REVIEW OF CORRECTIVE ACTION IN THE UPPER WIND RIVER SAND AT PETROTOMICS' TAILINGS AREA

PREPARED BY:

PETROTOMICS COMPANY

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INTRODUCTION

In 1993 Petrotomics Company reviewed all phases of the Corrective Action Plan for restoration of ground water in the Upper Wind River sand. Following this review, several significant changes were instituted. The environmental services consulting firm of Geragnty & Miller, Inc. (G&M) was retained to evaluate Petrotomics' past corrective action activities and to assess alternative corrective action approaches. G&M determined that the fresh water injection-recovery program authorized by Amendment No. 37 to NRC Source Material License SUA-551 should not be installed, so that alternative ground water restoration techniques could be pursued. On October 18, 1993 Petrotomics and G&M presented a proposal for an in-situ neutralization corrective action plan to representatives of the NRC's Uranium Recovery Field Office (URFO) at a meeting in Denver (G&M, 1993a). After receiving a favorable reaction from the URFO representatives, Petrotomics submitted a request for a license amendment on October 28, 1993. On November 23, 1993 the NRC approved the amendment to License SUA-551 which "would allow Petrotomics Company to pursue a ground-water restoration technique in lieu of the injection-recovery program" previously authorized. As a result of this amendment to the license, the fresh water injection and recovery system anticipated in Petrotomics' 1993 *Review of Corrective Action in the Upper Wind River Sand at Petrotomics' Tailings Area* (Hydro-Engineering, 1993) was not installed. Since receiving approval from the NRC to pursue alternative ground water restoration techniques, Petrotomics, under

the guidance of G&M, has installed two additional Upper Sand monitor wells and has recovered 3" diameter core from three additional Upper Sand wells for use in laboratory studies. Contaminated water from several Upper Sand wells has been studied in detail to determine the complex chemistry of the ground water, and titration curves have been developed to determine the neutralizing efficacy of several reagents, notably sodium carbonate and sodium bicarbonate. Flow-through bench tests, using cores recovered from the Upper sand, are currently being prepared to determine if the introduction of a neutralizing agent will significantly reduce the permeability of the sands due to precipitation of the considerable volume of dissolved solids in the contaminated water. These laboratory studies are on-going at the time this report is being submitted.

During the past year Petrotomics Company standardized field sampling procedures to better conform to RCRA ground water monitoring guidelines. Petrotomics Company also evaluated several geochemical laboratories and now utilizes Core Laboratory in Casper, Wyoming. Core Lab will provide Petrotomics with an increased level of quality assurance and quality control documentation on all ground water sample analyses. Petrotomics will initiate additional studies of the regional and local geohydrology in the vicinity of the tailings pond to gain further understanding of the impact of ground water flow patterns on the distribution of hazardous constituents at the site.

In addition, efforts have been made to make this annual review of the effects of the Corrective Action Plan on the Upper Wind River sand easier to read and use. The quarterly sampling analyses have been reorganized to keep all data for each well together, and graphs of individual constituents have been added to help in visualizing trends through time. This water quality information is included as an Appendix to this report.

1.0 BACKGROUND

Petrotomics Company has operated a uranium tailings impoundment from 1962 to the present. The Petrotomics' mill was decommissioned in the Summer of 1985, and no process solution has been placed in the impoundment since June 1985. Pump-back solutions from seepage-collection systems were discharged to the impoundment until December 1987, and since have been discharged to the clay lined Stage I and II ponds located within the tailings impoundment. Acidic solution (pH ~ 2.0 standard units) existed in the tailings reservoir until it was essentially all evaporated by the end of the Summer of 1987. An evaluation of the ground water adjacent to the tailings was initially done by Hydro-Engineering (1981) in the Summer of 1980. Hydro-Engineering (1986) presented an updated analysis of ground water conditions, and Hydro-Engineering (1988) presented the initial analysis of the extent of hazardous constituents. Annual reviews of Petrotomics' corrective action program and its effect on ground water in the Upper Wind River sand have been submitted to the Nuclear Regulatory Commission (NRC) each June since 1989 (Hydro-Engineering, 1989a, 1990a, 1991, 1992b and 1993). Reports of corrective action modifications were presented in October 1989 (Hydro-Engineering, 1989b), and November 1990 (Hydro-Engineering, 1990b). In January 1992, significant modifications to the corrective action plan (i. e. a fresh water injection system) were proposed (Hydro-Engineering, 1992a). Supplemental data requested by the Nuclear Regulatory Commission (NRC) was submitted on May 7, 1992. Studies of potential

corrective action enhancements are currently in progress, after License Condition 47(C) was amended to allow Petrotomics Company to pursue alternate ground water restoration techniques.

A horizontal collection drain started operation in mid-December 1981. Pumping from the horizontal drain stopped in 1990 due to the decrease of the water level to the bottom of the drain sump. Two collection wells, 51SC and PT6, were added in December 1987 to intercept seepage into the Upper Wind River sand. Upper Wind River collection well PT7 was started on August 10, 1988, and well 54SC was placed into operation as a collection well in July 1989. Six new Upper sand monitoring wells (55SC, 56SC, 57SC, 58SC, 59SC and 60SC) were installed in 1989 and early 1990 to the north of the tailings. Wells 58SC and 59SC were converted to collection wells in May of 1990. Wells 61SC, 62SC, 63SC, and 64SC were drilled in the Fall of 1990 to increase the collection rates in these areas. Collection from wells 62SC, 63SC, and 64SC was started in July 1991.

Wells 66SC, 67SC and 68SC were drilled in February 1993 to provide additional information on ground water conditions south and east of Pit 4. Wells 69SC and 70SC were drilled in early 1994 to provide additional information on background water quality in the Upper Wind River sand.

Wells 55SC, 56SC, 57SC, 60SC, and 61SC will not produce enough water for collection purposes due to the very thin saturation and apparent low rate of flow in these areas.

The current corrective action plan consists of pumping Upper Wind River wells PT6, PT7, 51SC, 54SC, 58SC, 59SC, 62SC, 63SC, and 64SC and tailings dewatering wells. Discharge from the collection wells (tailings and Upper) to the Stage I evaporation pond started in December 1987. A 17 acre pond (Stage II) was completed in the Fall of 1989 for additional evaporation capacity, and discharge to that pond started in November 1989. The corrective action plan also includes the enhanced evaporation of pumped water in the Stage I pond with the aid of 79 spray heads.

The purpose of this report is to evaluate the effects of Petrotomics' corrective action plan on ground water contained in the Upper Wind River sand. Eight constituents have been identified as hazardous constituents for which corrective action is required.

2.0 SUMMARY AND CONCLUSIONS

An updated water-level elevation map was constructed to define the present flow conditions in the Upper Wind River sand. There has been little change in water-level elevations over the past year. Since March, 1993, water levels in the Upper Wind River sand decreased by an average of 0.4' due to the corrective action at this site. The three northern wells do not contain sufficient saturation to allow pumping. A thin zone of saturation was defined to the northeast of the tailings on the southeast side of Pit 4. The zero saturation line limits the extent of migration of constituents and is shown on the concentration maps. The zero saturation boundary has effectively stopped seepage in the Upper Wind River sand to the south and west of the tailings.

Concentration contour maps for field pH, TDS, chloride, sulfate, cadmium, chromium, nickel, selenium, uranium, thorium-230, and radium-226 plus radium-228 were developed to show the areal extent of constituents at this site and the effects the corrective action has had on the water quality in the past year.

Chromium and nickel are the heavy metals with the largest concentrations in the Upper Wind River water. Significant levels of cadmium also exist at the site. Concentrations of these hazardous constituents have been fairly stable the last year with decreases in a few wells and increases in others. Nickel concentration patterns are slightly different than the other heavy metals. A source of nickel other than tailings seepage is

indicated, and therefore, this parameter may not be useful for defining the extent of tailings seepage.

Uranium and thorium-230 well define the extent of radionuclide seepage impact. The extent of movement of these two radionuclides is similar to that observed for the heavy metals, except nickel. Uranium and thorium-230 concentrations, generally, have been fairly steady over the past few years, although an increase was noted in several wells since May 1993. Radium concentrations are naturally occurring from the ore-bearing Wind River sands, which makes radium a poor constituent for definition of areal extent of radionuclide seepage from the tailings. Radium concentrations have varied over a larger range than most parameters. Radium is therefore questionable as a hazardous constituent for this site, because radium occurs in high concentrations naturally.

Hazardous constituents have been found as far as approximately three-quarters of a mile north of the tailings, based on data from the northern wells. The background concentrations are defined at this site by the average values from Upper Wind River wells 39SC and 41SC, as designated in NRC License SUA-551, condition 47B. Upper Wind River wells 5SC and 42SC are the points of compliance for this site. The maximum background concentrations observed at the background wells from May 1993 to March 1994 for cadmium was 0.05, which exceeds the 0.014 site standard. Maximum chromium and lead values during the past year were 0.05, equal to the 0.05 mg/l background standard. The maximum background concentration of nickel was 0.40 mg/l, twice the site standard. Selenium values of

up to 0.085 mg/l were seen in the background wells during the past year, well above the site standard of 0.01 mg/l. The maximum uranium level for the background wells in the past year was 0.116 mg/l, below the site standard. Maximum radium-226 plus radium-228 and thorium-230 background levels were 17.14 pCi/l and 14.50 pCi/l, respectively, both of which are over three times the background standard.

In general, the hazardous constituents at this site remain fairly stable. Collection rates from the Upper Wind River sand wells are expected to continue to decline as more contaminated water is removed from the tailings and infiltration of meteoric water is retarded by the clay cap covering the tailings.

3.0 COLLECTION RATES FROM TAILINGS AND UPPER WIND RIVER SAND

Many wells have been completed in the tailings during the past six years. Wells that have shown adequate production have had pumps installed in them and have been pumped as collection wells. Several sumps were dug into the tailings during 1988 to 1990, which were pumped to the Stage I evaporation pond prior to the time when cover was placed on the tailings. Four tailings wells (TW18, TW19, TW20, and TW21) were installed on the Stage II evaporation pond dike in February 1990, with pumping starting at that time. A two foot thick clay cover was finished in the Fall of 1990 which will significantly reduce infiltration to the tailings. The reduction of infiltration should enable the tailings dewatering wells to more effectively lower water levels in the tailings. In general, the tailings water level remained approximately the same in the past year.

A horizontal collection drain has been in use for seepage collection since 1981. The water level in the horizontal drain dropped to a level that could not be pumped in 1990. In December 1987, two collection wells, 51SC and PT6, were put into use. Well PT7 was placed in operation on August 10, 1988, also for seepage collection. Well 54SC started pumping in July 1989. These collection points (collection drain, 51SC, PT6, PT7, and 54SC) pump water from the Upper Wind River sand to the evaporation ponds. Wells 58SC and 59SC began operation in May 1990. The collection of Upper and tailings water was reduced due to the re-shaping of the tailings surface during late 1989 and 1990 because it was necessary

to remove electric cables and pipelines and in 1993 in anticipation of the installation of a fresh water injection system, which was not installed. Collection from wells 62SC, 63SC, and 64SC was started in July of 1991. The pumping rate during the winter months is typically lower because the low production wells cannot be kept operating due to freezing. The better collection wells were winterized during 1991 to increase pumping during the winter months.

Approximately 73 million gallons have been pumped from Upper Wind River and tailings sources to the evaporation ponds during the period from December 1987 through the first quarter of 1994. Average total discharge rate from Upper and tailings sources to the evaporation ponds has decreased over the past few years, mainly due to the decline in the overall saturated thickness of the sand.

4.0 GROUND WATER FLOW IN THE UPPER WIND RIVER SAND

Table 4-1 presents basic well data for the Upper Wind River sand wells. An updated water-level elevation map, Exhibit 4-1, was constructed for the Upper Wind River sand to define the present (March 1994) flow conditions. The zero saturation limit in the Upper Wind River sand was defined with the use of this 1994 water-level elevation map and the base of the Upper Wind River sand map (see Exhibit 3-3 of Hydro-Engineering, 1986). The zero saturation limits shown on Exhibit 4-1 were also used to interpret the limits of hazardous constituent concentration contours. A zero saturation limit exists to the south and west of the tailings, due to the rise in elevation of the base of the Upper Wind River sand in these areas. Also, the Upper Wind River sand outcrops to the south and west. Zero saturation areas also exist to the north of the tailings between Upper sand wells 59SC and 55SC, south of well 59SC, and near well 53SC. The saturated thickness of the Upper sand in the vicinity of the northern wells 55SC, 56SC, and 57SC and in the northeast wells 66SC, 67SC, and 68SC is very thin, therefore, little water exists in these areas. An area of saturation exists in the Upper sand between the Pit 4 reservoir and well 58SC due to the higher permeability in this area, which allowed the water-level elevation to be greater in this area than previously expected.

Table 4-2 shows water levels from five Upper sand wells during the first quarter of even numbered years since 1980. The chart accompanying Table 4-2 clearly shows the continuous decline in

water levels north of the tailings pond that have resulted from Petrotomics' past corrective action activities. Water levels in the five wells shown in Table 4-2 have declined by an average of approximately 11.7 feet since 1980.

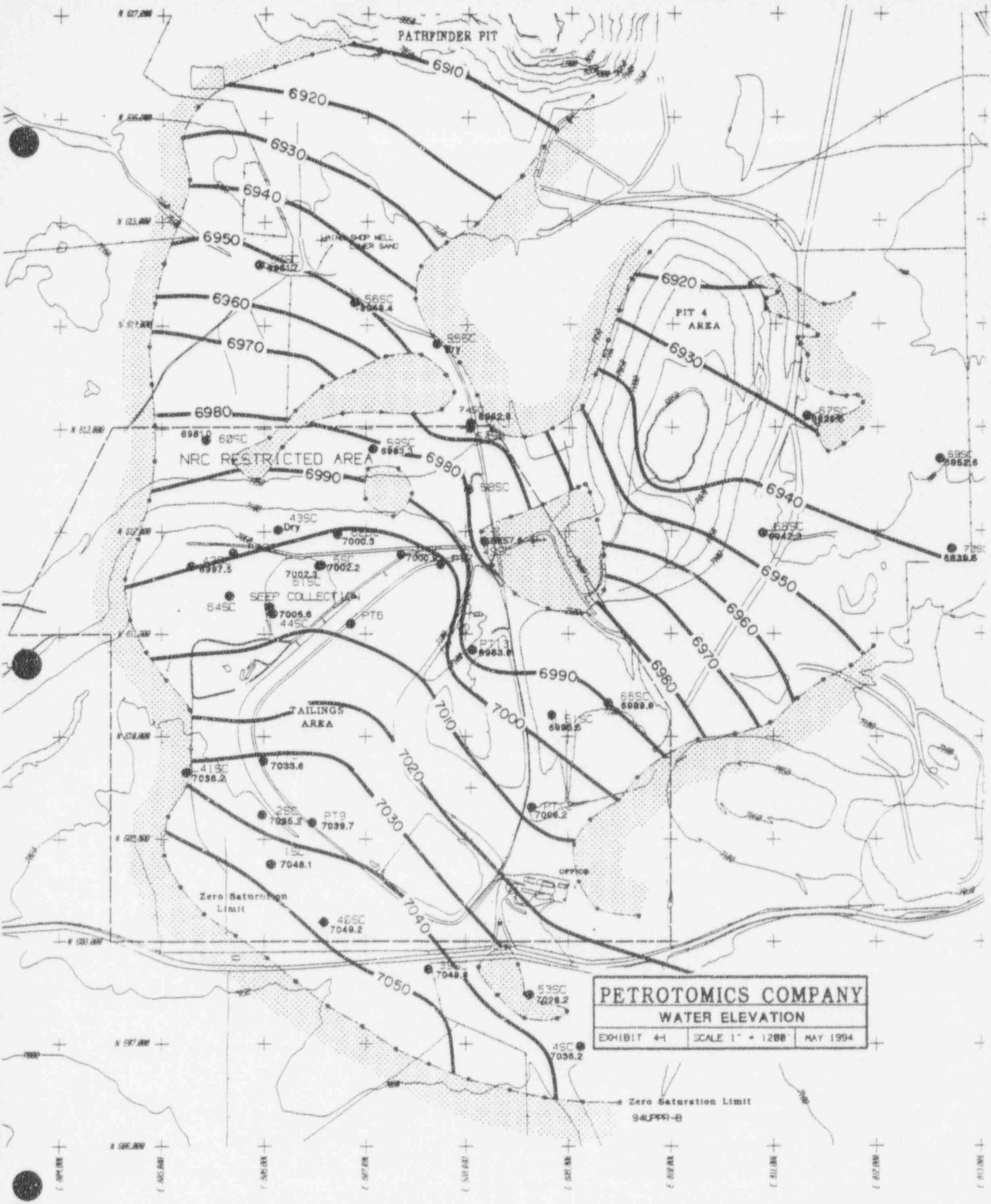
Ground water flow direction in the Upper Wind River sand in March 1994 is generally to the north and is nearly identical to that observed in March 1993. There was little change in the water level contours for the Upper Wind River sand in the past year.

The drainable volume of water in the Upper Wind River sand was estimated based on the saturated thickness contours and a specific yield of 0.1. Volumes for the Upper Wind River sand were estimated west of the 809,000E coordinate, south of the 615,000N coordinate and north of the 607,000N coordinate. The zero saturation boundary limits the area on the west side. Volumes south, east, and north of this area are thought to be very small and not significant relative to the overall ground water restoration of this site. The zero saturation boundaries within the area were also used in the calculations. A drainable volume of 174 million gallons of water was estimated to be contained in the Upper sand as of February 1992. Based on the volume of water removed since 1992, it is estimated that 159 million gallons of drainable water remain in the Upper Wind River sand as of the first quarter of 1994.

WELL NAME	MP ABOVE LSD (ft)	MP ELEV. (ft-msl)	DIAM (in)	TOTAL DEPTH (ft-mp)	PERF INTERVAL (ft-lsd)	WATER LEVEL DATE	ELEV (ft-msl)	SEAL INTERVAL (ft-lsd)	ELEV BASE OF TAILINGS (ft-msl)	ELEV BASE OF UPPER SAND (ft-msl)
1 SC	0.5	7062.1	3.0	26.3	15.8 - 25.8	Mar/2/94	7048.1	7.4 - 14.4		7033.0
2 SC	1.1	7052.2	3.0	22.3	12.5 - 21.2	Mar/3/94	7035.2	5.7 - 9.7		7031.0
4 SC	1.2	7070.7	3.0	42.3	21.1 - 41.1	Mar/2/94	7036.2			7033.0
5 SC	0.7	7051.1	3.0	55.5	45.4 - 54.8	Mar/3/94	7002.2	15.4 - 36.4		6995.0
8 SC	0.6	7065.8	3.0	63.1	52.5 - 62.5	Mar/1/93	<7002.7	42.3 - 54.3		7000.0
39 SC	1.7	7069.3	4.0	28.2	11.5 - 26.5	Mar/2/94	7049.9			7043.0
40 SC	0.6	7056.8	4.0	19.1	8.5 - 18.5	Mar/2/94	7049.2			7036.0
41 SC	0.7	7054.8	4.0	23.3	7.6 - 22.6	Mar/3/94	7038.2			7037.0
42 SC	0.6	7038.5	4.0	43.8	23.2 - 43.2	Mar/3/94	6997.5			6997.0
43 SC	2.0	7063.3	5.0	67.5	45.5 - 65.5	Apr/21/94	<6995.8	34.5 - 41.5		6997.4
44 SC	1.0	7043.1	3.0	43.9	22.9 - 42.9	Mar/3/94	7005.6			7003.0
45 SC	0.7	7073.0	4.0	73.6	52.9 - 72.9	Mar/3/94	7000.9			7002.0
49 SC	2.1	7119.3	5.0	163.7	112.6 - 132.6 141.6 - 161.6	Mar/7/94	6957.5			6985.0
50 SC	2.6	7117.3	5.0	131.8	109.2 - 129.2	Apr/21/94	<6985.5	89.7 - 95.7		6973.0
51 SC	1.1	7100.6	5.0	110.8	89.7 - 109.7	Nov/29/93	6995.2	81.0 - 88.0		6991.5
53 SC	2.7	7081.4	5.0	56.8	34.1 - 54.1	Mar/2/94	7026.2	17.0 - 24.0		7029.0
54 SC	1.5	7156.8	5.0	210.3	168.8 - 208.8	Aug/10/93	6950.6			6941.0
55 SC	4.8	7173.5	5.0	237.2	212.4 - 232.4	Apr/21/94	<6936.3	194.9 - 197.4		6938.3
56 SC	1.1	7168.2	5.0	223.1	192.0 - 222.0	Mar/7/94	6949.4	183.9 - 186.9		6948.2
57 SC	1.4	7159.6	5.0	213.9	192.5 - 212.5	Mar/7/94	6951.7	187.5 - 190.5		6952.5
58 SC	1.1	7133.4	5.0	191.8	130.7 - 190.7	Aug/10/93	6952.3	118.6 - 121.6		6947.7
59 SC	0.9	7177.7	5.0	199.6	178.7 - 198.7	Mar/8/94	6983.3	167.3 - 169.3		6981.3
60 SC	1.4	7192.1	5.0	212.7	191.3 - 211.3	Mar/8/94	6981.0	184.0 - 185.2		6978.7
61 SC	1.3	7051.5	5.0	58.8	42.5 - 57.5	Apr/21/94	7002.3	34.1 - 37.1		7000.0
62 SC	1.7	7066.0	5.0	72.7	51.0 - 71.0	Mar/7/94	7000.3	43.0 - 46.0		6997.0
63 SC	1.3	7047.0	5.0	59.9	43.6 - 58.6	Aug/23/93	6994.0	40.2 - 43.2		6988.0
64 SC	1.6	7035.4	5.0	35.9	20.3 - 34.3	Aug/23/93	7004.2	16.0 - 18.0		7003.0
65 SC	0.7	7034.4	5.0	166.0	145.3 - 165.3	Mar/3/93	<6969.0			6972.0
66 SC	2.7	7092.4	5.0	111.7	79.0 - 109.0	Mar/8/94	6989.9	53.0 - 59.0	>7090.7 #	6987.7
67 SC	1.0	7135.1	5.0	239.7	218.7 - 238.7	Mar/3/94	6929.5	129.0 - 207.0	7045.0 #	6920.0
67 SCOB	1.8	7153.6	2.0	202.8	181.0 - 201.0	Apr/25/94	7028.5	172.0 - 181.0		
68 SC	1.2	7147.2	5.0	219.4	198.2 - 218.2	Mar/8/94	6942.3	168.0 - 183.0	7055.0 #	6934.7
69 SC	1.7	7155.2	5.0	226.0	200.0 - 220.0	Mar/10/94	6952.6	22.0 - 193.0		6934.5
70 SC	1.7	7126.7	5.0	208.5	182.5 - 202.5	Mar/15/94	6939.5	29.0 - 170.0		3926.0
PT 6	0.6	7100.7	5.0	110.0	74.4 - 109.4	Dec/2/92	7004.1	60.8 - 71.3		6994.0
PT 7	1.8	7100.9	5.0	100.8	59.0 - 99.0	Mar/1/93	7068.1	34.2 - 36.7		7008.4
PT 8	0.5	7099.8	5.0	80.3	59.8 - 79.8	Mar/8/94	7033.6	33.0 - 35.0		7020.3
PT 9	1.6	7101.4	5.0	75.2	53.6 - 73.6	Apr/21/94	7039.7	44.4 - 46.4		7027.4
PT 10	1.4	7101.7	5.0	79.4	58.0 - 78.0	Apr/21/94	7053.3	53.4 - 56.4		7014.9
PT 11	1.5	7101.7	5.0	89.8	68.3 - 88.3	Mar/7/94	7061.5	62.8 - 65.8		7015.4
PT 12	2.3	7102.3	5.0	101.9	79.6 - 99.6	Mar/8/94	7008.2	67.8 - 69.8		7006.2
PT 13	1.0	7104.0	5.0	125.5	104.5 - 124.5	Mar/8/94	6983.0	91.0 - 94.0	7066.0	6984.0
OB 7	2.5	7102.5	2.0	87.6	65.1 - 85.1	Apr/21/94	7017.9	45.0 - 48.0		7014.1

NOTE: # = BASE OF WHITE RIVER SAND

TABLE 4-1. BASIC WELL DATA FOR UPPER WIND RIVER WELLS


PATHFINDER PIT
6910
6920
6930
6940
6950
6360
6970
6980
6990
7000
7010
7020
7030
7040
7050
NRC RESTRICTED AREA
PIT 4 AREA
TAILINGS AREA
SEEP COLLECTION
Zero Saturation Limit
Zero Saturation Limit
PETROTOMICS COMPANY
WATER ELEVATION
EXHIBIT 4-1
SCALE 1" = 1200'
MAY 1994

YEAR	5-SC	42-SC	43-SC	44-SC	45-SC
1980	7013.9	7010.9	7008.9	7019.7	7008.6
1982	7013.2	7011.0	7009.1	7013.5	7009.4
1984	7013.1	7005.9		7011.3	7007.7
1986	7009.5	7004.7	6997.6	7010.9	7007.0
1988	7007.8	7003.2	6999.9	7011.1	7005.9
1990	7005.3	7002.6	6998.1	7008.8	7003.8
1992	7003.4	7000.6	6995.8	7006.7	7002.3
1994	7003.2	6997.7	6995.8	7005.8	7001.0

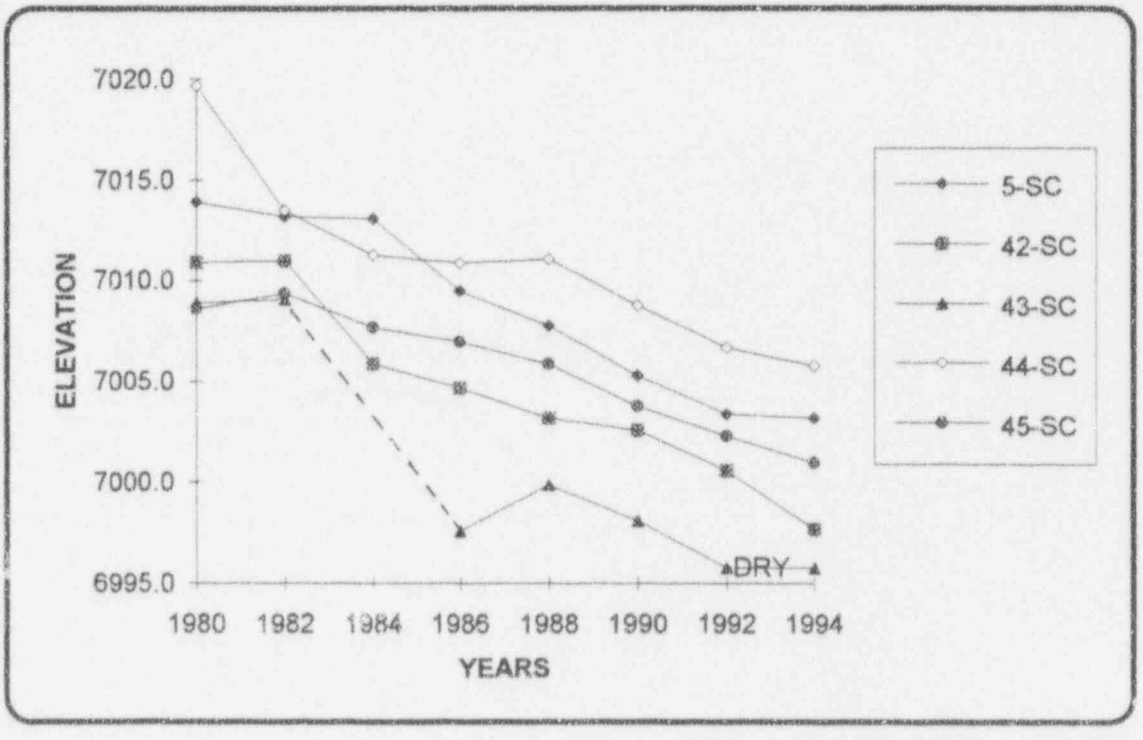


TABLE 4-2. UPPER SAND WATER LEVELS
5 WELLS: 1980-1994

5.0 WATER QUALITY OF THE UPPER WIND RIVER SAND

This update of the extent of hazardous and major constituents has been defined by utilizing the concentrations of the following hazardous constituents:

Cadmium (Cd)	Selenium (Se)	Thorium-230 (Th230)
Chromium (Cr)	Uranium (U)	Arsenic (As)
Lead (Pb)	Radium-226 (Ra226)	Barium (Ba)
Nickel (Ni)	Radium-228 (Ra228)	

To assist in definition of constituent mobility, pH was also utilized. Chloride (Cl), total dissolved solids (TDS), and sulfate (SO_4) were used to define the extent of major constituents.

March 1994 water sampling data were used to update the extent of concentrations. Barium and arsenic were listed as hazardous constituents in Hydro-Engineering (May 1988). However, all concentrations of arsenic and barium were so low that these constituents did not warrant any further discussion and were removed from the license in the past year. Radium-226 and radium-228 are evaluated as radium-226+228 in this analysis. Water quality data for the Upper Wind River wells listed in License Condition 47-A are attached as an Appendix to this report.

5.1 pH

The mobility of most of the hazardous constituents is pH dependent. Therefore, a definition of pH levels will aid in the definition of concentrations of most of the constituents. Exhibit 5-1 presents contours of field pH values in March 1994. The pH of

the water in the Upper Wind River sand has been significantly affected by the seepage of acid tailings solution. The effects of seepage on pH have been limited to the south and west of the tailings because the zero saturation and the higher ground water heads limit tailings seepage movement into these two areas. The field pH values upgradient from the tailings have ranged from 4.11 to 6.1 during the last year. The low pH values in wells 1SC, 39SC, and 53SC are not affected by tailings seepage due to the higher head in the Upper sand near these wells. The 4.0 pH isopleth is now located near wells 56SC, 57SC, and 60SC and to the south of well 54SC. The data indicates that the field pH changes little from wells 58SC, 59SC, and 60SC to wells 56SC and 57SC, a distance of about 1,600 feet. The pH probably increases slightly in the Upper sand as the water approaches the Pathfinder pit to the north, based on the overall gradual increase to the north. The pH values north of wells 56SC and 57SC are not significant, because the mine pit will limit the northern movement of water in the Upper Wind River sand and because of the lack of significant flow and saturation at wells 55SC, 56SC, and 57SC.

In general, the pH in the Upper Wind River sand has been fairly stable during the last year. No consistent trend in the pH of the Upper water is thought to be occurring.

5.2 CHLORIDE

The concentration of chloride in water in the Upper Wind River sand is key in defining seepage from the tailings because chloride

is a conservative ion. The average chloride concentration in upgradient wells 1SC, 40SC, and 41SC was 157 mg/l for March of 1994. Exhibit 5-2 presents the chloride concentrations for March of 1994 in the Upper Wind River water. Chloride concentrations have not significantly changed in the Upper Wind River sand in the last year. The chloride concentration at well 4SC was 514 mg/l, which indicates a zone of significantly higher chloride concentrations south and upgradient of the tailings. The 300 mg/l contour extends approximately 3,200 feet north of compliance well 5SC. The concentrations of chloride within this zone are relatively close to each other and, therefore, little gradient in chloride concentrations exists between the northern edge of the tailings out to monitoring wells 56SC and 57SC. The 300 mg/l contour extends approximately 3,000 feet northeast of well 51SC.

5.3 TDS

Exhibit 5-3 presents the TDS concentrations for the Upper sand for March 1994. A TDS value of approximately 2,000 mg/l would be expected for this system, but the background wells contain significantly higher concentrations. The average concentration for upgradient wells 1SC, 40SC and 41SC was 2100 mg/l in March of 1994. Elevated TDS concentrations of approximately 30,000 mg/l have seeped from the decommissioned tailings reservoir. A TDS concentration of 20,000 mg/l has migrated approximately 1,400 feet to the north of compliance well 5SC, while the 10,000 mg/l contour is thought to be approximately 3,200 feet north of well 5SC. TDS

concentrations in the Upper sand have not significantly changed in the past year.

Data for wells, 66SC, 67SC, and 68SC, shows that the 20,000 mg/l contour extends approximately 1,000 feet east of well 51SC. The 10,000 mg.1 contour is thought to extend approximately 2,000 feet northeast of well 51SC.

5.4 SULFATE

Sulfate concentrations are very similar in pattern to the TDS concentrations, since sulfate concentrations make up a large percentage of the total dissolved solids. Exhibit 5-4 presents the sulfate concentrations in the Upper sand for March of 1994. Sulfate concentrations of 10,000 mg/l extend approximately 3,000 feet north of compliance well 5SC. Concentrations of 5,000 mg/l extend to the north of monitoring wells 56SC and 57SC, and extends approximately 3,100 feet northeast of well 51SC. A background sulfate concentration in the neighborhood of 1,000 mg/l would be expected for this aquifer. Upgradient wells 1SC, 40SC, and 41SC indicate that the natural sulfate concentrations at this site may be approximately 1,500 mg/l. Sulfate concentrations in excess of 5,000 mg/l probably extend to the edge of Pit 4 reservoir.

5.5 CADMIUM

Exhibit 5-5 presents the cadmium concentrations for March 1994. This map shows that the 0.05 mg/l contour of cadmium is limited to the northern portion of the tailings pond.

