U				0.005 U			2	2	1.00	15	
	2021	1,1-Dichloroethane	0.005 U				0.005 U	0.005 U		3	3	1.00	15	
	2027	1,1-Dichloroethane	0.005 U				0.005 U	0.005 U		3	3	1.00	15	
	2037	1,1-Dichloroethane	0.005 U				0.005 U	0.005 U		3	3	1.00	15	
	2051	1,1-Dichloroethane					0.005 U	0.005 U		2	2	1.00	15	
	2055	1,1-Dichloroethane					0.005 U	0.005 U		2	2	1.00	15	
	2084	1,1-Dichloroethane					0.005 U	0.005 U		2	2	1.00	15	
	3043	1,1-Dichloroethane					0.005 U	0.005 U		2	2	1.00		
	3066	1,1-Dichloroethane					0.005 U	0.005 U		2	2	1.00		
	3001	1,1-Dichloroethane	0.005 U				0.005 U	0.005 U		3	3	1.00	15	PQL = 0.005
	3008	1,1-Dichloroethane					0.005 U	0.005 U		2	2	1.00	15	
	3010	1,1-Dichloroethane					0.005 U	0.005 U		2	2	1.00	15	
	3013	1,1-Dichloroethane					0.005 U			1	1	1.00	15	
	3019	1,1-Dichloroethane					0.005 U	0.005 U		2	2	1.00	15	
	3024	1,1-Dichloroethane					0.005 U			1	1	1.00	15	
	3037	1,1-Dichloroethane					0.005 U	0.005 U		2	2	1.00	15	
	3051	1,1-Dichloroethane					0.005 U	0.005 U		2	2	1.00	15	
	3055	1,1-Dichloroethane					0.005 U	0.005 U		2	2	1.00	15	
	3084	1,1-Dichloroethane					0.005 U	0.005 U		2	2	1.00	15	
	4001	1,1-Dichloroethane					0.005 U	0.005 U		2	2	1.00	15	
	4008	1,1-Dichloroethane					0.005 U	0.005 U		2	2	1.00	15	

* Constituent found in statistically significant amount(s) ** Signifies an outlier *** See Cross Reference listing number ? Background well with relatively high values

RCRA WELL DATA TO DATE

VER-DICT	WELL #	CONSTITUENT	SAMPLING ROUNDS 1	2	3	4	5	6	7	TOTAL NON-DETECTS	TOTAL SAMPLES TAKEN	NON-DETECTS OVER TOTAL	STAT. METH. AND CONCL. ***	COMMENTS
	4010	1,1-Dichloroethane					0.005 U	0.005 U		2	2	1.00	15	
	4013	1,1-Dichloroethane					0.005 U			1	1	1.00	15	
	1024	2-Propanone					0.002 BJ			1	1	1.00		
	1052	2-Propanone					0.029 B	0.002 J		2	2	1.00		
	1025	2-Propanone	0.011 B				0.003 BJ	0.01 U		3	3	1.00	15	PQL = 0.100
	1027	2-Propanone					0.003 BJ	0.003 BJ		2	2	1.00	15	
	1028	2-Propanone					0.006 BJ			1	1	1.00	15	
	1030	2-Propanone					0.01 U			1	1	1.00	15	
	1031	2-Propanone						0.015		0	1	0.00	15	
	1038	2-Propanone					0.003 BJ	0.004 BJ		2	2	1.00	15	
	1074	2-Propanone	0.004 BJ				0.003 BJ	0.01 U		3	3	1.00	15	
	1079	2-Propanone					0.004 BJ	0.01 U		2	2	1.00	15	
	1080	2-Propanone					0.008 BJ	0.003 J		2	2	1.00	15	
	1081	2-Propanone					0.004 BJ	0.003 BJ		2	2	1.00	15	
	1082	2-Propanone					0.003 BJ	0.01 U		2	2	1.00	15	
	1083	2-Propanone	0.01 U				0.005 BJ	0.003 BJ		3	3	1.00	15	
	2043	2-Propanone					0.002 BJ	0.01 U		2	2	1.00		
	2066	2-Propanone					0.003 BJ	0.006 J		2	2	1.00		
	2010	2-Propanone	0.008 J				0.008 BJ	0.007 BJ		3	3	1.00	15	PQL = 0.100
	2013	2-Propanone					0.01 U			1	1	1.00	15	
	2019	2-Propanone	0.013				0.002 BJ	0.002 J		2	3	0.67	15	
	2021	2-Propanone	0.01 U				0.003 BJ	0.012 B		3	3	1.00	15	
	2027	2-Propanone	0.01 U				0.004 BJ	0.01 U		3	3	1.00	15	
	2037	2-Propanone	0.01 U				0.007 BJ	0.01 U		3	3	1.00	15	
	2051	2-Propanone					0.028 B	0.003 J		2	2	1.00	15	
	2055	2-Propanone					0.018 B	0.005 BJ		2	2	1.00	15	
	2084	2-Propanone					0.021 B	0.01 U		2	2	1.00	15	
	3043	2-Propanone					0.005 BJ	0.01 U		2	2	1.00		
	3066	2-Propanone					0.011 U	0.004 J		2	2	1.00		
	3001	2-Propanone	0.037 B				0.014 B	0.01 B		3	3	1.00	15	PQL = 0.100
	3008	2-Propanone					0.004 BJ	0.004 BJ		2	2	1.00	15	
	3010	2-Propanone					0.006 BJ	0.008 BJ		2	2	1.00	15	
	3013	2-Propanone					0.004 BJ			1	1	1.00	15	
	3019	2-Propanone					0.007 BJ	0.008 BJ		2	2	1.00	15	
	3024	2-Propanone					0.003 BJ			1	1	1.00	15	
	3037	2-Propanone					0.007 BJ	0.01 U		2	2	1.00	15	
	3051	2-Propanone					0.084 B	0.008 J		2	2	1.00	15	

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RCRA WELL DATA TO DATE

VER-DICT	WELL #	CONSTITUENT	SAMPLING ROUNDS 1	2	3	4	5	6	7	TOTAL NON-DETECTS	TOTAL SAMPLES TAKEN	NON-DETECTS OVER TOTAL	STAT. METH. AND CONCL. ***	COMMENTS
	3055	2-Propanone					0.035 B	0.004 BJ		2	2	1.00	15	
	3084	2-Propanone					0.01 U	0.006 J		2	2	1.00	15	
	4001	2-Propanone					0.035 U	0.011 U		2	2	1.00	15	
	4008	2-Propanone					0.002 U	0.005 BJ		2	2	1.00	15	
	4010	2-Propanone					0.004 U	0.005 BJ		2	2	1.00	15	
	4013	2-Propanone					0.005 U			1	1	1.00	15	
	1024	Aluminum					0.1206	0.123		0	2	0.00	17	
	1052	Aluminum					0.337	0.141		0	2	0.00	17	
	1025	Aluminum	0.175 B				0.287	0.582		1	3	0.33	17	
	1027	Aluminum					0.127	0.136		0	2	0.00	17	
	1028	Aluminum					0.275			0	1	0.00	17	
	1030	Aluminum					0.188			0	1	0.00	17	
	1031	Aluminum					0.226	0.215		0	2	0.00	17	
	1038	Aluminum					0.168	0.149		0	2	0.00	17	
	1074	Aluminum	0.0418 B				0.131	0.19		1	3	0.33	17	
	1079	Aluminum					0.162	0.181		0	2	0.00	17	
	1080	Aluminum					0.165	0.604		0	2	0.00	17	
	1081	Aluminum					0.197	2.16		0	2	0.00	17	
	1082	Aluminum					0.295	0.208		0	2	0.00	17	
	1083	Aluminum	0.0474 B				0.192	1.97		1	3	0.33	17	
	2043	Aluminum					0.116	0.163		0	2	0.00	17	
	2066	Aluminum					0.0816	0.143		0	2	0.00	17	
	2010	Aluminum	0.1 U				0.123	0.262		1	3	0.33	17	
	2013	Aluminum					0.113	0.15		0	2	0.00	17	
	2019	Aluminum	0.05 U				0.1405	0.16		1	3	0.33	17	
	2021	Aluminum	0.0121 B				0.128	0.173		1	3	0.33	17	
	2027	Aluminum	0.0114 U				0.2065	0.275		1	3	0.33	17	
	2037	Aluminum	0.0133 B				0.187	0.19		1	3	0.33	17	
	2051	Aluminum					0.181	0.182		0	2	0.00	17	
	2055	Aluminum					0.227	0.165		0	2	0.00	17	
	2084	Aluminum					0.232	0.252		0	2	0.00	17	
	3043	Aluminum					0.09	0.156		0	2	0.00	17	
	3066	Aluminum					0.112	0.142		0	2	0.00	17	
	3001	Aluminum	0.0199 B				0.09	0.167		1	3	0.33	17	
	3008	Aluminum					0.118	0.102		0	2	0.00	17	
	3010	Aluminum					0.163	0.188		0	2	0.00	17	
	3013	Aluminum					0.154	0.19		0	2	0.00	17	

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RCRA WELL DATA TO DATE

VER-DICT	WELL #	CONSTITUENT	SAMPLING ROUNDS 1	2	3	4	5	6	7	TOTAL NON-DETECTS	TOTAL SAMPLES TAKEN	NON-DETECTS OVER TOTAL	STAT. METH. AND CONCL. ***	COMMENTS
	3019	Aluminum					0.218	0.181		0	2	0.00	17	
	3024	Aluminum					0.138	0.175		0	2	0.00	17	
	3037	Aluminum					0.2006	0.224		0	2	0.00	17	
	3051	Aluminum					0.125	0.153		0	2	0.00	17	
	3055	Aluminum					0.198	0.193		0	2	0.00	17	
	3084	Aluminum					0.192	0.212		0	2	0.00	17	
	4001	Aluminum					0.0974	0.147		0	2	0.00	17	
	4008	Aluminum					0.1063	0.106		0	2	0.00	17	
	4010	Aluminum					0.0866	0.116		0	2	0.00	17	
	4013	Aluminum					0.194	0.238		0	2	0.00	17	
	1024	Arsenic	0.2 U	0.01 U	0.002 U	0.003				3	4	0.75		
	1052	Arsenic	0.2 U	0.01 U	0.002 U	0.003 U		0.002 U		5	5	1.00		
									totals	8	9			
	1025	Arsenic	0.0026 BW		0.002	0.004		0.002 UW		2	4	0.50	9	Z = -0.251 O. K.
	1027	Arsenic	0.2 U	0.01 U	0.002 U	0.002 U				4	4	1.00	9	
	1031	Arsenic			0.003	0.002 U		0.002 U		2	3	0.67	9	
	1038	Arsenic	0.2 U	0.002 U	0.002 U	0.002 U				4	4	1.00	9	
	1074	Arsenic	0.0031 BW	0.002 U	0.002 U	0.003 U		0.002 U		5	5	1.00	9	
	1079	Arsenic	0.2 U	0.2 U	0.002 U	0.002 U		0.002 U		5	5	1.00	9	
	1080	Arsenic	0.2 U	0.01 U	0.005	0.004		0.0067 B		3	5	0.60	9	
	1081	Arsenic	0.2 U	0.002 U	0.002 U	0.003				3	4	0.75	9	
	1082	Arsenic	0.2 U		0.002 U	0.002 U		0.002 U		4	4	1.00	9	
	1083	Arsenic	0.0019 U	0.002 U	0.002 U	0.002 U				4	4	1.00	9	
									totals	36	42			
	2043	Arsenic	0.2 U	0.01 U	0.002 U	0.002 U		0.002 U		5	5	1.00		
?	2066	Arsenic	0.2 U	0.03	0.042	0.021				1	4	0.25	11	
									totals	6	9			
	2010	Arsenic	0.005 U	0.01 U	0.02	0.003 U				3	4	0.75	11	Z = 2.328 » 1.96
	2013	Arsenic	0.2 U	0.01 U	0.002 U					3	3	1.00	11	Background well may be
	2019	Arsenic	0.002 U	0.4	0.002 U	0.003 U				3	4	0.75	11	contaminated
	2021	Arsenic	0.0047 B	0.2 U	0.002 U	0.003 U				4	4	1.00	11	
	2027	Arsenic	0.0019 U	0.01 U	0.002 U	0.003 U		0.002 U		5	5	1.00	11	
	2037	Arsenic	0.0022 B	0.01 U	0.002 U			0.002 U		4	4	1.00	11	
	2051	Arsenic	0.2 U	0.01 U	0.002 U	0.002 U				4	4	1.00	11	
	2055	Arsenic					0.002 U	0.002 U		2	2	1.00	11	
	2084	Arsenic	0.2 U	0.002 U	0.002 U	0.003 U		0.002 U		5	5	1.00	11	
									totals	33	35			

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RCRA WELL DATA TO DATE

VER-DICT	WELL #	CONSTITUENT	SAMPLING ROUNDS 1	2	3	4	5	6	7	TOTAL NON-DETECTS	TOTAL SAMPLES TAKEN	NON-DETECTS OVER TOTAL	STAT. METH. AND CONCL. ***	COMMENTS
?	3043	Arsenic	0.2 U	0.01	0.014	0.011		0.0124		1	5	0.20		
?	3066	Arsenic	0.2 U	0.1	0.084	0.1				1	4	0.25		
	3001	Arsenic	0.0019 U	0.02	0.002 U	0.003 U				3	4	0.75	15	
	3008	Arsenic	0.2 U	0.002 U	0.002 U	0.003 U				4	4	1.00	15	
	3010	Arsenic	0.2 U	0.01 U	0.002 U					3	3	1.00	15	
	3013	Arsenic	0.2 U	0.01 U	0.002 U					3	3	1.00	15	
	3019	Arsenic	0.2 U	0.2 U	0.002 U	0.003 U				4	4	1.00	15	
	3024	Arsenic	0.2 U	0.01 U	0.002 U	0.002 U				4	4	1.00	15	
	3037	Arsenic	0.2 U	0.01 U	0.002 U			0.002 U		4	4	1.00	15	
	3051	Arsenic	0.2 U	0.01 U	0.002 U	0.002 U				4	4	1.00	15	
	3055	Arsenic	0.002 U	0.01 U	0.002 U	0.003 U				4	4	1.00	15	
	3084	Arsenic	0.2 U	0.002 U	0.002 U	0.003 U		0.002 U		5	5	1.00	15	
	4001	Arsenic	0.2 U	0.01 U	0.002 U	0.003 U				4	4	1.00	15	
	4008	Arsenic	0.2 U	0.002 U	0.002 U					3	3	1.00	15	
	4010	Arsenic				0.003 U	0.0032			1	2	0.50	15	
	4013	Arsenic				0.003 U	0.0026			1	2	0.50	15	
	1024	Barium	0.091	0.1 U	0.09	0.09	0.0944	0.112		1	6	0.17		
	1052	Barium	0.112	0.1 U	0.081	0.057	0.106	0.062		1	6	0.17		
	1025	Barium	0.0286 B		0.091	0.086	0.0665	0.093		1	5	0.20	1	T.L. = 0.1928
	1027	Barium	0.051	0.1 U	0.037	0.077	0.0689	0.074		1	6	0.17	1	
	1028	Barium					0.106			0	1	0.00	7a	
	1030	Barium					0.0647			0	1	0.00	7a	
	1031	Barium			0.105	0.116	0.811	0.088		0	4	0.00	2a	
	1038	Barium	0.025 U	0.045	0.04	0.05	0.0431	0.048		1	6	0.17	1	
	1074	Barium	0.0418 B	0.092	0.097	0.069	0.079	0.084		1	6	0.17	1	
	1079	Barium	0.041	0.055	0.052	0.054	0.473	0.049		0	6	0.00	2a	
	1080	Barium	0.048	0.1 U	0.038	0.046	0.0461	0.057		1	6	0.17	1	
	1081	Barium	0.025 U	0.032	0.031	0.039	0.032	2		1	6	0.17	1	
	1082	Barium	0.053		0.044	0.077	0.0899	0.102		0	5	0.00	1	
	1083	Barium	0.0369 B	0.082	0.083	0.085	0.0846	1.8		1	6	0.17	2a	
?	2043	Barium	0.195	0.2	0.04	0.272	0.2509	0.251		1	6	0.17		
?	2066	Barium	0.758	0.8	0.668	0.7	0.658	0.789		0	6	0.00		
	2010	Barium	0.0873 B	0.2 U	0.067	0.056	0.0753	0.054		2	6	0.33	15	
	2013	Barium	0.06	0.2 U	0.072		0.0705	0.076		1	5	0.20	15	
	2019	Barium	0.056 B	0.053	0.055	0.053	0.0679	0.077		1	6	0.17	15	
	2021	Barium	0.067 B	0.07	0.073	0.071	0.425	0.067		1	6	0.17	15	
	2027	Barium	0.105 B	0.2 U	0.059	0.082	0.0816	0.054		2	6	0.33	15	