5.6 CHROMIUM

Exhibit 5-6 presents the chromium concentrations for the Upper Wind River sand for March 1994. The concentrations of chromium are thought to exceed 0.1 mg/l for approximately 1,400 feet downgradient from well 5SC. The higher concentration contour lines are limited to a small area just to the north of the tailings impoundment. Chromium concentrations east of the tailings only slightly exceed the 0.05 mg/l value. The values observed in wells 56SC and 57SC water are similar to those observed last year, but indicate an area at the edge of the thinly saturated zone that is near or at the site standard.

5.7 LEAD and NICKEL

All of the lead concentrations for March 1994 were at or below the 0.05 mg/l site standard. These values agree well with the 1993 concentrations. Since all values were below the site standard, a contour map of lead concentrations was not compiled.

The site standard for nickel is 0.22 mg/l. Larger concentrations of naturally occurring nickel likely exist at this site. The upgradient concentration varied up to a value of 0.79 mg/l in March 1994. Nickel contours, as shown in Exhibit 5-7, do not fit the pattern of the other heavy metals. The concentration in the two northern wells stayed elevated in 1994, as did the value in well 60SC. Nickel appears to be mobile at a higher pH value than most of the other hazardous constituents. The elevated

concentrations upgradient from the tailings indicate a dual source for this constituent. A source other than tailings seepage probably produced some of the concentrations on the east side of the tailings, also. This data shows that nickel is not a good heavy metal to define hazardous constituent movement from the tailings.

5.8 SELENIUM

The site standard for selenium was selected to be 0.01 mg/l based on the January 1988 analyses. The laboratory added the digestive step to their selenium analytical technique starting in March of 1989. This change in analytical procedure has been largely responsible for larger concentrations being observed in Upper Wind River sand wells upgradient and downgradient from the tailings. The selenium concentrations in water collected from background wells 39SC and 41SC exceeded the site standard during the past year. Therefore, a higher site standard may be needed for this site to reflect the analysis change. Exhibit 5-8 presents the March 1994 selenium contours. This map shows that the areal extent of significant selenium concentrations is small.

5.9 URANIUM

The uranium contours for the Upper Wind River sand in March 1994 are shown on Exhibit 5-9. Concentrations vary on the site from less than 0.1 to nearly 8.0 mg/l. The site standard for uranium is 0.16 mg/l. The 5 mg/l uranium isopleth extends

approximately 200 feet to the north of well 5SC. Uranium concentrations in water from wells 54SC, 56SC, and 57SC are less than 0.1 mg/l. Based on these contours, the site standard isopleth is estimated to be located about 2,000 feet north of the points of compliance. Significant uranium concentrations have not migrated to the north of the tailings on the east side.

5.10 RADIUM-226 PLUS RADIUM-228

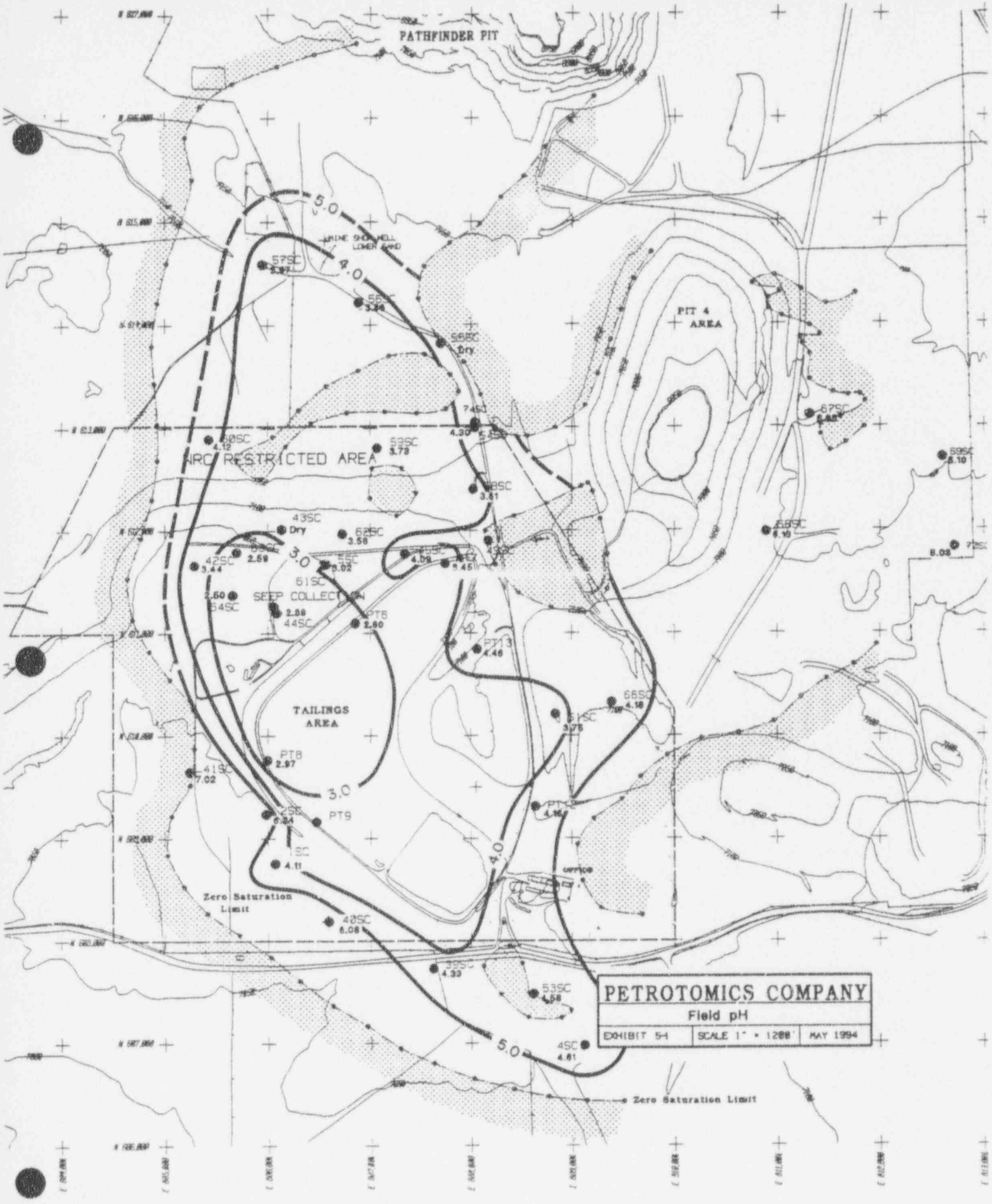
The sum of the concentrations of radium-226 and radium-228 was used to analyze the extent of radium in the Upper Wind River sand. The sum of the radium constituents is more appropriate as the site standard and should be used to evaluate the extent of these constituents. The site standard for radium-226 plus radium-228 is the drinking water standard of 5 pCi/l. Concentrations in upgradient wells 1SC, 40SC, 41SC, and 53SC in March 1994 ranged up to 7.0, higher than the site standard. Ground water analyses of these upgradient wells show that this mineralized sand can have naturally occurring radium concentrations significantly greater than the site standard. Exhibit 5-10 presents the radium-226 plus radium-228 contours in March 1994. The pattern of contours for radium is significantly different than the other radionuclides, uranium and thorium-230. Radium concentrations do not correlate to any of the other hazardous constituents except, perhaps, nickel. These two skewed concentration patterns may be due to the naturally mineralized characteristics of the Upper Wind River sand. Some of

the lowest concentrations are in the high permeability zone where maximum concentrations were observed for other parameters. The radium-226 plus radium-228 concentration contours indicate that a source different from Petrotomics' tailings is probably responsible for most of the elevated radium values. It is likely that this source is natural because the Wind River sands are the uranium ore-bearing unit in the Shirley Basin. Natural radium concentrations of a few hundred pCi/l have been observed in the Wind River water where the sand is mineralized. Since radium contours do not reflect the effects of tailings seepage on the Upper Wind River sand, they should not be used to define the extent of contamination.

5.11 THORIUM-230

Thorium-230 is another radionuclide that has similar contour patterns as some of the heavy metals previously discussed. Exhibit 5-11 presents the thorium-230 concentration contours for the Upper Wind River sand in March 1994. The site standard for thorium-230 is 3.94 pCi/l. Thorium-230 varied from a high of 15,100 pCi/l to a low of 0.60 pCi/l in the Upper sand in March 1994. The main difference in the pattern of the thorium-230 contours and the heavy metals previously presented is that larger concentrations exist in water collected from downgradient wells 63SC and 64SC than exist in wells 5SC and 44SC. This indicates that the output of thorium-230 has not been as great for the last few years as it had previously

been. This premise is supported by the fact that the southerly 100 pCi/l contour has moved farther to the north in the past year.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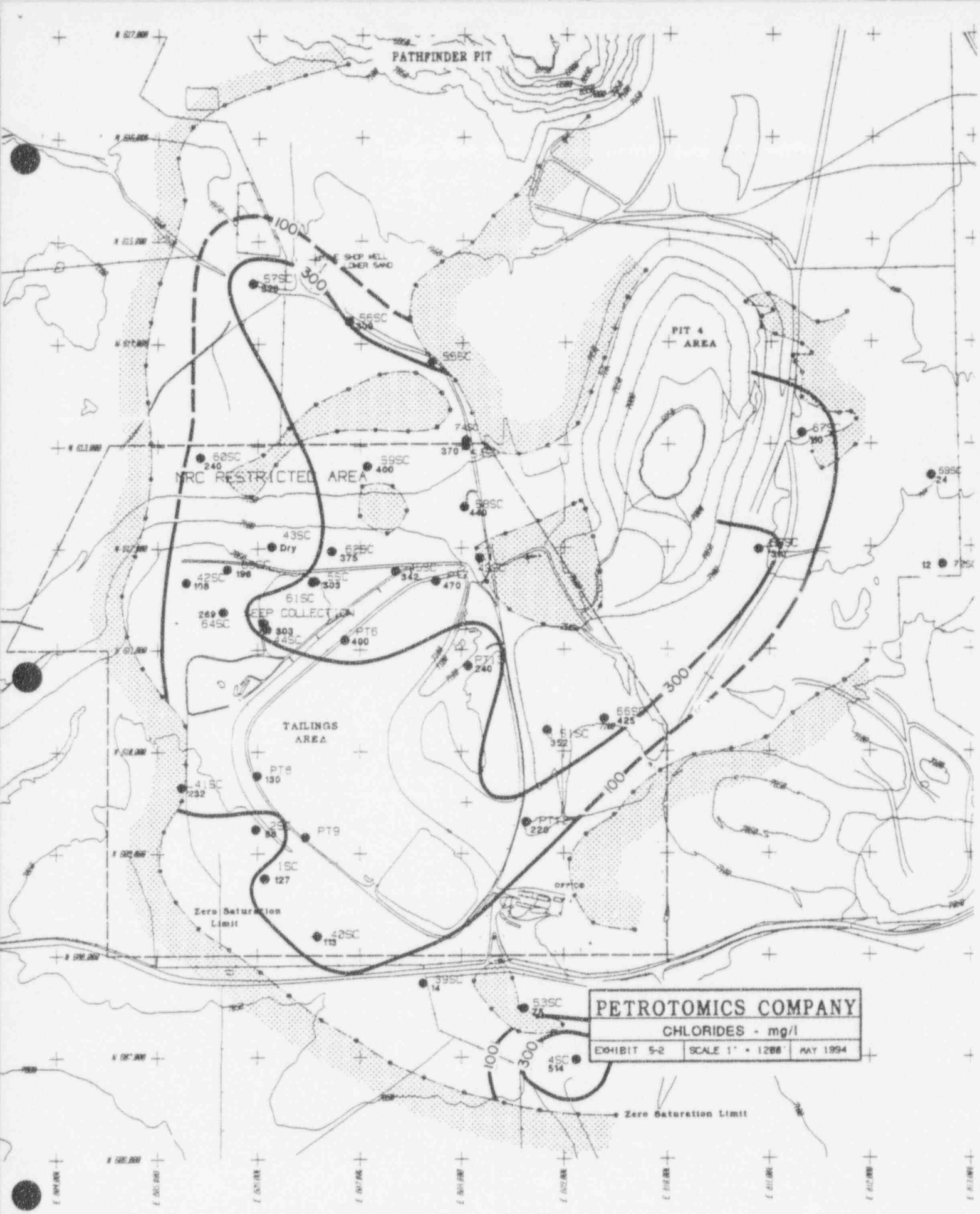
PIT 4 AREA
NRC RESTRICTED AREA
TAILINGS AREA
SEEP COLLECTION
Zero Saturation Limit
5.0
4.0
3.0
PETROTOMICS COMPANY
Field pH
EXHIBIT 5-1
SCALE 1" = 1200'
MAY 1994
Zero Saturation Limit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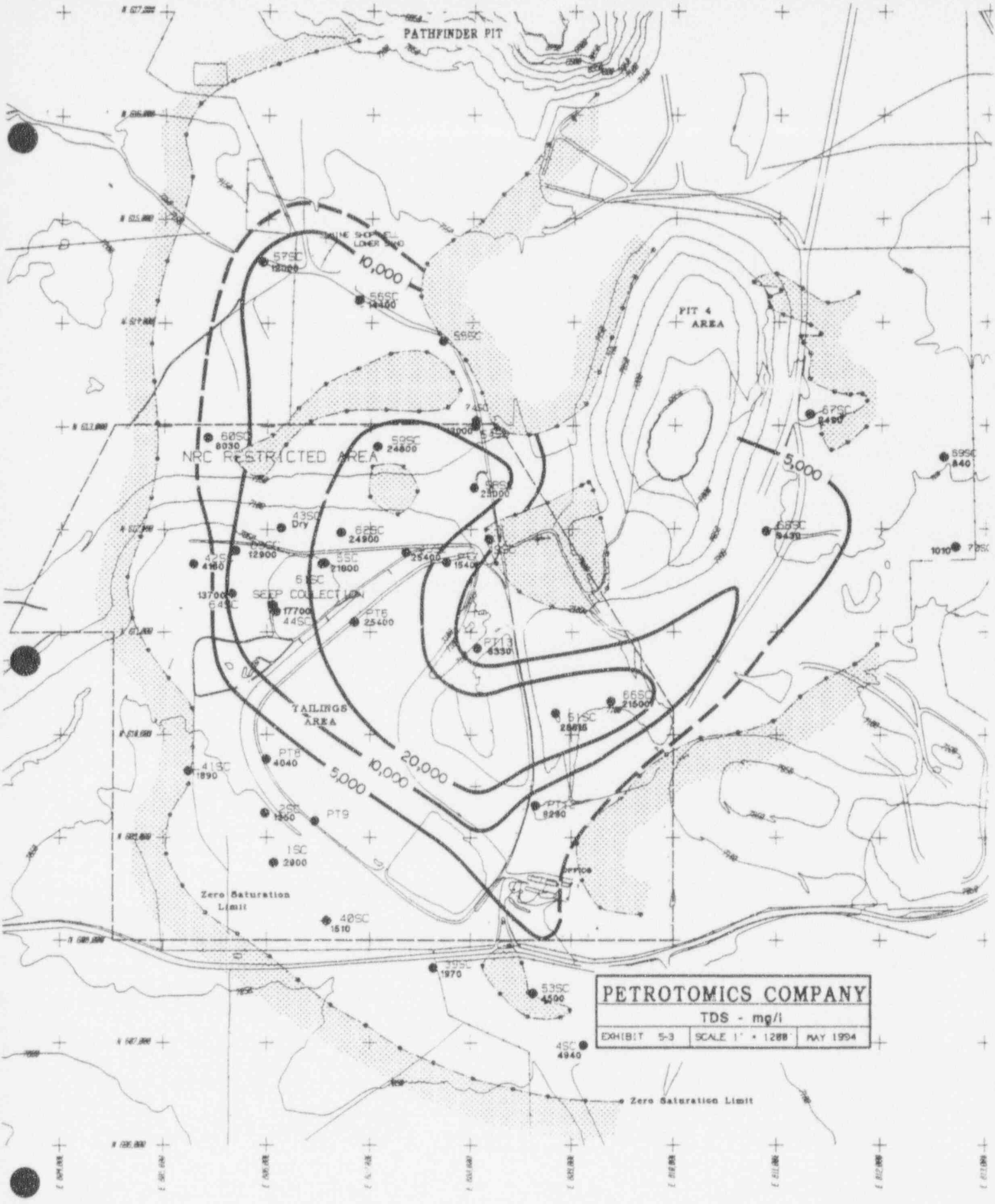
PIT 4 AREA
NRC RESTRICTED AREA
TAILINGS AREA
SEEP COLLECTION
Zero Saturation Limit
office
100
300
PETROTOMICS COMPANY
CHLORIDES - mg/l
EXHIBIT 5-2
SCALE 1" = 1288'
MAY 1994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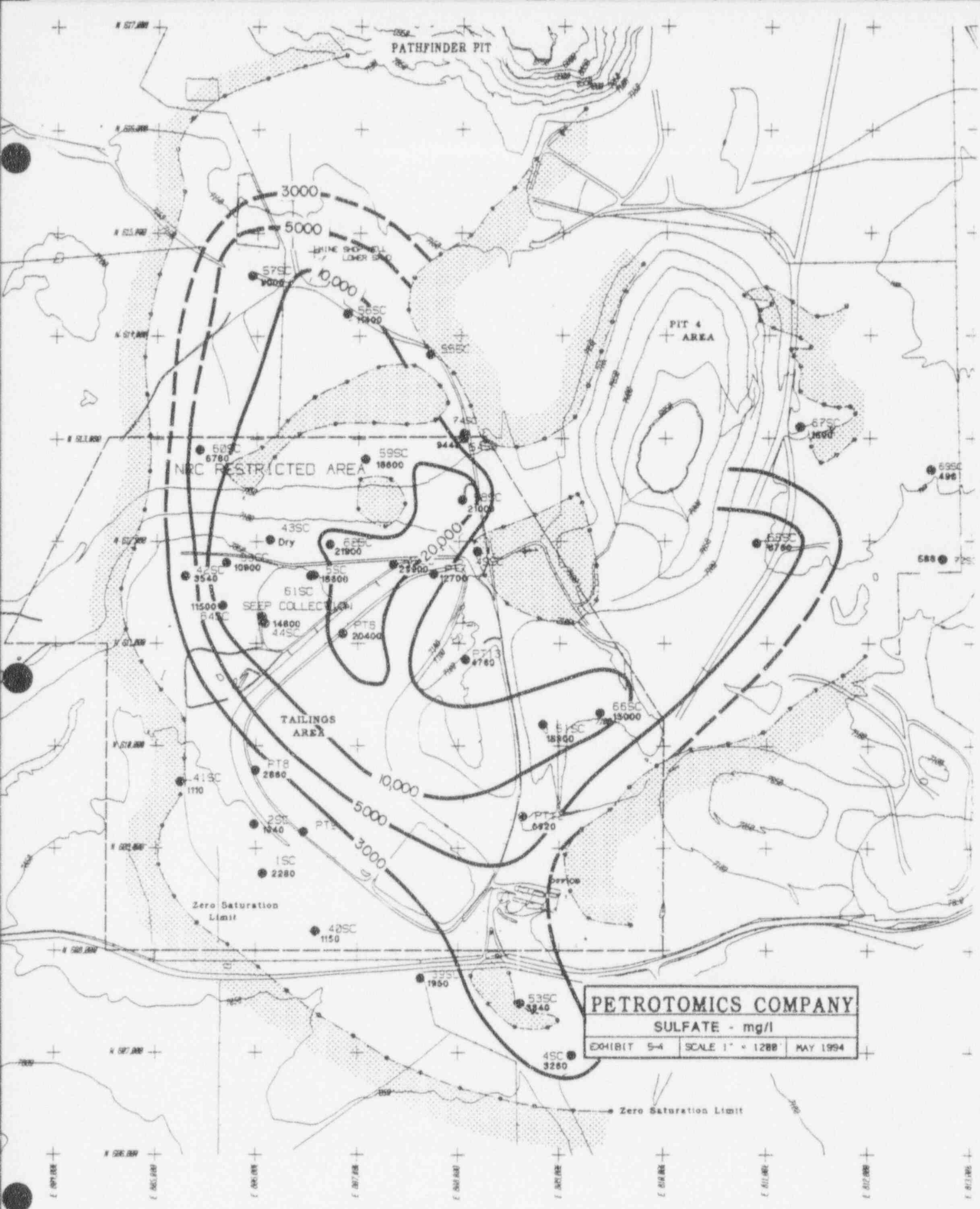
PIT 4 AREA
NRC RESTRICTED AREA
SEEP COLLECTION
TAILINGS AREA
10,000
5,000
20,000
10,000
5,000
Zero Saturation Limit
Zero Saturation Limit
PETROTOMICS COMPANY
TDS - mg/l
EXHIBIT 5-3
SCALE 1" = 1200'
MAY 1994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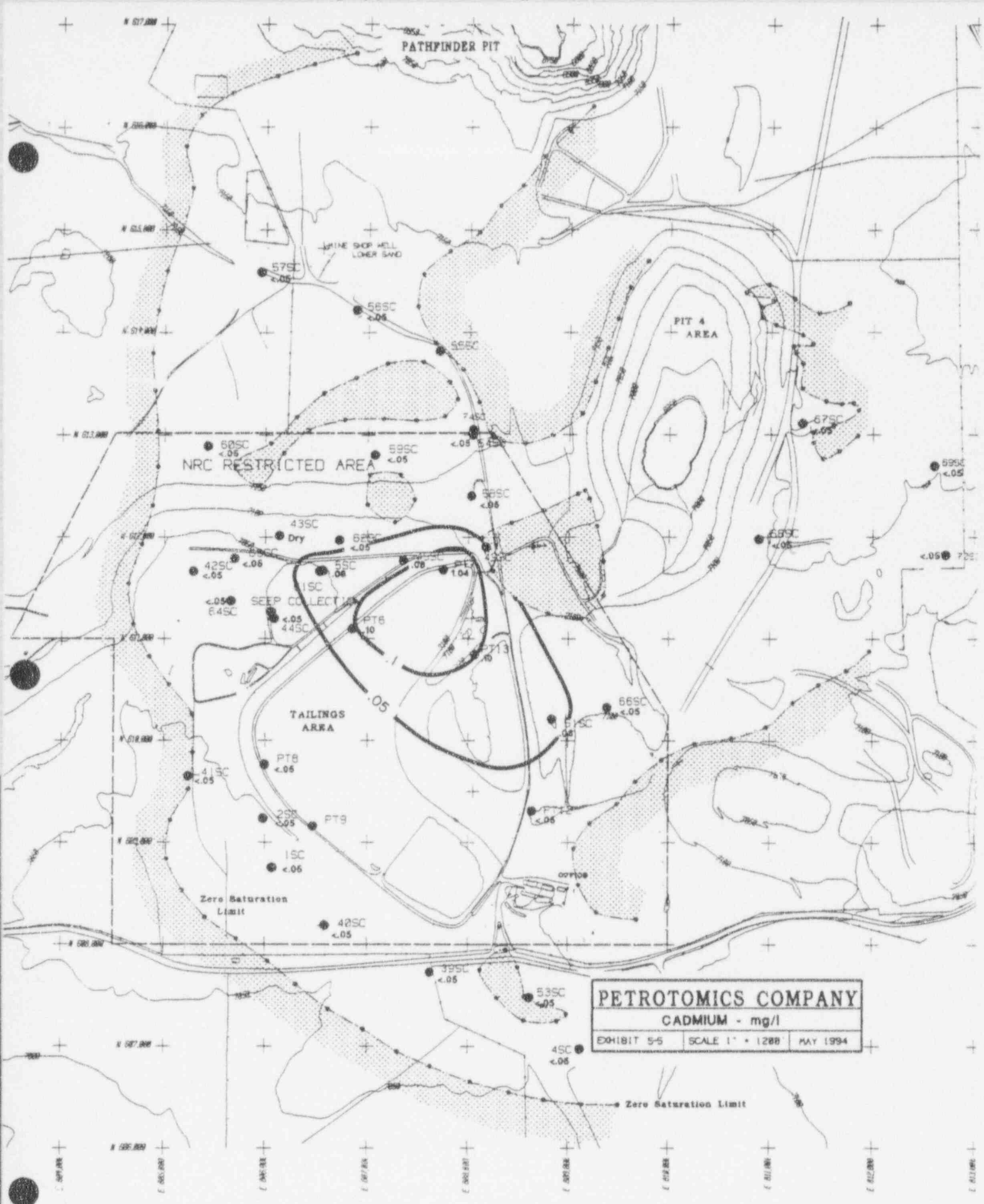
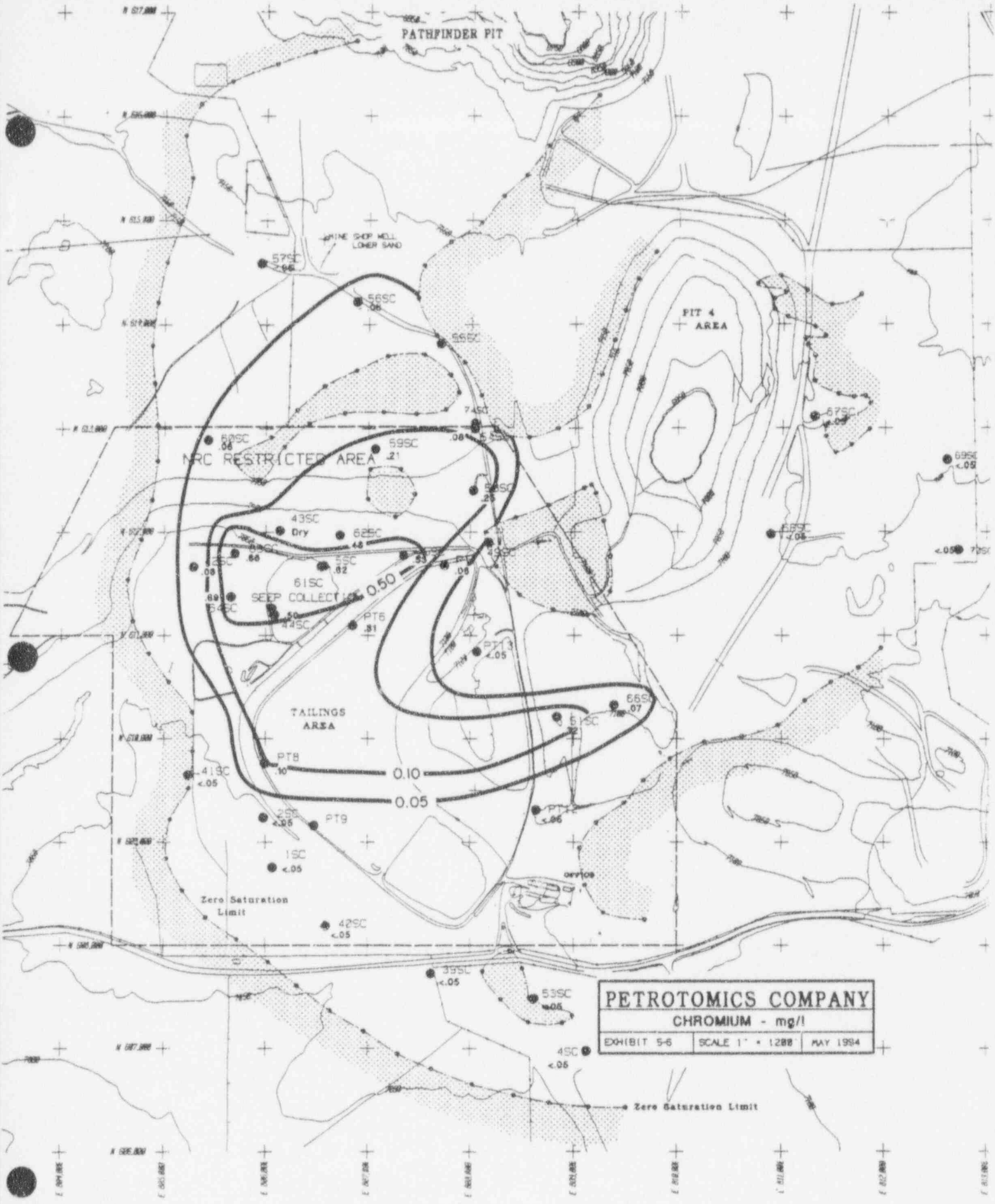
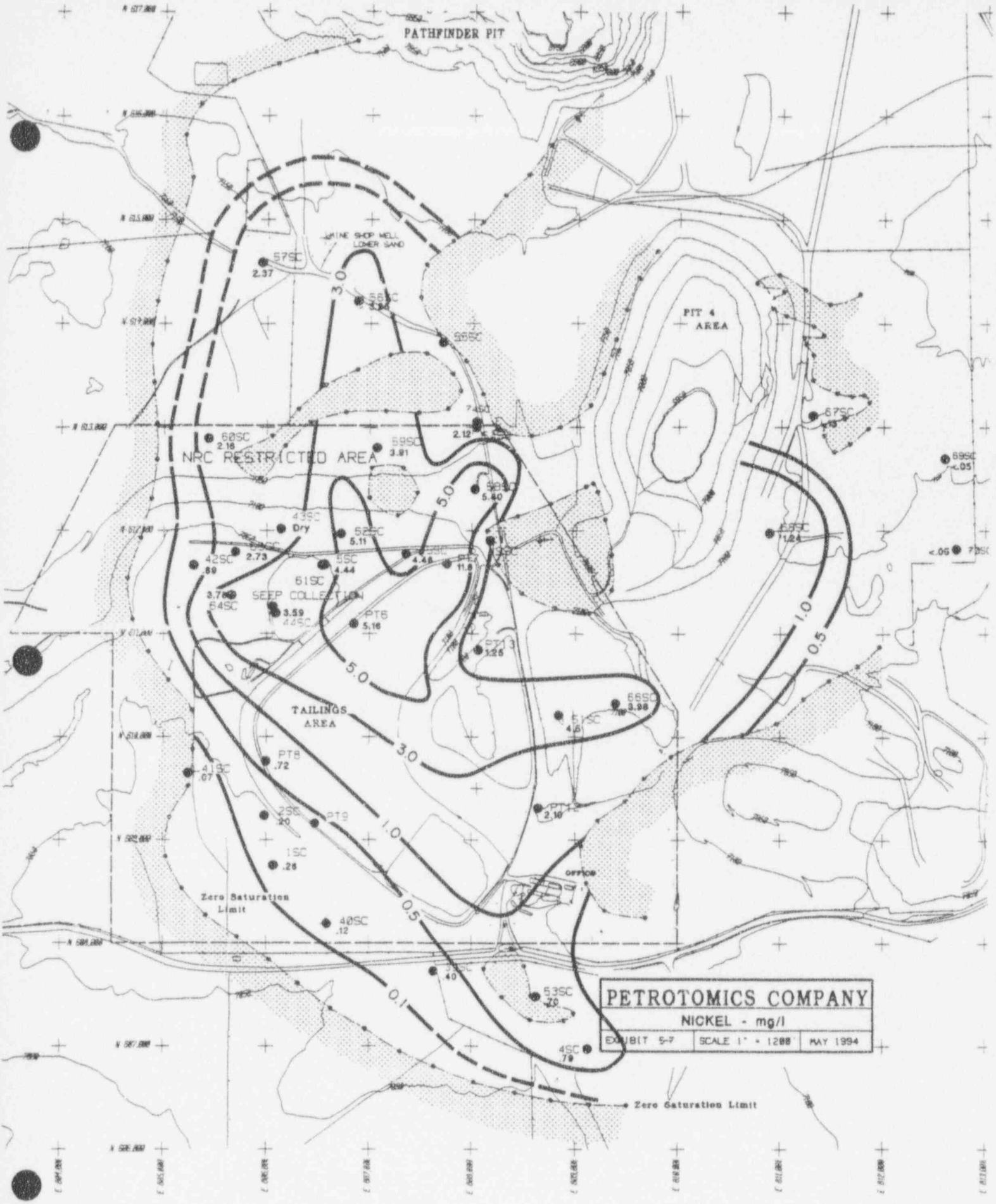
PIT 4 AREA
NRC RESTRICTED AREA
TAILINGS AREA
SEEP COLLECTION
3000
5000
10,000
20,000
Zero Saturation Limit
Zero Saturation Limit
PETROTOMICS COMPANY
SULFATE - mg/l
EXHIBIT 5-4
SCALE 1" = 1200'
MAY 1994


PATHFINDER PIT
MINE SHOP HELL
LOWER SAND
PIT 4
AREA
NRC RESTRICTED AREA
TAILINGS
AREA
SEEP COLLECTION
Zero Saturation
Limit
57SC
<.05
58SC
<.05
60SC
<.05
59SC
<.05
43SC
Dry
42SC
<.05
64SC
<.05
44SC
<.05
PT6
.10
PT13
.10
.1
.05
67SC
<.05
66SC
<.05
41SC
<.05
PT8
<.05
PT9
<.05
1SC
<.06
40SC
<.05
39SC
<.05
53SC
<.05
4SC
<.06
PETROTOMICS COMPANY
CADMIUM - mg/l
EXHIBIT 5-5
SCALE 1" = 1200'
MAY 1994
Zero Saturation Limit

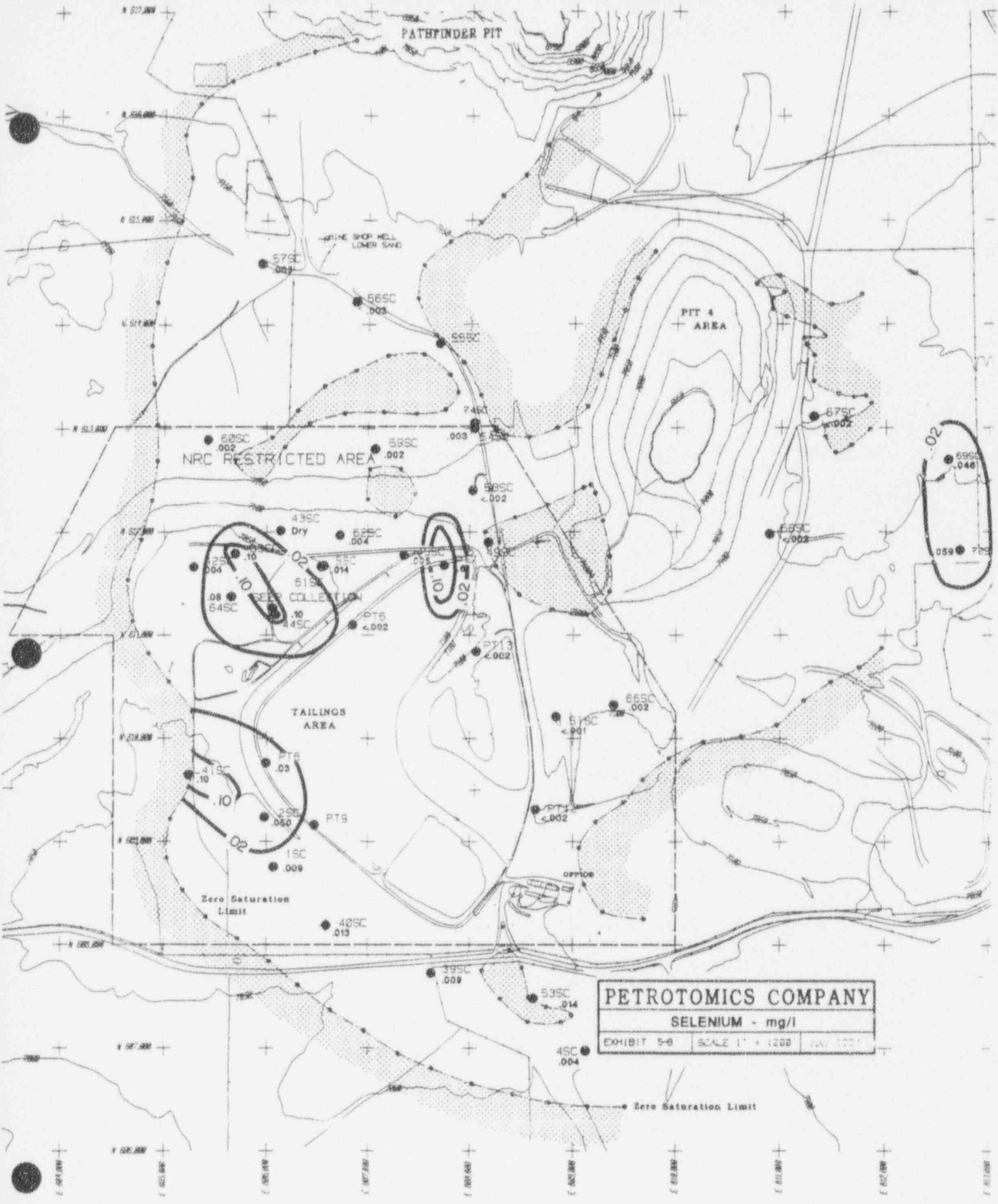

PATHFINDER PIT
MINE SHOP WELL
LOWER SAND
PIT 4
AREA
NRC RESTRICTED AREA
SEEP COLLECTION
TAILINGS
AREA
0.50
0.10
0.05
Zero Saturation
Limit
Zero Saturation Limit
PETROTOMICS COMPANY
CHROMIUM - mg/l
EXHIBIT 5-6
SCALE 1" = 1288
MAY 1984



PETROTOMICS COMPANY

NICKEL - mg/l

EXHIBIT 5-7	SCALE 1" = 1200'	MAY 1994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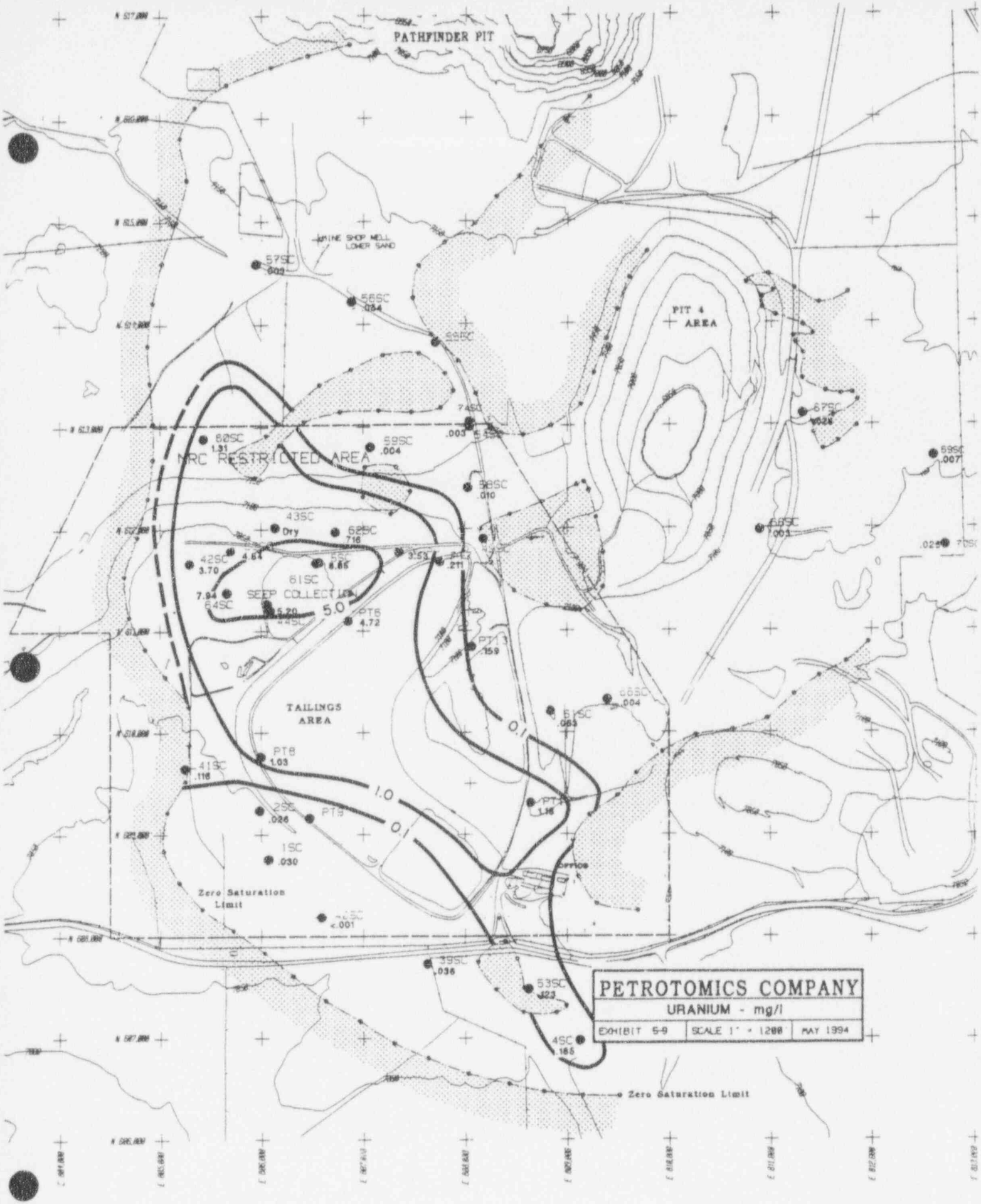
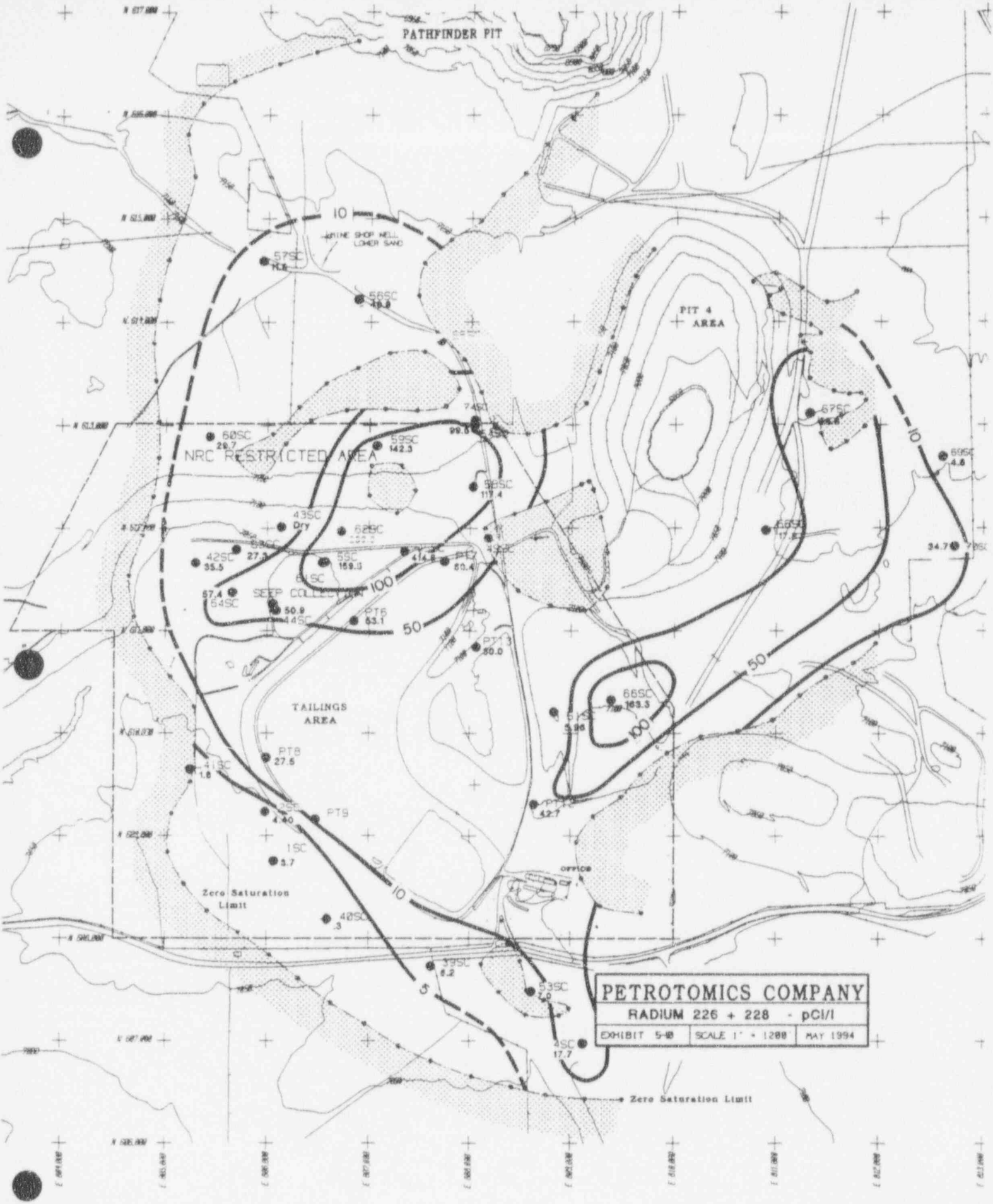
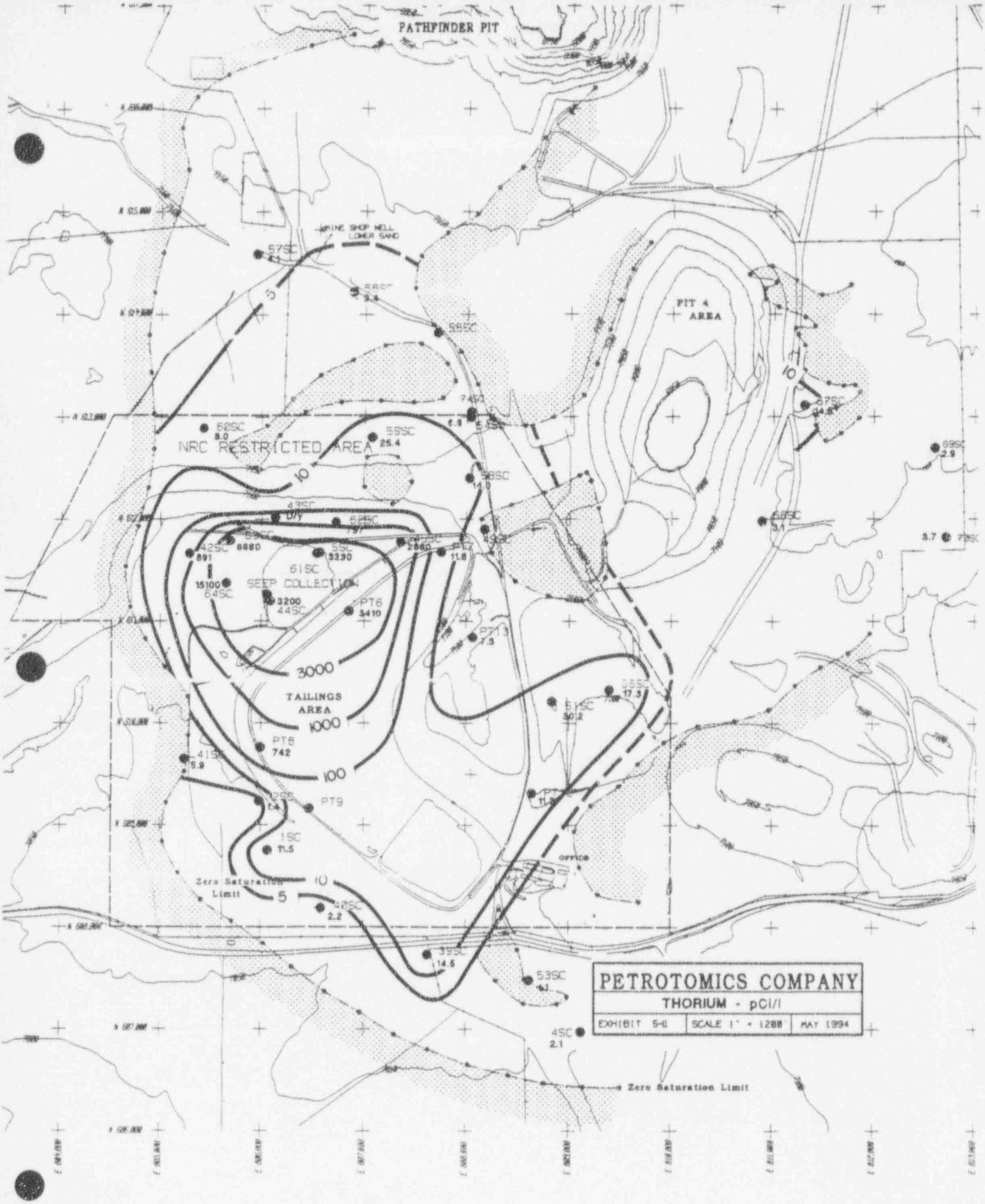
PIT 4 AREA
NRC RESTRICTED AREA
TAILINGS AREA
SEEP COLLECTION
Zero Saturation Limit
Zero Saturation Limit
PETROTOMICS COMPANY
SELENIUM - mg/l
EXHIBIT 5-6
SCALE 1" = 1200'


PATHFINDER PIT
MINE SHOP WELL
LOWER SAND
PIT 4
AREA
NRC RESTRICTED AREA
SEEP COLLECTION
TAILINGS
AREA
5.0
1.0
0.1
0.1
Zero Saturation
Limit
Zero Saturation Limit
PETROTOMICS COMPANY
URANIUM - mg/l
EXHIBIT 5-9
SCALE 1" = 1200'
MAY 1994


PATHFINDER PIT
PIT 4 AREA
NRC RESTRICTED AREA
TAILINGS AREA
SEEP COLLECTION
OFFICE
Zero Saturation Limit
10
50
100
5
PETROTOMICS COMPANY
RADIUM 226 + 228 - pCi/l
EXHIBIT 5-B
SCALE 1" = 1200
MAY 1994


PATHFINDER PIT
MINE SHOP WELL
LOWER SAND
PIT 4
AREA
NRC RESTRICTED AREA
SEEP COLLECTION
TAILINGS
AREA
PT6
3410
PT8
742
PT9
PT7
11.8
PT13
7.3
3000
1000
100
10
5
Zero Saturation
Limit
office
PETROTOMICS COMPANY
THORIUM - pCi/l
EXHIBIT 5-H
SCALE 1" = 1288'
MAY 1994
Zero Saturation Limit

6.0 EFFECT OF CORRECTIVE ACTION ON THE UPPER WIND RIVER SAND

The pumping rate from the Upper Wind River sand has continued to decrease with time due to the general lowering of water levels and reduced infiltration through the clay cap now covering the tailings pond. Continued dewatering of the tailings has also decreased the volume of tailings solutions migrating into the Upper Sand. Water level and water quality conditions in the Upper Wind River sand are very similar to those observed in 1993, except for a few changes on the distal edge of Upper sand saturated zones. The pH in most wells has remained stable in the past year. The reduction in the source of low pH water is thought to have caused an overall stabilization of the pH in the Upper Wind River sand.

Cadmium and chromium concentrations in the Upper Wind River sand have been fairly stable during the last year. Wells with relatively high concentrations of cadmium and chromium generally saw a slight decline in the levels of those constituents in the past year. Wells with chromium and cadmium concentrations at or below the detection limit generally saw a slight increase, which could be attributable to the change in analytical laboratory at the end of 1993.

Lead concentrations continued to be below the site standard of 0.05 mg/l during the past year, with a very slight overall decrease observed. Nickel concentrations generally increased, with the higher values extending the plume slightly to the north, east and south. Selenium values were little changed from the previous year. However, selenium values above the site standard of 0.01 mg/l were

observed in several wells to the northwest of the tailings impoundment and in new wells 69SC and 70SC. Several years ago the laboratory added a digestive step to their selenium analysis, with the result that observed concentrations increased to levels in excess of the 0.01 mg/l site standard. The site standard for selenium should be changed to reflect this adjustment in the standard selenium test procedure.

Uranium concentrations increased in several wells. The areal extent of the contaminant plume showed little change to the north from the previous year, but higher concentrations in wells 4SC and 53SC extended a narrow zone of uranium contamination to the south of the tailings pond. Radium 226 and 228 showed generally higher concentrations in the majority of the wells tested over the past year. These increases expanded the contaminant plume to the east and south of the tailings pond. However, lab data on radium 226 and 228 is very erratic and clear trends are difficult to determine. Thorium-230 concentrations generally increased during this monitoring period, with the contaminant plume generally expanding in all directions. The thorium 230 data is also very erratic over time, which makes it difficult to determine temporal and spatial trends.

Petrotomics' current corrective action is gradually decreasing the water levels in the Upper Wind River sand. The water quality and the areal extent of the contamination in the Upper Wind River has not changed substantially in the past year and is expected to change only gradually in the future.

6.1 COLLECTION VOLUMES

Table 6-1 presents the volume of water pumped from the Upper Wind River sand and tailings wells since 1987. These volumes of collected water are presented for each of the collection points. This table shows that a total of 36.5 million gallons of water has been pumped from the Upper sand and tailings through the first quarter of 1994.

6.2 CONSTITUENT VOLUMES

The volume of fluid removed from the Upper sand for each well for each year was accumulated based on weekly pumping rate measurements. The yearly volume pumped from each well was multiplied by the average yearly concentration of each constituent for that well to obtain the quantity of constituents removed. If a constituent concentration was below the detection level, the detection level value was used in the computation of constituent quantity. Table 6-2 presents the volumes of constituents removed from the Upper sand from 1987 through the first quarter of 1994. This table presents the years on the top of the table, with the right-hand column being an accumulation of all the years. The table shows that a total of 3.6 million kg of total dissolved solids have been removed from the Upper sand. A much lower chloride load (volume times concentration) has been removed due to the smaller concentration of this constituent. Approximately 18 and 102 kg of cadmium and chromium, respectively, have been removed from the Upper sand. A significantly larger volume of nickel (460

kg) has been removed due to the higher concentrations of this constituent. A volume of 808 kg of uranium has been pumped from the Upper sand. The volume of radionuclide constituents removed is reported in microcuries. A total of approximately 4,808 microcuries of radium-226 and 228 has been removed from the Upper sand, while approximately 241,000 microcuries of thorium-230 has been removed.

WELL	1987	1988	1989	1990	1991	1992	1993	1Q 1994	TOTALS
SEEP COLL		3,091,738	1,050,134	4,032					4,145,904
SEEP SUMP				914,054	1,381,464	432,936			2,728,454
51SC	54,734	621,331	125,798		57,859		4,738		864,460
54SC			460,454	584,035	508,536	258,552	90,518	37,397	1,939,492
58SC				1,313,726	2,038,982	1,484,885	724,349	153,821	5,715,763
59SC				5,645	362,376	338,587	22,781		729,389
62SC					85,378	58,262	11,189		154,829
63SC					564,480	613,771	121,968	32,760	1,332,979
64SC					281,837	524,664	206,338	50,098	1,062,937
PT6	213,494	6,921,029	3,610,757	1,077,250	1,739,405	1,025,539	497,650	216,619	15,301,743
PT7		73,584	144,850	67,334	87,494	91,526	165,110	42,638	672,536
PT9						779,688	1,115,957		1,895,645
TOTALS	268,228	10,707,682	5,391,993	3,966,076	7,107,811	5,608,410	2,960,598	533,333	36,544,131

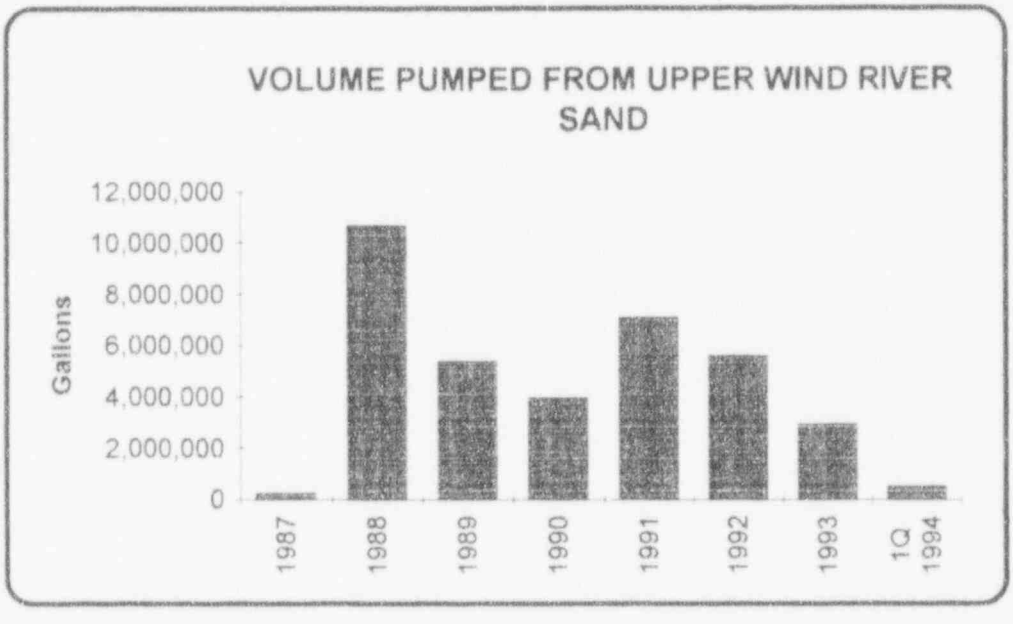


TABLE 6-1. VOLUME PUMPED FROM UPPER WELLS
1987 to 1st Q 1994 - in gallons

CONSTITUENTS	1987	1988	1989	1990	1991	1992	1993	1Q 1994	TOTALS
TDS	32,999	1,200,593	534,395	390,955	642,771	495,931	264,621	45,650	3,607,915
CHLORIDE	335	14,684	6,802	5,319	9,098	7,138	3,767	788	47,931
SULFATE	20,547	757,806	354,389	246,431	413,383	320,146	181,691	35,870	2,330,265
ARSENIC	0.0	0.7	0.0	0.0	0.1	0.1	0.0	0.0	0.9
BARIUM	0.1	2.0	1.0	0.8	1.4	1.1	0.6	0.1	6.9
CADMIUM	0.2	6.4	3.5	1.3	2.6	2.0	1.8	0.3	18.1
CHROMIUM	1.0	26.6	13.0	19.2	15.8	14.9	11.6		102.1
LEAD	0.5	24.0	12.8	3.3	7.5	1.7	0.6	0.1	50.4
NICKEL	5.6	121.7	20.9	60.6	107.0	81.8	52.4	10.6	460.7
SELENIUM	0.0	0.1	1.4	0.9	0.4	1.6	0.3		10.7
URANIUM	8	390	97	81	103	82	42	6	809
RADIUM 226 *	40	1144	42	101	133	112	35	59	1667
RADIUM 228 *		88	101	773	1366	617	147	51	3142
THORIUM 230 *	3517	68044	28248	6735	33346	50547	44469	6498	241404
TOTAL GALLONS PUMPED	268,228	10,707,682	5,391,993	3,966,076	7,107,811	5,608,410	2,960,598	533,333	36,544,131

NOTE: All measurements are in kilograms, except where noted.

* Ra226, Ra228 and Th230 are measured in microcuries

TABLE 6-2. VOLUME OF CONSTITUENTS REMOVED FROM THE UPPER SAND
DECEMBER 1987 THROUGH 1st QUARTER 1994

7.0 BACKGROUND WATER QUALITY

Wells 39SC and 41SC are the designated background wells for the Upper Wind River sand at the Petrotomics' tailings site (see NRC License SUA-551, Condition 47B). Table 7-1 presents the range in hazardous constituent concentrations observed in those background wells from May 1993 to March 1994. Site standards for this site are presented for comparison purposes.

The pH of water in well 39SC ranged from 3.99 to 4.71, considerably less than neutral. The maximum background concentrations observed for cadmium was 0.05 mg/l, which is 3½ times higher than the site standard of 0.014 mg/l. Chromium and lead had maximum values of 0.05 mg/l, which equal the Upper Sand site standard. The maximum nickel value observed was 0.40 mg/l, which is approximately twice the site standard. The selenium values reported for the last year exceeded the site standard by greater than eight times. The maximum background value observed for selenium during the last year was 0.085 mg/l.

Uranium concentrations in the Upper Wind River water are naturally expected to be elevated in some areas due to this sand being host to uranium ore bodies in the vicinity of the Petrotomics tailings pond. However, the maximum uranium background observed in background wells 39SC and 41SC over the past year were below the 0.16 mg/l site standard. The maximum radium-226 plus radium-228 concentration observed in the background wells over the past year was 17.14 pCi/l, nearly 3½ times the established background level of 5.0 pCi/l. The maximum thorium-230 concentration observed in

39SC and 41SC was 14.5 pCi/l during the past year, significantly higher than the site standard of 3.94 pCi/l.

Concentrations in one or the other of the two background wells exceeded site standards for five of eight parameters during the past year. The concentrations in excess of the site standards are mainly the result of using the mean concentrations of two wells when the site standards were established.

CONSTITUENT	RANGE OF CONCENTRATIONS 39SC & 41SC	SITE STANDARDS
pH (Standard Units))	6.99 - 7.29	None
Cadmium (mg/l)	0.01 - 0.05	0.014
Chromium (mg/l)	0.01 - 0.05	0.05
Lead (mg/l)	0.005 - .0.05	0.05
Nickel (mg/l)	0.03 - 0.40	0.22
Selenium (mg/l)	0.001 - 0.085	0.01
Uranium (mg/l)	0.023 - 0.116	0.16
Ra226+228 (pCi/l)	1.16 - 17.14	5.00
Th 230 (pCi/l)	0.19 - 14.50	3.94

TABLE 7-1. RANGE OF CONCENTRATIONS FOR BACKGROUND WELLS 39SC & 41SC MAY 1993 - MARCH 1994

8.0 REFERENCES

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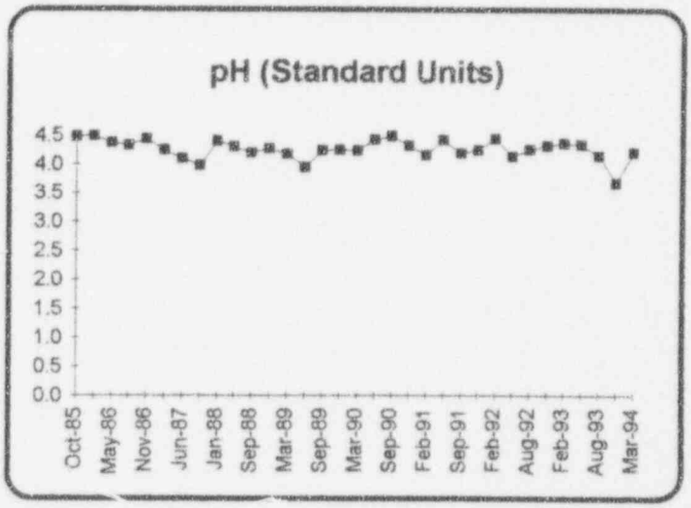
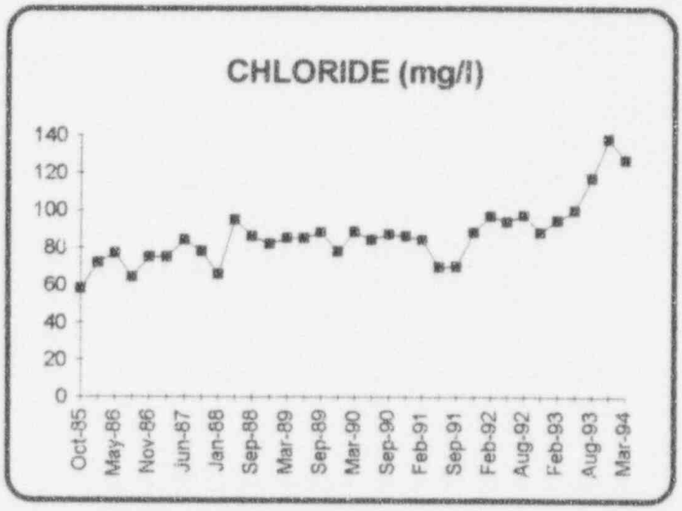
APPENDIX

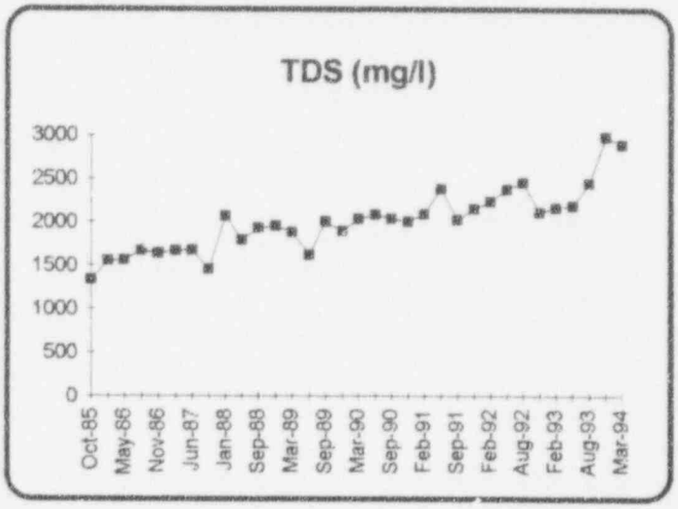
WATER QUALITY DATA FOR THE UPPER WIND RIVER WATER

WELL 1SC

DATE	pH	CHLORIDE	TDS
Oct-85	4.5	58	1336
Mar-86	4.5	72	1550
May-86	4.4	77	1562
Sep-86	4.3	64	1671
Nov-86	4.4	75	1641
Mar-87	4.3	75	1667
Jun-87	4.1	84	1678
Sep-87	4.0	78	1456
Jan-88	4.4	66	2067
Jun-88	4.3	95	1793
Sep-88	4.2	86	1931
Nov-88	4.3	82	1952
Mar-89	4.2	85	1883
May-89	3.9	85	1615
Sep-89	4.2	88	2004
Dec-89	4.3	78	1893
Mar-90	4.2	89	2029
Jun-90	4.4	84	2083
Sep-90	4.5	87	2038
Dec-90	4.3	86	2000
Feb-91	4.2	84	2092
Jun-91	4.4	70	2378
Sep-91	4.2	70	2025
Dec-91	4.3	88	2148
Feb-92	4.4	97	2232
Jun-92	4.1	94	2372
Aug-92	4.3	97	2451
Dec-92	4.3	88	2110
Feb-93	4.4	94	2166
May-93	4.4	100	2185
Aug-93	4.2	117	2449
Nov-93	3.7	138	2981
Mar-94	4.2	127	2900