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RCRA WELL DATA TO DATE

VER-DICT	WELL #	CONSTITUENT	SAMPLING ROUNDS 1	2	3	4	5	6	7	TOTAL NON-DETECTS	TOTAL SAMPLES TAKEN	NON-DETECTS OVER TOTAL	STAT. METH. AND CONCL. ***	COMMENTS
	2037	Barium	0.0814 B	0.2 U	0.086		0.095	0.094		2	5	0.40	15	
	2051	Barium	0.073	0.5 U	0.07	0.078	0.0938	0.088		1	6	0.17	15	
	2055	Barium					0.0918	0.098		0	2	0.00	15	
	2084	Barium	0.08	0.07	0.088	0.073	0.0828	0.074		0	6	0.00	15	
?	3043	Barium	0.214	0.3	0.3	0.279	0.249	0.255		0	6	0.00		
?	3066	Barium	0.509	0.5	0.493	0.48	0.0717	0.538		0	6	0.00		
	3001	Barium	0.046	0.05	0.085	0.053	0.0481	0.058		0	6	0.00	15	
	3008	Barium	0.05 U	0.035	0.052	0.049	0.0589	0.051		1	6	0.17	15	
	3010	Barium	0.05 U	0.2 U	0.023		0.0271	0.027		2	5	0.40	15	
	3013	Barium	0.08	0.2 U	0.089		0.083	0.084		1	5	0.20	15	
	3019	Barium	0.05 U	0.027	0.025	0.026	0.0292	0.033		1	6	0.17	15	
	3024	Barium	0.088	0.2 U	0.1	0.141	0.143	0.142		1	6	0.17	15	
	3037	Barium	0.06	0.2 U	0.049		0.0465	0.052		1	5	0.20	15	
	3051	Barium	0.158	0.5 U	0.19	0.198	0.189	0.204		1	6	0.17	15	
	3055	Barium	0.067	0.2 U	0.076	0.087	0.0864	0.088		1	6	0.17	15	
	3084	Barium	0.05 U	0.03	0.027	0.025	0.0342	0.03		1	6	0.17	15	
	4001	Barium	0.058	0.2 U	0.085	0.061	0.0799	0.082		1	6	0.17	15	
	4008	Barium	0.05 U	0.032	0.034		0.0372	0.037		1	5	0.20	15	
	4010	Barium				0.45	0.422	0.44		0	3	0.00	15	
	4013	Barium				0.1	0.185	0.187		0	3	0.00	15	
	1024	Beryllium					0.0018	0.001		0	2	0.00	17	
	1052	Beryllium					0.001 U	0.001		1	2	0.50	17	
	1025	Beryllium	0.0024 U					0.002		1	2	0.50	17	
	1027	Beryllium					0.001 U	0.001		1	2	0.50	17	
	1028	Beryllium					0.0022			0	1	0.00	17	
	1030	Beryllium					0.001 U			1	1	1.00	17	
	1031	Beryllium					0.0019	0.001		0	2	0.00	17	
	1038	Beryllium					0.001 U	0.001		1	2	0.50	17	
	1074	Beryllium	0.0024 U				0.001 U	0.001		2	3	0.67	17	
	1079	Beryllium					0.001	0.002		0	2	0.00	17	
	1080	Beryllium					0.001	0.002		0	2	0.00	17	
	1081	Beryllium					0.0013	0.052		0	2	0.00	17	
	1082	Beryllium					0.001 U	0.0012		1	2	0.50	17	
	1083	Beryllium	0.0024 U				0.001 U	0.047		2	3	0.67	17	
	2043	Beryllium					0.001 U	0.002		1	2	0.50		
	2066	Beryllium					0.001 U	0.001		1	2	0.50		
	2010	Beryllium	0.005 U				0.001 U	0.002		2	3	0.67	15	

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RCRA WELL DATA TO DATE

VER-DICT	WELL #	CONSTITUENT	SAMPLING ROUNDS 1	2	3	4	5	6	7	TOTAL NON-DETECTS	TOTAL SAMPLES TAKEN	NON-DETECTS OVER TOTAL	STAT. METH. AND CONCL. ***	COMMENTS
	2013	Beryllium					0.001 U	0.002		1	2	0.50	15	
	2019	Beryllium	0.001 U				0.001 U	0.001		2	3	0.67	15	
	2021	Beryllium	0.0024 U				0.001 U	0.002		2	3	0.67	15	
	2027	Beryllium	0.0024 U				0.001 U	0.002		2	3	0.67	15	
	2037	Beryllium	0.0024 U				0.001 U	0.002		2	3	0.67	15	
	2051	Beryllium					0.001 U	0.002		1	2	0.50	15	
	2055	Beryllium					0.001 U	0.002		1	2	0.50	15	
	2084	Beryllium					0.0034 U	0.002		1	2	0.50	15	
	3043	Beryllium					0.001 U	0.002		1	2	0.50	17	
	3066	Beryllium					0.001 U	0.001		1	2	0.50	17	
	3001	Beryllium	0.0024 U				0.001 U	0.002		2	3	0.67	17	
	3008	Beryllium					0.0022	0.001		0	2	0.00	17	
	3010	Beryllium					0.001 U	0.002		1	2	0.50	17	
	3013	Beryllium					0.001	0.002		0	2	0.00	17	
	3019	Beryllium					0.001 U	0.001		1	2	0.50	17	
	3024	Beryllium					0.0022	0.002		0	2	0.00	17	
	3037	Beryllium					0.001 U	0.002		1	2	0.50	17	
	3051	Beryllium					0.001 U	0.002		1	2	0.50	17	
	3055	Beryllium					0.001 U	0.002		1	2	0.50	17	
	3084	Beryllium					0.0031 U	0.002		1	2	0.50	17	
	4001	Beryllium					0.001 U	0.002		1	2	0.50	17	
	4008	Beryllium					0.0018	0.002		0	2	0.00	17	
	4010	Beryllium					0.001 U	0.001		1	2	0.50	17	
	4013	Beryllium					0.0013	0.002		0	2	0.00	17	
	1024	Calcium	83.8	130 **	90.4	89	89.2	95.6		0	5	0.00		
	1052	Calcium	91.5	100	105	110	99.5	113		0	6	0.00		
*	1025	Calcium	386		520	521	499	570		0	5	0.00	3	T.L. = 123.39
	1027	Calcium	105	130	67.5	125	124	132		0	6	0.00	2a	
	1028	Calcium					448			0	1	0.00	7e	
	1030	Calcium					154			0	1	0.00	7e	
*	1031	Calcium			322	234	313	315		0	4	0.00	3	
*	1038	Calcium	135	133	126	147	145	156		0	6	0.00	4	
*	1074	Calcium	123	121	123	130	128	126		0	6	0.00	2b	
*	1079	Calcium	120	112.2	130	132	132	143		0	6	0.00	4	
*	1080	Calcium	94.3	120	114	130	139	146		0	6	0.00	2b	
*	1081	Calcium	230.3	228	223	230	250	153		0	6	0.00	3	
*	1082	Calcium	129.8		129	143	160	176		0	5	0.00	4	
*	1083	Calcium	157	145	141	155	160	152		0	6	0.00	4	

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RCRA WELL DATA TO DATE

VER-DICT	WELL #	CONSTITUENT	SAMPLING ROUNDS 1	2	3	4	5	6	7	TOTAL NON-DETECTS	TOTAL SAMPLES TAKEN	NON-DETECTS OVER TOTAL	STAT. METH. AND CONCL. ***	COMMENTS
	2043	Calcium	103	100	72.4	110	106	121		0	6	0.00		
	2066	Calcium	68.8	73	65.7	78	74.2	81.7		0	6	0.00		
•	2010	Calcium	130	180	186	150	124	386 **		0	5	0.00	6	T.L. = 139.53
	2013	Calcium	111	110	119		112	120		0	5	0.00	1	
•	2019	Calcium	122.3	143	138	140	164	178		0	6	0.00	2b	
•	2021	Calcium	138	160	277	180	149	156		0	6	0.00	3	
•	2027	Calcium	274	210	106	210	333	449		0	6	0.00	3	
•	2037	Calcium	124	120	132		145	228		0	5	0.00	2b	
•	2051	Calcium	128	190	154	131	249	209		0	6	0.00	4	
	2055	Calcium					110	124		0	2	0.00	7g	
•	2084	Calcium	259	264	164	340	325	306		0	6	0.00	3	
	3043	Calcium	82.8	86	78.4	91.1	87.1	144		0	6	0.00		
?	3066	Calcium	153	160	156	160	150	169		0	6	0.00		
	3001	Calcium	89.3	87.2	173	100	93.4	105		0	6	0.00	1	T.L. = 227.99
	3008	Calcium	53.2	58.4	85.5	87	90	83.2		0	6	0.00	1	
•	3010	Calcium	297	320	337		244	247		0	5	0.00	3	
	3013	Calcium	185	200	202		19.7	212		0	5	0.00	1	
•	3019	Calcium	212	248	273	300	244	270		0	6	0.00	3	
	3024	Calcium	81.7	85	135	134	133	133		0	6	0.00	1	
•	3037	Calcium	254	280	291		277	305		0	5	0.00	3	
	3051	Calcium	127	140	130	136	145	146		0	6	0.00	1	
	3055	Calcium	104	160	197	200	203	211		0	6	0.00	1	
•	3084	Calcium	241	258	284	250	265	258		0	6	0.00	3	
	4001	Calcium	90.4	93	102	99	115	122		0	6	0.00	1	
	4008	Calcium	70.2	78.8	79		86.9	86.4		0	5	0.00	1	
	4010	Calcium				99	87.5	98.9		0	3	0.00	1	
•	4013	Calcium				170	252	270		0	3	0.00	2b	
	1024	Chloride	1.4	18 **	1.9	1.5	0.25 U	1.5		1	5	0.20		
	1052	Chloride	5.8	4	3.8	5.9	2.5	7.5		0	6	0.00		
•	1025	Chloride			845	940	830	1040		0	4	0.00	3	T.L. = 10.05
	1027	Chloride	8.8	9.6	7.9	3	2	11		0	6	0.00	2a	
	1028	Chloride					520			0	1	0.00	7d	
•	1031	Chloride			1120	889.7	1060	1150		0	4	0.00	3	
•	1038	Chloride	14.9	10	2	17.5	5.8	11		0	6	0.00	2b	
•	1074	Chloride	108	105	123	130	130	160		0	6	0.00	3	
	1079	Chloride	1.8	1	10	1	0.5	3		0	6	0.00	1	
	1080	Chloride	5.1	2.5	8.3	5.8	0.5	5		0	6	0.00	1	
	1081	Chloride	26.9	17.5	3	35	30	34		0	6	0.00	3	
	1082	Chloride	23.8		2	19	38	49		0	5	0.00	3	
	1083	Chloride	31.4	32.5	44.8	37.5	58	61.5		0	6	0.00	3	

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RCRA WELL DATA TO DATE

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	2043	Chloride	51.1	66	54.2		2.75	51.2		0	5	0.00		
	2066	Chloride	96	68	64	69	62	56.5		0	6	0.00		
	2010	Chloride	27	31	29	32	32.9	27		0	6	0.00	1	T.L. = 134.74
	2013	Chloride	62.6	25	26.5	25	32	26.7		0	6	0.00	1	
	2019	Chloride	38.4	48	50	50	41.2	51.5		0	6	0.00	1	
	2021	Chloride	42.4	47	54.1	49	66.6	75.5		0	6	0.00	1	
*	2027	Chloride	79.9	120	75	79	140	77		0	6	0.00	2b	
	2037	Chloride	25.4	27	22.2	24	24	29		0	6	0.00	1	
	2051	Chloride	5.8	39	212 **	24	26.4			0	5	0.00	5	
	2055	Chloride					23.6	26.5		0	2	0.00	7f	
*	2084	Chloride	200	185	150	170	176	250		0	6	0.00	3	
	3043	Chloride	2.75	11.5	15.1		11.8	23		0	5	0.00		
?	3066	Chloride	826	680	660	80 **	647	735		0	5	0.00		
	3001	Chloride	21.1	25	19.1	21	15.4	19.9		0	6	0.00	1	T.L. = 1437.76
	3008	Chloride	54	18	18.5	22	22	20		0	6	0.00	1	
	3010	Chloride	74.2	68	70.2	62	54.3	51		0	6	0.00	1	
	3013	Chloride	70.3	62	60	21	56	60		0	6	0.00	1	
	3019	Chloride	170	70	82.3	79	12.4	54.5		0	6	0.00	1	
	3024	Chloride	9	3.7	19.4	20	17.8	22		0	6	0.00	1	
	3037	Chloride	4	230	212	200	206	250		0	6	0.00	1	
	3051	Chloride	53.6	79	245	63	71.6	74		0	6	0.00	1	
	3055	Chloride	51.5	58	54.8	56	47.4	56.7		0	6	0.00	1	
	3084	Chloride	153	207	212	230	235	210		0	6	0.00	1	
	4001	Chloride	24.3	20	22	29	35.6	34		0	6	0.00	1	
	4008	Chloride	10.9	11.5	11		10	13		0	5	0.00	1	
	4010	Chloride				39	34	32		0	3	0.00	1	
	4013	Chloride				220	240	248		0	3	0.00	1	
	1024	Chromium	0.02 U	0.12	0.02 U	0.022	0.0345	0.025		2	6	0.33		2 x maximum background value
	1052	Chromium	0.02 U	0.01 U	0.02 U	0.02	0.0379 max	0.024		3	6	0.50		= 0.0758
									totals	5	12			
	1025	Chromium	0.0017 U		0.02 U	0.066	0.0618	0.038		2	5	0.40	8	Z = 0.2006 O.K.
	1027	Chromium	0.02 U	0.01 U	0.02 U	0.03	0.0346	0.031		3	6	0.50	9	
	1028	Chromium					0.0637			0	1	0.00	8	
	1030	Chromium					0.0436			0	1	0.00	8	
	1031	Chromium			0.02 U	0.0215	0.0364	0.029		1	4	0.25	8	
	1038	Chromium	0.02 U	0.02 U	0.02 U	0.036	0.039	0.034		3	6	0.50	9	
	1074	Chromium	0.0017 U	0.02 U	0.02 U	0.04	0.0413	0.0345		3	6	0.50	9	
	1079	Chromium	0.02 U	0.02 U	0.02 U	0.029	0.0328	0.0385		3	6	0.50	9	

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	1080	Chromium	0.02 U	0.01 U	0.02 U	0.03	0.0354	0.062		3	6	0.50	9	
	1081	Chromium	0.02 U	0.02 U	0.02 U	0.043	0.05	0.221 **		3	6	0.50	9	
	1082	Chromium	0.02 U		0.02 U	0.039	0.042	0.0374		2	5	0.40	8	
	1083	Chromium	0.0017 U	0.02 U	0.02 U	0.039	0.0397	0.205 **		3	6	0.50	9	
									totals	26	58			
	2043	Chromium	0.02 U	0.01 U	0.02 U	0.024	0.0415	max0.0303		3	6	0.50		2 x maximum background value
	2066	Chromium	0.02 U	0.01 U	0.02 U	0.02	0.0259	0.022		3	6	0.50		= 0.083
									totals	6	12			
	2010	Chromium	0.01 U	0.01 U	0.02 U	0.03	0.0282	0.041		3	6	0.50	9	Z = 0 O.K.
	2013	Chromium	0.02 U	0.01 U	0.02 U		0.0299	0.027		3	5	0.60	9	
	2019	Chromium	0.02 U	0.02 U	0.02 U	0.02	0.0404	0.03		3	6	0.50	9	
	2021	Chromium	0.0017 U	0.02 U	0.02 U	0.02	0.0368	0.033		3	6	0.50	9	
	2027	Chromium	0.0017 U	0.01 U	0.02 U	0.03	0.0527	0.038		3	6	0.50	9	
	2037	Chromium	0.0017 U	0.01 U	0.02 U		0.0404	0.035		3	5	0.60	9	
	2051	Chromium	0.02 U	0.01 U	0.02 U	0.026	0.0472	0.037		3	6	0.50	9	
	2055	Chromium					0.038	0.04		0	2	0.00	8	
	2084	Chromium	0.02 U	0.02 U	0.02 U	0.05	0.0855	0.039		3	6	0.50	9	
									totals	24	48			
	3043	Chromium	0.02 U	0.01 U	0.02 U	0.021	0.021	0.0292		3	6	0.50		2 x maximum background value
	3066	Chromium	0.02 U	0.01 U	0.02 U	0.03	0.0378	max 0.027		3	6	0.50		= 0.0756
									totals	6	12			
	3001	Chromium	0.0017 U	0.02 U	0.02 U	0.02	0.0259	0.028		3	6	0.50	9	Z = -0.348 O.K.
	3008	Chromium	0.02 U	0.02 U	0.02 U	0.02	0.032	0.027		3	6	0.50	9	
	3010	Chromium	0.02 U	0.01 U	0.02 U		0.0399	0.036		3	5	0.60	9	
	3013	Chromium	0.02 U	0.01 U	0.02 U		0.0402	0.04		3	5	0.60	9	
	3019	Chromium	0.02 U	0.02 U	0.02 U	0.03	0.0484	0.035		3	6	0.50	9	
	3024	Chromium	0.02 U	0.56 **	0.02 U	0.028	0.0441	0.042		2	6	0.33	8	
	3037	Chromium	0.02 U	0.01	0.02 U		0.0572	0.037		2	5	0.40	8	
	3051	Chromium	0.02 U	0.01 U	0.02 U	0.025	0.0374	0.029		3	6	0.50	9	
	3055	Chromium	0.02 U	0.01 U	0.02 U	0.03	0.0431	0.04		3	6	0.50	9	
	3084	Chromium	0.02 U	0.04	0.02 U	0.05	0.0774	0.0352		2	6	0.33	8	
	4001	Chromium	0.02 U	0.01 U	0.02 U	0.02	0.0319	0.029		3	6	0.50	9	
	4008	Chromium	0.02 U	0.02 U	0.02 U		0.0328	0.023		3	5	0.60	9	
	4010	Chromium				0.02	0.0317	0.025		0	3	0.00	8	
	4013	Chromium				0.03	0.062	0.043		0	3	0.00	8	

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									totals	33	74			
	1024	Cobalt					0.01 U	0.01 U		2	2	1.00		2 x maximum background value
	1052	Cobalt					0.0131 max	0.01 U		1	2	0.50		= 0.0262
									totals	3	4			
	1025	Cobalt	0.0052 U				0.0159	0.012		1	3	0.33	8	t = 0.362 O.K.
	1027	Cobalt					0.01 U	0.01 U		2	2	1.00	9	
	1028	Cobalt					0.017			0	1	0.00	8	
	1030	Cobalt					0.01 U			1	1	1.00	9	
	1031	Cobalt					0.0121	0.01 U		1	2	0.50	9	
	1038	Cobalt					0.01 U	0.01 U		2	2	1.00	9	
	1074	Cobalt	0.0052 U				0.01 U	0.01 U		3	3	1.00	9	
	1079	Cobalt					0.01 U	0.01 U		2	2	1.00	9	
	1080	Cobalt					0.01 U	0.01 U		2	2	1.00	9	
	1081	Cobalt					0.01 U	0.486 **		1	1	1.00	9	
	1082	Cobalt					0.01 U	0.01 U		2	2	1.00	9	
	1083	Cobalt	0.0052 U				0.01 U	0.44 **		2	2	1.00	9	
									totals	19	23			
	2043	Cobalt					0.01 U	0.01 U		2	2	1.00	17	
	2066	Cobalt					0.01 U	0.01 U		2	2	1.00	17	
									totals	4	4			
	2010	Cobalt	0.01 U				0.01 U	0.012		2	3	0.67	17	nP = 3 < 5 Therefore the
	2013	Cobalt					0.01 U	0.01 U		2	2	1.00	17	Test of Proportions
	2019	Cobalt	0.01 U				0.01 U	0.01 U		3	3	1.00	17	normal approximation test
	2021	Cobalt	0.0052 U				0.01 U	0.01 U		3	3	1.00	17	was not met.
	2027	Cobalt	0.0052 U				0.01 U	0.013		2	3	0.67	17	
	2037	Cobalt	0.0052 U				0.01 U	0.01 U		3	3	1.00	17	
	2051	Cobalt					0.01 U	0.01 U		2	2	1.00	17	
	2055	Cobalt					0.01 U	0.01 U		2	2	1.00	17	
	2084	Cobalt					0.011	0.01 U		1	2	0.50	17	
									totals	20	23			
	3043	Cobalt					0.01 U	0.01 U		2	2	1.00		

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	3066	Cobalt					0.01 U	0.01 U		2	2	1.00		
	3001	Cobalt	0.0052 U				0.01 U	0.01 U		3	3	1.00	15	
	3008	Cobalt					0.01 U	0.01 U		2	2	1.00	15	
	3010	Cobalt					0.01 U	0.01 U		2	2	1.00	15	
	3013	Cobalt					0.01 U	0.01 U		2	2	1.00	15	
	3019	Cobalt					0.01 U	0.01 U		2	2	1.00	15	
	3024	Cobalt					0.01 U	0.01 U		2	2	1.00	15	
	3037	Cobalt					0.01 U	0.01 U		2	2	1.00	15	
	3051	Cobalt					0.01 U	0.01 U		2	2	1.00	15	
	3055	Cobalt					0.01 U	0.01 U		2	2	1.00	15	
	3084	Cobalt					0.01 U	0.01 U		2	2	1.00	15	
	4001	Cobalt					0.01 U	0.01 U		2	2	1.00	15	
	4008	Cobalt					0.01 U	0.01 U		2	2	1.00	15	
	4010	Cobalt					0.01 U	0.01 U		2	2	1.00	15	
	4013	Cobalt					0.01 U	0.01 U		2	2	1.00	15	
	1024	Conductivity	480	700	575	800	975	625	600	0	7	0.00		
	1052	Conductivity	480	700	575	690	990	625	700	0	7	0.00		
*	1025	Conductivity	2900	3520	3450	3400	3850	4020	3750	0	7	0.00	3	T.L. = 1085.5
	1027	Conductivity	725	750	620	6200 **	710	750	800	0	7	0.00	5	
*	1028	Conductivity					3750	3800	3275	0	3	0.00	3	
	1030	Conductivity					1580		1255	0	2	0.00	7k	
*	1031	Conductivity			3250	2800	3000	3150	2900	0	5	0.00	3	
	1038	Conductivity	900	890	820	780	810	825	810	0	7	0.00	1	
*	1074	Conductivity	1100	1050	825	810	900	900	900	0	7	0.00	2b	
	1079	Conductivity	800	800	750	150	1300	900	790	0	7	0.00	2a	
	1080	Conductivity	500	990	730	430	960	900	850	0	7	0.00	1	
*	1081	Conductivity	1290	1450	1450	1550	1675	1610	900	0	7	0.00	3	
*	1082	Conductivity	800		830	800	800	1095	1050	0	6	0.00	2b	
	1083	Conductivity	850	970	460	820	1000	975	800	0	7	0.00	1	
	2043	Conductivity	910	830	780	700	700	1890 **	705	0	6	0.00		
	2066	Conductivity	600	680	590	1270 **	625	650	600	0	6	0.00		
*	2010	Conductivity	690	1050	820		675	1690	1520	0	6	0.00	2b	T.L. = 966.7
	2013	Conductivity	780	650	1100	550	610	600	550	0	7	0.00	2a	
*	2019	Conductivity	850	800	800	710	910	1010	940	0	7	0.00	2b	
*	2021	Conductivity	1100	1180	970	975	990	830	850	0	7	0.00	4	
	2027	Conductivity	1450	1175	1000	1010	1550	1925	810	0	7	0.00	3	
	2037	Conductivity	690	700	630	680	690	975	905	0	7	0.00	2a	
	2051	Conductivity	700	950	800	710	1025	990	995	0	7	0.00	2b	
	2055	Conductivity					590	620		0	2	0.00	7g	

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•	2084	Conductivity	1600	1950	1250	1690	1760	1525	1880	0	7	0.00	3	
	3043	Conductivity	500	500	550	490	525	1500	490	0	7	0.00		
?	3066	Conductivity	2050	2320	2150	680	1910	1930	2200	0	7	0.00		
	3001	Conductivity	481	480	480	500	510	505	462	0	7	0.00	1	T.L. = 3330.9
	3008	Conductivity	420	390	400	490	500	550	470	0	7	0.00	1	
	3010	Conductivity	2810	1450	1280	800	1120	1200	1100	0	7	0.00	1	
	3013	Conductivity	1120	1080	1000	500	1080	950	990	0	7	0.00	1	
	3019	Conductivity	1200	1040	1200	1100	1180	1200	1210	0	7	0.00	1	
	3024	Conductivity	440	700	625	750	495	625	595	0	7	0.00	1	
	3037	Conductivity	1930	1470	1510	1490	1510	1495	1530	0	7	0.00	1	
	3051	Conductivity	810	800	700	710	800	800	810	0	7	0.00	1	
	3055	Conductivity	1170	1100	1000	950	960	1050	975	0	7	0.00	1	
	3084	Conductivity	1650	1600	1390	1620	1580	1485	1490	0	7	0.00	1	
	4001	Conductivity	510	550	480	450	625	625	590	0	7	0.00	1	
	4008	Conductivity	420	480	430	440	418	470	440	0	7	0.00	1	
	4010	Conductivity				675	625	650	600	0	4	0.00	1	
	4013	Conductivity				1450	1580	1590	1560	0	4	0.00	1	
	1024	Copper	0.01 U	0.025 U	0.01 U	0.013	0.01 U	0.01 U		5	6	0.83		
	1052	Copper	0.02 U	0.03 U	0.01 U	0.01 U	0.0137	0.01 U		5	6	0.83		
									totals	10	12			
	1025	Copper	0.0067 U		0.01 U	0.034	0.01 U	0.01 U		4	5	0.80	9	Z = -0.317 O.K.
	1027	Copper	0.01 U	0.03 U	0.01 U	0.014	0.01 U	0.01 U		5	6	0.83	9	
	1028	Copper					0.01 U			1	1	1.00	9	
	1030	Copper					0.01 U			1	1	1.00	9	
	1031	Copper			0.02	0.0238	0.01 U	0.01 U		2	4	0.50	9	
	1038	Copper	0.01 U	0.01 U	0.01 U	0.016	0.01 U	0.01 U		5	6	0.83	9	
	1074	Copper	0.0067	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U		5	6	0.83	9	
	1079	Copper	0.01 U	0.01 U	0.01 U	0.017	0.01 U	0.01 U		5	6	0.83	9	
	1080	Copper	0.02 U	0.03 U	0.01 U	0.01 U	0.01 U	0.01 U		6	6	1.00	9	
	1081	Copper	0.01 U	0.01 U	0.01 U	0.023	0.01 U	0.236		4	6	0.67	9	
	1082	Copper	0.01 U		0.01 U	0.018	0.01 U	0.01 U		4	5	0.80	9	
	1083	Copper	0.0067 U	0.01 U	0.01 U	0.02	0.01 U	0.213		4	6	0.67	9	
									totals	46	58			
	2043	Copper	0.01 U	0.03 U	0.01 U	0.022	0.01 U	0.01 U		5	6	0.83		
	2066	Copper	0.01 U	0.03 U	0.01 U	0.01 U	0.01 U	0.01 U		6	6	1.00		

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RCRA WELL DATA TO DATE

VER-DICT	WELL #	CONSTITUENT	SAMPLING ROUNDS 1	2	3	4	5	6	7	TOTAL NON-DETECTS	TOTAL SAMPLES TAKEN	NON-DETECTS OVER TOTAL	STAT. METH. AND CONCL. ***	COMMENTS
									totals	11	12			
	2010	Copper	0.01 U	0.03 U	0.01 U	0.01 U	0.01 U	0.01 U		6	6	1.00	9	Z = 0 O.K.
	2013	Copper	0.02 U	0.03 U	0.01 U		0.01 U	0.01 U		5	5	1.00	9	
	2019	Copper	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U		6	6	1.00	9	
	2021	Copper	0.0697	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U		5	6	0.83	9	
	2027	Copper	0.0067 U	0.03 U	0.01 U	0.01 U	0.01 U	0.01 U		6	6	1.00	9	
	2037	Copper	0.0067 U	0.03 U	0.01 U		0.01 U	0.0322		4	5	0.80	9	
	2051	Copper	0.01 U	0.01 U	0.01 U	0.012	0.01 U	0.01 U		5	6	0.83	9	
	2055	Copper					0.01 U	0.01 U		2	2	1.00	9	
	2084	Copper	0.04	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U		5	6	0.83	9	
									totals	44	48			
	3043	Copper	0.01 U	0.03 U	0.01 U	0.022	0.01 U	0.01 U		5	6	0.83		
	3066	Copper	0.01 U	0.03 U	0.01 U	0.01 U	0.01 U	0.01 U		6	6	1.00		
									totals	11	12			
	3001	Copper	0.0067 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U		6	6	1.00	9	Z = 0.402 O.K.
	3008	Copper	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U		6	6	1.00	9	
	3010	Copper	0.01 U	0.03 U	0.01 U		0.01 U	0.01 U		5	5	1.00	9	
	3013	Copper	0.02 U	0.03 U	0.01 U		0.01 U	0.01 U		5	5	1.00	9	
	3019	Copper	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U		6	6	1.00	9	
	3024	Copper	0.017 U	0.025	0.01 U	0.012	0.01 U	0.01 U		4	6	0.67	9	
	3037	Copper	0.01 U	0.03 U	0.01 U		0.01 U	0.01 U		5	5	1.00	9	
	3051	Copper	0.01 U	0.01 U	0.01 U	0.012	0.01 U	0.01 U		5	6	0.83	9	
	3055	Copper	0.01 U	0.03 U	0.01 U	0.01 U	0.01 U	0.01 U		6	6	1.00	9	
	3084	Copper	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U		6	6	1.00	9	
	4001	Copper	0.01 U	0.03 U	0.026	0.01 U	0.01 U	0.01 U		5	6	0.83	9	
	4008	Copper	0.01 U	0.01 U	0.01 U		0.01 U	0.01 U		5	5	1.00	9	
	4010	Copper				0.01 U	0.01 U	0.01 U		3	3	1.00	9	
	4013	Copper				0.01 U	0.01 U	0.01 U		3	3	1.00	9	
									totals	70	74			
	1024	Fluoride	0.83	1.3	0.94	1	0.94	0.98		0	6	0.00		
	1052	Fluoride	1.35	1.3	0.92	0.9	0.94	1		0	6	0.00		
	1025	Fluoride			0.54	0.44	0.49	0.36		0	4	0.00	1	T.L. = 1.518
	1027	Fluoride	1.2	1.7	1.1	0.96	1	0.96		0	6	0.00	2a	
	1028	Fluoride					0.225			0	1	0.00	7a	
	1031	Fluoride			1.5	1.53	1.7	1.6		0	4	0.00	2b	
	1038	Fluoride	0.76	0.75	0.64	0.46	0.6	0.5		0	6	0.00	1	
	1074	Fluoride	1.25	1.5	1.05	1.2	1.14	1.3		0	6	0.00	1	