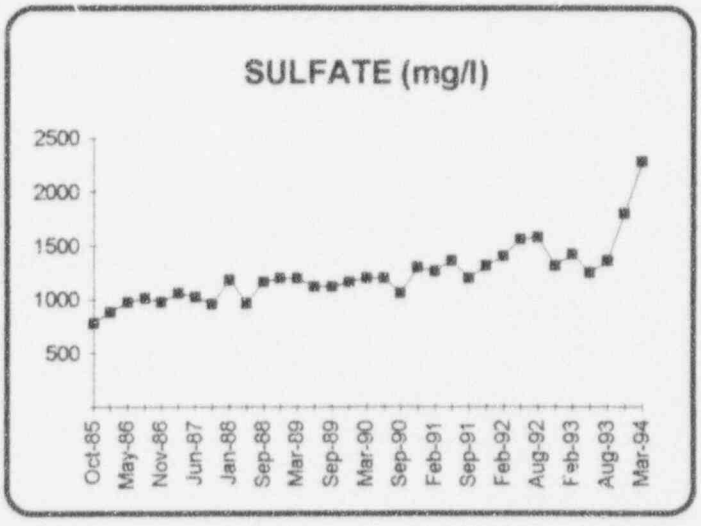


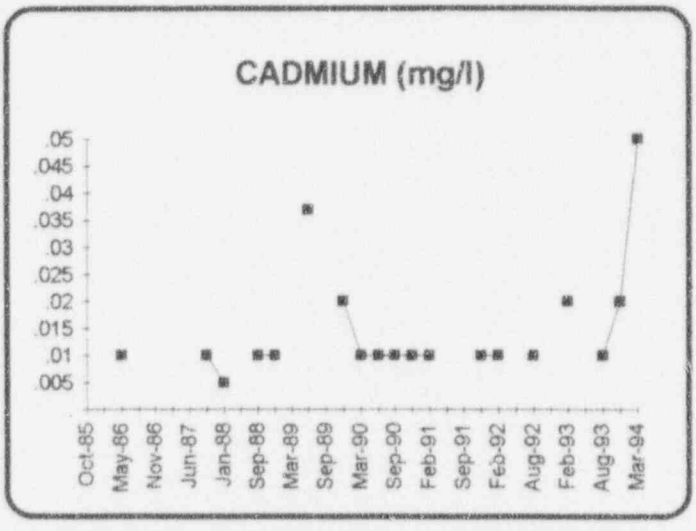


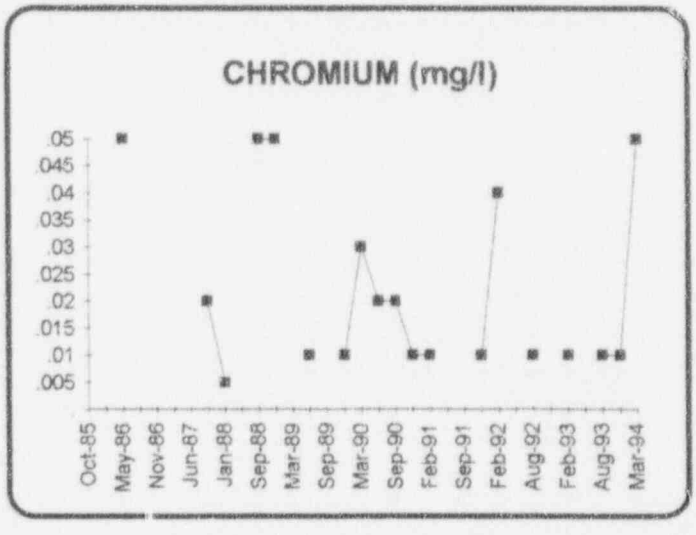


WELL 1SC

DATE	SO4	Cadmium	Chromium
Oct-85	780		
Mar-86	882		
May-86	975	.01	.05
Sep-86	1010		
Nov-86	973		
Mar-87	1060		
Jun-87	1020		
Sep-87	953	.01	.02
Jan-88	1180	.005	.005
Jun-88	960		
Sep-88	1160	.01	.05
Nov-88	1200	.01	.05
Mar-89	1200		
May-89	1120	.037	.01
Sep-89	1120		
Dec-89	1160	.02	.01
Mar-90	1200	.01	.03
Jun-90	1200	.01	.02
Sep-90	1060	.01	.02
Dec-90	1300	.01	.01
Feb-91	1265	.01	.01
Jun-91	1360		
Sep-91	1200		
Dec-91	1310	.01	.01
Feb-92	1400	.01	.04
Jun-92	1560		
Aug-92	1580	.01	.01
Dec-92	1310		
Feb-93	1420	.02	.01
May-93	1250		
Aug-93	1360	0.01	0.01
Nov-93	1800	0.02	0.01
Mar-94	2280	0.05	0.05

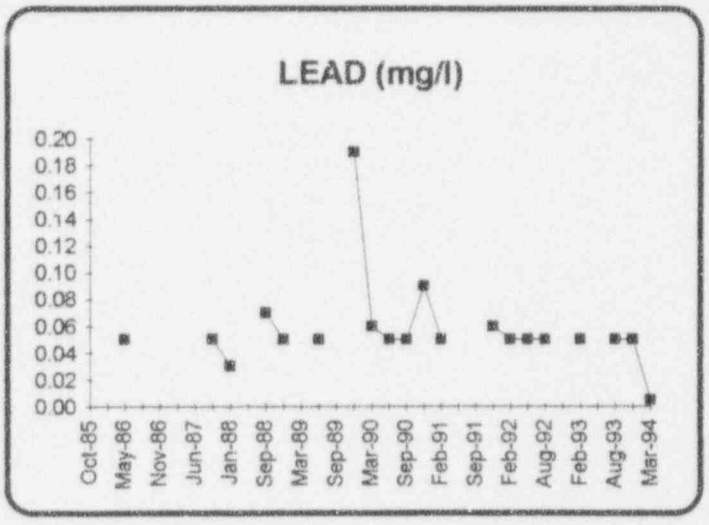


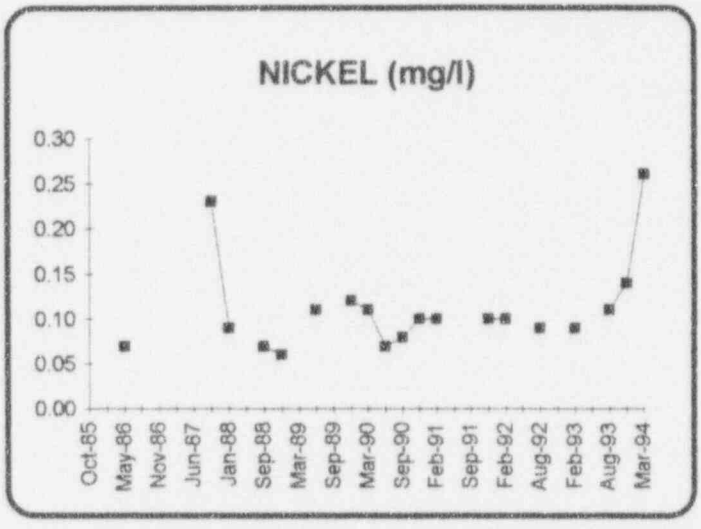


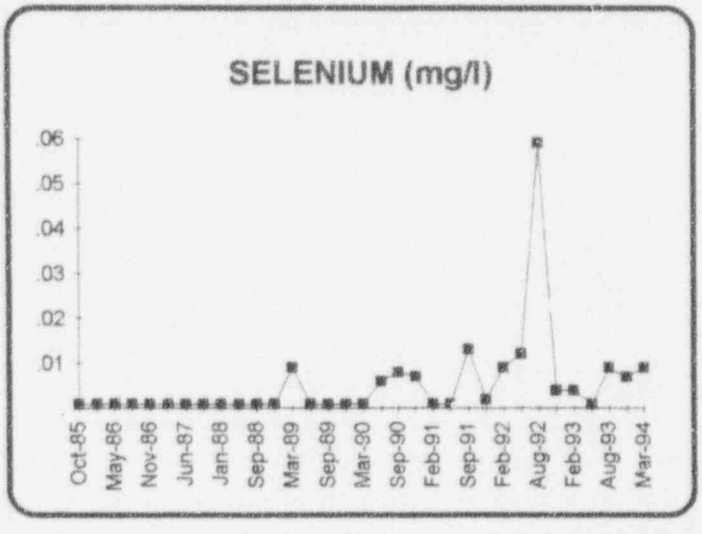


WELL 1SC

DATE	LEAD	NICKEL	SELENIUM
Oct-85			.001
Mar-86			.001
May-86	0.05	0.07	.001
Sep-86			.001
Nov-86			.001
Mar-87			.001
Jun-87			.001
Sep-87	0.05	0.23	.001
Jan-88	0.03	0.09	.001
Jun-88			.001
Sep-88	0.07	0.07	.001
Nov-88	0.05	0.06	.001
Mar-89			.009
May-89	0.05	0.11	.001
Sep-89			.001
Dec-89	0.19	0.12	.001
Mar-90	0.06	0.11	.001
Jun-90	0.05	0.07	.006
Sep-90	0.05	0.08	.008
Dec-90	0.09	0.10	.007
Feb-91	0.05	0.10	.001
Jun-91			.001
Sep-91			.013
Dec-91	0.06	0.10	.002
Feb-92	0.05	0.10	.009
Jun-92	0.05		.012
Aug-92	0.05	0.09	.059
Dec-92			.004
Feb-93	0.05	0.09	.004
May-93			.001
Aug-93	0.05	0.11	.009
Nov-93	0.05	0.14	.007
Mar-94	0.01	0.26	.009

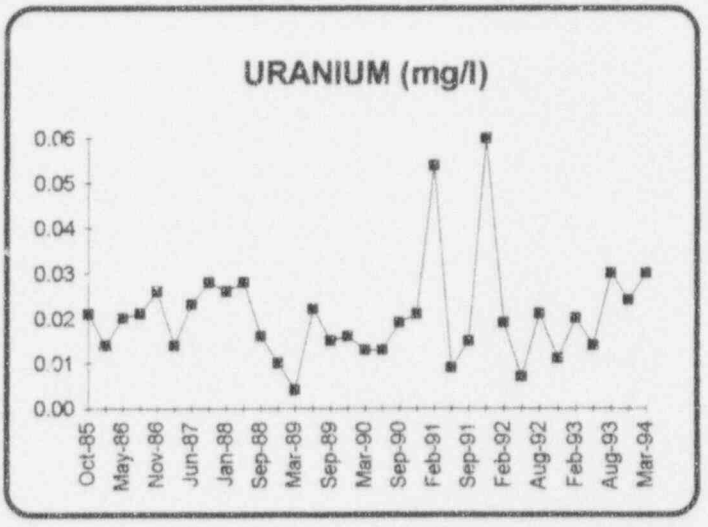


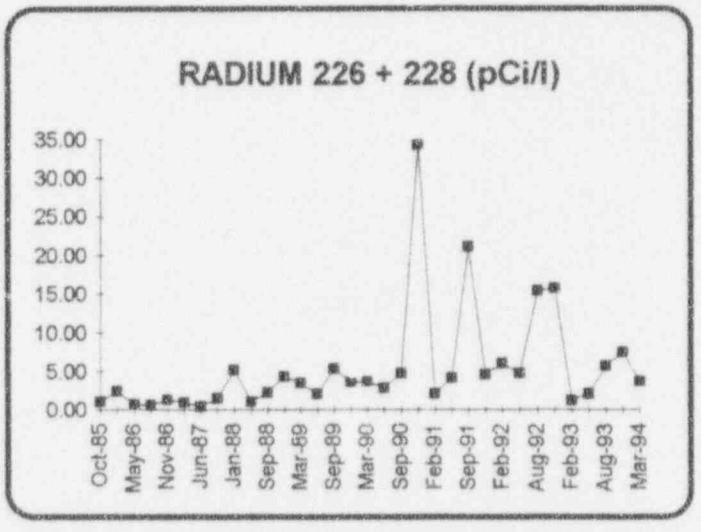


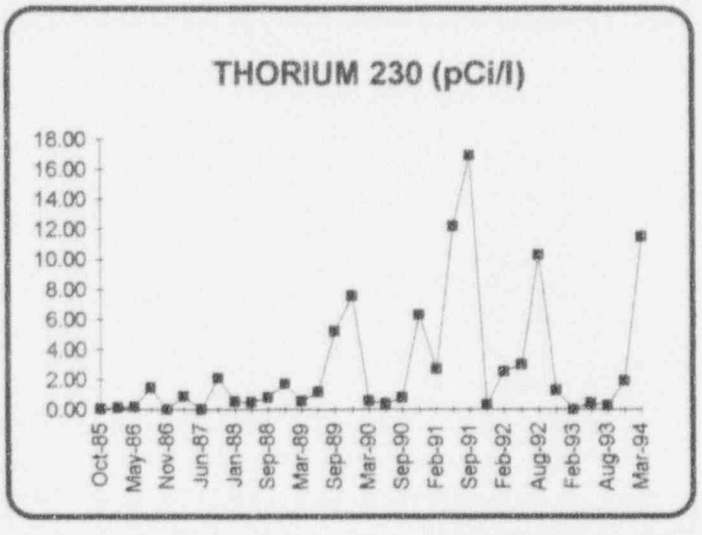


WELL 1SC

DATE	URANIUM	Ra 6+8	Th 230
Oct-85	0.02	1.06	0.09
Mar-86	0.01	2.40	0.14
May-86	0.02	0.69	0.20
Sep-86	0.02	0.64	1.45
Nov-86	0.03	1.29	0.00
Mar-87	0.01	0.93	0.88
Jun-87	0.02	0.50	0.00
Sep-87	0.03	1.44	2.10
Jan-88	0.03	5.20	0.53
Jun-88	0.03	1.07	0.51
Sep-88	0.02	2.20	0.79
Nov-88	0.01	4.30	1.69
Mar-89	0.00	3.50	0.57
May-89	0.02	2.10	1.20
Sep-89	0.02	5.40	5.23
Dec-89	0.02	3.60	7.54
Mar-90	0.01	3.70	0.59
Jun-90	0.01	2.80	0.39
Sep-90	0.02	4.80	0.79
Dec-90	0.02	34.20	6.30
Feb-91	0.05	2.10	2.70
Jun-91	0.01	4.20	12.20
Sep-91	0.02	21.08	16.90
Dec-91	0.06	4.57	0.31
Feb-92	0.02	6.00	2.53
Jun-92	0.01	4.80	2.99
Aug-92	0.02	15.40	10.30
Dec-92	0.01	15.70	1.27
Feb-93	0.02	1.20	0.00
May-93	0.01	2.06	0.47
Aug-93	0.03	5.72	0.29
Nov-93	0.02	7.46	1.93
Mar-94	0.03	3.70	11.50

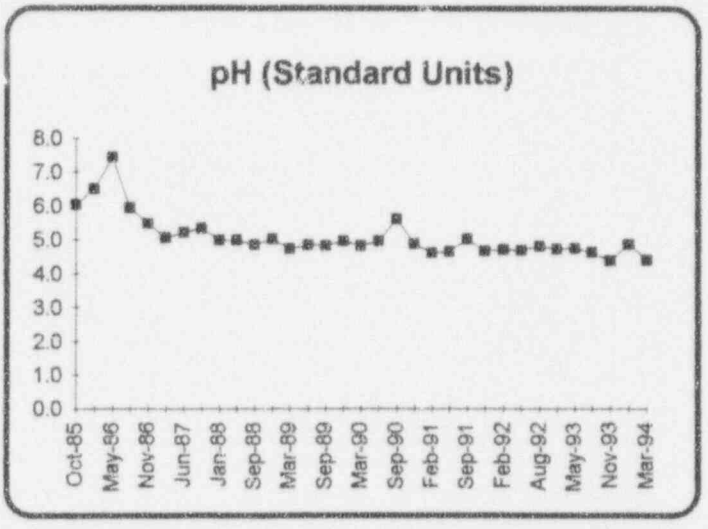


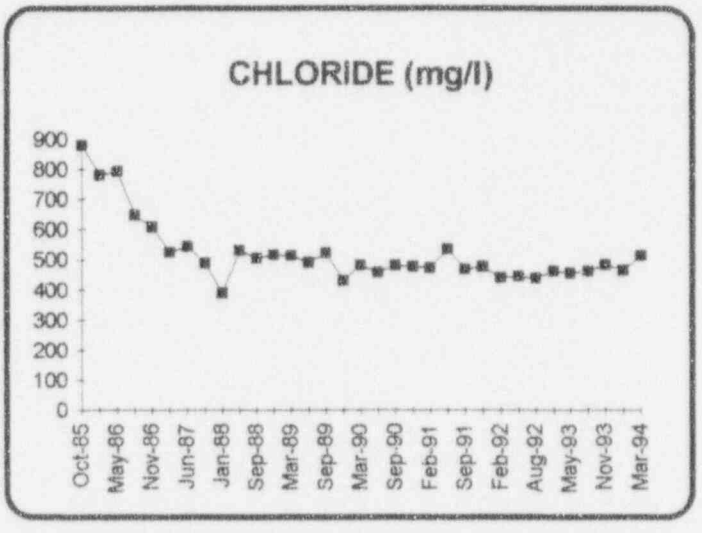


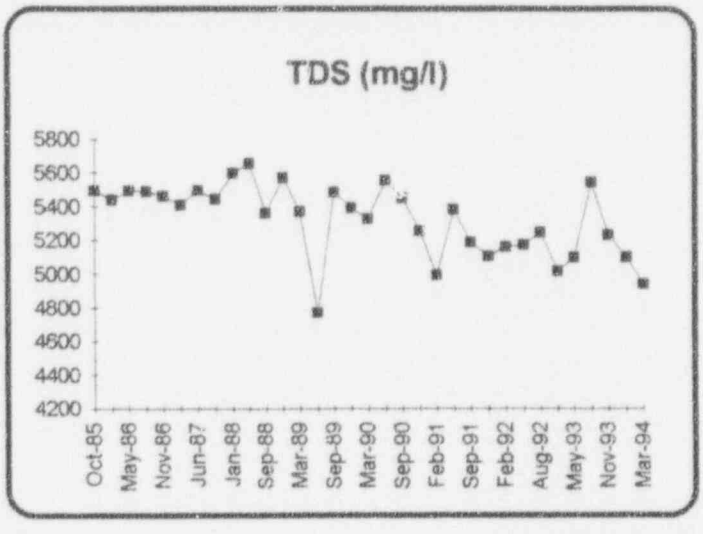


WELL 4SC

DATE	pH	CHLORIDE	TDS
Oct-85	6.0	880	5494
Mar-86	6.5	780	5438
May-86	7.5	794	5494
Sep-86	6.0	648	5488
Nov-86	5.5	610	5462
Mar-87	5.1	526	5407
Jun-87	5.2	545	5494
Sep-87	5.3	488	5443
Jan-88	5.0	388	5599
Jun-88	5.0	532	5655
Sep-88	4.9	506	5361
Nov-88	5.0	517	5570
Mar-89	4.7	515	5368
May-89	4.8	490	4769
Sep-89	4.8	523	5486
Dec-89	5.0	431	5391
Mar-90	4.8	482	5325
Jun-90	5.0	457	5556
Sep-90	5.6	481	5451
Dec-90	4.9	477	5253
Feb-91	4.6	474	4993
Jun-91	4.6	536	5382
Sep-91	5.0	468	5186
Dec-91	4.7	478	5106
Feb-92	4.7	440	5159
Jun-92	4.7	445	5171
Aug-92	4.8	439	5244
Feb-93	4.7	462	5016
May-93	4.7	455	5096
Aug-93	4.6	463	5544
Nov-93	4.4	484	5229
Dec-93	4.9	465	5096
Mar-94	4.4	514	4940

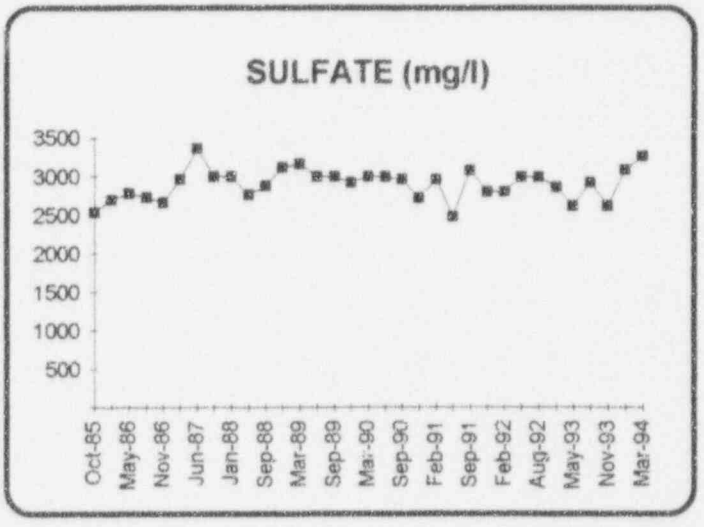


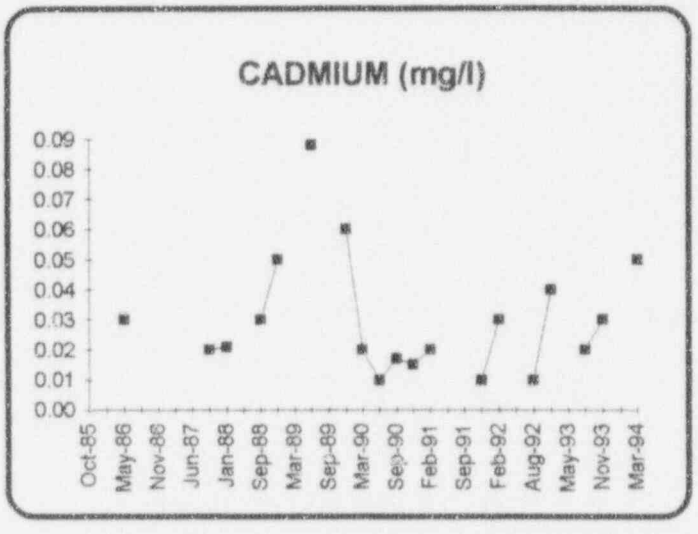


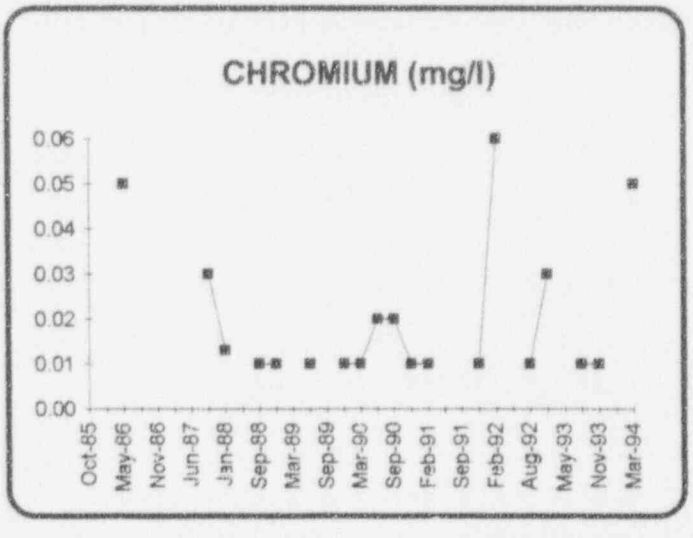


WELL 4SC

DATE	SO4	Cadmium	Chromium
Oct-85	2530		
Mar-86	2696		
May-86	2780	0.03	0.05
Sep-86	2722		
Nov-86	2660		
Mar-87	2960		
Jun-87	3360		
Sep-87	3000	0.02	0.03
Jan-88	3000	0.02	0.01
Jun-88	2760		
Sep-88	2880	0.03	0.01
Nov-88	3120	0.05	0.01
Mar-89	3160		
May-89	3000	0.09	0.01
Sep-89	3000		
Dec-89	2920	0.06	0.01
Mar-90	3000	0.02	0.01
Jun-90	3000	0.01	0.02
Sep-90	2960	0.02	0.02
Dec-90	2720	0.02	0.01
Feb-91	2960	0.02	0.01
Jun-91	2480		
Sep-91	3080		
Dec-91	2800	0.01	0.01
Feb-92	2800	0.03	0.06
Jun-92	3000		
Aug-92	3000	0.01	0.01
Feb-93	2860	0.04	0.03
May-93	2620		
Aug-93	2920	0.02	0.01
Nov-93	2620	0.03	0.01
Dec-93	3080		
Mar-94	3260	0.05	0.05

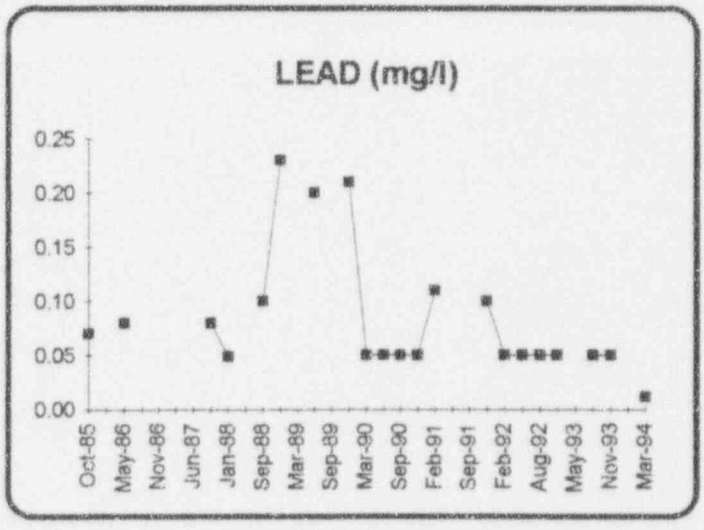


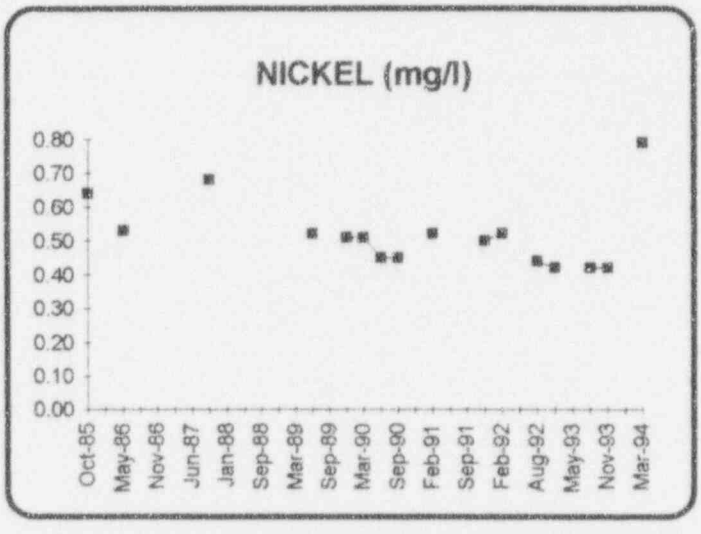


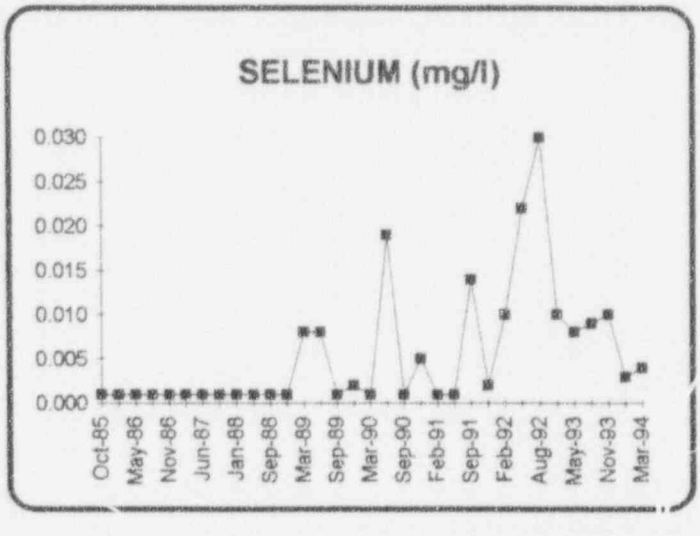


WELL 4SC

DATE	LEAD	NICKEL	SELENIUM
Oct-85	0.07	0.64	0.001
Mar-86			0.001
May-86	0.08	0.53	0.001
Sep-86			0.001
Nov-86			0.001
Mar-87			0.001
Jun-87			0.001
Sep-87	0.08	0.68	0.001
Jan-88	0.05		0.001
Jun-88			0.001
Sep-88	0.10		0.001
Nov-88	0.23		0.001
Mar-89			0.008
May-89	0.20	0.52	0.008
Sep-89			0.001
Dec-89	0.21	0.51	0.002
Mar-90	0.05	0.51	0.001
Jun-90	0.05	0.45	0.019
Sep-90	0.05	0.45	0.001
Dec-90	0.05		0.005
Feb-91	0.11	0.52	0.001
Jun-91			0.001
Sep-91			0.014
Dec-91	0.10	0.50	0.002
Feb-92	0.05	0.52	0.010
Jun-92	0.05		0.022
Aug-92	0.05	0.44	0.030
Feb-93	0.05	0.42	0.010
May-93			0.008
Aug-93	0.05	0.42	0.009
Nov-93	0.05	0.42	0.010
Dec-93			0.003
Mar-94	0.01	0.79	0.004

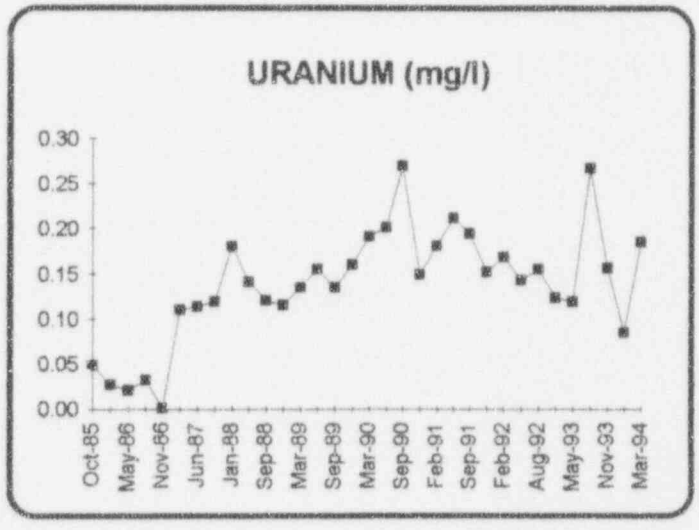


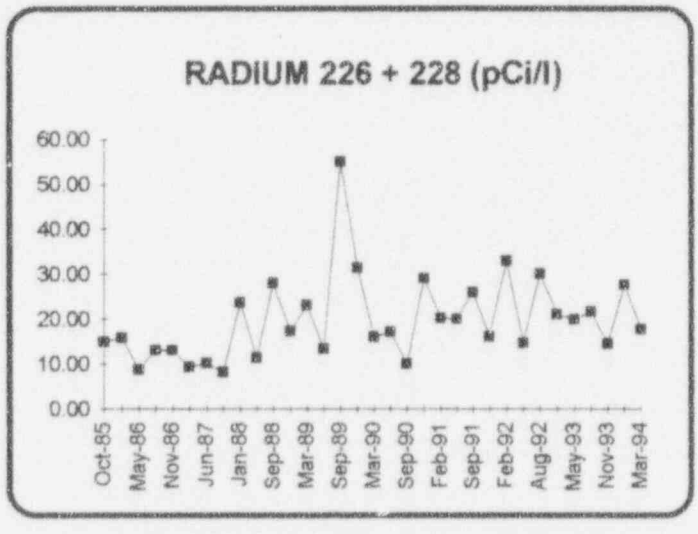


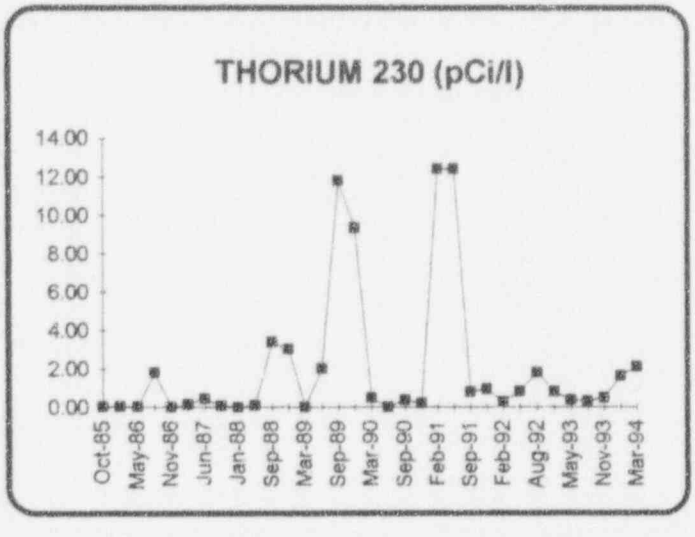


WELL 4SC

DATE	URANIUM	Ra 6+8	Th 230
Oct-85	0.05	14.99	0.04
Mar-86	0.03	15.80	0.03
May-86	0.02	8.74	0.04
Sep-86	0.03	13.00	1.79
Nov-86	0.00	13.10	0.00
Mar-87	0.11	9.20	0.12
Jun-87	0.11	10.20	0.42
Sep-87	0.12	8.12	0.06
Jan-88	0.18	23.66	0.00
Jun-88	0.14	11.30	0.10
Sep-88	0.12	28.00	3.37
Nov-88	0.12	17.20	3.00
Mar-89	0.14	23.00	0.00
May-89	0.16	13.30	2.00
Sep-89	0.14	55.00	11.80
Dec-89	0.16	31.31	9.31
Mar-90	0.19	15.90	0.48
Jun-90	0.20	17.10	0.00
Sep-90	0.27	10.00	0.38
Dec-90	0.15	29.00	0.20
Feb-91	0.18	20.10	12.40
Jun-91	0.21	20.00	12.40
Sep-91	0.20	26.00	0.78
Dec-91	0.15	16.10	0.94
Feb-92	0.17	33.00	0.25
Jun-92	0.14	14.60	0.82
Aug-92	0.16	30.00	1.80
Feb-93	0.12	21.00	0.82
May-93	0.12	19.84	0.37
Aug-93	0.27	21.64	0.29
Nov-93	0.16	14.51	0.48
Dec-93	0.09	27.61	1.63
Mar-94	0.19	17.70	2.10