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RCRA WELL DATA TO DATE

VER-DICT	WELL #	CONSTITUENT	SAMPLING ROUNDS 1	2	3	4	5	6	7	TOTAL NON-DETECTS	TOTAL SAMPLES TAKEN	NON-DETECTS OVER TOTAL	STAT. METH. AND CONCL. ***	COMMENTS
	1079	Fluoride	0.99	1.18	1.1	1.2	1.14	1.1		0	6	0.00	1	
	1080	Fluoride	1.3	1.3	1	1	1	0.92		0	6	0.00	1	
	1081	Fluoride	0.8	0.96	0.74	0.39	0.415	0.49		0	6	0.00	1	
	1082	Fluoride	1.1		1.25	0.72	0.86	0.58		0	5	0.00	1	
	1083	Fluoride	0.41	0.55	0.35	0.24	0.3	0.35		0	6	0.00	1	
?	2043	Fluoride	0.58	0.58	0.28	0.49	0.52	0.55		0	6	0.00		
?	2066	Fluoride	0.94	0.9	0.78	1	0.4	0.88		0	6	0.00		
	2010	Fluoride	0.2	0.1	0.13	0.2	0.16	0.088		0	6	0.00	1	T.L. = 1.297
	2013	Fluoride	0.31	0.1	0.185	0.2	0.24	0.18		0	6	0.00	1	
	2019	Fluoride	0.41	0.37	0.24	0.3	0.28	0.29		0	6	0.00	1	
	2021	Fluoride	0.35	0.34	0.23	0.2	0.24	0.24		0	6	0.00	1	
	2027	Fluoride	0.3	1.8 **	0.17	0.2	0.12	0.5		0	6	0.00	5	
	2037	Fluoride	0.51	0.2	0.26	0.2	0.2	0.17		0	6	0.00	1	
	2051	Fluoride	0.27	0.26	0.33	0.15	0.27			0	5	0.00	1	
	2055	Fluoride					0.2	0.165		0	2	0.00	1	
	2084	Fluoride	0.21	0.21	0.175	0.1	0.165	0.1		0	6	0.00	1	
	3043	Fluoride	0.46	0.34	0.19	0.3	0.37	0.32		0	6	0.00		
	3066	Fluoride	0.23	0.05 U	0.12	0.4	0.11	0.094		1	6	0.17		
	3001	Fluoride	0.16	0.29	0.19	0.1 U	0.169	0.15		1	6	0.17	1	T.L. = 0.652
	3008	Fluoride	0.4	0.14	0.1	0.1	0.14	0.1		0	6	0.00	1	
	3010	Fluoride	0.24	0.1 U	0.105	0.1 U	0.082	0.05		2	6	0.33	1	
	3013	Fluoride	0.26	0.1 U	0.113	0.5	0.155	0.115		1	6	0.17	1	
	3019	Fluoride	0.21	0.14	0.1 U	0.1 U	0.088	0.09		2	6	0.33	1	
	3024	Fluoride	0.73	1.9 **	0.25 U	0.4	0.44	0.43		1	6	0.17	5	
	3037	Fluoride	0.35	0.1	0.145	0.1	0.1	0.1		0	6	0.00	1	
	3051	Fluoride	0.35	0.24	0.3	0.14	0.24	0.22		0	6	0.00	1	
	3055	Fluoride	0.53	0.1	0.105	0.1 U	0.13	0.089		1	6	0.17	1	
	3084	Fluoride	0.29	0.16	0.1 U	0.1	0.11	0.12		1	6	0.17	1	
	4001	Fluoride	0.3	1.1 **	0.12	0.1	0.165	0.135		0	6	0.00	5	
	4008	Fluoride	0.39	0.3	0.2		0.24	0.18		0	5	0.00	1	
	4010	Fluoride				0.5	0.5	0.46		0	3	0.00	1	
	4013	Fluoride				0.5	0.45	0.45		0	3	0.00	1	
?	1024	Iron	0.667	4.9	2.1	0.061	1.074	0.154		0	6	0.00		
	1052	Iron	0.0025 U	0.05 U	0.0025 U	0.06	0.258	0.079		3	6	0.50		
	1025	Iron	0.304		0.218	0.82	0.111	0.286		0	5	0.00	1	T.L. = 4.416
	1027	Iron	0.3	2.1 **	0.13	0.106	0.631	0.507		0	6	0.00	1	
	1028	Iron					0.164			0	1	0.00	7a	

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RCRA WELL DATA TO DATE

VER-DICT	WELL #	CONSTITUENT	SAMPLING ROUNDS 1	2	3	4	5	6	7	TOTAL NON-DETECTS	TOTAL SAMPLES TAKEN	NON-DETECTS OVER TOTAL	STAT. METH. AND CONCL. ***	COMMENTS
	1030	Iron					0.105			0	1	0.00	7a	
	1031	Iron			0.015	0.118	0.601	0.102		0	4	0.00	1	
	1038	Iron	0.53	0.16	0.376	0.14	0.156	0.295		0	6	0.00	1	
	1074	Iron	0.0492 B	0.005 U	0.043	0.08	0.0766	0.118		2	6	0.33	1	
	1079	Iron	0.034	0.177	0.005	0.369	0.685	0.091		0	6	0.00	1	
	1080	Iron	0.005 U	0.1 U	0.162	0.06	0.552	0.507		2	6	0.33	1	
	1081	Iron	0.23	0.005 U	0.125	0.062	0.0822	1.25 **		1	6	0.17	1	
	1082	Iron	0.12		0.015	0.062	0.28	0.102		0	5	0.00	1	
	1083	Iron	0.0773 B	0.005 U	0.006	0.073	0.102	1.16 **		2	6	0.33	1	
	2043	Iron	0.259	1.1	0.06	1.04	0.873	0.843		0	6	0.00		
	2066	Iron	1.6	1.7	1.703	1.6	1.73	0.506		0	6	0.00		
	2010	Iron	0.265	4.7	2.07	0.09	2.03	4.71		0	6	0.00	2a	T.L. = 2.710
	2013	Iron	2.58	2.6	2.67		2.42	2.51		0	5	0.00	1	
	2019	Iron	0.1	0.005 U	0.041	0.1	0.0556	0.085		1	6	0.17	1	
	2021	Iron	0.0127 B	0.008	2.51	0.09	14.8 **	0.065		1	6	0.17	5	
•	2027	Iron	8.06	6.1	3.28	4.7	5.804	3.27		0	6	0.00	3	
•	2037	Iron	2.7	3.1	3.19		3.47	5.54		0	5	0.00	3	
•	2051	Iron	1.721	4.5	3.2	2.95	5.06	4.45		0	6	0.00	2b	
	2055	Iron					2.59	2.63		0	2	0.00	7h	
•	2084	Iron	2.3	4.2	0.166	2.3	2.085	3.03		0	6	0.00	2b	
	3043	Iron	1.52	4	3.6	4.14	3.66	3.63		0	6	0.00		
?	3066	Iron	19.3	18	16.7	16	0.289 **	18.2		0	5	0.00		
	3001	Iron	3.5	2.8	4.5	2.5	3.21	2.78		0	6	0.00	1	T.L. = 30.998
	3008	Iron	0.68	1.7	1.39	6.5	1.079	0.71		0	6	0.00	1	
	3010	Iron	0.26	0.5	1.14		2.1	5.84		0	5	0.00	1	
	3013	Iron	6.58	7.1	7.21		6.69	6.9		0	5	0.00	1	
	3019	Iron	0.23	0.037	0.094	0.14	0.0906	0.065		0	6	0.00	1	
	3024	Iron	0.005 U	3	4.2	4.1	4.16	4		1	6	0.17	1	
	3037	Iron	3.02	15	16.9		13.09	14.6		0	5	0.00	1	
	3051	Iron	0.583	3.7	3.4	3.3	3.42	3.01		0	6	0.00	1	
	3055	Iron	1.87	5.5	7.73	7.3	7.34	7.96		0	6	0.00	1	
	3084	Iron	0.6	0.3	0.084	0.1	0.192	0.26		0	6	0.00	1	
	4001	Iron	4.64	4.7	5.07	4.7	5.38	5.79		0	6	0.00	1	
	4008	Iron	1.96	2.4	2.73		2.43	2.36		0	5	0.00	1	
	4010	Iron				3.7	3.53	4.16		0	3	0.00	1	
	4013	Iron				6.2	6.38	9.64		0	3	0.00	1	
	1024	Lead	0.05 U	0.2 U	0.004	0.002 U	0.0027	0.003		3	6	0.50		
	1052	Lead	0.05 U	0.005 U	0.002 U	0.002 U	0.0028	0.002 U		5	6	0.83		

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RCRA WELL DATA TO DATE

VER-DICT	WELL #	CONSTITUENT	SAMPLING ROUNDS 1	2	3	4	5	6	7	TOTAL NON-DETECTS	TOTAL SAMPLES TAKEN	NON-DETECTS OVER TOTAL	STAT. METH. AND CONCL. ***	COMMENTS
									totals	8	12			
	1025	Lead	0.0105 UN		0.002 U	0.003	0.002 U	0.002		3	5	0.60	9	Z = 0.401
	1027	Lead	0.05 U	0.005 U	0.002 U	0.002 U	0.002 U	0.003		5	6	0.83	9	
	1028	Lead					0.002 U			1	1	1.00	9	
	1030	Lead					0.002 U			1	1	1.00	9	
	1031	Lead			0.002 U	0.002 U	0.002 U	0.006		3	4	0.75	9	
	1038	Lead	0.05 U	0.002 U	0.002 U	0.002 U	0.002 U	0.003		5	6	0.83	9	
	1074	Lead	0.0105 UW	0.002 U	0.003	0.002 U	0.0054	0.002		3	6	0.50	9	
	1079	Lead	0.05 U	0.05 U	0.016	0.002 U	0.0058	0.008		3	6	0.50	9	
	1080	Lead	0.06	0.005 U	0.002 U	0.002 U	0.002 U	0.004		4	6	0.67	9	
	1081	Lead	0.05 U	0.002 U	0.002 U	0.002 U	0.0025	0.004		4	6	0.67	9	
	1082	Lead	0.05 U		0.002 U	0.002 U	0.002 U	0.002 U		5	5	1.00	9	
	1083	Lead	0.0021 U	0.002 U	0.002 U	0.002 U	0.002 U	0.003		5	6	0.83	9	
									totals	42	58			
	2043	Lead	0.05 U	0.005 U	0.002	0.006	0.0026	0.002 U		3	6	0.50		2 x maximum background value
	2066	Lead	0.05 U	0.005 U	0.015	0.009 max	0.002 U	0.005		3	6	0.50		= 0.018
									totals	6	12			
	2010	Lead	0.005 U	0.005 U	0.012	0.002 U	0.0047	0.004		3	6	0.50	9	Z = 1.072 O.K.
	2013	Lead	0.05 U	0.005 U	0.002 U		0.0161	0.002 U		4	5	0.80	9	
	2019	Lead	0.0024 B	0.05 U	0.002 U	0.002 U	0.0033	0.003		4	6	0.67	9	
	2021	Lead	0.021 U	0.05 U	0.002 U	0.002 U	0.0024	0.002		4	6	0.67	9	
	2027	Lead	0.0021 U	0.005 U	0.002 U	0.002 U	0.002 U	0.002 U		6	6	1.00	9	
	2037	Lead	0.0021 U	0.005 U	0.003		0.0066	0.005		2	5	0.40	8	
	2051	Lead	0.05 U	0.005 U	0.004	0.002 U	0.002 U	0.002 U		5	6	0.83	9	
	2055	Lead					0.002	0.002 U		1	2	0.50	9	
	2084	Lead	0.05 U	0.02	0.002 U	0.002 U	0.0033	0.004		3	6	0.50	9	
									totals	32	48			
	3043	Lead	0.05 U	0.005 U	0.005	0.029 max	0.0044	0.003		2	6	0.33		2 x maximum background value
	3066	Lead	0.05 U	0.005 U	0.002	0.002 U	0.002 U	0.002 U		5	6	0.83		= 0.058
									totals	7	12			
	3001	Lead	0.0021 UW	0.043	0.002 U	0.002 U	0.002 U	0.002 U		5	6	0.83	9	Z = 0.826 O.K.
	3008	Lead	0.05 U	0.002 U	0.002 U	0.002 U	0.0039	0.002 U		5	6	0.83	9	
	3010	Lead	0.05 U	0.005 U	0.002 U		0.0042	0.002 U		4	5	0.80	9	
	3013	Lead	0.05 U	0.005 U	0.004		0.002 U	0.002 U		4	5	0.80	9	
	3019	Lead	0.05 U	0.05 U	0.002 U	0.002 U	0.0087	0.002		4	6	0.67	9	

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RCRA WELL DATA TO DATE

VER-DICT	WELL #	CONSTITUENT	SAMPLING ROUNDS 1	2	3	4	5	6	7	TOTAL NON-DETECTS	TOTAL SAMPLES TAKEN	NON-DETECTS OVER TOTAL	STAT. METH. AND CONCL. ***	COMMENTS
	3024	Lead	0.05 U	0.2	0.004 U	0.002 U	0.002 U	0.002 U		5	6	0.83	9	
	3037	Lead	0.05 U	0.005 U	0.002		0.0022	0.003		2	5	0.40	8	
	3051	Lead	0.05 U	0.005 U	0.002 U	0.002 U	0.002 U	0.005		5	6	0.83	9	
	3055	Lead	0.002	0.005 U	0.002 U	0.002 U	0.0032	0.002 U		4	6	0.67	9	
	3084	Lead	0.05 U	0.038	0.002 U	0.002 U	0.0187	0.005		3	6	0.50	9	
	4001	Lead	0.05 U	0.005 U	0.002 U	0.002 U	0.002 U	0.007		5	6	0.83	9	
	4008	Lead	0.05 U	0.002	0.002 U		0.0037	0.002 U		3	5	0.60	9	
	4010	Lead				0.002 U	0.002 U	0.004		2	3	0.67	9	
	4013	Lead				0.002 U	0.0025	0.006		1	3	0.33	8	
									totals	52	74			

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RCRA Groundwater Data as of 25-May-90

RCRA WELL DATA TO DATE

VER-DICT	WELL #	CONSTITUENT	SAMPLING ROUNDS 1	2	3	4	5	6	7	TOTAL NON-DETECTS	TOTAL SAMPLES TAKEN	NON-DETECTS OVER TOTAL	STAT. METH. AND CONCL. ***	COMMENTS
	1024	Magnesium	40.5	31	44.4	44	44.2	46		0	6	0.00		
	1052	Magnesium	36.4	42	39.2	42	46.2	44		0	6	0.00		
*	1025	Magnesium	150		208	218	210	212		0	5	0.00	3	T.L. = 53.71
	1027	Magnesium	38.5	45	24.4	48.3	47.4	48.1		0	6	0.00	1	
	1028	Magnesium					190			0	1	0.00	7e	
	1030	Magnesium					111			0	1	0.00	7e	
	1031	Magnesium			7.62	25.4	5.68	8.54		0	4	0.00	1	
*	1038	Magnesium	60.9	60.6	56	66.3	65.4	66.2		0	6	0.00	4	
*	1074	Magnesium	62.1	63.9	62.5	63	70.6	65.2		0	6	0.00	4	
*	1079	Magnesium	54.6	52.56	57.5	59.6	62	64.6		0	6	0.00	4	
*	1080	Magnesium	65.9	66	68.5	70	87.6	86.1		0	6	0.00	4	
*	1081	Magnesium	91.6	96.8	86.3	90.1	96	65.9		0	6	0.00	4	
*	1082	Magnesium	69		65	72.8	79.5	79.1		0	5	0.00	4	
*	1083	Magnesium	47	48.1	43.5	51.2	51.5	65.6		0	6	0.00	2b	
	2043	Magnesium	36.4	38	25.9	38.8	38.5	41		0	6	0.00		
	2066	Magnesium	27.2	24	26	28	30.45	31.3		0	6	0.00		
	2010	Magnesium	32.4	39	37.1	32	31	60.4 **		0	6	0.00	5	T.L. = 48.71
	2013	Magnesium	27.4	22	27.9		27.6	28.1		0	5	0.00	1	
	2019	Magnesium	27.58	29.3	28.6	28	30.5	31		0	6	0.00	1	
	2021	Magnesium	31.3	28.6	78.7	24	51.1	24.2		0	6	0.00	2a	
*	2027	Magnesium	49.8	44	27.3	44	68.2	72.2		0	6	0.00	2b	
	2037	Magnesium	28	29	28.5		34.3	42.2		0	5	0.00	1	
*	2051	Magnesium	34.5	44	34.8	34.8	59.9	49.9		0	6	0.00	2b	
	2055	Magnesium					27.5	29.4		0	2	0.00	7g	
*	2084	Magnesium	77.7	77.6	27	78	89.4	100		0	6	0.00	3	
	3043	Magnesium	24.6	26	23.5	26.8	27.8	29		0	6	0.00		
?	3066	Magnesium	49.8	44	49.5	50	26.2	54.6		0	6	0.00		
	3001	Magnesium	26.3	25.5	37.9	25	27.8	26.4		0	6	0.00	1	T.L. = 69.61
	3008	Magnesium	22	22.9	22	23	24.02	24		0	6	0.00	1	
	3010	Magnesium	46.6	36	46.2		33.2	32.2		0	5	0.00	1	
	3013	Magnesium	43.6	51	45.2		46.5	47.6		0	5	0.00	1	
	3019	Magnesium	25.5	28.8	31.7	33	28.2	29.6		0	6	0.00	1	
	3024	Magnesium	21.2	46	28.1	28.1	27.8	26.6		0	6	0.00	1	
	3037	Magnesium	61.3	61	67.2		62.9	65.7		0	5	0.00	1	
	3051	Magnesium	36.9	38	35.7	37.7	42	39.5		0	6	0.00	1	
	3055	Magnesium	29.6	28	34.4	34	39.1	36.4		0	6	0.00	1	
	3084	Magnesium	74.6	82.1	80.2	71	85.8	83.7		0	6	0.00	2b	
	4001	Magnesium	24.7	22	25.9	25	32.6	31.1		0	6	0.00	1	
	4008	Magnesium	19.3	21.5	20.8		23.6	22.6		0	5	0.00	1	
	4010	Magnesium				30	31.1	32.4		0	3	0.00	1	

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RCRA WELL DATA TO DATE

VER-DICT	WELL #	CONSTITUENT	SAMPLING ROUNDS 1	2	3	4	5	6	7	TOTAL NON-DETECTS	TOTAL SAMPLES TAKEN	NON-DETECTS OVER TOTAL	STAT. METH. AND CONCL. ***	COMMENTS
*	4013	Magnesium				.60	90.3	91.7		0	3	0.00	2b	
	1024	Manganese	0.08	0.22	0.03	0.09				0	4	0.00		
	1052	Manganese	0.075	0.08	0.108	0.009		0.0185		0	5	0.00		
*	1025	Manganese	0.455		0.52	0.33		0.398		0	4	0.00	2b	T.L. = 0.2701
	1027	Manganese	0.081	0.07	0.077	0.126				0	4	0.00	1	
	1031	Manganese			0.011	0.0263		0.0070 B		1	3	0.33	1	
*	1038	Manganese	0.286	0.204	0.21	0.217				0	4	0.00	2b	
	1074	Manganese	0.088	0.114	0.258	0.096		0.06		0	5	0.00	1	
	1079	Manganese	0.126	0.161	0.173	0.111		0.0833		0	5	0.00	1	
	1080	Manganese	0.038	0.07	0.047	0.05		0.0336		0	5	0.00	1	
	1081	Manganese	0.041	0.003	0.012	0.015				0	4	0.00	1	
	1082	Manganese	0.02		0.008	0.01		0.0066 B		1	4	0.25	1	
	1083	Manganese	0.0627	0.079	0.054	0.04				0	4	0.00	1	
?	2043	Manganese	0.168	0.15	0.1	0.145		0.192		0	5	0.00		
	2066	Manganese	0.068	0.06	0.036	0.04				0	4	0.00		
*	2010	Manganese	0.329	0.35	0.351	0.28				0	4	0.00	4	T.L. = 0.2844
	2013	Manganese	0.2	0.19	0.198					0	3	0.00	1	
	2019	Manganese	0.0025 B	0.04	0.004	0.006				1	4	0.25	1	
	2021	Manganese	0.0057 B	0.003	0.42 **	0.0025 U				2	4	0.50	5	
*	2027	Manganese	0.461	0.49	0.613	0.48		1.94 **		0	5	0.00	3	
*	2037	Manganese	0.287	0.22	0.218			0.378		0	4	0.00	2b	
*	2051	Manganese	0.278	0.33	0.32	0.22				0	4	0.00	2b	
	2055	Manganese					0.2084	0.259		0	2	0.00	7h	
*	2084	Manganese	0.53	0.5	0.02	0.65		1.03		0	5	0.00	2b	
	3043	Manganese	0.06	0.05	0.05	0.068		0.078		0	5	0.00		
?	3066	Manganese	0.11	0.12	0.122	0.12				0	4	0.00		
*	3001	Manganese	0.529	0.5	0.362	0.61				0	4	0.00	3	T.L. = 0.181
*	3008	Manganese	0.22	0.25	0.243	0.48				0	4	0.00	3	
*	3010	Manganese	3.84	3.9	4.32					0	3	0.00	3	
*	3013	Manganese	0.37	0.37	0.382					0	3	0.00	2b	
*	3019	Manganese	2.54	2.9	3.31	3.2				0	4	0.00	3	
	3024	Manganese	0.202	0.78 **	0.2	0.149				0	4	0.00	5	
*	3037	Manganese	0.65	0.68	0.722			0.651		0	4	0.00	3	
	3051	Manganese	0.161	0.13	0.13	0.134				0	4	0.00	1	
*	3055	Manganese	0.078	0.23	0.325	0.33				0	4	0.00	2b	
*	3084	Manganese	2.4	2.8	2.62	2.5		2.53		0	5	0.00	3	
*	4001	Manganese	0.388	0.37	0.425	0.41				0	4	0.00	2b	

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RCRA WELL DATA TO DATE

VER-DICT	WELL #	CONSTITUENT	SAMPLING ROUNDS 1	2	3	4	5	6	7	TOTAL NON-DETECTS	TOTAL SAMPLES TAKEN	NON-DETECTS OVER TOTAL	STAT. METH. AND CONCL. ***	COMMENTS
•	4008	Manganese	0.319	0.37	0.367					0	3	0.00	2b	
	4010	Manganese				0.058				0	1	0.00	7c	
	4013	Manganese				0.38				0	1	0.00	7d	
	1024	Methylene chloride					0.01 B			1	1	1.00		
	1052	Methylene chloride					0.01 B	0.005 U		2	2	1.00		
	1025	Methylene chloride	0.016 B				0.01 B	0.005 U		3	3	1.00	15	PQL = 0.005
	1027	Methylene chloride					0.011 B	0.002 BJ		2	2	1.00	15	
	1028	Methylene chloride					0.01 B			1	1	1.00	15	
	1030	Methylene chloride					0.008 B			1	1	1.00	15	
	1031	Methylene chloride						0.006 B		1	1	1.00	15	
	1038	Methylene chloride					0.007 B	0.003 BJ		2	2	1.00	15	
	1074	Methylene chloride	0.002 BJ				0.009 B	0.005 U		3	3	1.00	15	
	1079	Methylene chloride					0.013 B	0.005 U		2	2	1.00	15	
	1080	Methylene chloride					0.018 B	0.005 U		2	2	1.00	15	
	1081	Methylene chloride					0.009 B	0.003 BJ		2	2	1.00	15	
	1082	Methylene chloride					0.007 B	0.005 U		2	2	1.00	15	
	1083	Methylene chloride	0.005 U				0.009 B	0.003 BJ		3	3	1.00	15	
	2043	Methylene chloride					0.008 B	0.005 U		2	2	1.00		
	2066	Methylene chloride					0.007 B	0.008 B		2	2	1.00		
	2010	Methylene chloride	0.009 B				0.009 B	0.002 BJ		3	3	1.00	15	PQL = 0.005
	2013	Methylene chloride					0.01 B			1	1	1.00	15	
	2019	Methylene chloride	0.022				0.009 B	0.004 BJ		2	3	0.67	13	
	2021	Methylene chloride	0.005 U				0.007 B	0.022 B		3	3	1.00	15	
	2027	Methylene chloride	0.005 U				0.01 B	0.005 U		3	3	1.00	15	
	2037	Methylene chloride	0.005 U				0.006 B	0.005 U		3	3	1.00	15	
	2051	Methylene chloride					0.009 B	0.002 BJ		2	2	1.00	15	
	2055	Methylene chloride					0.009 B	0.005 U		2	2	1.00	15	
	2084	Methylene chloride					0.006 B	0.005 U		2	2	1.00	15	
	3043	Methylene chloride					0.008 B	0.005 U		2	2	1.00		
	3066	Methylene chloride					0.007 B	0.002 BJ		2	2	1.00		
	3001	Methylene chloride	0.005 B				0.011 B	0.003 BJ		3	3	1.00	15	PQL = 0.005
	3008	Methylene chloride					0.005 B	0.009 B		2	2	1.00	15	
	3010	Methylene chloride					0.007 B	0.003 B		2	2	1.00	15	
	3013	Methylene chloride					0.007 B			1	1	1.00	15	
	3019	Methylene chloride					0.006 B	0.007 B		2	2	1.00	15	
	3024	Methylene chloride					0.007 B			1	1	1.00	15	
	3037	Methylene chloride					0.007 B	0.002 BJ		2	2	1.00	15	

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RCRA WELL DATA TO DATE

VER-DICT	WELL #	CONSTITUENT	SAMPLING ROUNDS 1	2	3	4	5	6	7	TOTAL NON-DETECTS	TOTAL SAMPLES TAKEN	NON-DETECTS OVER TOTAL	STAT. METH. AND CONCL. ***	COMMENTS
	3051	Methylene chloride					0.009 B	0.001 BJ		2	2	1.00	15	
	3055	Methylene chloride					0.01 B	0.004 BJ		2	2	1.00	15	
	3084	Methylene chloride					0.009 B	0.003 BJ		2	2	1.00	15	
	4001	Methylene chloride					0.009 B	0.001 BJ		2	2	1.00	15	
	4008	Methylene chloride					0.008 B	0.002 BJ		2	2	1.00	15	
	4010	Methylene chloride					0.006 B	0.003 BJ		2	2	1.00	15	
	4013	Methylene chloride					0.012 B			1	1	1.00	15	
	1024	Nickel	0.021	0.18 max	0.02 U	0.026	0.0224	0.02 U		2	6	0.33		2 x maximum background value
	1052	Nickel	0.02 U	0.04 U	0.02 U	0.03 U	0.0134	0.03		4	6	0.67		= 0.36
									totals	6	12			
	1025	Nickel	0.0138 B		0.024	0.143	0.097	0.056		1	5	0.20	8	Z = -0.437 O.K.
	1027	Nickel	0.022 U	0.04 U	0.02 U	0.02	0.02 U	0.02 U		5	6	0.83	9	
*	1028	Nickel					0.981			0	1	0.00	8	
	1030	Nickel					0.136			0	1	0.00	8	
	1031	Nickel			0.03	0.0489	0.0392	0.028		0	4	0.00	8	
	1038	Nickel	0.02 U	0.02 U	0.02 U	0.029	0.0226	0.02 U		4	6	0.67	9	
*	1074	Nickel	0.0123 U	0.107	0.223	0.49	0.52	0.282		1	6	0.17	8	
	1079	Nickel	0.021	0.02 U	0.02 U	0.031	0.023	0.053		2	6	0.33	8	
	1080	Nickel	0.02 U	0.04 U	0.02 U	0.03 U	0.253	0.033		4	6	0.67	9	
	1081	Nickel	0.02 U	0.02 U	0.02 U	0.037	0.0271	0.499		3	6	0.50	9	
	1082	Nickel	0.02 U		0.02 U	0.034	0.0267	0.027		2	5	0.40	8	
	1083	Nickel	0.0123 U	0.058	0.02 U	0.028	0.02 U	0.456		3	6	0.50	9	
									totals	25	58			
	2043	Nickel	0.02 U	0.04 U	0.02 U	0.023	0.0212	0.026		3	6	0.50		
	2066	Nickel	0.02 U	0.04 U	0.02 U	0.03 U	0.02 U	0.02 U		6	6	1.00		
									totals	9	12			
	2010	Nickel	0.03 U	0.04 U	0.02 U	0.03 U	0.02 U	0.032		5	6	0.83	9	Z = 0.3133 O.K.
	2013	Nickel	0.02 U	0.04 U	0.02 U		0.02 U	0.02 U		5	5	1.00	9	
	2019	Nickel	0.02 U	0.02 U	0.02 U	0.03 U	0.02 U	0.02 U		6	6	1.00	9	
	2021	Nickel	0.0123 U	0.02 U	0.02 U	0.03 U	0.0233	0.02 U		5	6	0.83	9	
	2027	Nickel	0.0123 U	0.04 U	0.02 U	0.03 U	0.0257	0.037		4	6	0.67	9	
	2037	Nickel	0.0123 U	0.04 U	0.02 U		0.02 U	0.0211		4	5	0.80	9	
	2051	Nickel	0.02 U	0.03 U	0.02 U	0.02 U	0.0248	0.022		4	6	0.67	9	
	2055	Nickel					0.02 U	0.024		1	2	0.50	9	
	2084	Nickel	0.02 U	0.02 U	0.02 U	0.03 U	0.0407	0.03		4	6	0.67	9	
									totals	38	48			