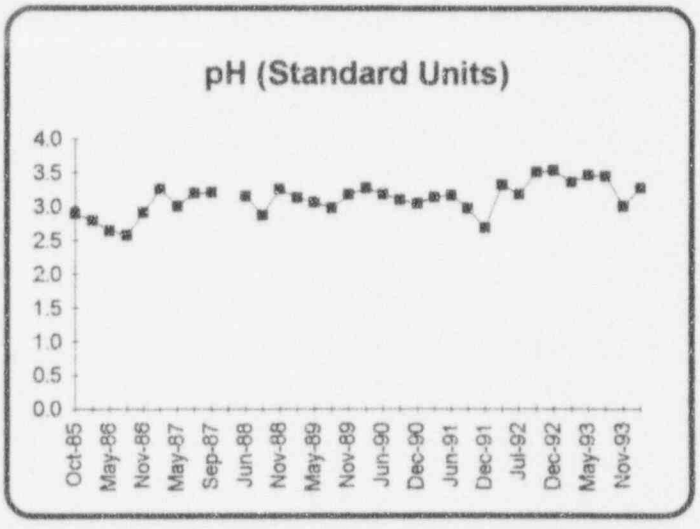


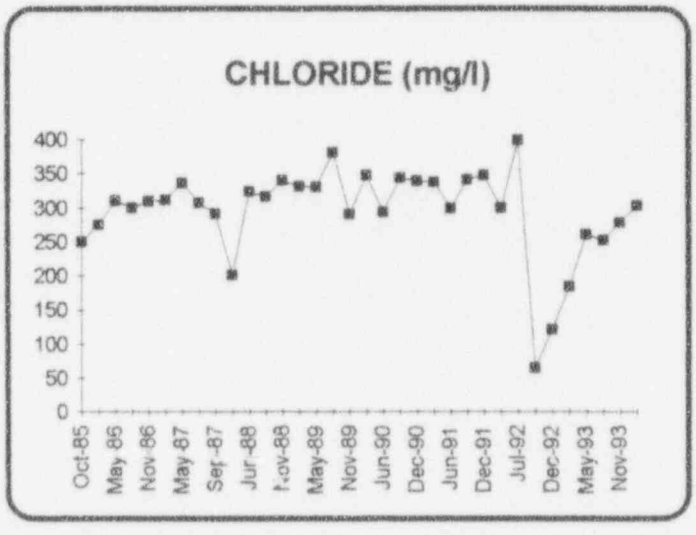


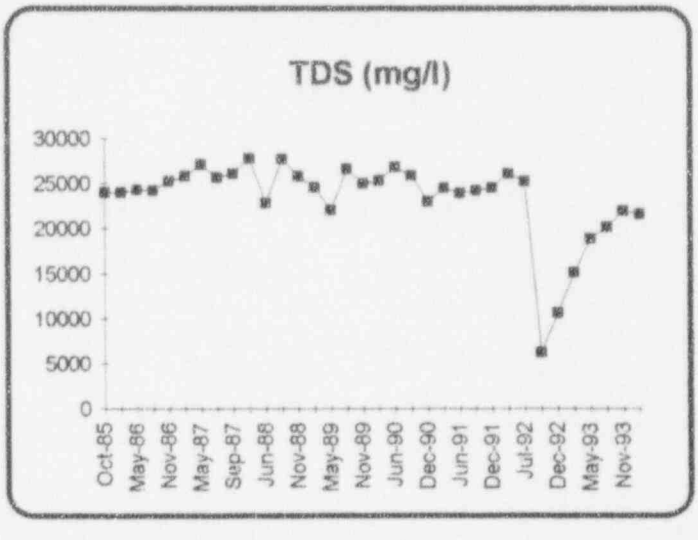


WELL 5SC

DATE	pH	CHLORIDE	TDS
Oct-85	2.9	250	23996
Mar-86	2.8	275	23980
May-86	2.6	310	24268
Sep-86	2.6	300	24234
Nov-86	2.9	309	25236
Mar-87	3.3	311	25782
May-87	3.0	336	27085
Jun-87	3.2	307	25662
Sep-87	3.2	291	26118
Jan-88		201	27765
Jun-88	3.1	324	22846
Sep-88	2.9	316	27690
Nov-88	3.3	340	25812
Mar-89	3.1	331	24568
May-89	3.1	330	22016
Sep-89	3.0	381	26592
Nov-89	3.2	290	25040
Mar-90	3.3	348	25331
Jun-90	3.2	293	26849
Aug-90	3.1	344	25857
Dec-90	3.0	339	22997
Feb-91	3.1	337	24482
Jun-91	3.2	299	23903
Sep-91	3.0	341	24233
Dec-91	2.7	348	24485
Feb-92	3.3	300	26070
Jul-92	3.2	399	25208
Aug-92	3.5	64	6258
Dec-92	3.5	121	10629
Mar-93	3.4	184	15084
May-93	3.5	261	18865
Aug-93	3.4	252	20192
Nov-93	3.0	278	21960
Mar-94	3.3	303	21600

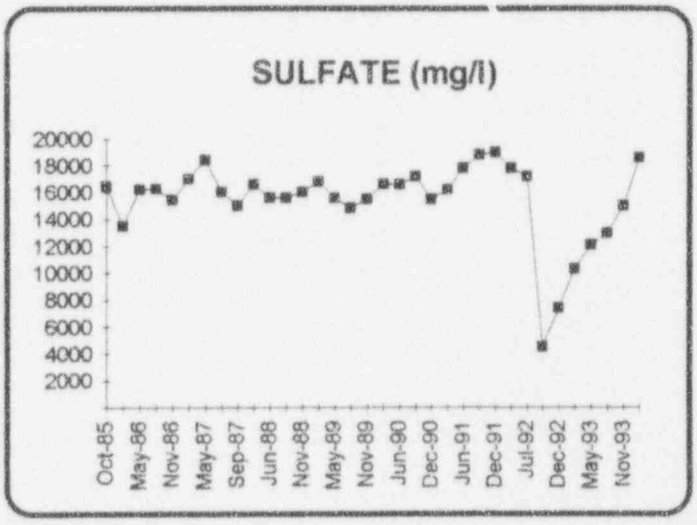


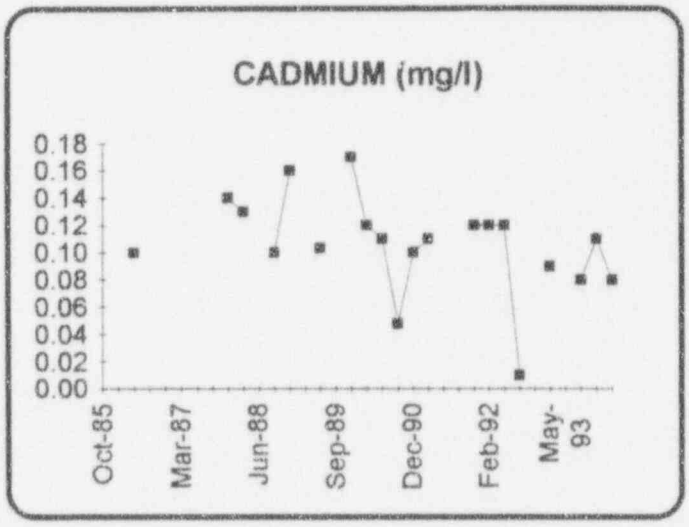


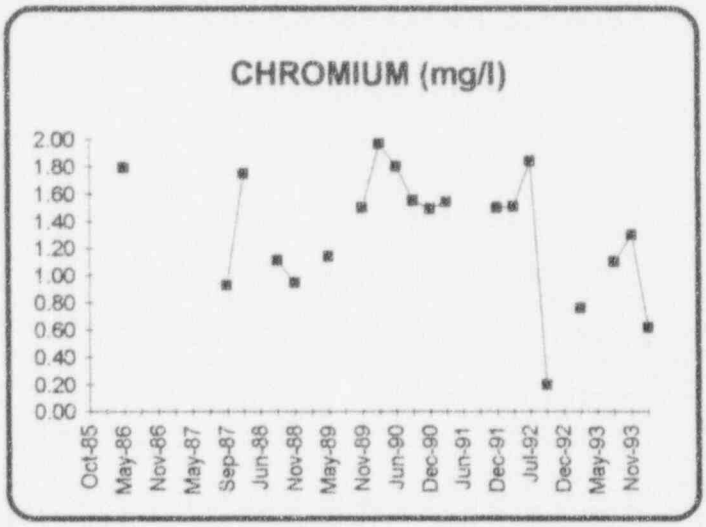


WELL 5SC

DATE	SO4	Cadmium	Chromium
Oct-85	16450		
Mar-86	13480		
May-86	16200	0.10	1.79
Sep-86	16250		
Nov-86	15420		
Mar-87	17000		
May-87	18400		
Jun-87	16000		
Sep-87	15000	0.14	0.93
Jan-88	16600	0.13	1.75
Jun-88	15600		
Sep-88	15600	0.10	1.11
Nov-88	16000	0.16	0.95
Mar-89	16800		
May-89	15600	0.10	1.14
Sep-89	14800		
Nov-89	15500	0.17	1.50
Mar-90	16600	0.12	1.97
Jun-90	16600	0.11	1.80
Aug-90	17200	0.05	1.55
Dec-90	15500	0.10	1.49
Feb-91	16200	0.11	1.54
Jun-91	17800		
Sep-91	18800		
Dec-91	19000	0.12	1.50
Feb-92	17800	0.12	1.51
Jul-92	17200	0.12	1.84
Aug-92	4480	0.01	0.20
Dec-92	7400		
Mar-93	10320	0.09	0.76
May-93	12080		
Aug-93	12960	0.08	1.10
Nov-93	15000	0.11	1.30
Mar-94	18600	0.08	0.62

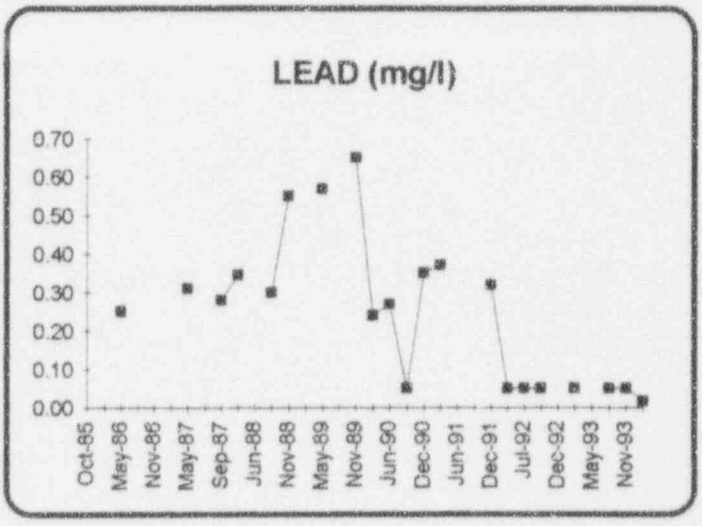


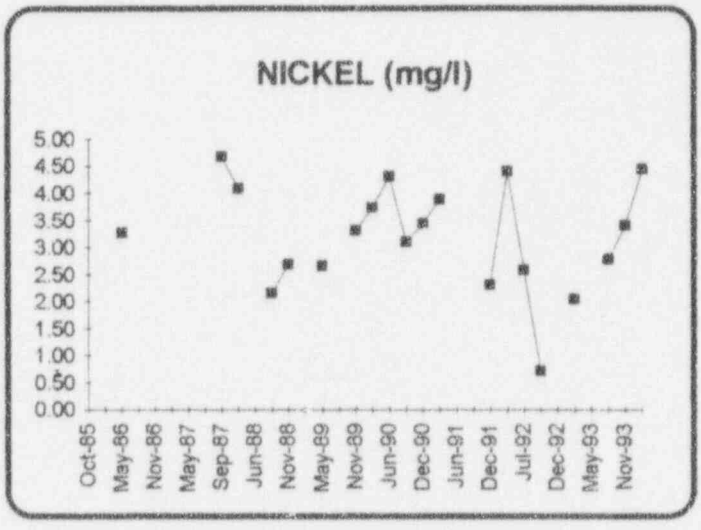


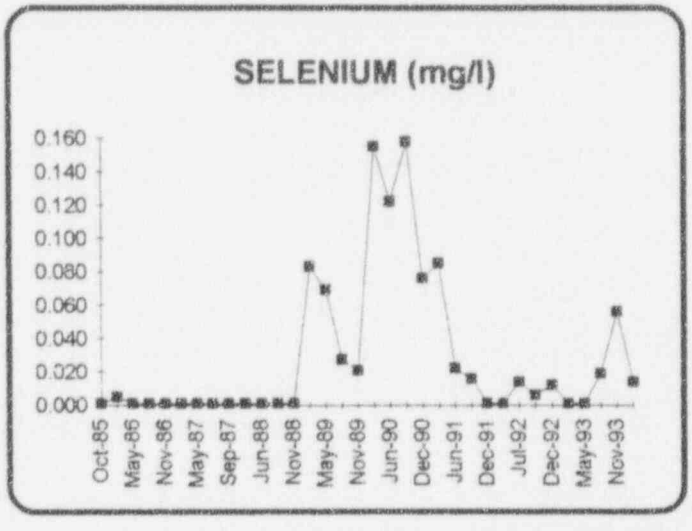


WELL 5SC

DATE	LEAD	NICKEL	SELENIUM
Oct-85			0.001
Mar-86			0.005
May-86	0.25	3.27	0.001
Sep-86			0.001
Nov-86			0.001
Mar-87			0.001
May-87	0.31		0.001
Jun-87			0.001
Sep-87	0.28	4.67	0.001
Jan-88	0.35	4.09	0.001
Jun-88			0.001
Sep-88	0.30	2.15	0.001
Nov-88	0.55	2.68	0.001
Mar-89			0.083
May-89	0.57	2.66	0.069
Sep-89			0.027
Nov-89	0.65	3.30	0.021
Mar-90	0.24	3.74	0.155
Jun-90	0.27	4.30	0.122
Aug-90	0.05	3.10	0.158
Dec-90	0.35	3.44	0.076
Feb-91	0.37	3.88	0.085
Jun-91			0.022
Sep-91			0.016
Dec-91	0.32	2.31	0.001
Feb-92	0.05	4.40	0.001
Jul-92	0.05	2.58	0.014
Aug-92	0.05	0.72	0.006
Dec-92			0.012
Mar-93	0.05	2.04	0.001
May-93			0.001
Aug-93	0.05	2.77	0.019
Nov-93	0.05	3.40	0.056
Mar-94	0.02	4.44	0.014

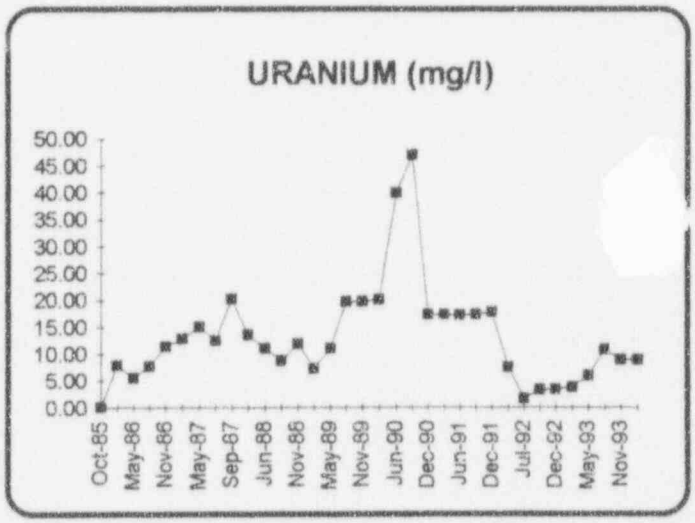


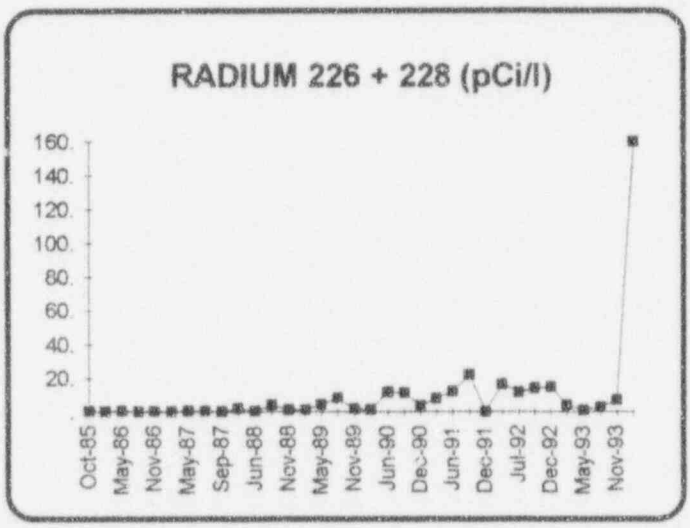


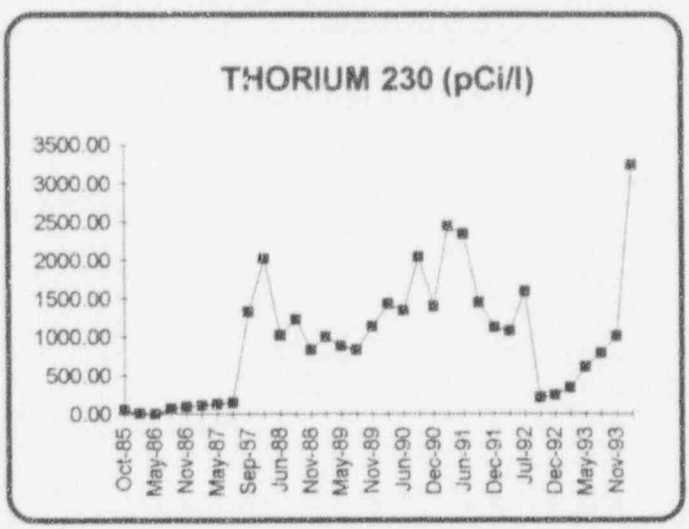


WELL 5SC

DATE	URANIUM	Ra 6+8	Th 230
Oct-85	0.08	.55	48.80
Mar-86	7.90	.33	4.16
May-86	5.50	.75	2.46
Sep-86	7.77	.39	70.60
Nov-86	11.40	.58	89.80
Mar-87	12.80	.28	108.00
May-87	15.00	.48	125.00
Jun-87	12.40	.47	146.00
Sep-87	20.20	.2	1325.00
Jan-88	13.50	2.10	2014.00
Jun-88	11.00	.55	1020.00
Sep-88	8.70	3.90	1230.00
Nov-88	11.80	1.50	827.00
Mar-89	7.30	1.50	1001.00
May-89	11.00	4.30	881.00
Sep-89	19.70	8.30	825.00
Nov-89	19.70	1.80	1134.00
Mar-90	20.10	1.40	1434.00
Jun-90	39.90	11.90	1348.00
Aug-90	47.00	11.30	2039.00
Dec-90	17.30	3.70	1394.00
Feb-91	17.30	7.90	2438.00
Jun-91	17.20	12.30	2334.00
Sep-91	17.30	22.00	1444.00
Dec-91	17.80	0.22	1123.00
Feb-92	7.52	16.50	1075.00
Jul-92	1.59	11.90	1592.00
Aug-92	3.22	14.10	212.00
Dec-92	3.31	14.80	248.00
Mar-93	3.73	4.00	340.00
May-93	5.87	0.98	604.00
Aug-93	10.70	2.89	783.00
Nov-93	8.82	7.13	1008.00
Mar-94	8.85	159.50	3230.00

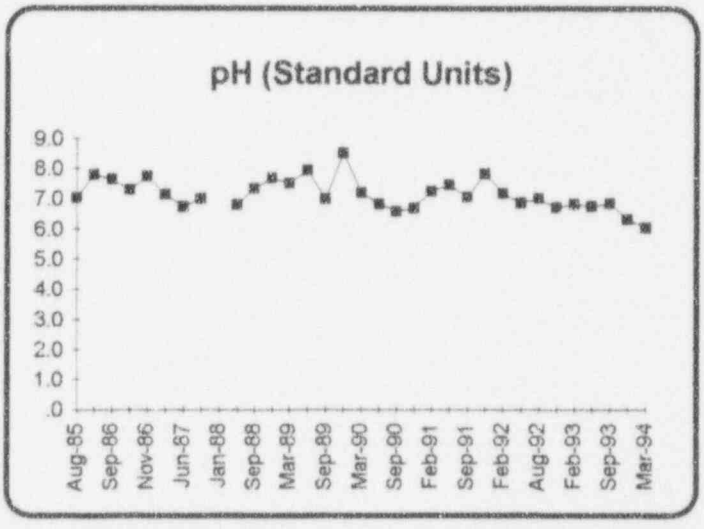


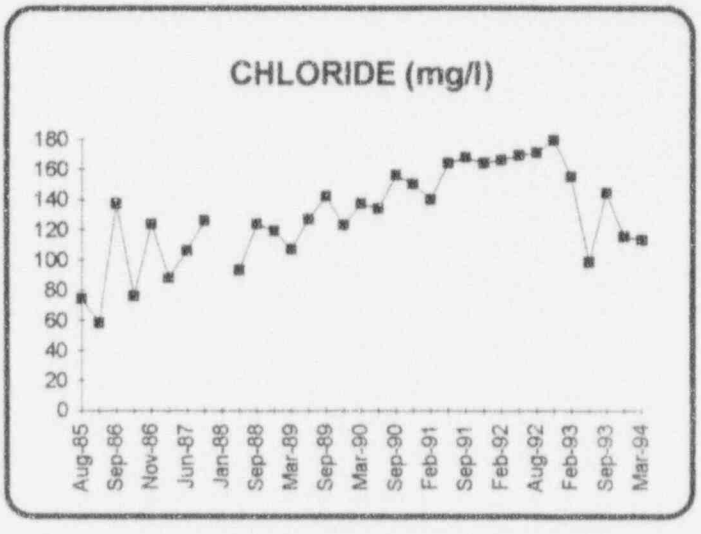


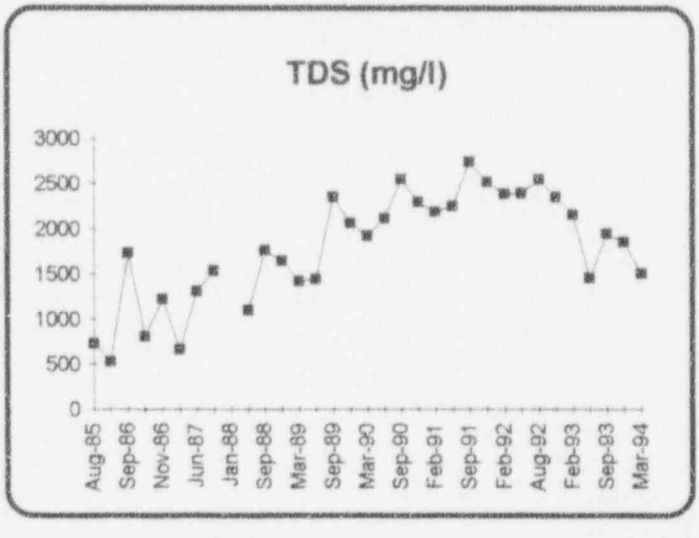


WELL 40SC

DATE	pH	CHLORIDE	TDS
Aug-85	7.0	74	734
May-86	7.8	58	528
Sep-86	7.6	137	1732
Oct-86	7.3	76	804
Nov-86	7.8	124	1222
Mar-87	7.1	88	663
Jun-87	6.7	106	1304
Sep-87	7.0	126	1537
Jan-88			
Jun-88	6.8	93	1099
Sep-88	7.3	124	1760
Nov-88	7.7	119	1649
Mar-89	7.5	107	1425
May-89	7.9	127	1442
Sep-89	7.0	142	2351
Nov-89	8.5	123	2066
Mar-90	7.2	137	1922
Jun-90	6.8	134	2112
Sep-90	6.6	156	2549
Dec-90	6.7	150	2291
Feb-91	7.3	140	2185
Jun-91	7.5	164	2248
Sep-91	7.1	168	2743
Dec-91	7.8	164	2514
Feb-92	7.2	166	2386
Jun-92	6.9	169	2395
Aug-92	7.0	171	2545
Dec-92	6.7	179	2348
Feb-93	6.8	155	2157
May-93	6.8	98	1462
Sep-93	6.8	144	1947
Nov-93	6.3	115	1855
Mar-94	6.1	113	1510

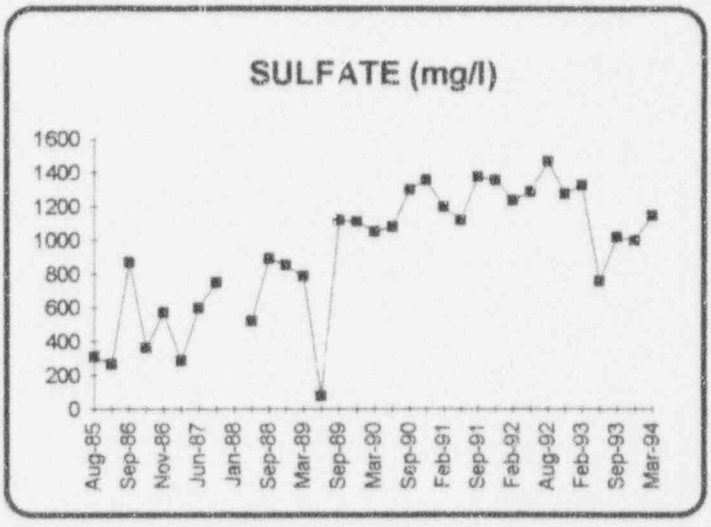


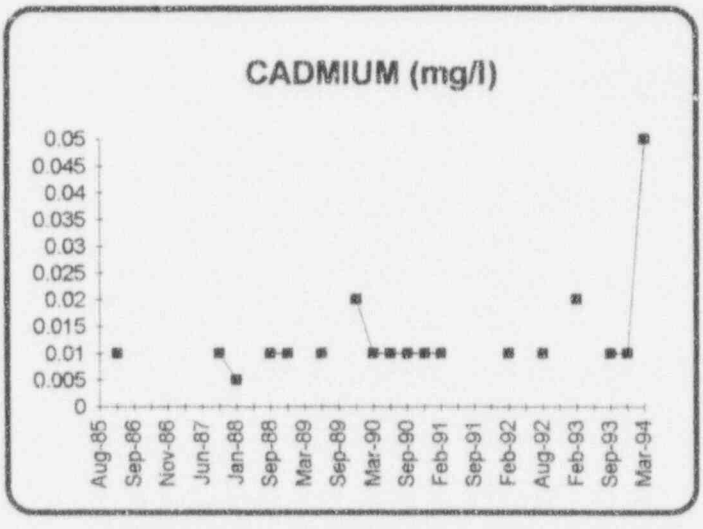


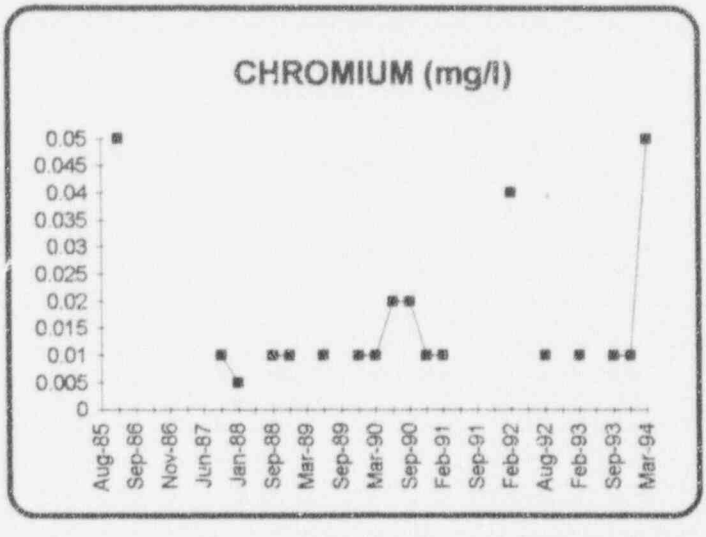


WELL 40SC

DATE	SO4	Cadmium	Chromium
Aug-85	310		
May-86	266	0.01	0.05
Sep-86	867		
Oct-86	361		
Nov-86	573		
Mar-87	284		
Jun-87	600		
Sep-87	750	0.01	0.01
Jan-88		0.01	0.01
Jun-88	520		
Sep-88	893	0.01	0.01
Nov-88	853	0.01	0.01
Mar-89	787		
May-89	75	0.01	0.01
Sep-89	1120		
Nov-89	1110	0.02	0.01
Mar-90	1050	0.01	0.01
Jun-90	1080	0.01	0.02
Sep-90	1300	0.01	0.02
Dec-90	1360	0.01	0.01
Feb-91	1200	0.01	0.01
Jun-91	1120		
Sep-91	1380		
Dec-91	1360		
Feb-92	1240	0.01	0.04
Jun-92	1290		
Aug-92	1470	0.01	0.01
Dec-92	1280		
Feb-93	1330	0.02	0.01
May-93	760		
Sep-93	1020	0.01	0.01
Nov-93	1000	0.01	0.01
Mar-94	1150	0.05	0.05

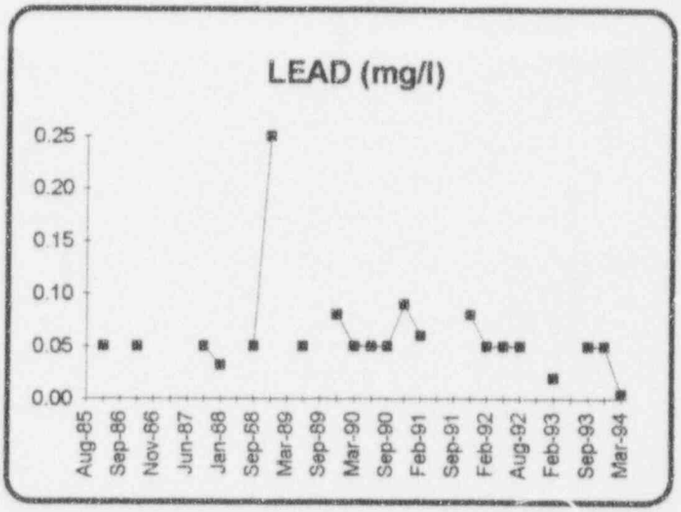


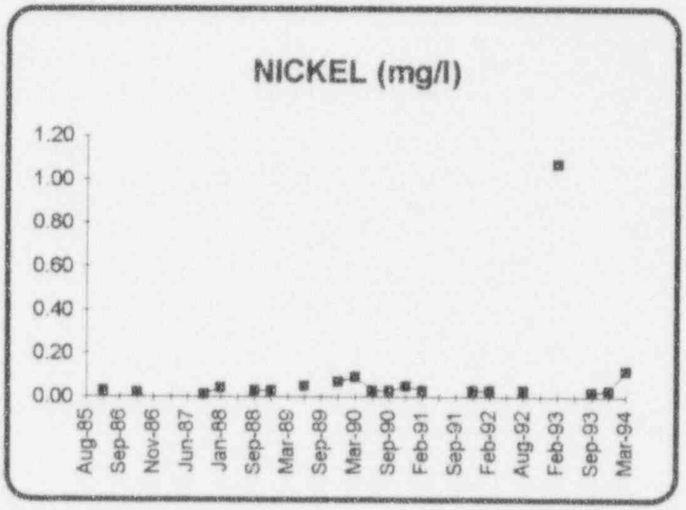


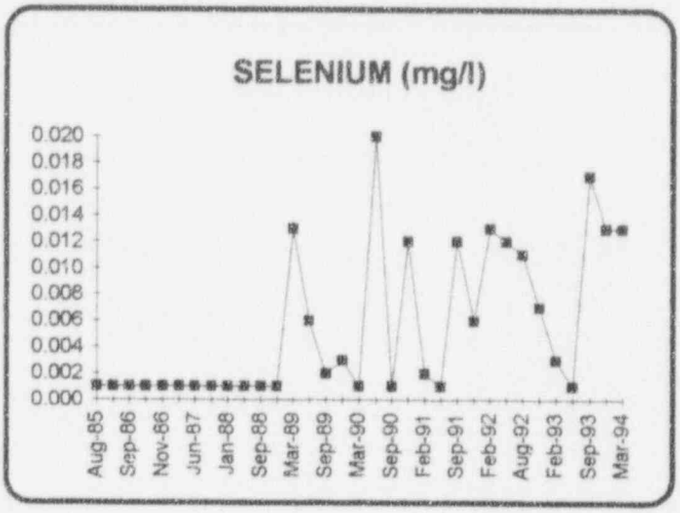


WELL 40SC

DATE	LEAD	NICKEL	SELENIUM
Aug-85			0.001
May-86	0.05	0.03	0.001
Sep-86			0.001
Oct-86	0.05	0.02	0.001
Nov-86			0.001
Mar-87			0.001
Jun-87			0.001
Sep-87	0.05	0.01	0.001
Jan-88	0.03	0.04	0.001
Jun-88			0.001
Sep-88	0.05	0.03	0.001
Nov-88	0.25	0.03	0.001
Mar-89			0.013
May-89	0.05	0.05	0.006
Sep-89			0.002
Nov-89	0.08	0.07	0.003
Mar-90	0.05	0.09	0.001
Jun-90	0.05	0.03	0.020
Sep-90	0.05	0.03	0.001
Dec-90	0.09	0.05	0.012
Feb-91	0.06	0.03	0.002
Jun-91			0.001
Sep-91			0.012
Dec-91	0.08	0.03	0.006
Feb-92	0.05	0.03	0.013
Jun-92	0.05		0.012
Aug-92	0.05	0.03	0.011
Dec-92			0.007
Feb-93	0.02	1.07	0.003
May-93			0.001
Sep-93	0.05	0.02	0.017
Nov-93	0.05	0.03	0.013
Mar-94	0.01	0.12	0.013