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RCRA WELL DATA TO DATE

VER-DICT	WELL #	CONSTITUENT	SAMPLING ROUNDS 1	2	3	4	5	6	7	TOTAL NON-DETECTS	TOTAL SAMPLES TAKEN	NON-DETECTS OVER TOTAL	STAT. METH. AND CONCL. ***	COMMENTS
	3043	Nickel	0.02 U	0.04 U	0.02 U	0.02	0.02 U	0.022		4	6	0.67		2 x maximum background value
	3066	Nickel	0.02 U	0.04 U	0.02 U	0.03 U	0.02 U	0.027 max		5	6	0.83		= 0.054
									totals	9	12			
	3001	Nickel	0.0123 U	0.02 U	0.02 U	0.03 U	0.02 U	0.021		5	6	0.83	9	Z = -0.334 O.K.
	3008	Nickel	0.02 U	0.02 U	0.02 U	0.03 U	0.0313	0.02 U		5	6	0.83	9	
	3010	Nickel	0.02 U	0.04 U	0.02 U		0.02 U	0.021		4	5	0.80	9	
	3013	Nickel	0.02 U	0.04 U	0.02 U		0.02 U	0.023		4	5	0.80	9	
	3019	Nickel	0.02 U	0.02 U	0.02 U	0.03 U	0.02 U	0.02 U		6	6	1.00	9	
	3024	Nickel	0.02 U	0.78	0.02 U	0.02 U	0.0231	0.02 U		4	6	0.67	9	
	3037	Nickel	0.04	0.04 U	0.02 U		0.0282	0.028		2	5	0.40	8	
	3051	Nickel	0.022 U	0.03 U	0.02 U	0.02 U	0.02 U	0.022		5	6	0.83	9	
	3055	Nickel	0.02 U	0.04 U	0.02 U	0.03 U	0.0207	0.03		4	6	0.67	9	
	3084	Nickel	0.02 U	0.02 U	0.02 U	0.03	0.0437	0.03		3	6	0.50	9	
	4001	Nickel	0.02 U	0.04 U	0.02 U	0.03 U	0.02	0.025		4	6	0.67	9	
	4008	Nickel	0.02 U	0.02 U	13.4		0.0269	0.02 U		3	5	0.60	9	
	4010	Nickel				0.03 U	0.0175	0.02 U		2	3	0.67	9	
	4013	Nickel				0.03 U	0.0365	0.035		1	3	0.33	8	
									totals	52	74			
	1024	Nitrate	0.1 U	0.1 U	0.1 U	0.05 U	0.1 U	0.1 U		6	6	1.00		2 x maximum background value
	1052	Nitrate	0.1 U	0.3 max	0.037	0.11	0.15	0.1 U		2	6	0.33		= 0.6
									totals	8	12			
•	1025	Nitrate	19.5		45.4	176	164	132		0	5	0.00	12	Z = -2.413 > 1.96
	1027	Nitrate	0.3	0.13	0.1 U	0.1 U	0.44	0.1 U		3	6	0.50	12	
•	1028	Nitrate					156			0	1	0.00	12	
•	1031	Nitrate			25.8	41.4	45.7	33.1		0	4	0.00	12	
	1038	Nitrate	0.1 U	0.1 U	0.1 U	0.1	0.1 U	0.25		4	6	0.67	10	
	1074	Nitrate	0.39	0.13	0.1 U	0.02 U	0.1 U	0.1 U		4	6	0.67	10	
	1079	Nitrate	0.22	0.1 U	0.1 U	0.14	0.23	0.142		2	6	0.33	12	
	1080	Nitrate	0.1 U	0.1	0.06	0.04	0.11	0.1 U		2	6	0.33	12	
•	1081	Nitrate	56	27.5	11.7	21.5	19.6	14.9		0	6	0.00	12	
	1082	Nitrate	0.2		0.1 U	0.1 U	0.24	0.132		2	5	0.40	12	
•	1083	Nitrate	0.3	1.6	9.41	4.37	3.29	2.27		0	6	0.00	12	
									totals	17	57			
	2043	Nitrate	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.869 max		5	6	0.83		2 x maximum background value
	2066	Nitrate	0.1 U	2.5 J	0.1 U	0.02 U	0.1	0.1 U		5	6	0.83		= 1.738

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RCRA WELL DATA TO DATE

VER-DICT	WELL #	CONSTITUENT	SAMPLING ROUNDS 1	2	3	4	5	6	7	TOTAL NON-DETECTS	TOTAL SAMPLES TAKEN	NON-DETECTS OVER TOTAL	STAT. METH. AND CONCL. ***	COMMENTS
									totals	10	12			
	2010	Nitrate	0.02 U	2.5 U	0.1 U	0.02 U	0.1 U	0.1 U		6	6	1.00	9	Z = -1.677 O.K.
	2013	Nitrate	0.1 U	5 U	0.1 U	0.03	0.1 U	0.13		4	6	0.67	9	
•	2019	Nitrate	17	23.4	24.6	22	28.4	60.6		0	6	0.00	8	
•	2021	Nitrate	9.2	0.28	0.1 U	53	38.6	23.5		1	6	0.17	8	
	2027	Nitrate	0.1 U	0.11	0.1 U	0.02 U	0.1 U	0.1 U		5	6	0.83	9	
	2037	Nitrate	0.15	2.5 U	0.1 U	0.02 U	0.1 U	0.1 U		5	6	0.83	9	
	2051	Nitrate	0.1 U	0.12	0.1 U	0.1 U	0.1 U			4	5	0.80	9	
	2055	Nitrate					0.1 U	0.1 U		2	2	1.00	9	
•	2084	Nitrate	0.1 U	16	32.4	2.8	9.01	7.66		1	6	0.17	8	
									totals	28	49			
	3043	Nitrate	0.12	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U		5	6	0.83		2 x maximum background value
	3066	Nitrate	0.1 U	2.5 J	0.1 U	0.23 max	0.1 U	0.1 U		5	6	0.83		= 0.46
									totals	10	12			
	3001	Nitrate	0.01 U	2.5 U	0.1 U	0.02 U	0.1 U	0.1 U		6	6	1.00	9	Z = -1.727 O.K.
	3008	Nitrate	0.1 U	0.1 U	31.7 **	0.02 U	0.1 U	0.1 U		5	6	0.83	9	
•	3010	Nitrate	22.8	5 U	2.77	0.19	0.1 U	0.1 U		3	6	0.50	8	
	3013	Nitrate	0.1 U	2.5 U	0.1 U	0.1	0.19	0.12		3	6	0.50	9	
•	3019	Nitrate	8.4	10.1	16.4	18	0.431	36.4		0	6	0.00	8	
•	3024	Nitrate	0.24	0.1 U	0.15	0.05 U	0.604	0.65		2	6	0.33	8	
•	3037	Nitrate	0.1 U	5 U	0.1 U	0.02	1.32	0.582		3	6	0.50	8	
	3051	Nitrate	0.17	0.1	0.1 U	0.1 U	0.1 U	0.1 U		4	6	0.67	9	
	3055	Nitrate	0.1	2.5 J	0.1 U	0.05	0.1 U	0.114		3	6	0.50	9	
•	3084	Nitrate	0.1 U	2.5 U	16.9	12	7.22	0.865		2	6	0.33	8	
	4001	Nitrate	0.1	0.1 U	0.1 U	0.02 U	0.1 U	0.1 U		5	6	0.83	9	
	4008	Nitrate	0.1 U	12.5	0.1 U		0.1 U	0.17		3	5	0.60	9	
	4010	Nitrate				0.02 U	0.1 U	0.1 U		3	3	1.00	9	
	4013	Nitrate				0.02 U	0.16	0.1 U		2	3	0.67	9	
									totals	44	77			
	1052	Phenol						0.002 J		1	1	1.00		
	1025	Phenol	0.01 U					0.01 U		2	2	1.00	15	PQL = 0.01
	1031	Phenol						0.01 U		1	1	1.00	15	
	1074	Phenol	0.01 U					0.01 U		2	2	1.00	15	
	1079	Phenol						0.01 U		1	1	1.00	15	
	1080	Phenol						0.01 U		1	1	1.00	15	
	1082	Phenol						0.01 U		1	1	1.00	15	

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1479

RCRA WELL DATA TO DATE

VER-DICT	WELL #	CONSTITUENT	SAMPLING ROUNDS 1	2	3	4	5	6	7	TOTAL NON-DETECTS	TOTAL SAMPLES TAKEN	NON-DETECTS OVER TOTAL	STAT. METH. AND CONCL. ***	COMMENTS
	1083	Phenol	0.01 U							1	1	1.00	15	
	2043	Phenol						0.01 U		1	1	1.00		
	2010	Phenol	0.01 U							1	1	1.00	15	PQL = 0.01
	2019	Phenol	0.01 U							1	1	1.00	15	
	2021	Phenol	0.01 U							1	1	1.00	15	
	2027	Phenol	0.01 U					0.01 U		2	2	1.00	15	
	2037	Phenol	0.01 U					0.01 U		2	2	1.00	15	
	3001	Phenol	0.01 U							1	1	1.00	15	
	3037	Phenol						0.017		0	1	0.00	16	
	3084	Phenol						0.01 U		1	1	1.00	15	
	1024	Silver	0.01 U	0.01 U	0.01 U	0.0005 U	0.0105	0.011		4	6	0.67		2 x maximum background value
	1052	Silver	0.01 U	0.01 U	0.01 U	0.01 U	0.017 max	0.012		4	6	0.67		= 0.034
									totals	8	12			
	1025	Silver	0.0043 U		0.0005 U	0.0005 U	0.01 U	0.01 U		5	5	1.00	9	Z = 0.0385 O.K.
	1027	Silver	0.02 U	0.01 U	0.02 U	0.0005 U	0.0128	0.013		4	6	0.67	9	
	1028	Silver					0.01 U			1	1	1.00	9	
	1030	Silver					0.0146			0	1	0.00	8	
	1031	Silver			0.02 U	0.0005 U	0.0131	0.01 U		3	4	0.75	9	
	1038	Silver	0.01 U	0.01 U	0.0005 U	0.0005 U	0.0139	0.014		4	6	0.67	9	
	1074	Silver	0.0043 U	0.01 U	0.02 U	0.01	0.013	0.0123		3	6	0.50	9	
	1079	Silver	0.01 U	0.01 U	0.0005 U	0.0005 U	0.169	0.015		4	6	0.67	9	
	1080	Silver	0.01 U	0.01 U	0.01 U	0.01 U	0.173	0.014		4	6	0.67	9	
	1081	Silver	0.01 U	0.01 U	0.0005 U	0.0005 U	0.0132	0.06		4	6	0.67	9	
	1082	Silver	0.01 U		0.0005 U	0.0005 U	0.0154	0.015		3	5	0.60	9	
	1083	Silver	0.0043 U	0.01 U	0.0005 U	0.0005 U	0.0139	0.062		4	6	0.67	9	
									totals	39	58			
	2043	Silver	0.01 U	0.01 U	0.01 U	0.0005 U	0.0127	0.0133		4	6	0.67		2 x maximum background value
	2066	Silver	0.01 U	0.01 U	0.01 U	0.01 U	0.014 max	0.01 U		5	6	0.83		= 0.028
									totals	9	12			
	2010	Silver	0.01 U	0.01 U	0.019	0.01 U	0.011	0.01 U		4	6	0.67	9	Z = 0.8119 O.K.
	2013	Silver	0.01 U	0.01 U	0.01 U		0.0115	0.011		3	5	0.60	9	
	2019	Silver	0.0005 U	0.01 U	0.0005 U	0.01 U	0.0205	0.013		4	6	0.67	9	
	2021	Silver	0.0043 U	0.01 U	0.0005 U	0.01 U	0.0186	0.013		4	6	0.67	9	

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RCRA WELL DATA TO DATE

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	2027	Silver	0.0043 U	0.01 U	0.0005 U	0.01 U	0.0187	0.01 U		5	6	0.83	9	
	2037	Silver	0.0043 U	0.01 U	0.0005 U		0.02	0.0145		3	5	0.60	9	
	2051	Silver	0.01 U	0.01 U	0.0005 U	0.0005 U	0.0205	0.013		4	6	0.67	9	
	2055	Silver					0.0148	0.012		0	2	0.00	8	
	2084	Silver	0.01 U	0.01 U	0.02 U	0.01	0.0184	0.012		3	6	0.50	9	
									totals	30	48			
	3043	Silver	0.01 U	0.01 U	0.01 U	0.0005 U	0.01 U	0.014		5	6	0.83		2 x maximum background value
	3066	Silver	0.01 U	0.01 U	0.0005 U	0.01 U	0.0182 max	0.011		4	6	0.67		= 0.0364
									totals	9	12			
	3001	Silver	0.0043 U	0.01 U	0.02 U	0.01 U	0.0146	0.012		4	6	0.67	9	Z = -0.859 O.K.
	3008	Silver	0.01 U	0.01 U	0.0005 U	0.01 U	0.0108	0.01 U		5	6	0.83	9	
	3010	Silver	0.01 U	0.01 U	0.017		0.0124	0.013		2	5	0.40	8	
	3013	Silver	0.01 U	0.01 U	0.01 U		0.0132	0.013		3	5	0.60	9	
	3019	Silver	0.01 U	0.01 U	0.0005 U	0.01 U	0.0208	0.012		4	6	0.67	9	
	3024	Silver	0.01 U	0.01 U	0.01 U	0.0005 U	0.0138	0.012		4	6	0.67	9	
	3037	Silver	0.01 U	0.01 U	0.0005 U		0.0213	0.0114		3	5	0.60	9	
	3051	Silver	0.01 U	0.01 U	0.0005 U	0.0005 U	0.0188	0.011		4	6	0.67	9	
	3055	Silver	0.01 U	0.01 U	0.0005 U	0.01 U	0.0204	0.014		4	6	0.67	9	
	3084	Silver	0.01 U	0.01 U	0.0005 U	0.01	0.0197	0.0113		3	6	0.50	9	
	4001	Silver	0.01 U	0.01 U	0.0005 U	0.01 U	0.0173	0.013		4	6	0.67	9	
	4008	Silver	0.02 U	0.01 U	0.0005 U		0.0104	0.01 U		4	5	0.80	9	
	4010	Silver				0.01 U	0.0103	0.011		1	3	0.33	8	
	4013	Silver				0.01 U	0.0169	0.014		1	3	0.33	8	
									totals	46	74			
	1024	Sodium	19.7	12	12.4	16.6				0	4	0.00		
	1052	Sodium	6.86	9	7.83	84 **		12.8		0	4	0.00		
*	1025	Sodium	110		183	171		210		0	4	0.00	3	T.L. = 30.64
	1027	Sodium	9.02	12	6.61	13.8				0	4	0.00	1	
*	1031	Sodium			224	202		223		0	3	0.00	3	
	1038	Sodium	8.7	8.3	7.11	8.66				0	4	0.00	1	
	1074	Sodium	17.8	18.8	18.4	20		18		0	5	0.00	1	
	1079	Sodium	17.4	14.24	16.9	20.2		18.1		0	5	0.00	1	
*	1080	Sodium	51.3	36	23.9	24		20.6		0	5	0.00	2b	
*	1081	Sodium	46.1	34.8	138	161				0	4	0.00	3	
	1082	Sodium	14.7		13.3	15.4		18.7		0	4	0.00	1	
	1083	Sodium	17.1	22	18.7	20.2				0	4	0.00	1	