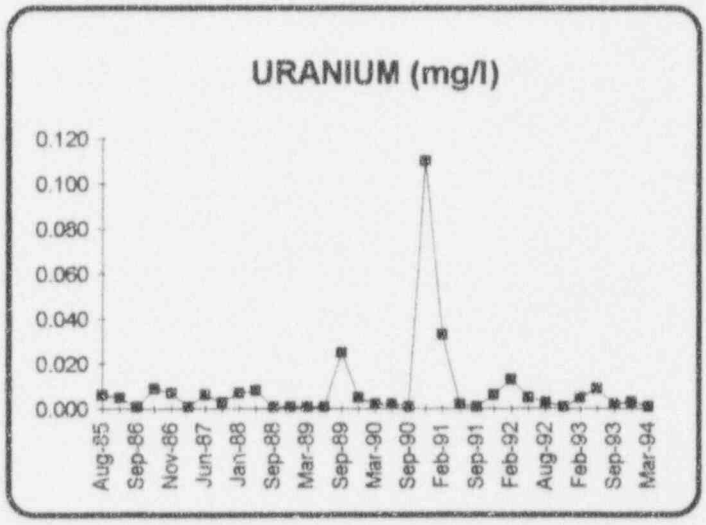


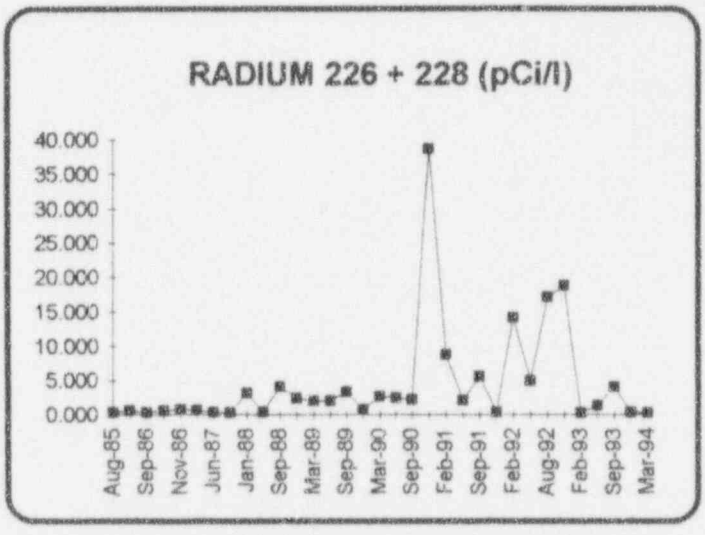


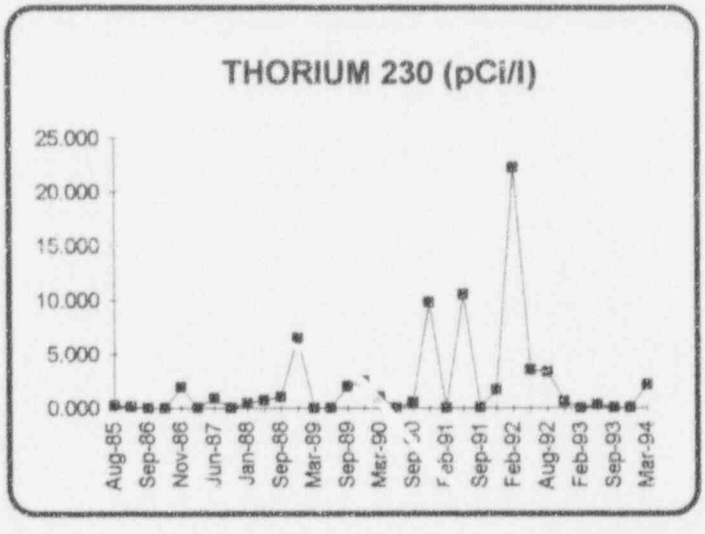


WELL 40SC

DATE	URANIUM	Ra 6+8	Th 230
Aug-85	0.006	0.300	0.290
May-86	0.005	0.630	0.130
Sep-86	0.001	0.350	0.000
Oct-86	0.009	0.590	0.000
Nov-86	0.007	0.760	1.960
Mar-87	0.001	0.730	0.000
Jun-87	0.006	0.450	0.960
Sep-87	0.003	0.330	0.000
Jan-88	0.007	3.190	0.440
Jun-88	0.008	0.460	0.740
Sep-88	0.001	4.070	1.040
Nov-88	0.001	2.400	6.530
Mar-89	0.001	1.990	0.000
May-89	0.001	2.040	0.000
Sep-89	0.025	3.380	2.030
Nov-89	0.005	0.830	2.570
Mar-90	0.002	2.670	1.070
Jun-90	0.002	2.470	0.000
Sep-90	0.001	2.220	0.560
Dec-90	0.110	38.710	9.800
Feb-91	0.033	8.740	0.000
Jun-91	0.002	2.110	10.500
Sep-91	0.001	5.590	0.070
Dec-91	0.006	0.390	1.700
Feb-92	0.013	14.190	22.200
Jun-92	0.005	4.940	3.590
Aug-92	0.003	17.130	3.370
Dec-92	0.001	18.810	0.620
Feb-93	0.005	0.310	0.000
May-93	0.009	1.390	0.300
Sep-93	0.002	4.110	0.090
Nov-93	0.003	0.420	0.070
Mar-94	0.001	0.300	2.200

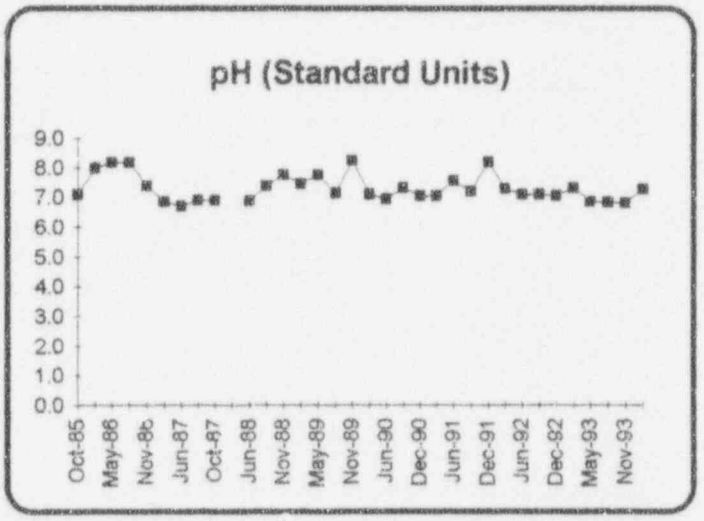


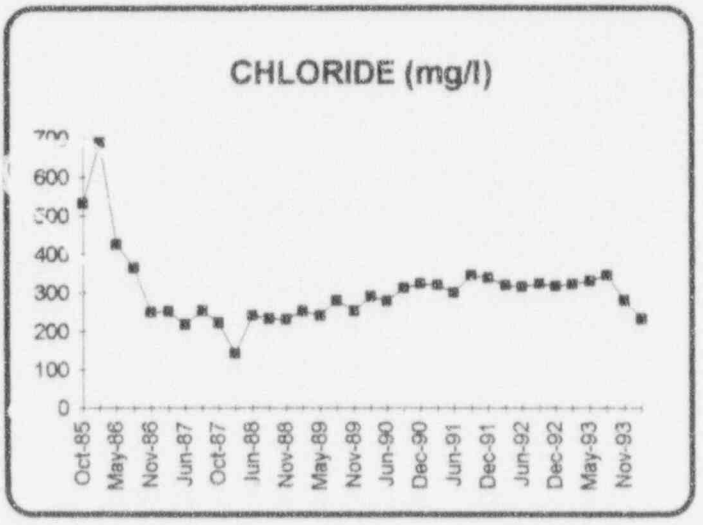


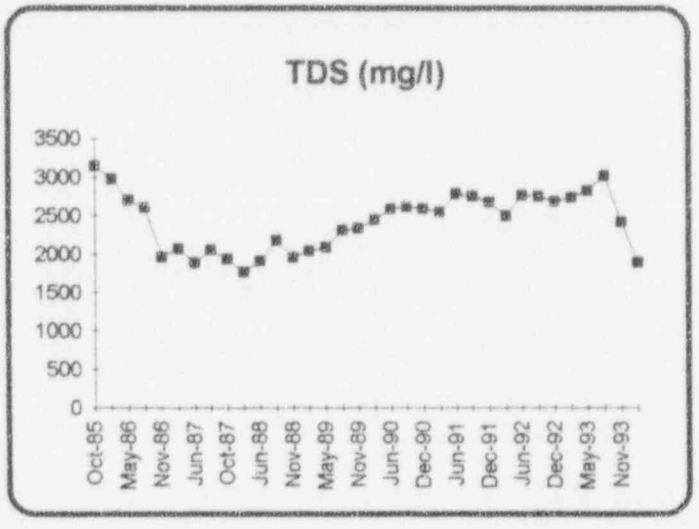


WELL 41SC

DATE	pH	CHLORIDE	TDS
Oct-85	7.1	532	3144
Mar-86	8.0	690	2969
May-86	8.2	426	2694
Sep-86	8.2	365	2598
Nov-86	7.4	249	1956
Mar-87	6.9	250	2065
Jun-87	6.7	216	1879
Sep-87	6.9	252	2046
Oct-87	6.9	221	1927
Jan-88		142	1762
Jun-88	6.9	240	1908
Sep-88	7.4	232	2175
Nov-88	7.?	231	1947
Mar-89	7.5	253	2035
May-89	7.8	240	2086
Aug-89	7.2	279	2301
Nov-89	8.3	253	2326
Mar-90	7.1	290	2437
Jun-90	7.0	278	2579
Sep-90	7.3	312	2604
Dec-90	7.1	324	2590
Feb-91	7.1	320	2545
Jun-91	7.6	299	2776
Sep-91	7.2	346	2747
Dec-91	8.2	339	2665
Feb-92	7.3	318	2486
Jun-92	7.1	315	2761
Aug-92	7.1	323	2747
Dec-92	7.1	316	2679
Mar-93	7.3	322	2730
May-93	6.9	331	2823
Aug-93	6.9	345	3018
Nov-93	6.8	280	2413
Mar-94	7.3	232	1890

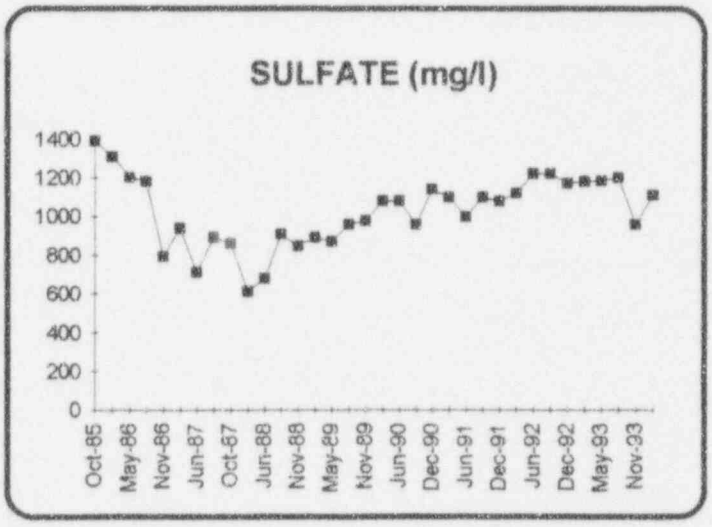


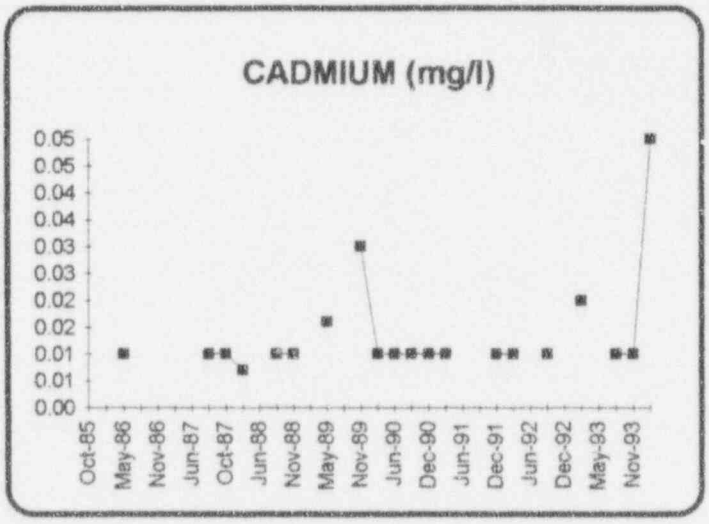


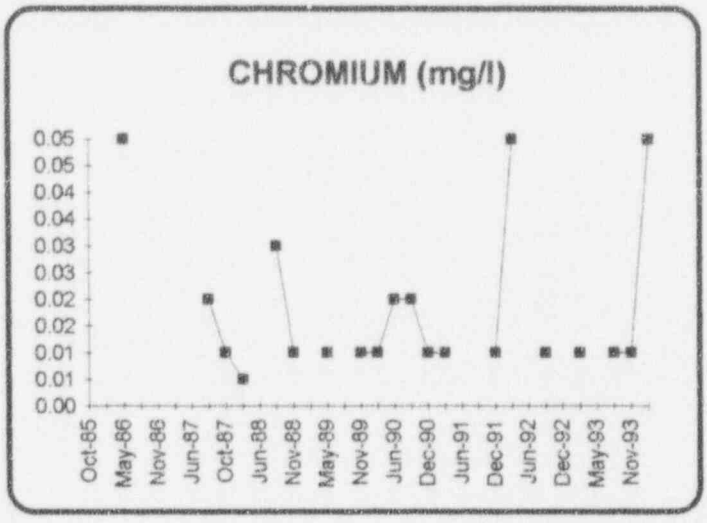


WELL 41SC

DATE	SULFATE	Cadmium	Chromium
Oct-85	1390		
Mar-86	1309		
May-86	1200	0.01	0.05
Sep-86	1181		
Nov-86	790		
Mar-87	940		
Jun-87	710		
Sep-87	890	0.01	0.02
Oct-87	860	0.01	0.01
Jan-88	610	0.01	0.01
Jun-88	680		
Sep-88	907	0.01	0.03
Nov-88	847	0.01	0.01
Mar-89	893		
May-89	870	0.02	0.01
Aug-89	960		
Nov-89	980	0.03	0.01
Mar-90	1080	0.01	0.01
Jun-90	1080	0.01	0.02
Sep-90	960	0.01	0.02
Dec-90	1140	0.01	0.01
Feb-91	1100	0.01	0.01
Jun-91	1000		
Sep-91	1100		
Dec-91	1080	0.01	0.01
Feb-92	1120	0.01	0.05
Jun-92	1220		
Aug-92	1220	0.01	0.01
Dec-92	1170		
Mar-93	1180	0.02	0.01
May-93	1184		
Aug-93	1200	0.01	0.01
Nov-93	960	0.01	0.01
Mar-94	1110	0.05	0.05

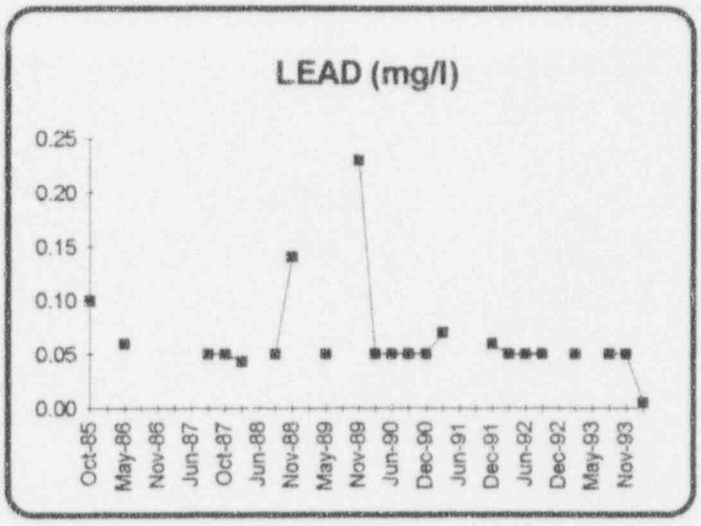


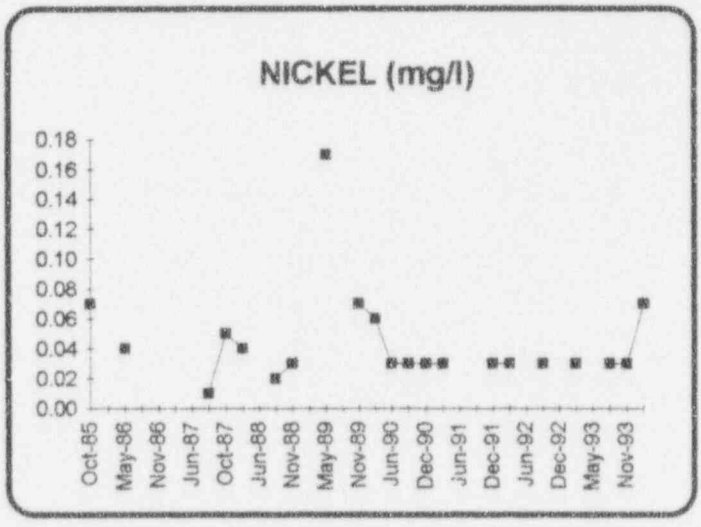


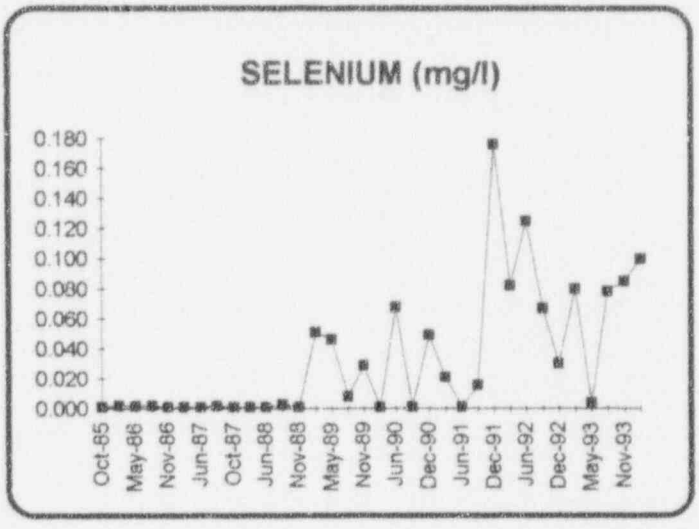


WELL 41SC

DATE	LEAD	NICKEL	SELENIUM
Oct-85	0.10	0.07	0.001
Mar-86			0.002
May-86	0.06	0.04	0.002
Sep-86			0.002
Nov-86			0.001
Mar-87			0.001
Jun-87			0.001
Sep-87	0.05	0.01	0.002
Oct-87	0.05	0.05	0.001
Jan-88	0.04	0.04	0.001
Jun-88			0.001
Sep-88	0.05	0.02	0.003
Nov-88	0.14	0.03	0.001
Mar-89			0.051
May-89	0.05	0.17	0.046
Aug-89			0.008
Nov-89	0.23	0.07	0.029
Mar-90	0.05	0.06	0.001
Jun-90	0.05	0.03	0.068
Sep-90	0.05	0.03	0.001
Dec-90	0.05	0.03	0.049
Feb-91	0.07	0.03	0.021
Jun-91			0.001
Sep-91			0.016
Dec-91	0.06	0.03	0.176
Feb-92	0.05	0.03	0.082
Jun-92	0.05		0.125
Aug-92	0.05	0.03	0.067
Dec-92			0.030
Mar-93	0.05	0.03	0.080
May-93			0.004
Aug-93	0.05	0.03	0.078
Nov-93	0.05	0.03	0.085
Mar-94	0.01	0.07	0.100

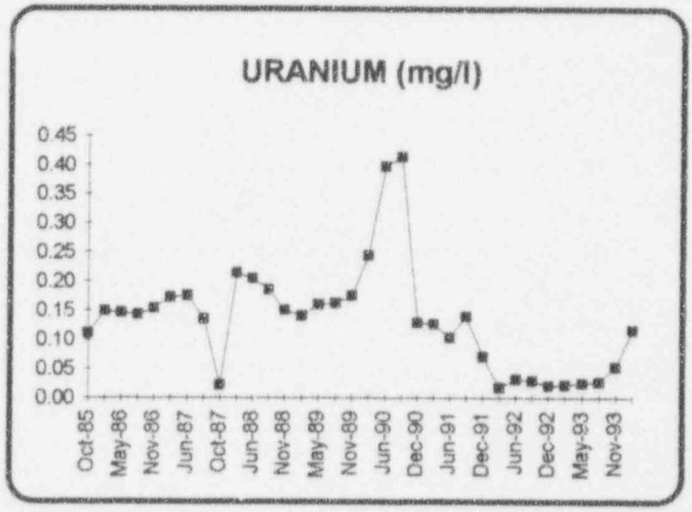


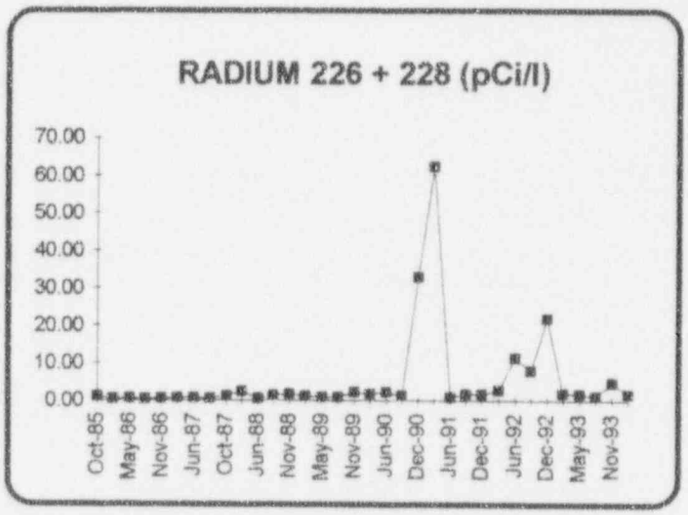


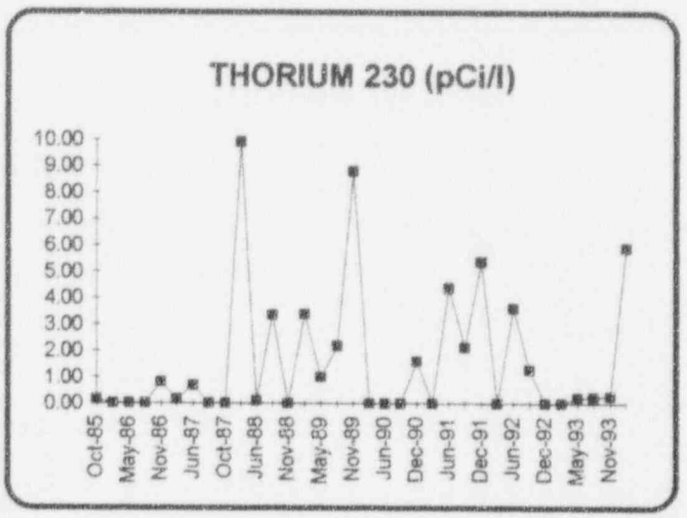


WELL 41SC

DATE	URANIUM	Ra 6+8	Th 230
Oct-85	0.11	1.00	0.15
Mar-86	0.15	0.35	0.00
May-86	0.15	0.56	0.01
Sep-86	0.14	0.34	0.00
Nov-86	0.15	0.47	0.81
Mar-87	0.17	0.66	0.15
Jun-87	0.18	0.65	0.69
Sep-87	0.14	0.46	0.00
Oct-87	0.02	1.20	0.00
Jan-88	0.22	2.40	9.90
Jun-88	0.21	0.53	0.10
Sep-88	0.19	1.27	3.35
Nov-88	0.15	1.66	0.00
Mar-89	0.14	1.15	3.37
May-89	0.16	0.84	1.00
Aug-89	0.16	0.90	2.19
Nov-89	0.18	2.25	8.79
Mar-90	0.24	1.73	0.00
Jun-90	0.40	2.14	0.00
Sep-90	0.41	1.41	0.00
Dec-90	0.13	32.81	1.60
Feb-91	0.13	62.29	0.00
Jun-91	0.10	0.88	4.39
Sep-91	0.14	1.59	2.13
Dec-91	0.07	1.65	5.38
Feb-92	0.02	2.66	0.00
Jun-92	0.03	11.35	3.62
Aug-92	0.03	8.00	1.28
Dec-92	0.02	21.91	0.00
Mar-93	0.02	1.81	0.00
May-93	0.03	1.66	0.23
Aug-93	0.03	1.16	0.25
Nov-93	0.05	4.64	0.27
Mar-94	0.12	1.60	5.90

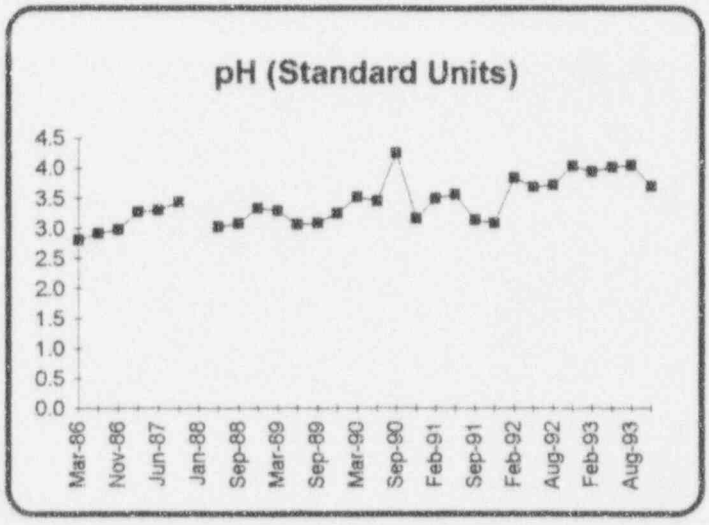


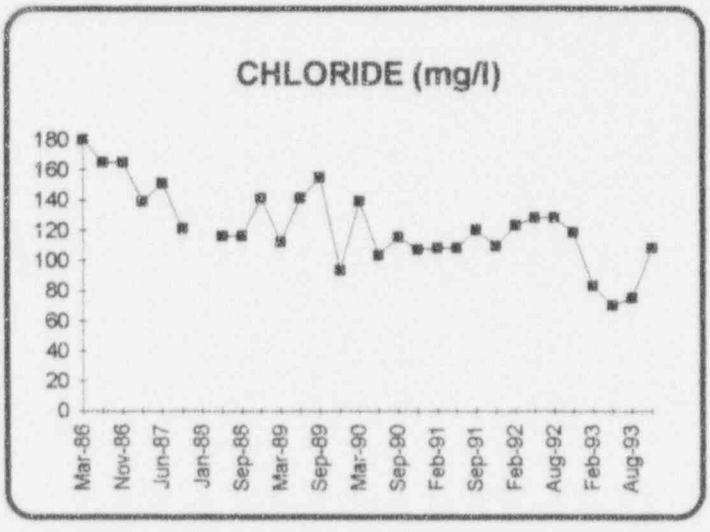


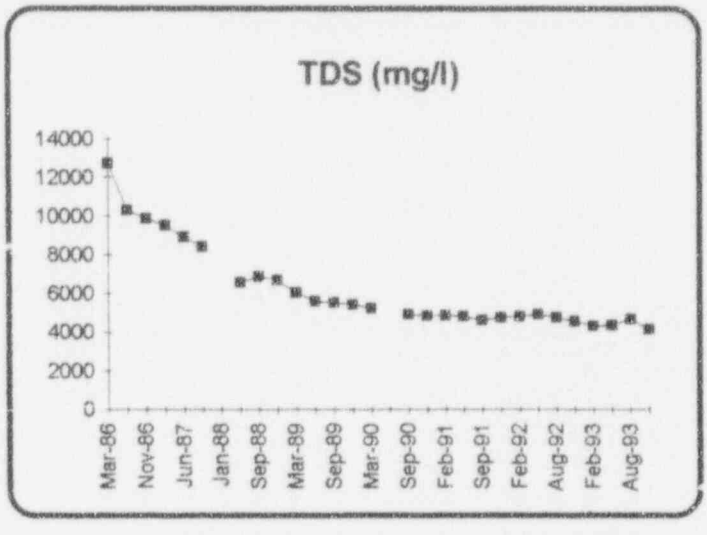


WELL 42SC

DATE	pH	CHLORIDE	TDS
Mar-86	2.8	180	12733
Sep-86	2.9	165	10292
Nov-86	3.0	165	9876
Mar-87	3.3	139	9536
Jun-87	3.3	151	8926
Sep-87	3.4	121	8400
Jan-88			
Jun-88	3.0	116	6568
Sep-88	3.1	116	6863
Nov-88	3.3	141	6692
Mar-89	3.3	112	6020
May-89	3.1	141	5612
Sep-89	3.1	155	5532
Nov-89	3.3	93	5431
Mar-90	3.5	139	5241
Jun-90	3.5	103	
Sep-90	4.3	115	4933
Nov-90	3.2	107	4852
Feb-91	3.5	108	4859
Jun-91	3.6	108	4819
Sep-91	3.1	120	4633
Dec-91	3.1	109	4749
Feb-92	3.9	123	4831
Jul-92	3.7	128	4932
Aug-92	3.7	128	4773
Dec-92	4.0	118	4540
Feb-93	3.9	83	4318
May-93	4.0	70	4345
Aug-93	4.1	75	4682
Mar-94	3.7	108	4160

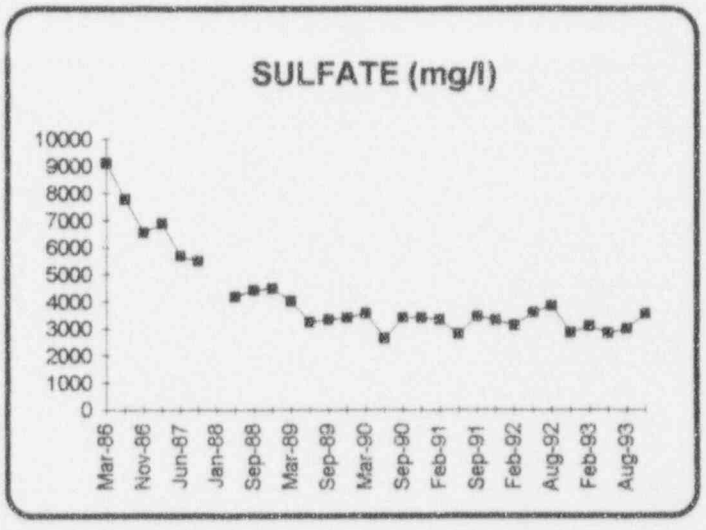


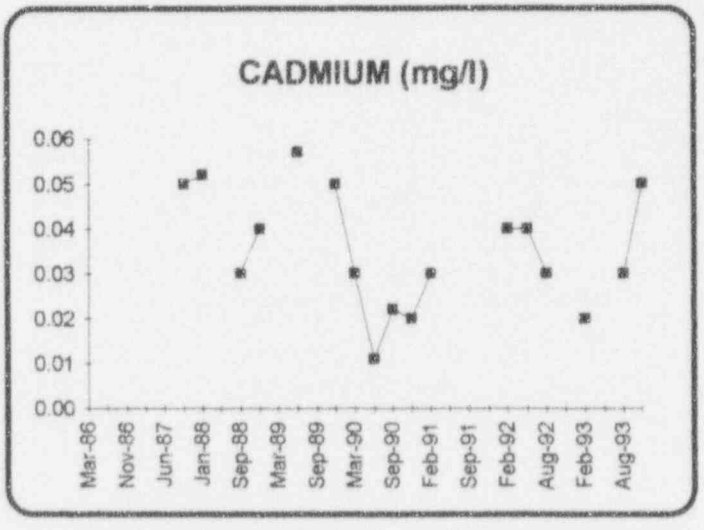


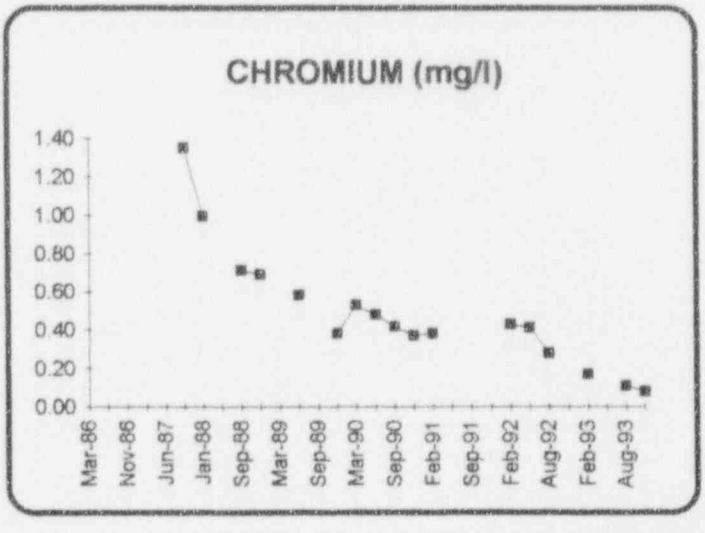


WELL 42SC

DATE	SO4	Cadmium	Chromium
Mar-86	9115		
Sep-86	7775		
Nov-86	6540		
Mar-87	6880		
Jun-87	5680		
Sep-87	5480	0.05	1.35
Jan-88		0.05	1.00
Jun-88	4160		
Sep-88	4400	0.03	0.71
Nov-88	4480	0.04	0.69
Mar-89	4000		
May-89	3240	0.06	0.58
Sep-89	3320		
Nov-89	3400	0.05	0.38
Mar-90	3560	0.03	0.53
Jun-90	2640	0.01	0.48
Sep-90	3400	0.02	0.42
Nov-90	3400	0.02	0.37
Feb-91	3320	0.03	0.38
Jun-91	2800		
Sep-91	3440		
Dec-91	3300		
Feb-92	3120	0.04	0.43
Jul-92	3580	0.04	0.41
Aug-92	3840	0.03	0.28
Dec-92	2840		
Feb-93	3080	0.02	0.17
May-93	2820		
Aug-93	3000	0.03	0.11
Mar-94	3540	0.05	0.08

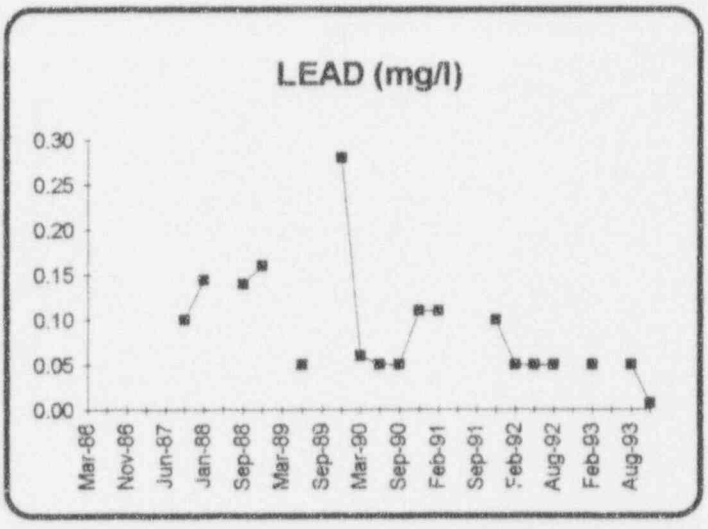


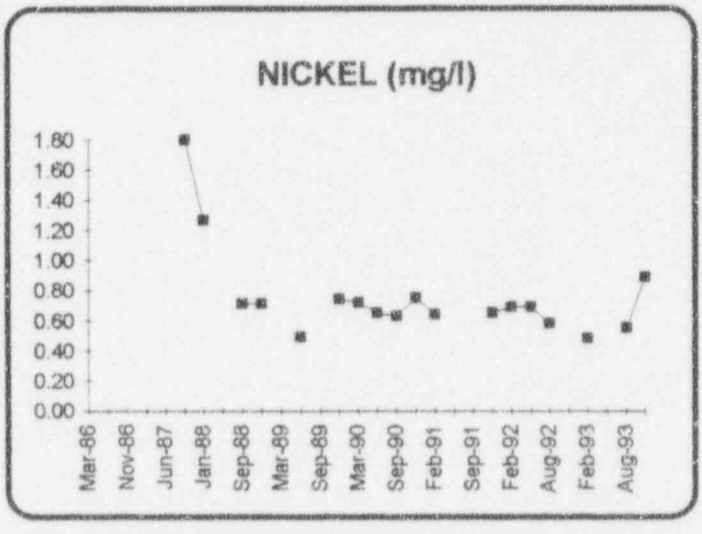


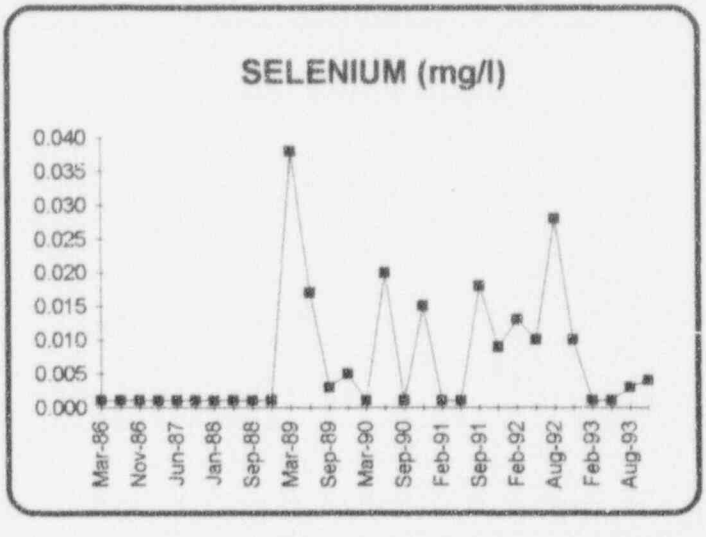


WELL 42SC

DATE	LEAD	NICKEL	SELENIUM
Mar-86			0.001
Sep-86			0.001
Nov-86			0.001
Mar-87			0.001
Jun-87			0.001
Sep-87	0.10	1.80	0.001
Jan-88	0.14	1.27	0.001
Jun-88			0.001
Sep-88	0.14	0.71	0.001
Nov-88	0.16	0.71	0.001
Mar-89			0.038
May-89	0.05	0.49	0.017
Sep-89			0.003
Nov-89	0.28	0.74	0.005
Mar-90	0.06	0.72	0.001
Jun-90	0.05	0.65	0.020
Sep-90	0.05	0.63	0.001
Nov-90	0.11	0.75	0.015
Feb-91	0.11	0.64	0.001
Jun-91			0.001
Sep-91			0.018
Dec-91	0.10	0.65	0.009
Feb-92	0.05	0.69	0.013
Jul-92	0.05	0.69	0.010
Aug-92	0.05	0.58	0.028
Dec-92			0.010
Feb-93	0.05	0.48	0.001
May-93			0.001
Aug-93	0.05	0.55	0.003
Mar-94	0.01	0.89	0.004

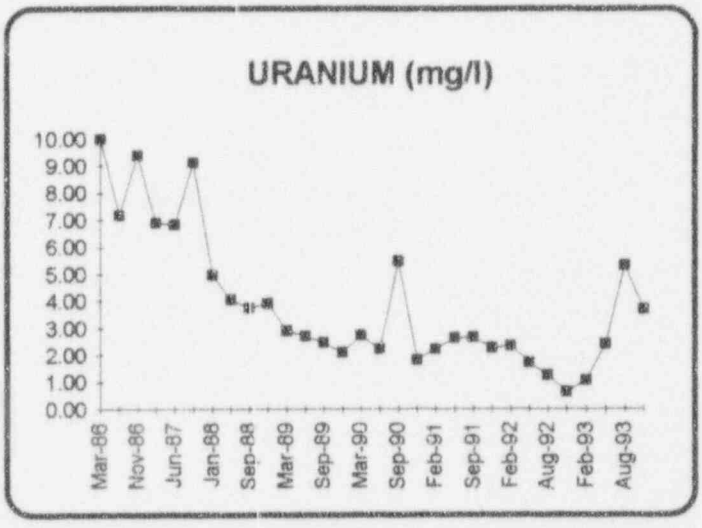


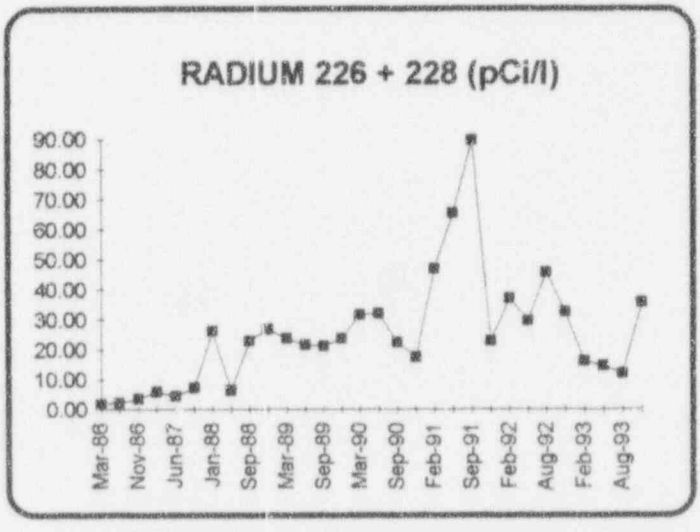


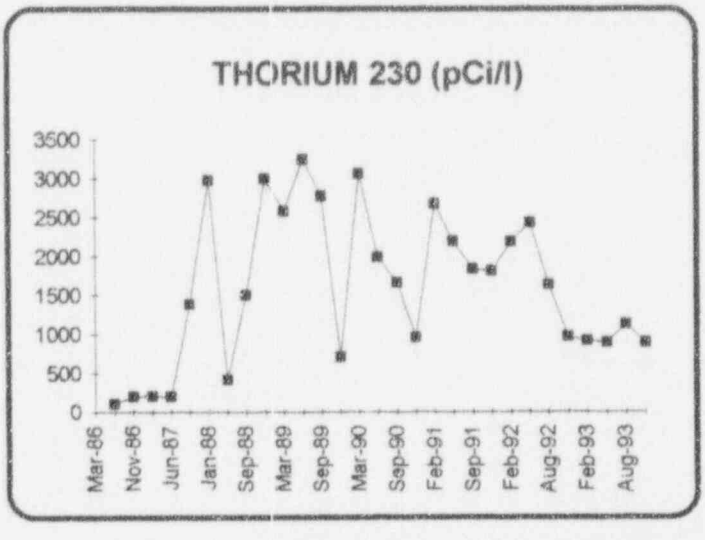


WELL 42SC

DATE	URANIUM	Ra 6+8	Th 230
Mar-86	10.00	1.63	
Sep-86	7.18	2.19	101
Nov-86	9.39	3.46	199
Mar-87	6.91	5.78	207
Jun-87	6.83	4.26	199
Sep-87	9.12	7.19	1383
Jan-88	4.95	26.05	2978
Jun-88	4.05	6.38	419
Sep-88	3.75	22.71	1496
Nov-88	3.90	26.65	2994
Mar-89	2.90	23.76	2579
May-89	2.70	21.48	3243
Sep-89	2.45	21.12	2767
Nov-89	2.10	23.57	706
Mar-90	2.74	31.43	3058
Jun-90	2.21	31.99	1984
Sep-90	5.48	22.40	1654
Nov-90	1.80	17.39	960
Feb-91	2.22	46.87	2666
Jun-91	2.64	65.40	2192
Sep-91	2.66	89.76	1830
Dec-91	2.26	22.76	1810
Feb-92	2.34	37.03	2183
Jul-92	1.71	29.58	2427
Aug-92	1.25	45.65	1632
Dec-92	0.63	32.36	963
Feb-93	1.06	16.12	918
May-93	2.40	14.62	888
Aug-93	5.31	11.87	1128
Mar-94	3.70	35.50	891

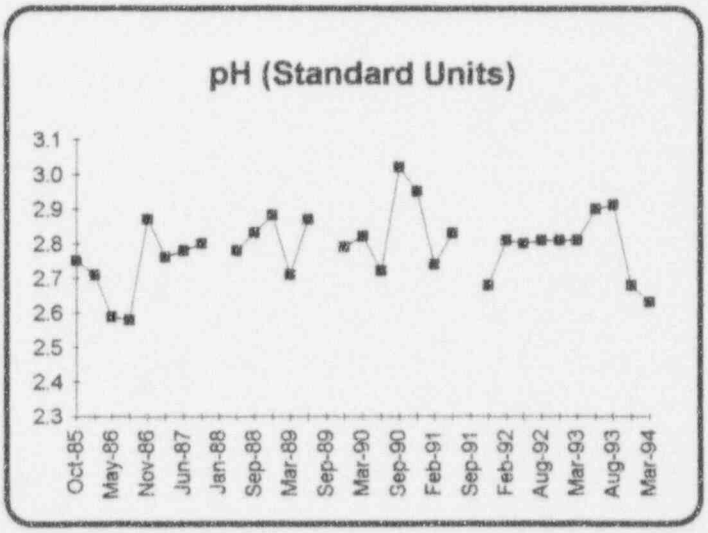


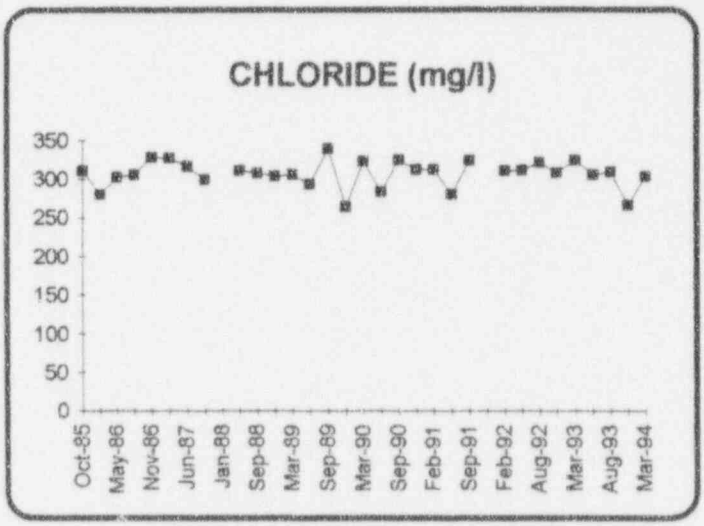


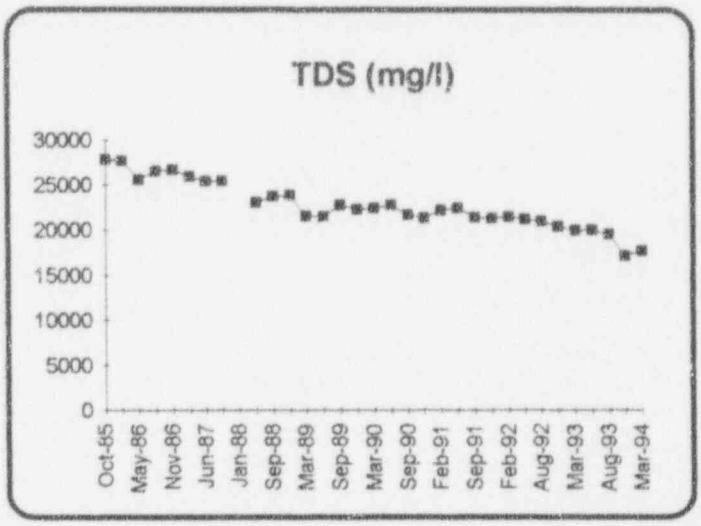


WELL 44SC

DATE	pH	CHLORIDE	TDS
Oct-85	2.8	310	27839
Mar-86	2.7	280	27655
May-86	2.6	302	25600
Sep-86	2.6	305	26498
Nov-86	2.9	328	26668
Mar-87	2.8	327	25944
Jun-87	2.8	316	25488
Sep-87	2.8	299	25486
Jan-88			
Jun-88	2.8	311	23048
Sep-88	2.8	308	23713
Nov-88	2.9	304	23836
Mar-89	2.7	306	21560
May-89	2.9	294	21492
Sep-89		339	22774
Nov-89	2.8	264	22264
Mar-90	2.8	323	22399
Jun-90	2.7	283	22769
Sep-90	3.0	325	21723
Dec-90	3.0	312	21327
Feb-91	2.7	312	22183
Jun-91	2.8	280	22378
Sep-91		324	21406
Dec-91	2.7		21303
Feb-92	2.8	310	21517
Jun-92	2.8	311	21178
Aug-92	2.8	321	20979
Dec-92	2.8	308	20433
Mar-93	2.8	324	19939
May-93	2.9	305	20010
Aug-93	2.9	309	19545
Nov-93	2.7	266	17170
Mar-94	2.6	303	17700

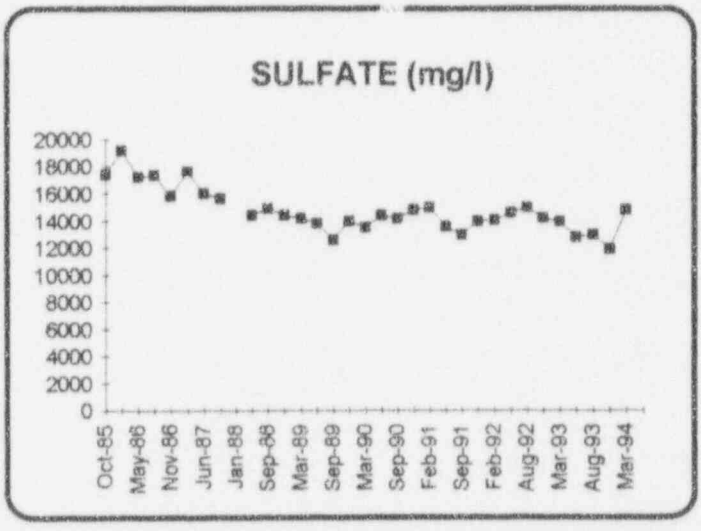


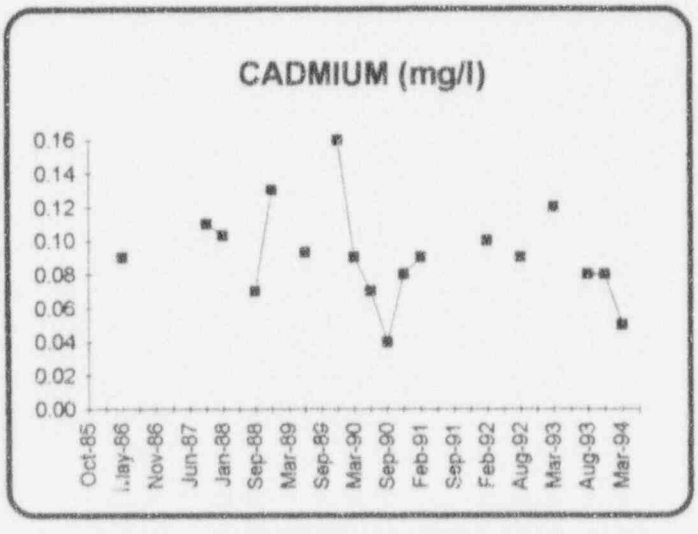


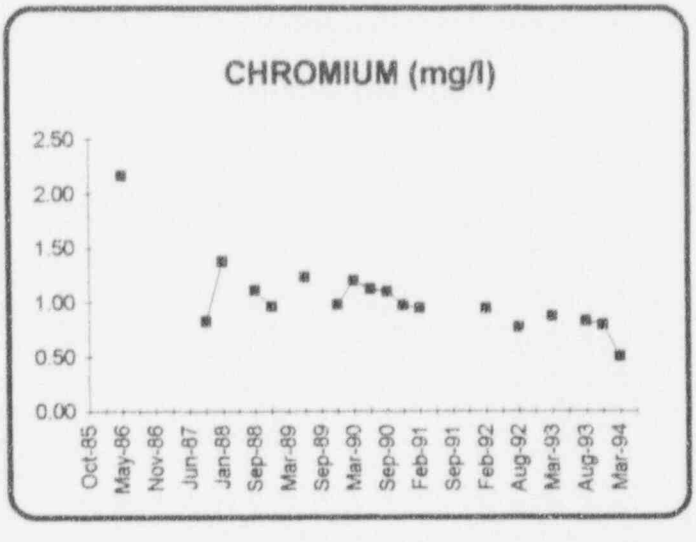


WELL 44SC

DATE	SO4	Cadmium	Chromium
Oct-85	17400		
Mar-86	19200		
May-86	17200	0.09	2.16
Sep-86	17350		
Nov-86	15800		
Mar-87	17600		
Jun-87	16000		
Sep-87	15600	0.11	0.82
Jan-88		0.10	1.37
Jun-88	14400		
Sep-88	14900	0.07	1.11
Nov-88	14400	0.13	0.96
Mar-89	14200		
May-89	13800	0.09	1.23
Sep-89	12600		
Nov-89	14000	0.16	0.98
Mar-90	13500	0.09	1.20
Jun-90	14400	0.07	1.12
Sep-90	14200	0.04	1.10
Dec-90	14800	0.08	0.97
Feb-91	15000	0.09	0.95
Jun-91	13600		
Sep-91	13000		
Dec-91	14000		
Feb-92	14100	0.10	0.94
Jun-92	14600		
Aug-92	15000	0.09	0.77
Dec-92	14240		
Mar-93	13920	0.12	0.87
May-93	12800		
Aug-93	12960	0.08	0.83
Nov-93	11900	0.08	0.79
Mar-94	14800	0.05	0.50

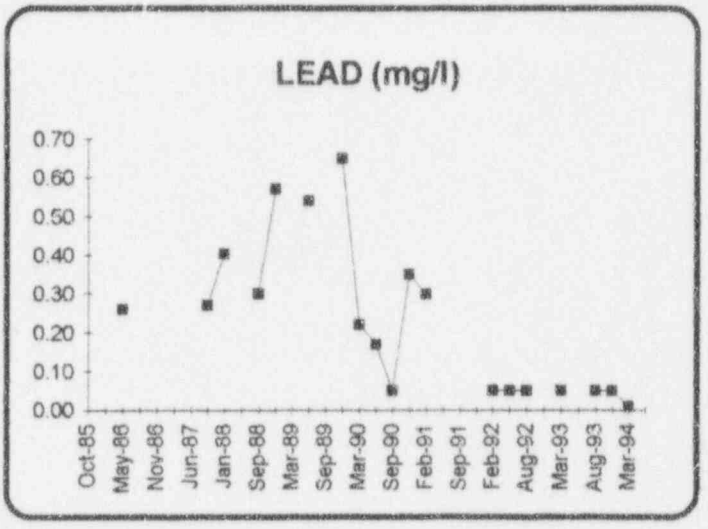


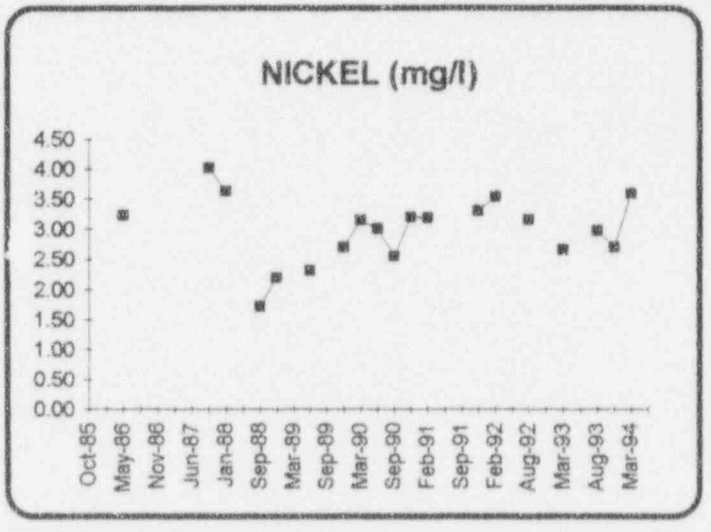


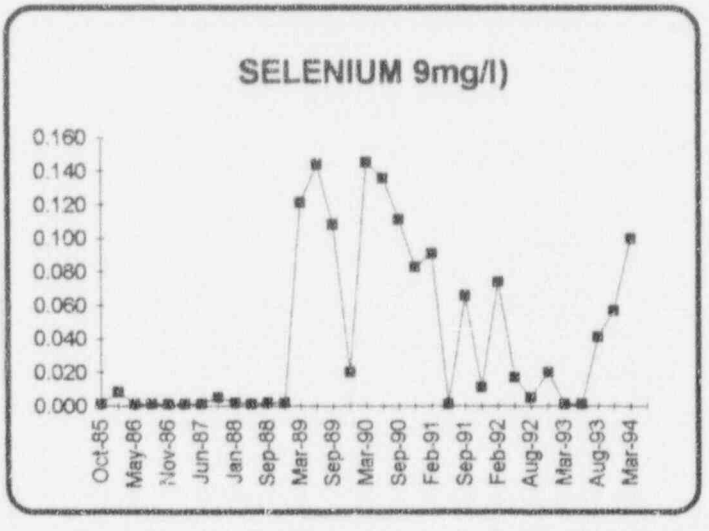


WELL 44SC

DATE	LEAD	NICKEL	SELENIUM
Oct-85			0.001
Mar-86			0.008
May-86	0.26	3.23	0.001
Sep-86			0.001
Nov-86			0.001
Mar-87			0.001
Jun-87			0.001
Sep-87	0.27	4.02	0.005
Jan-88	0.40	3.63	0.002
Jun-88			0.001
Sep-88	0.30	1.72	0.002
Nov-88	0.57	2.19	0.002
Mar-89			0.121
May-89	0.54	2.31	0.144
Sep-89			0.108
Nov-89	0.65	2.70	0.020
Mar-90	0.22	3.14	0.145
Jun-90	0.17	3.00	0.136
Sep-90	0.05	2.55	0.111
Dec-90	0.35	3.20	0.083
Feb-91	0.30	3.19	0.091
Jun-91			0.001
Sep-91			0.066
Dec-91		3.31	0.011
Feb-92	0.05	3.54	0.074
Jun-92	0.05		0.017
Aug-92	0.05	3.16	0.005
Dec-92			0.020
Mar-93	0.05	2.66	0.001
May-93			0.001
Aug-93	0.05	2.97	0.041
Nov-93	0.05	2.70	0.057
Mar-94	0.01	3.59	0.100

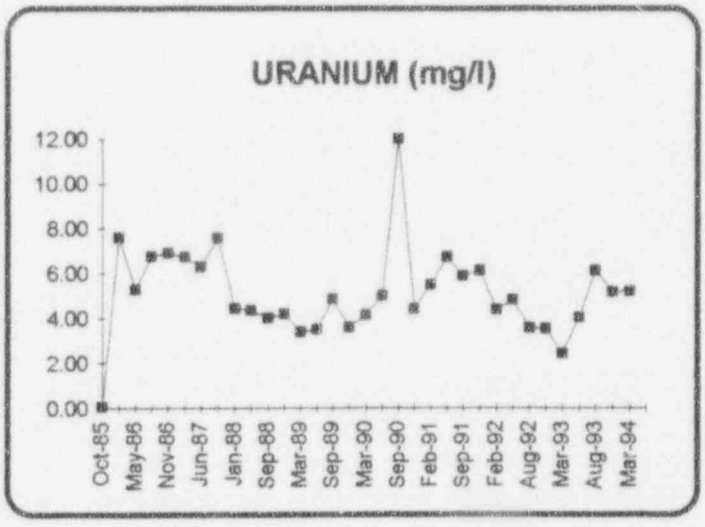


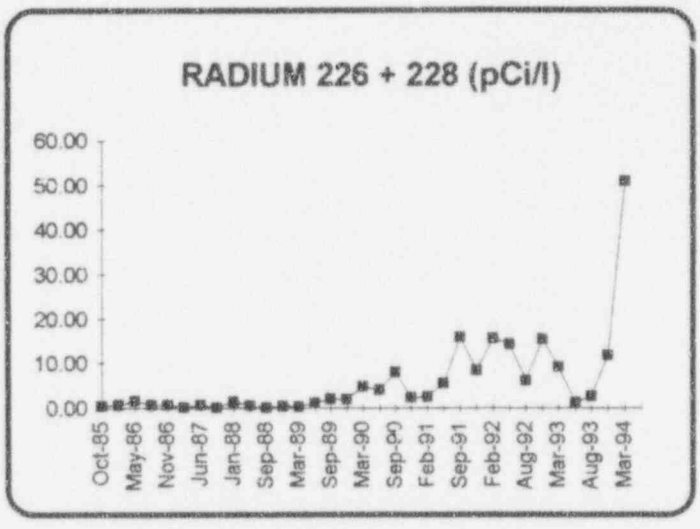


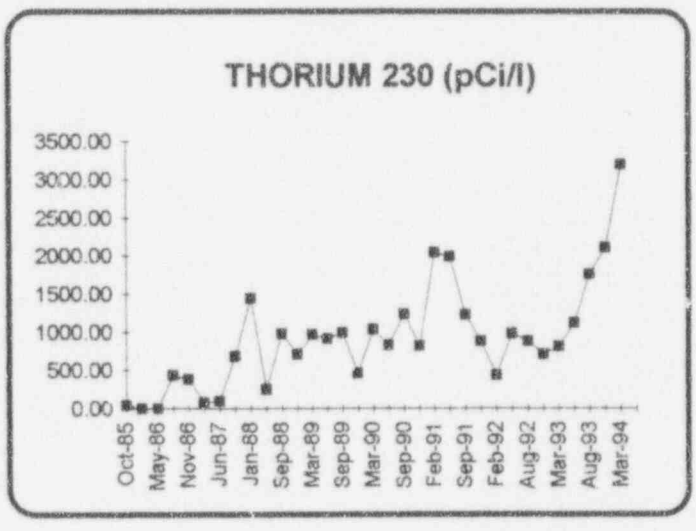


WELL 44SC

DATE	URANIUM	Ra 6+8	Th 230
Oct-85	0.05	0.48	43.00
Mar-86	7.60	0.72	1.09
May-86	5.28	1.62	0.94
Sep-86	6.76	0.74	437.00
Nov-86	6.90	0.72	381.00
Mar-87	6.75	0.09	79.00
Jun-87	6.31	0.73	95.00
Sep-87	7.58	0.20	681.00
Jan-88	4.45	1.42	1438.00
Jun-88	4.35	0.58	248.00
Sep-88	4.00	0.14	972.00
Nov-88	4.20	0.43	708.00
Mar-89	3.40	0.22	965.00
May-89	3.50	1.16	910.00
Sep-89	4.85	1.98	990.00
Nov-89	3.60	1.84	457.00
Mar-90	4.15	4.73	1029.00
Jun-90	5.00	4.01	826.00
Sep-90	12.00	7.98	1234.00
Dec-90	4.41	2.38	814.00
Feb-91	5.48	2.51	2044.00
Jun-91	6.73	5.60	1985.00
Sep-91	5.90	15.98	1227.00
Dec-91	6.14	8.53	875.00
Feb-92	4.37	15.65	437.00
Jun-92	4.83	14.30	981.00
Aug-92	3.56	6.07	880.00
Dec-92	3.54	15.48	707.00
Mar-93	2.45	9.13	808.00
May-93	4.03	1.28	1118.00
Aug-93	6.13	2.55	1758.00
Nov-93	5.16	11.84	2102.00
Mar-94	5.20	50.90	3200.00