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RCRA WELL DATA TO DATE

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	2043	Sodium	35.3	40	7.6 **	39.2		35.3		0	4	0.00		
	2066	Sodium	46.6	48	42.7	47				0	4	0.00		
	2010	Sodium	14.6	15	14	19				0	4	0.00	1	T.L. = 58.10
	2013	Sodium	12.2	12	11.6					0	3	0.00	1	
	2019	Sodium	24.64	23.3	23.1	25				0	4	0.00	1	
	2021	Sodium	46.8	47.8	59.4	44				0	4	[illegible]	2a	
	2027	Sodium	30.6	34	10.9	29		33.4		0	5	0.00	1	
	2037	Sodium	14.9	14	11.6			13.9		0	4	0.00	1	
	2051	Sodium	10.4	14	9.6	13.2				0	4	0.00	1	
	2055	Sodium						13.4		0	1	0.00	7b	
*	2084	Sodium	66.5	58.7	42.6	63		65.2		0	5	0.00	2b	
	3043	Sodium	13.8	16	14.9	15		16.3		0	5	0.00		
?	3066	Sodium	276	320	274	270				0	4	0.00		
	3001	Sodium	9.38	9.8	24.4	11				0	4	0.00	1	T.L. = 568.31
	3008	Sodium	10.4	9.8	10.3	11				0	4	0.00	1	
	3010	Sodium	96.8	110	90.5					0	3	0.00	1	
	3013	Sodium	42.2	46	45.7					0	3	0.00	1	
	3019	Sodium	38.5	42.3	50.4	49				0	4	0.00	1	
	3024	Sodium	24.8	38	12.1	9.97				0	4	0.00	1	
	3037	Sodium	62.7	59	51.2			57.1		0	4	0.00	1	
	3051	Sodium	26.6	33	23.4	239				0	4	0.00	1	
	3055	Sodium	56.8	53	38.7	43				0	4	0.00	1	
	3084	Sodium	68	66.1	58	68		65.1		0	5	0.00	1	
	4001	Sodium	15.2	15	15.5	16				0	4	0.00	1	
	4008	Sodium	7.8	9.1	8.82					0	3	0.00	1	
	4010	Sodium				32				0	1	0.00	7b	
	4013	Sodium				58				0	1	0.00	7b	
	1024	Sulfate	50	130	109	48	49.1			0	5	0.00		
	1052	Sulfate	15	1 U	34.8	85	239	89.6		1	6	0.17		
*	1025	Sulfate			390	211	277	677		0	4	0.00	2b	T.L. = 267.0
	1027	Sulfate	60	140	96.7	432 **	164	162		0	6	0.00	5	
	1028	Sulfate					643			0	1	0.00	7d	
	1031	Sulfate			113	141.8	267	144		0	4	0.00	2a	
	1038	Sulfate	200	132	132	153	158	155		0	6	0.00	1	
	1074	Sulfate	60.9	411 **	43.8	64	83.9	83.1		0	6	0.00	5	
	1079	Sulfate	158	855 **	105	190	203	228		0	6	0.00	5	
	1080	Sulfate	200	190	98.7	160	193	243		0	6	0.00	1	
•	1081	Sulfate	590	355	604	136	563	384		0	6	0.00	3	
•	1082	Sulfate	298		510	19.6	271	195		0	5	0.00	2b	

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RCRA WELL DATA TO DATE

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	1083	Sulfate	185	139	127	153	146	153		0	6	0.00	1	
?	2043	Sulfate	40	13	166 **	5.4	16.1	38.8		0	5	0.00		
	2066	Sulfate	1 U	0.75 U	133 **	1 U	2.79	13.4		3	5	0.60		
*	2010	Sulfate	160	310	271	140	79.6	739		0	6	0.00	3	T.L. = 56.25
*	2013	Sulfate	85	100	97.2	110	114			0	5	0.00	3	
*	2019	Sulfate	14	58	88.5	79	85.6	54.8		0	6	0.00	2b	
*	2021	Sulfate	111	52	293 **	82	89.1	90.8		0	6	0.00	3	
*	2027	Sulfate	645	300	158	250	569	726		0	6	0.00	3	
*	2037	Sulfate	157	130	95.2	140	193	474 **		0	6	0.00	3	
*	2051	Sulfate	120	311	166	119	799			0	5	0.00	3	
	2055	Sulfate					153	133		0	2	0.00	7j	
*	2084	Sulfate	428	339	200	480	562	498		0	6	0.00	3	
	3043	Sulfate	8	12	182 **	5.5	4.75	1 U		1	5	0.20		
?	3066	Sulfate	29	7.5	105	63	9.68	14.4		0	6	0.00		
*	3001	Sulfate	81.9	62	176	67	120	91.5		0	6	0.00	2b	T.L. = 114.04
	3008	Sulfate	73	1 U	25.1	71	90.5	65.4		1	6	0.17	1	
*	3010	Sulfate	800	730	712	520	559	376		0	6	0.00	3	
*	3013	Sulfate	322	280	252	130	356			0	5	0.00	3	
*	3019	Sulfate	650	390	87.7	450	379	380		0	6	0.00	3	
*	3024	Sulfate	63	58	112	160	122			0	5	0.00	2b	
*	3037	Sulfate	475	440	394	390	467	475		0	6	0.00	3	
*	3051	Sulfate	103	130	73	106	186	131		0	6	0.00	4	
*	3055	Sulfate	159	340	217	360	589	388		0	6	0.00	3	
*	3084	Sulfate	530	335	457	400	421	376		0	6	0.00	3	
	4001	Sulfate	10	7.3	247 **	5	76.5	36.5		0	6	0.00	5	
	4008	Sulfate	1 U	1 U	42.2		10.5	13.1		2	5	0.40	1	
	4010	Sulfate				36	53.4	46.2		0	3	0.00	1	
	4013	Sulfate				310	355			0	2	0.00	7i	

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RCRA WELL DATA TO DATE

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	1024	Tetrachloroethene					0.005 U			1	1	1.00		
	1052	Tetrachloroethene					0.005 U	0.005 U		2	2	1.00		
	1025	Tetrachloroethene	0.005 U				0.005 U	0.005 U		3	3	1.00	15	PQL = 0.005
	1027	Tetrachloroethene					0.005 U	0.005 U		2	2	1.00	15	
	1028	Tetrachloroethene					0.005 U			1	1	1.00	15	
	1030	Tetrachloroethene					0.005 U			1	1	1.00	15	
	1031	Tetrachloroethene						0.3 E		1	1	1.00	15	
	1038	Tetrachloroethene					0.005 U	0.005 U		2	2	1.00	15	
	1074	Tetrachloroethene	0.005 U				0.005 U	0.005 U		3	3	1.00	15	
	1079	Tetrachloroethene					0.005 U	0.005 U		2	2	1.00	15	
	1080	Tetrachloroethene					0.005 U	0.005 U		2	2	1.00	15	
	1081	Tetrachloroethene					0.005 U	0.005 U		2	2	1.00	15	
	1082	Tetrachloroethene					0.005 U	0.005 U		2	2	1.00	15	
	1083	Tetrachloroethene	0.005 U				0.005 U	0.005 U		3	3	1.00	15	
	2043	Tetrachloroethene					0.005 U	0.005 U		2	2	1.00		
	2066	Tetrachloroethene					0.005 U	0.005 U		2	2	1.00		
	2010	Tetrachloroethene	0.005 U				0.005 U	0.005 U		3	3	1.00	15	PQL = 0.005
	2013	Tetrachloroethene					0.005 U			1	1	1.00	15	
	2019	Tetrachloroethene	0.005 U				0.005 U	0.005 U		3	3	1.00	15	
	2021	Tetrachloroethene	0.005 U				0.005 U	0.005 U		3	3	1.00	15	
	2027	Tetrachloroethene	0.005 U				0.005 U	0.005 U		3	3	1.00	15	
	2037	Tetrachloroethene	0.005 U				0.005 U	0.005 U		3	3	1.00	15	
	2051	Tetrachloroethene					0.005 U	0.005 U		2	2	1.00	15	
	2055	Tetrachloroethene					0.005 U	0.005 U		2	2	1.00	15	
	2084	Tetrachloroethene					0.005 U	0.005 U		2	2	1.00	15	
	3043	Tetrachloroethene					0.005 U	0.005 U		2	2	1.00		
	3066	Tetrachloroethene					0.005 U	0.005 U		2	2	1.00		
	3001	Tetrachloroethene	0.005 U				0.005 U	0.005 U		3	3	1.00	15	PQL = 0.005
	3008	Tetrachloroethene					0.005 U	0.005 U		2	2	1.00	15	
	3010	Tetrachloroethene					0.005 U	0.005 U		2	2	1.00	15	
	3013	Tetrachloroethene					0.005 U			1	1	1.00	15	
	3019	Tetrachloroethene					0.005 U	0.005 U		2	2	1.00	15	
	3024	Tetrachloroethene					0.005 U			1	1	1.00	15	
	3037	Tetrachloroethene					0.005 U	0.005 U		2	2	1.00	15	
	3051	Tetrachloroethene					0.005 U	0.005 U		2	2	1.00	15	
	3055	Tetrachloroethene					0.005 U	0.005 U		2	2	1.00	15	
	3084	Tetrachloroethene					0.005 U	0.005 U		2	2	1.00	15	
	4001	Tetrachloroethene					0.005 U	0.005 U		2	2	1.00	15	
	4008	Tetrachloroethene					0.005 U	0.005 U		2	2	1.00	15	
	4010	Tetrachloroethene					0.005 U	0.005 U		2	2	1.00	15	

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RCRA WELL DATA TO DATE

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	4013	Tetrachloroethene					0.005 U			1	1	1.00	15	
	1024	Toluene					0.005 U			1	1	1.00		
	1052	Toluene					0.005 U	0.005 U		2	2	1.00		
	1025	Toluene	0.005 U				0.005 U	0.005 U		3	3	1.00	15	PQL = 0.005
	1027	Toluene					0.005 U	0.002 BJ		2	2	1.00	15	
	1028	Toluene					0.005 U			1	1	1.00	15	
	1030	Toluene					0.005 U			1	1	1.00	15	
	1031	Toluene						0.002 J		1	1	1.00	15	
	1038	Toluene					0.005 U	0.002 BJ		2	2	1.00	15	
	1074	Toluene	0.005 U				0.005 U	0.005 U		3	3	1.00	15	
	1079	Toluene					0.005 U	0.005 U		2	2	1.00	15	
	1080	Toluene					0.005 U	0.005 U		2	2	1.00	15	
	1081	Toluene					0.005 U	0.002 BJ		2	2	1.00	15	
	1082	Toluene					0.005 U	0.005 U		2	2	1.00	15	
	1083	Toluene	0.005 U				0.005 U	0.002 BJ		3	3	1.00	15	
	2043	Toluene					0.005 U	0.005 U		2	2	1.00		
	2066	Toluene					0.005 U	0.005 B		2	2	1.00		
	2010	Toluene	0.005 U				0.005 U	0.002 BJ		3	3	1.00	15	PQL = 0.005
	2013	Toluene					0.005 U			1	1	1.00	15	
	2019	Toluene	0.005 U				0.005 U	0.003 BJ		3	3	1.00	15	
	2021	Toluene	0.005 U				0.005 U	0.002 BJ		3	3	1.00	15	
	2027	Toluene	0.005 U				0.005 U	0.005 U		3	3	1.00	15	
	2037	Toluene	0.005 U				0.005 U	0.005 U		3	3	1.00	15	
	2051	Toluene					0.005 U	0.002 BJ		2	2	1.00	15	
	2055	Toluene					0.005 U	0.002 BJ		2	2	1.00	15	
	2084	Toluene					0.005 U	0.005 U		2	2	1.00	15	
	3043	Toluene					0.003 J	0.005 U		2	2	1.00		
	3066	Toluene					0.005 U	0.002 BJ		2	2	1.00		
	3001	Toluene	0.01				0.005 U	0.003 BJ		2	3	0.67	14	PQL = 0.005
	3008	Toluene					0.005 U	0.005 B		2	2	1.00	15	
	3010	Toluene					0.002 J	0.002 B		2	2	1.00	15	
	3013	Toluene					0.005 U			1	1	1.00	15	
	3019	Toluene					0.005 U	0.004 BJ		2	2	1.00	15	
	3024	Toluene					0.005 U			1	1	1.00	15	
	3037	Toluene					0.003 J	0.005 U		2	2	1.00	15	
	3051	Toluene					0.008	0.002 BJ		1	2	0.50	14	
	3055	Toluene					0.005 U	0.002 BJ		2	2	1.00	15	

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RCRA WELL DATA TO DATE

VER-DICT	WELL #	CONSTITUENT	SAMPLING ROUNDS 1	2	3	4	5	6	7	TOTAL NON-DETECTS	TOTAL SAMPLES TAKEN	NON-DETECTS OVER TOTAL	STAT. METH. AND CONCL. ***	COMMENTS
	3084	Toluene					0.005 U	0.005 U		2	2	1.00	15	
	4001	Toluene					0.002 J	0.005 B		2	2	1.00	15	
	4008	Toluene					0.005 U	0.003 BJ		2	2	1.00	15	
	4010	Toluene					0.005 U	0.002 BJ		2	2	1.00	15	
	4013	Toluene					0.005 U			1	1	1.00	15	
	1024	Total Organic Halide			0.05 U	0.01 U	0.067 max			2	3	0.67		2 x maximum background value
	1052	Total Organic Halide			0.05 U	0.05 U	0.0078	0.01 U		3	4	0.75		= 0.134
									totals	5	7			
	1025	Total Organic Halide			0.05 U	0.05 U	0.0599	0.039		2	4	0.50	9	Z = -0.578 O.K.
	1027	Total Organic Halide			0.05 U	0.05 U	0.0116	0.012		2	4	0.50	9	
	1028	Total Organic Halide					0.0324			0	1	0.00	8	
*	1031	Total Organic Halide			0.67	0.896	0.74	0.132		0	4	0.00	8	
	1038	Total Organic Halide		0.05 U	0.05 U	0.05 U	0.0105	0.011		3	5	0.60	9	
	1074	Total Organic Halide		0.05 U	0.05 U	0.05 U	0.01 U	0.014		4	5	0.80	9	
	1079	Total Organic Halide			0.05 U	0.013	0.01 U	0.01 U		3	4	0.75	9	
	1080	Total Organic Halide			0.05 U	0.05 U	0.01 U	0.015		3	4	0.75	9	
	1081	Total Organic Halide		0.05 U	0.05 U	0.05 U	0.01 U	0.021		4	5	0.80	9	
	1082	Total Organic Halide			0.05 U	0.05 U	0.01 U	0.021		3	4	0.75	9	
	1083	Total Organic Halide		0.05 U	0.05 U	0.05 U	0.0198	0.012		3	5	0.60	9	
									totals	27	45			
	2043	Total Organic Halide			0.05 U	0.023	0.324	0.01 U		2	4	0.50		
	2066	Total Organic Halide			0.05 U	0.05 U	0.01 U	0.01 U		4	4	1.00		
									totals	6	8			
	2010	Total Organic Halide		0.05 U	0.05 U	0.016	0.0149	0.01 U		3	5	0.60	9	Z = -0.037 O.K.
	2013	Total Organic Halide		0.05 U	0.05 U	0.012	0.01 U			3	4	0.75	9	
	2019	Total Organic Halide		0.05 U	0.05 U	0.05 U	0.013	0.01 U		4	5	0.80	9	
	2021	Total Organic Halide		0.05 U	0.05 U	0.05 U	0.01 U	0.01 U		5	5	1.00	9	
	2027	Total Organic Halide			0.05 U	0.05 U	0.01 U	0.028		3	4	0.75	9	
	2037	Total Organic Halide		0.05 U	0.05 U	0.01 U	0.01 U	0.01 U		5	5	1.00	9	
	2051	Total Organic Halide			0.05 U	0.023	0.01 U	0.034		2	4	0.50	9	
	2055	Total Organic Halide					0.0158	0.01 U		1	2	0.50	9	
	2084	Total Organic Halide		0.05 U	0.05 U	0.05	0.01 U	0.013		3	5	0.60	9	
									totals	29	39			
	3043	Total Organic Halide			0.05 U	0.01 U	0.0206	0.01 U		3	4	0.75		2 x maximum background value

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RCRA WELL DATA TO DATE

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	3066	Total Organic Halide			0.05 U	0.05 U	0.01 U	0.01 U		4	4	1.00		= 0.1
									totals	7	8			
	3001	Total Organic Halide		0.05 U	0.05 U	0.01 U	0.01 U	0.01 U		5	5	1.00	9	Z = -0.707 O.K.
	3008	Total Organic Halide		0.05 U	0.05 U	0.05 U	0.01 U	0.01 U		5	5	1.00	9	
	3010	Total Organic Halide		0.05 U	0.05 U	0.01	0.0409	0.031		2	5	0.40	8	
	3013	Total Organic Halide		0.05 U	0.05 U	0.085	0.01 U			3	4	0.75	9	
	3019	Total Organic Halide		0.05 U	0.05 U	0.05 U	0.01 U	0.088		4	5	0.80	9	
	3024	Total Organic Halide				0.01 U	0.01 U			2	2	1.00	9	
	3037	Total Organic Halide		0.05 U	0.2	0.027	0.01 U	0.013		2	5	0.40	8	
	3051	Total Organic Halide			0.05 U	0.029	0.01 U	0.01 U		3	4	0.75	9	
	3055	Total Organic Halide			0.05 U		0.01 U	0.015		2	3	0.67	9	
	3084	Total Organic Halide		0.05 U	0.05 U	0.05 U	0.01 U	0.022		4	5	0.80	9	
	4001	Total Organic Halide			0.05 U	0.01 U	0.01 U	0.01 U		4	4	1.00	9	
	4008	Total Organic Halide		0.05 U	0.05 U		0.01 U	0.01 U		4	4	1.00	9	
	4010	Total Organic Halide				0.05 U	0.0511	0.01 U		2	3	0.67	9	
	4013	Total Organic Halide					0.0737			0	1	0.00	8	
									totals	42	55			
	1024	Total organic carbon					3.266	1 U		1	2	0.50	17	
	1052	Total organic carbon					4.69	1 U		1	2	0.50	17	
	1025	Total organic carbon					4.13	2.27		0	2	0.00	17	
	1027	Total organic carbon					3.45	1 U		1	2	0.50	17	
	1028	Total organic carbon					9.08			0	1	0.00	17	
	1031	Total organic carbon					15.8	11.1		0	2	0.00	17	
	1038	Total organic carbon					1.96	1 U		1	2	0.50	17	
	1074	Total organic carbon					3.28	1.81		0	2	0.00	17	
	1079	Total organic carbon					4.473	1 U		1	2	0.50	17	
	1080	Total organic carbon					4.979	1.25		0	2	0.00	17	
	1081	Total organic carbon					4.92	1.28		0	2	0.00	17	
	1082	Total organic carbon					3.759	2.49		0	2	0.00	17	
	1083	Total organic carbon					2.76	1 U		1	2	0.50	17	
	2043	Total organic carbon					4.928	2.13		0	2	0.00	17	
	2066	Total organic carbon					6.362	1.65		0	2	0.00	17	
	2010	Total organic carbon					1.907	1 U		1	2	0.50	17	
	2013	Total organic carbon					3.8	1.11		0	2	0.00	17	
	2019	Total organic carbon					19.3	1.62		0	2	0.00	17	
	2021	Total organic carbon					2.839	1 U		1	2	0.50	17	
	2027	Total organic carbon					2.684	3.33		0	2	0.00	17	
	2037	Total organic carbon					3.63	1.49		0	2	0.00	17	

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RCRA WELL DATA TO DATE

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	2051	Total organic carbon					6.02	0.552		0	2	0.00	17	
	2055	Total organic carbon					52.8 out	1 U		1	1	1.00	17	
	2084	Total organic carbon					4.03	1.58		0	2	0.00	17	
	3043	Total organic carbon					3.32	2.15		0	2	0.00	17	
	3066	Total organic carbon					14.513	2.91		0	2	0.00	17	
	3001	Total organic carbon					7.463	3.01		0	2	0.00	17	
	3008	Total organic carbon					2.412	1 U		1	2	0.50	17	
	3010	Total organic carbon					2.039	1 U		1	2	0.50	17	
	3013	Total organic carbon					4.04			0	1	0.00	17	
	3019	Total organic carbon					5.52	3.92		0	2	0.00	17	
	3024	Total organic carbon					6.17			0	1	0.00	17	
	3037	Total organic carbon					6.45	2.01		0	2	0.00	17	
	3051	Total organic carbon					9.57	1.05		0	2	0.00	17	
	3055	Total organic carbon					2.697	1.06		0	2	0.00	17	
	3084	Total organic carbon					2.972	2.67		0	2	0.00	17	
	4001	Total organic carbon					20.63 **	2.89		0	1	0.00	17	
	4008	Total organic carbon					1.283	2.04		0	2	0.00	17	
	4010	Total organic carbon					2.935	1.24		0	2	0.00	17	
	4013	Total organic carbon					4.65			0	1	0.00	17	
	1024	Trichloroethene					0.005 U			1	1	1.00		
	1052	Trichloroethene					0.005 U	0.005 U		2	2	1.00		
	1025	Trichloroethene	0.001 BJ				0.005 U	0.005 U		3	3	1.00	15	PQL = 0.005
	1027	Trichloroethene					0.005 U	0.005 U		2	2	1.00	15	
	1028	Trichloroethene					0.005 U			1	1	1.00	15	
	1030	Trichloroethene					0.005 U			1	1	1.00	15	
	1031	Trichloroethene						0.53 E		1	1	1.00	15	
	1038	Trichloroethene					0.005 U	0.005 U		2	2	1.00	15	
	1074	Trichloroethene	0.005 U				0.005 U	0.005 U		3	3	1.00	15	
	1079	Trichloroethene					0.005 U	0.005 U		2	2	1.00	15	
	1080	Trichloroethene					0.005 U	0.005 U		2	2	1.00	15	
	1081	Trichloroethene					0.005 U	0.005 U		2	2	1.00	15	
	1082	Trichloroethene					0.005 U	0.005 U		2	2	1.00	15	
	1083	Trichloroethene	0.005 U				0.029	0.005 U		2	3	0.67	13	
	2043	Trichloroethene					0.005 U	0.005 U		2	2	1.00		
	2066	Trichloroethene					0.005 U	0.005 U		2	2	1.00		
	2010	Trichloroethene	0.005 U				0.005 U	0.005 U		3	3	1.00	15	PQL = 0.005
	2013	Trichloroethene					0.005 U			1	1	1.00	15	

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	2019	Trichloroethene	0.005 U				0.005 U	0.005 U		3	3	1.00	15	
	2021	Trichloroethene	0.005 U				0.005 U	0.005 U		3	3	1.00	15	
	2027	Trichloroethene	0.005 U				0.005 U	0.005 U		3	3	1.00	15	
	2037	Trichloroethene	0.005 U				0.005 U	0.005 U		3	3	1.00	15	
	2051	Trichloroethene					0.005 U	0.005 U		2	2	1.00	15	
	2055	Trichloroethene					0.005 U	0.005 U		2	2	1.00	15	
	2084	Trichloroethene					0.005 U	0.005 U		2	2	1.00	15	
	3043	Trichloroethene					0.002 J	0.005 U		2	2	1.00		
	3066	Trichloroethene					0.005 U	0.005 U		2	2	1.00		
	3001	Trichloroethene	0.005 U				0.005 U	0.005 U		3	3	1.00	15	PQL = 0.005
	3008	Trichloroethene					0.005 U	0.005 U		2	2	1.00	15	
	3010	Trichloroethene					0.002 J	0.005 U		2	2	1.00	15	
	3013	Trichloroethene					0.005 U			1	1	1.00	15	
	3019	Trichloroethene					0.005 U	0.005 U		2	2	1.00	15	
	3024	Trichloroethene					0.005 U			1	1	1.00	15	
	3037	Trichloroethene					0.003 J	0.005 U		2	2	1.00	15	
	3051	Trichloroethene					0.009	0.005 U		1	2	0.50	16	
	3055	Trichloroethene					0.005 U	0.005 U		2	2	1.00	15	
	3084	Trichloroethene					0.005 U	0.005 U		2	2	1.00	15	
	4001	Trichloroethene					0.005 U	0.005 U		2	2	1.00	15	
	4008	Trichloroethene					0.005 U	0.005 U		2	2	1.00	15	
	4010	Trichloroethene					0.005 U	0.005 U		2	2	1.00	15	
	4013	Trichloroethene					0.005 U			1	1	1.00	15	
	1024	Vanadium					0.0195	0.018		0	2	0.00	17	
	1052	Vanadium					0.0329	0.02		0	2	0.00	17	
	1025	Vanadium	0.0034 U				0.0673	0.061		1	3	0.33	17	
	1027	Vanadium					0.0224	0.022		0	2	0.00	17	
	1028	Vanadium					0.0611			0	1	0.00	17	
	1030	Vanadium					0.0325			0	1	0.00	17	
	1031	Vanadium					0.0332	0.031		0	2	0.00	17	
	1038	Vanadium					0.0279	0.026		0	2	0.00	17	
	1074	Vanadium	0.0034 U				0.0248	0.023		1	3	0.33	17	
	1079	Vanadium					0.0249	0.027		0	2	0.00	17	
	1080	Vanadium					0.0282	0.03		0	2	0.00	17	
	1081	Vanadium					0.039	0.51		0	2	0.00	17	
	1082	Vanadium					0.0308	0.03		0	2	0.00	17	
	1083	Vanadium	0.0034 U				0.0266	0.464		1	3	0.33	17	
	2043	Vanadium					0.0234	0.023		0	2	0.00	17	

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	2066	Vanadium					0.0167	0.016		0	2	0.00	17	
	2010	Vanadium	0.01 U				0.0184	0.041		1	3	0.33	17	
	2013	Vanadium					0.0191	0.018		0	2	0.00	17	
	2019	Vanadium	0.01 B				0.0283	0.024		1	3	0.33	17	
	2021	Vanadium	0.0034 U				0.0234	0.023		1	3	0.33	17	
	2027	Vanadium	0.0034 U				0.0437	0.044		1	3	0.33	17	
	2037	Vanadium	0.0034 U				0.027	0.03		1	3	0.33	17	
	2051	Vanadium					0.0365	0.029		0	2	0.00	17	
	2055	Vanadium					0.0187	0.021		0	2	0.00	17	
	2084	Vanadium					0.0548	0.023		0	2	0.00	17	
	3043	Vanadium					0.0143	0.023		0	2	0.00	17	
	3066	Vanadium					0.0258	0.018		0	2	0.00	17	
	3001	Vanadium	0.0034 U				0.01 U	0.019		2	3	0.67	17	
	3008	Vanadium					0.0177	0.014		0	2	0.00	17	
	3010	Vanadium					0.0319	0.029		0	2	0.00	17	
	3013	Vanadium					0.0285	0.028		0	2	0.00	17	
	3019	Vanadium					0.0362	0.031		0	2	0.00	17	
	3024	Vanadium					0.0244	0.021		0	2	0.00	17	
	3037	Vanadium					0.0382	0.034		0	2	0.00	17	
	3051	Vanadium					0.0258	0.022		0	2	0.00	17	
	3055	Vanadium					0.029	0.028		0	2	0.00	17	
	3084	Vanadium					0.0488	0.034		0	2	0.00	17	
	4001	Vanadium					0.0205	0.019		0	2	0.00	17	
	4008	Vanadium					0.0164	0.014		0	2	0.00	17	
	4010	Vanadium					0.0155	0.017		0	2	0.00	17	
	4013	Vanadium					0.0379	0.036		0	2	0.00	17	
	1024	Zinc					0.0317	0.042		0	2	0.00	17	
	1052	Zinc					0.0421	0.039		0	2	0.00	17	
	1025	Zinc	0.0155 B				0.0305	0.292		1	3	0.33	17	Zinc Secondary MCL = 5.0 ppm.
	1027	Zinc					0.0208	0.013		0	2	0.00	17	All values in all wells
	1028	Zinc					0.0552			0	1	0.00	17	are less than this limit.
	1030	Zinc					0.0268			0	1	0.00	17	
	1031	Zinc					0.0048	0.03		0	2	0.00	17	
	1038	Zinc					0.0115	0.016		0	2	0.00	17	
	1074	Zinc	0.0143 B				0.0229	0.127		1	3	0.33	17	
	1079	Zinc					0.0323	0.024		0	2	0.00	17	
	1080	Zinc					0.0314	0.037		0	2	0.00	17	
	1081	Zinc					0.0179	0.501		0	2	0.00	17	
	1082	Zinc					0.0794	0.021		0	2	0.00	17	
	1083	Zinc	0.0269				0.0277	0.454		0	3	0.00	17	

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	2043	Zinc					0.0568	0.056		0	2	0.00	17	
	2066	Zinc					0.0202	0.052		0	2	0.00	17	
	2010	Zinc	0.0248				0.0514	0.038		0	3	0.00	17	Zinc Secondary MCL = 5.0 ppm.
	2013	Zinc					0.0203	0.03		0	2	0.00	17	All values in all wells
	2019	Zinc	0.01 U				0.0613	0.032		1	3	0.33	17	are less than this limit.
	2021	Zinc	0.0581				0.0637	0.017		0	3	0.00	17	
	2027	Zinc	0.228				0.0801	0.026		0	3	0.00	17	
	2037	Zinc	0.0996				0.185	0.056		0	3	0.00	17	
	2051	Zinc					0.039	0.09		0	2	0.00	17	
	2055	Zinc					0.0325	0.039		0	2	0.00	17	
	2084	Zinc					0.1351	0.066		0	2	0.00	17	
	3043	Zinc					0.267	0.039		0	2	0.00	17	
	3066	Zinc					0.0253	0.038		0	2	0.00	17	
	3001	Zinc	0.0884				0.131	0.021		0	3	0.00	17	Zinc Secondary MCL = 5.0 ppm.
	3008	Zinc					0.0443	0.035		0	2	0.00	17	All values in all wells
	3010	Zinc					0.017	0.033		0	2	0.00	17	are less than this limit.
	3013	Zinc					0.0267	0.048		0	2	0.00	17	
	3019	Zinc					0.0295	0.035		0	2	0.00	17	
	3024	Zinc					0.0371	0.133		0	2	0.00	17	
	3037	Zinc					0.267	0.039		0	2	0.00	17	
	3051	Zinc					0.0374	0.104		0	2	0.00	17	
	3055	Zinc					0.0988	0.048		0	2	0.00	17	
	3084	Zinc					0.0406	0.029		0	2	0.00	17	
	4001	Zinc					0.0156	0.022		0	2	0.00	17	
	4008	Zinc					0.0228	0.017		0	2	0.00	17	
	4010	Zinc					0.0284	0.027		0	2	0.00	17	
	4013	Zinc					0.0407	0.108		0	2	0.00	17	
	1024	pH	7.1	7.21	7.39	7.1	7.35	7.24	7.2	0	7	0.00		
	1052	pH	7.35	7.26	7.26	7.53	7.49	7.1	6.95	0	7	0.00		
•	1025	pH	7	6.84	6.73	7	6.62	6.15	6.4	0	7	0.00	2b	T.L. = > 7.737
	1027	pH	6.3	7.3	7.1	6.95	7.1	7.1	7.3	0	7	0.00	2a	or < 6.767
•	1028	pH					5.91	6.85	6.1	0	3	0.00	2b	
	1030	pH					7		6.9	0	2	0.00	7g	
	1031	pH			9.7	9.19	7.2 **	9.45	9.25	0	5	0.00	3	
	1038	pH	7	7.2	6.3	6.85	6.7	7	6.7	0	7	0.00	2b	
	1074	pH	7.3	7.4	7.91	7.1	7	7.14	6.8	0	7	0.00	2a	
	1079	pH	7.4	7.45	7.28	7.15	7.1	7.1	7.2	0	7	0.00	1	

• Constituent found in statistically significant amount(s) ** Signifies an outlier *** See Cross Reference listing number ? Background well with relatively high values