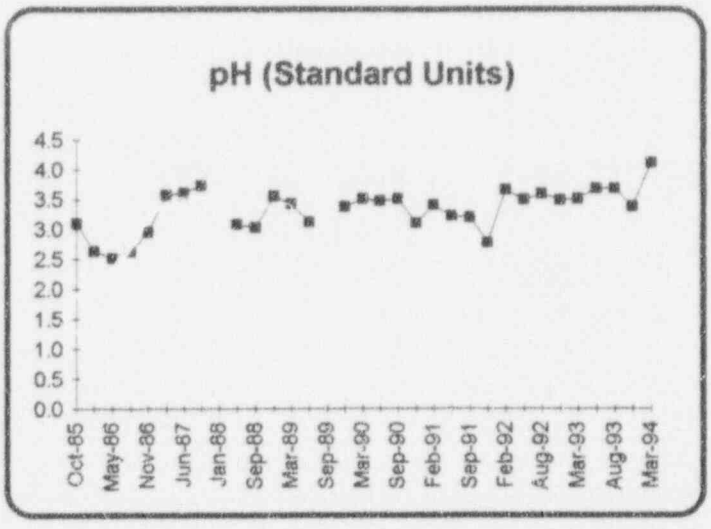


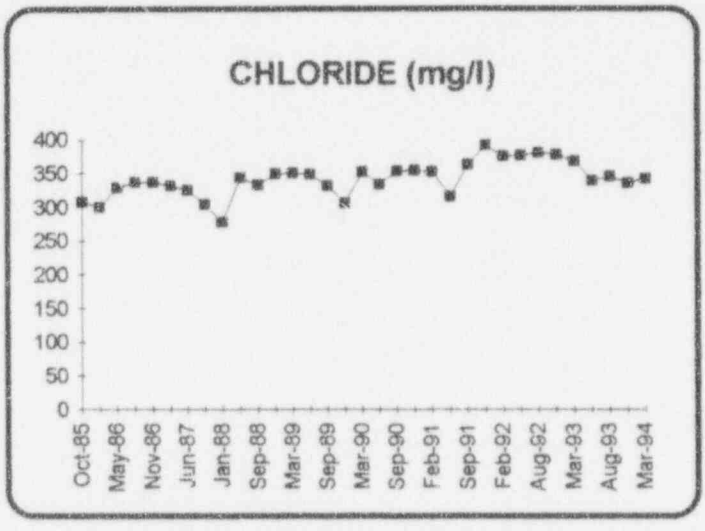


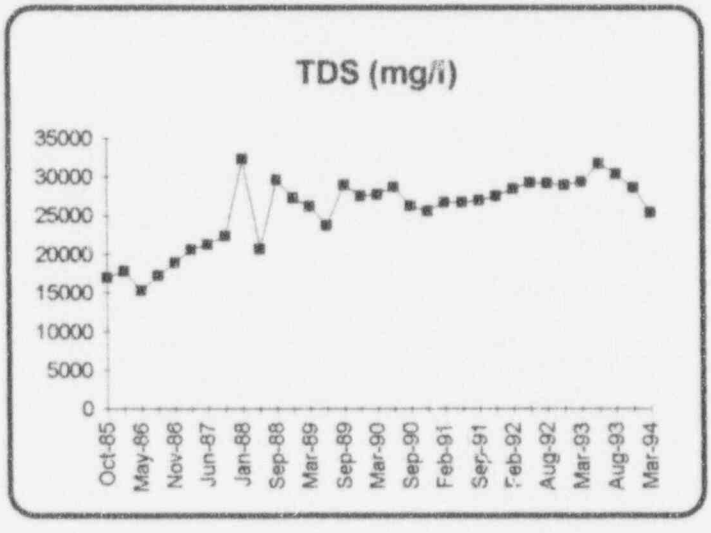


WELL 45SC

DATE	pH	CHLORIDE	TDS
Oct-85	3.1	308	16969
Mar-86	2.6	300	17834
May-86	2.5	329	15312
Sep-86	2.6	337	17240
Nov-86	3.0	337	18916
Mar-87	3.6	332	20572
Jun-87	3.6	325	21274
Sep-87	3.7	304	22328
Jan-88		278	32311
Jun-88	3.1	344	20653
Sep-88	3.0	333	29592
Nov-88	3.6	349	27247
Mar-89	3.4	350	26140
May-89	3.1	348	23684
Sep-89		332	28937
Nov-89	3.4	306	27465
Mar-90	3.5	352	27642
Jun-90	3.5	334	28647
Sep-90	3.5	353	26258
Dec-90	3.1	354	25579
Feb-91	3.4	352	26634
Jun-91	3.2	316	26694
Sep-91	3.2	363	26867
Dec-91	2.8	392	27514
Feb-92	3.7	375	28418
Jul-92	3.5	377	29279
Aug-92	3.6	380	29214
Dec-92	3.5	378	28930
Mar-93	3.5	368	29332
May-93	3.7	339	31688
Aug-93	3.7	345	30371
Nov-93	3.4	335	28551
Mar-94	4.1	342	25400

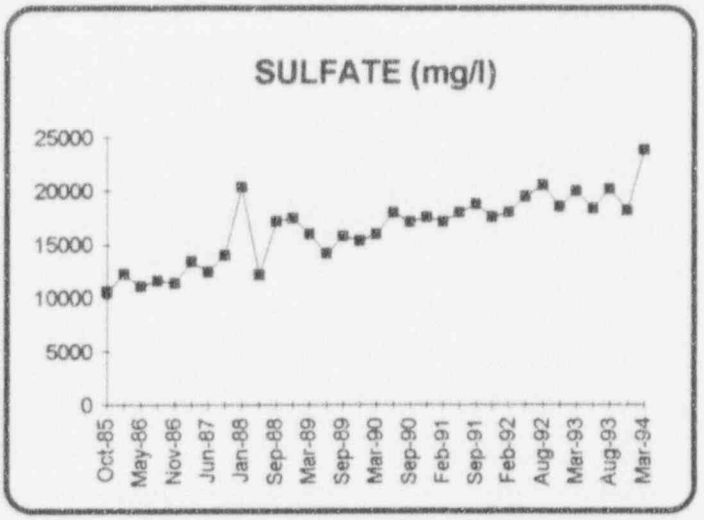


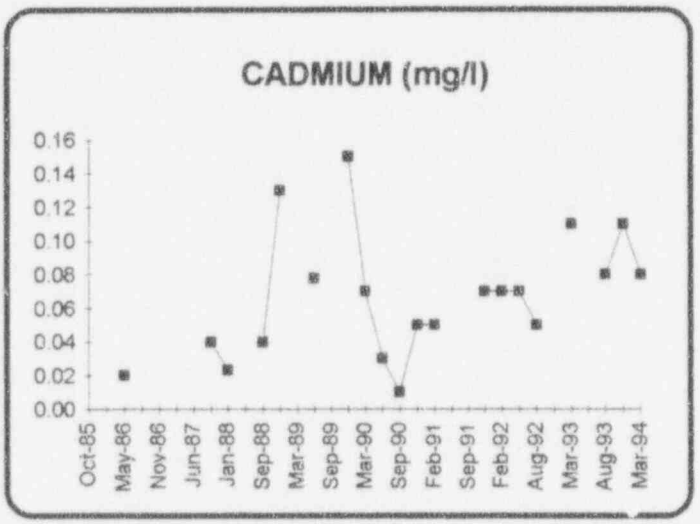


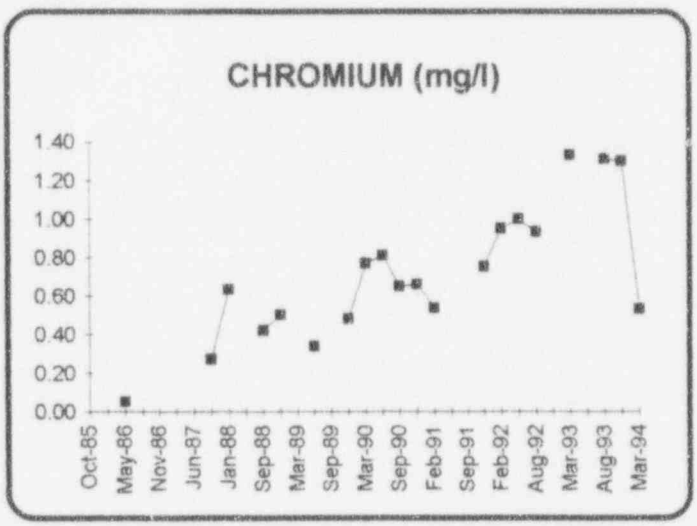


WELL 45SC

DATE	SULFATE	Cadmium	Chromium
Oct-85	10600		
Mar-86	12220		
May-86	11100	0.02	0.05
Sep-86	11600		
Nov-86	11360		
Mar-87	13400		
Jun-87	12400		
Sep-87	14000	0.04	0.27
Jan-88	20400	0.02	0.63
Jun-88	12200		
Sep-88	17200	0.04	0.42
Nov-88	17450	0.13	0.50
Mar-89	16000		
May-89	14200	0.08	0.34
Sep-89	15800		
Nov-89	15400	0.15	0.48
Mar-90	16000	0.07	0.77
Jun-90	18000	0.03	0.81
Sep-90	17200	0.01	0.65
Dec-90	17400	0.05	0.66
Feb-91	17200	0.05	0.54
Jun-91	18000		
Sep-91	18800		
Dec-91	17600	0.07	0.75
Feb-92	18000	0.07	0.95
Jul-92	19500	0.07	1.00
Aug-92	20600	0.05	0.93
Dec-92	18600		
Mar-93	20000	0.11	1.33
May-93	18400		
Aug-93	20200	0.08	1.31
Nov-93	18200	0.11	1.30
Mar-94	23900	0.08	0.53

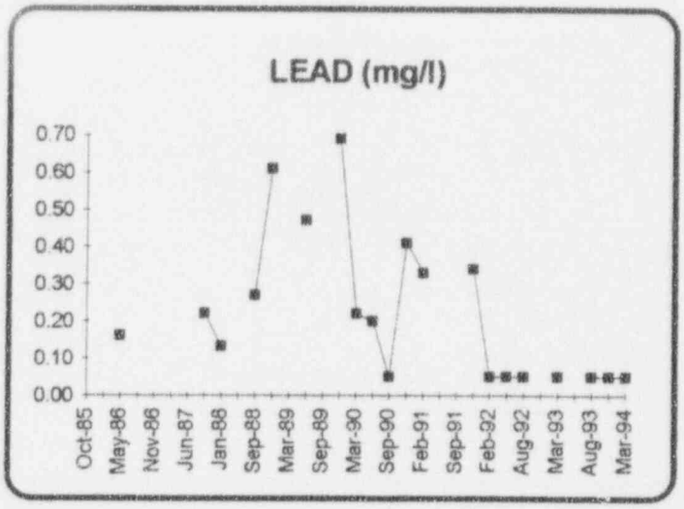


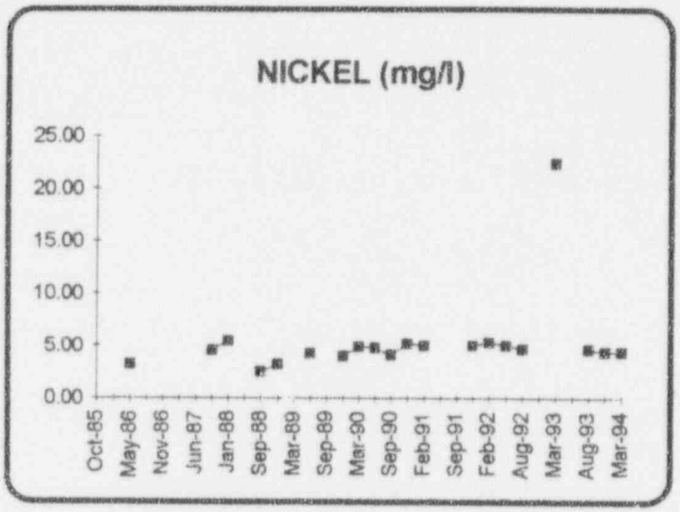


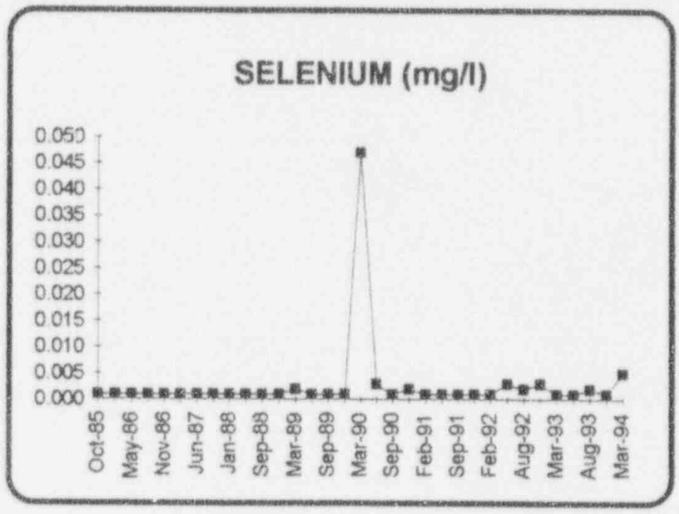


WELL 45SC

DATE	LEAD	NICKEL	SELENIUM
Oct-85			0.001
Mar-86			0.001
May-86	0.16	3.25	0.001
Sep-86			0.001
Nov-86			0.001
Mar-87			0.001
Jun-87			0.001
Sep-87	0.22	4.56	0.001
Jan-88	0.13	5.45	0.001
Jun-88			0.001
Sep-88	0.27	2.52	0.001
Nov-88	0.61	3.21	0.001
Mar-89			0.002
May-89	0.47	4.24	0.001
Sep-89			0.001
Nov-89	0.69	4.00	0.001
Mar-90	0.22	4.90	0.047
Jun-90	0.20	4.80	0.003
Sep-90	0.05	4.10	0.001
Dec-90	0.41	5.22	0.002
Feb-91	0.33	5.04	0.001
Jun-91			0.001
Sep-91			0.001
Dec-91	0.34	5.05	0.001
Feb-92	0.05	5.36	0.001
Jul-92	0.05	5.01	0.003
Aug-92	0.05	4.65	0.002
Dec-92			0.003
Mar-93	0.05	22.40	0.001
May-93			0.001
Aug-93	0.05	4.66	0.002
Nov-93	0.05	4.40	0.001
Mar-94	0.05	4.46	0.005

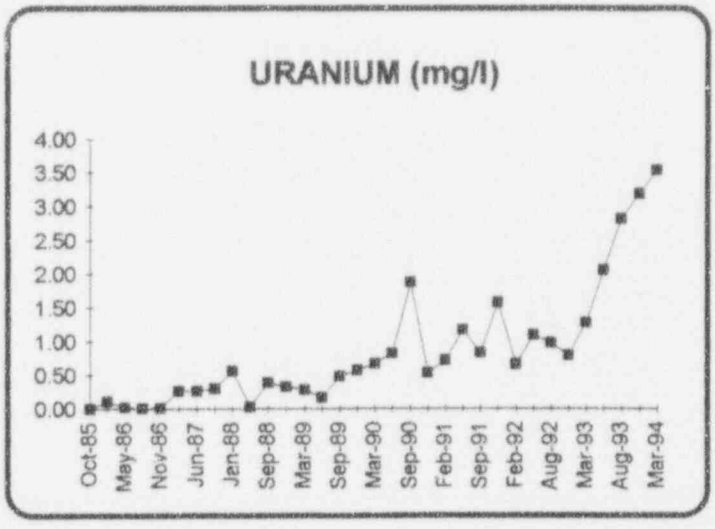


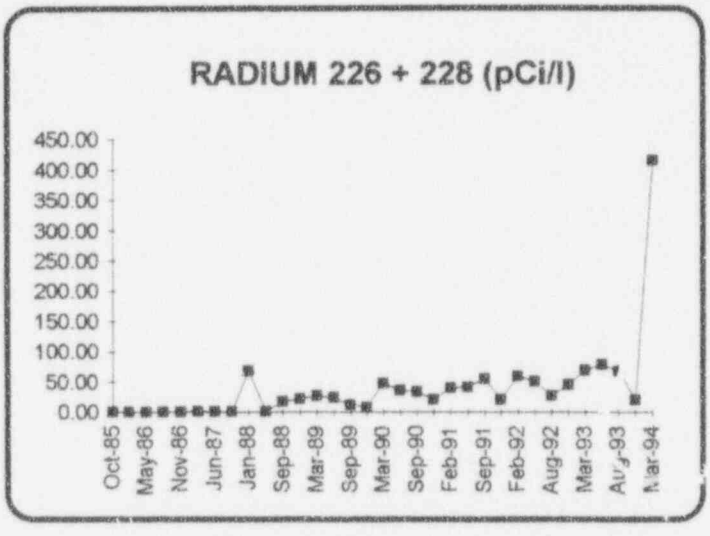


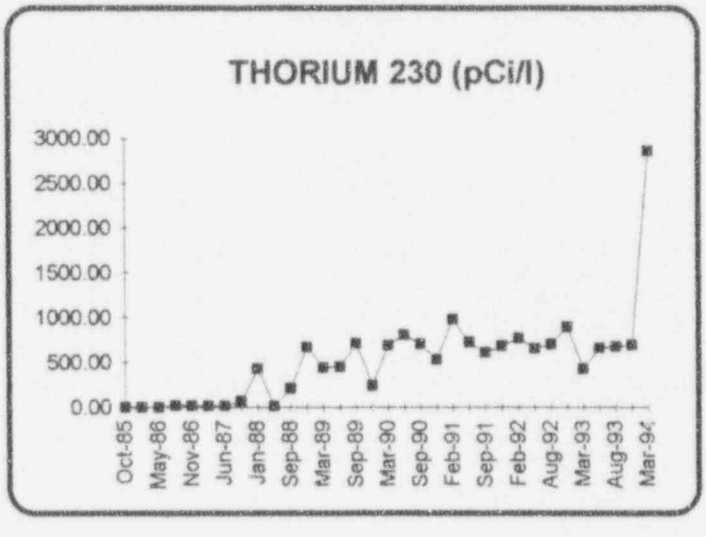


WELL 45SC

DATE	URANIUM	Ra 6+8	Th 230
Oct-85	0.00	0.79	0.15
Mar-86	0.10	0.77	0.22
May-86	0.02	0.25	0.12
Sep-86	0.01	0.54	21.90
Nov-86	0.01	0.56	11.70
Mar-87	0.26	1.16	12.70
Jun-87	0.26	2.17	10.90
Sep-87	0.30	2.24	64.00
Jan-88	0.56	68.93	429.00
Jun-88	0.03	1.98	14.10
Sep-88	0.39	17.50	207.00
Nov-88	0.33	22.08	666.00
Mar-89	0.28	27.48	443.00
May-89	0.16	23.98	447.00
Sep-89	0.48	12.14	710.00
Nov-89	0.57	8.18	238.00
Mar-90	0.67	47.59	692.00
Jun-90	0.82	36.37	804.00
Sep-90	1.88	34.34	699.00
Dec-90	0.54	21.19	526.00
Feb-91	0.71	40.96	981.00
Jun-91	1.17	41.62	725.00
Sep-91	0.83	55.72	608.00
Dec-91	1.58	21.36	684.00
Feb-92	0.66	59.97	766.00
Jul-92	1.09	51.12	656.00
Aug-92	0.98	27.29	700.00
Dec-92	0.80	45.87	893.00
Mar-93	1.28	69.59	430.00
May-93	2.05	79.43	660.00
Aug-93	2.82	68.98	676.00
Nov-93	3.18	20.73	698.00
Mar-94	3.53	414.80	2860.00

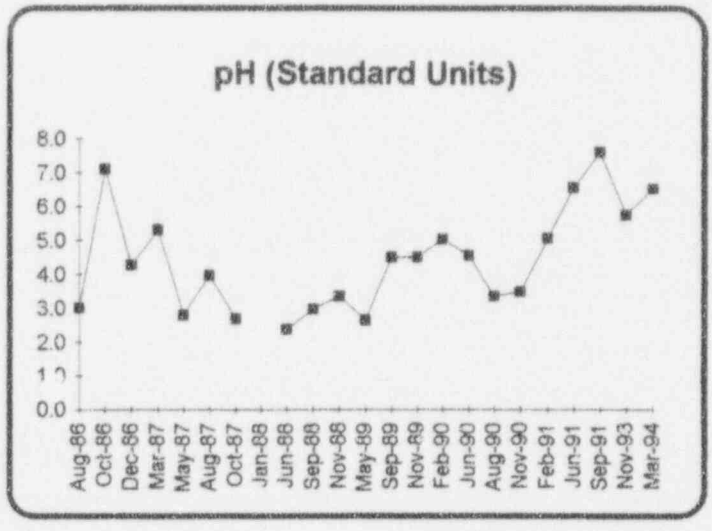


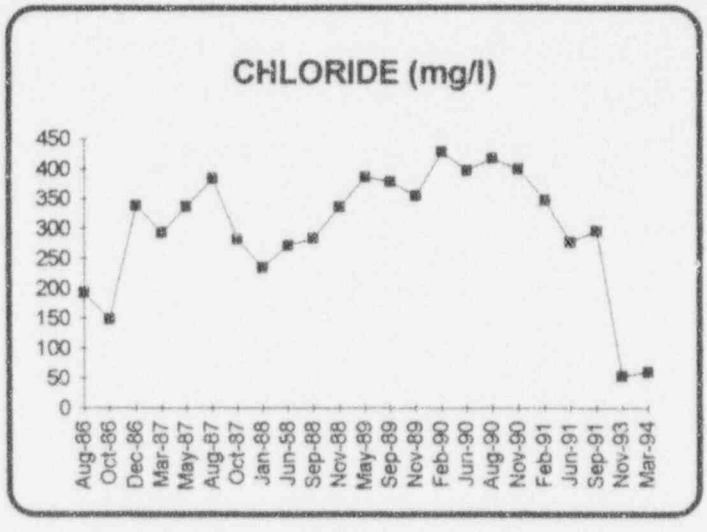


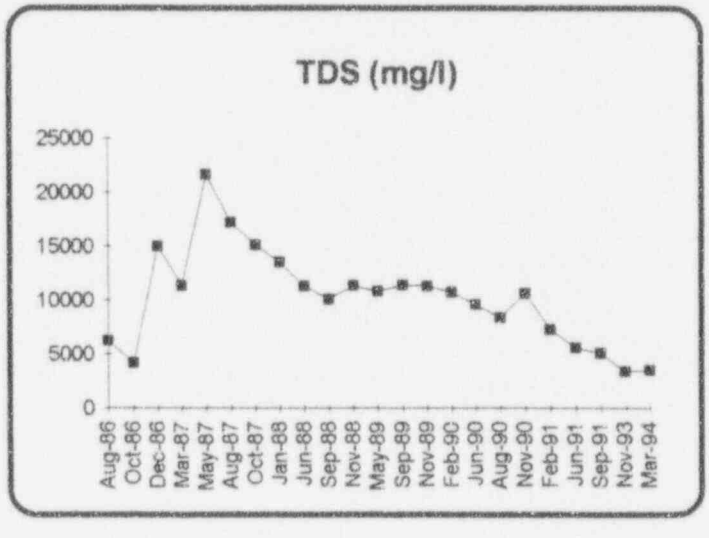


WELL 49SC

DATE	pH	CHLORIDE	TDS
Aug-86	3.0	193	6232
Oct-86	7.1	148	4175
Dec-86	4.3	337	15032
Mar-87	5.3	293	11318
May-87	2.8	336	21624
Aug-87	4.0	383	17199
Oct-87	2.7	282	15128
Jan-88		234	13478
Jun-88	2.4	271	11306
Sep-88	3.0	283	10062
Nov-88	3.4	335	11316
May-89	2.6	386	10824
Sep-89	4.5	378	11400
Nov-89	4.5	354	11304
Feb-90	5.0	428	10756
Jun-90	4.6	396	9577
Aug-90	3.4	417	8371
Nov-90	3.5	399	10640
Feb-91	5.1	346	7243
Jun-91	6.6	277	5566
Sep-91	7.6	295	5064
Nov-93	5.7	53	3410
Mar-94	6.5	60	3530

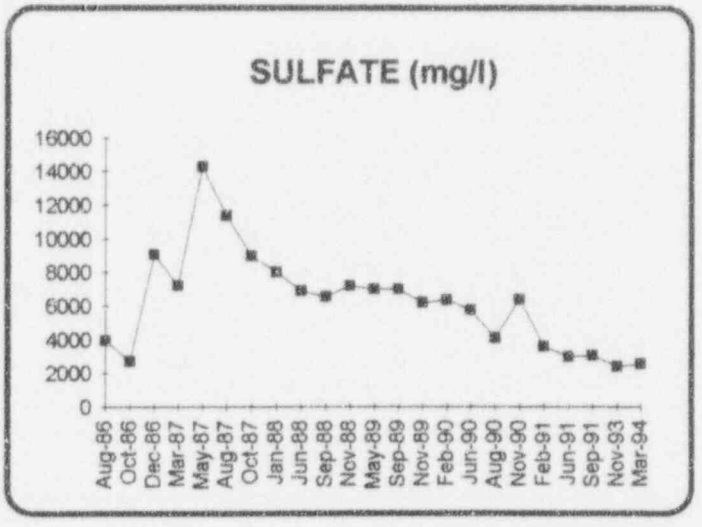


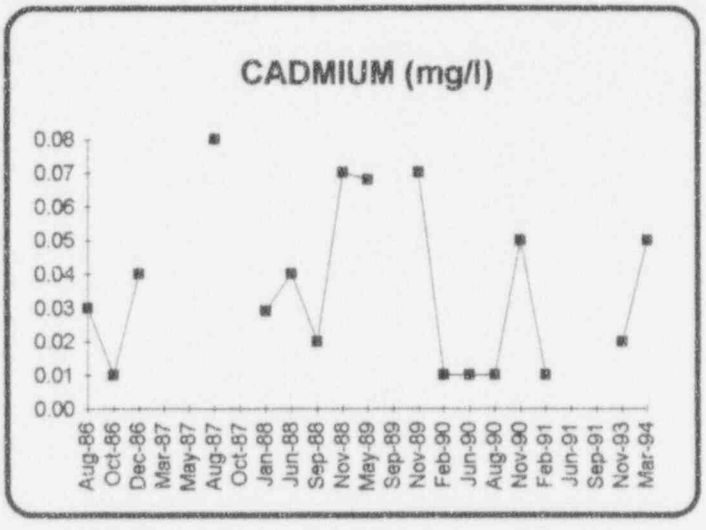


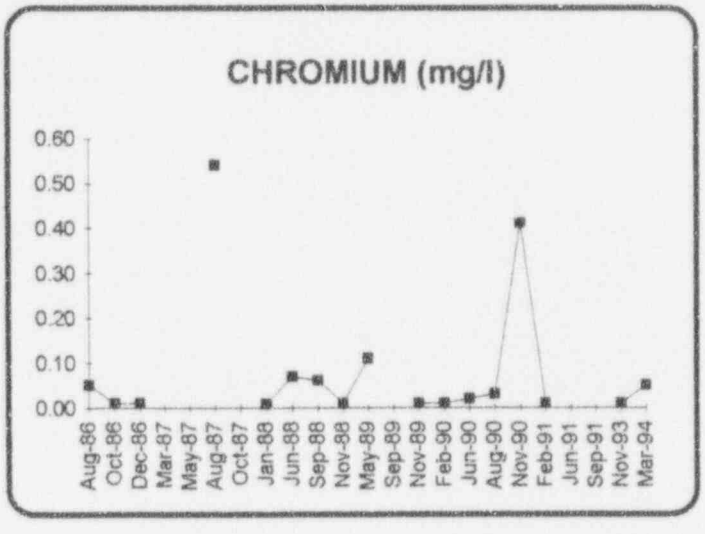


WELL 49SC

DATE	SULFATE	Cadmium	Chromium
Aug-86	3960	0.03	0.05
Oct-86	2696	0.01	0.01
Dec-86	9063	0.04	0.01
Mar-87	7200		
May-87	14300		
Aug-87	11400	0.08	0.54
Oct-87	9000		
Jan-88	8000	0.03	0.01
Jun-88	6900	0.04	0.07
Sep-88	6540	0.02	0.06
Nov-88	7200	0.07	0.01
May-89	7000	0.07	0.11
Sep-89	7000		
Nov-89	6200	0.07	0.01
Feb-90	6366	0.01	0.01
Jun-90	5760	0.01	0.02
Aug-90	4100	0.01	0.03
Nov-90	6400	0.05	0.41
Feb-91	3600	0.01	0.01
Jun-91	2980		
Sep-91	3060		
Nov-93	2400	0.02	0.01
Mar-94	2570	0.05	0.05

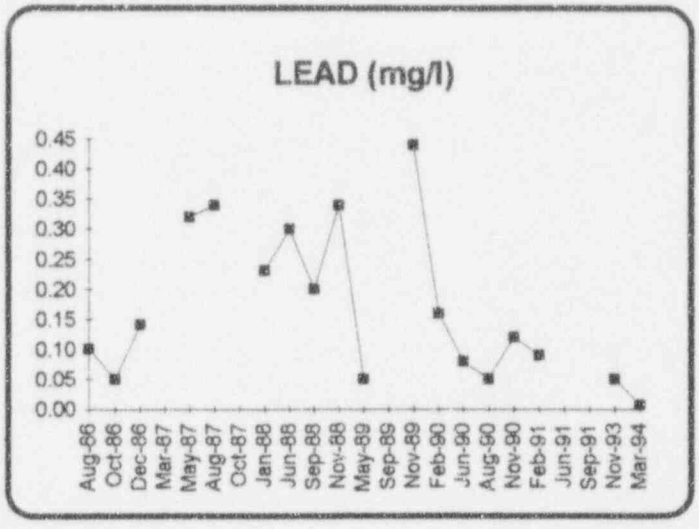


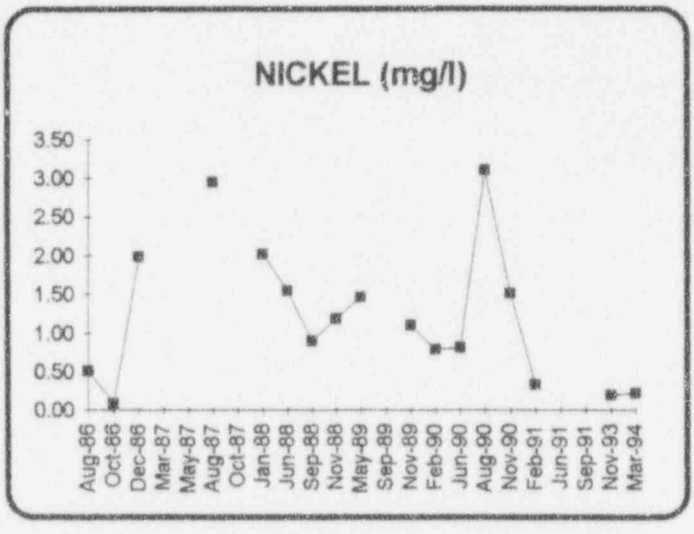


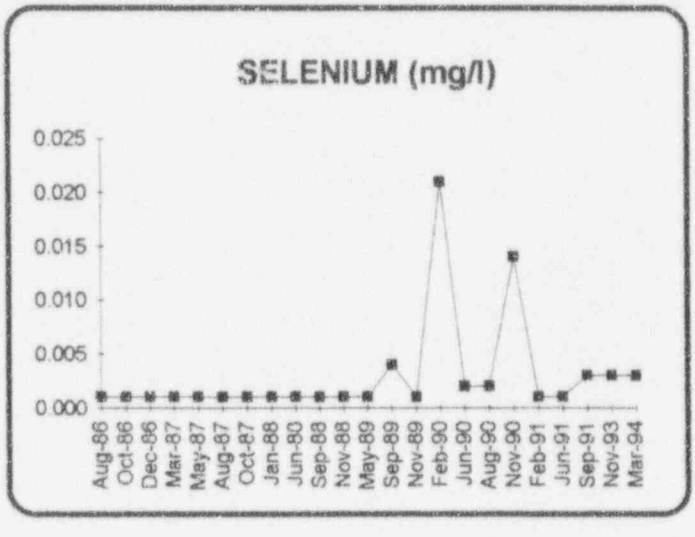


WELL 49SC

DATE	LEAD	NICKEL	SELENIUM
Aug-86	0.10	0.51	0.001
Oct-86	0.05	0.09	0.001
Dec-86	0.14	1.98	0.001
Mar-87			0.001
May-87	0.32		0.001
Aug-87	0.34	2.95	0.001
Oct-87			0.001
Jan-88	0.23	2.02	0.001
Jun-88	0.30	1.55	0.001
Sep-88	0.20	0.90	0.001
Nov-88	0.34	1.18	0.001
May-89	0.05	1.46	0.001
Sep-89			0.004
Nov-89	0.44	1.10	0.001
Feb-90	0.16	0.79	0.021
Jun-90	0.08	0.81	0.002
Aug-90	0.05	3.10	0.002
Nov-90	0.12	1.51	0.014
Feb-91	0.09	0.33	0.001
Jun-91			0.001
Sep-91			0.003
Nov-93	0.05	0.20	0.003
Mar-94	0.01	0.22	0.003

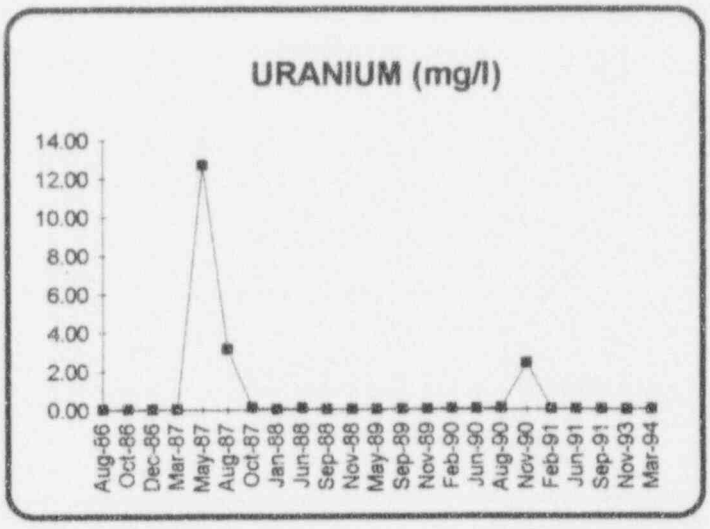


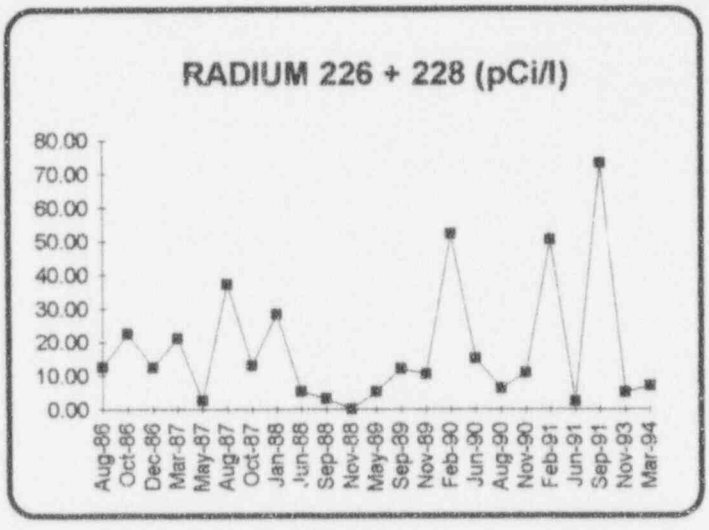


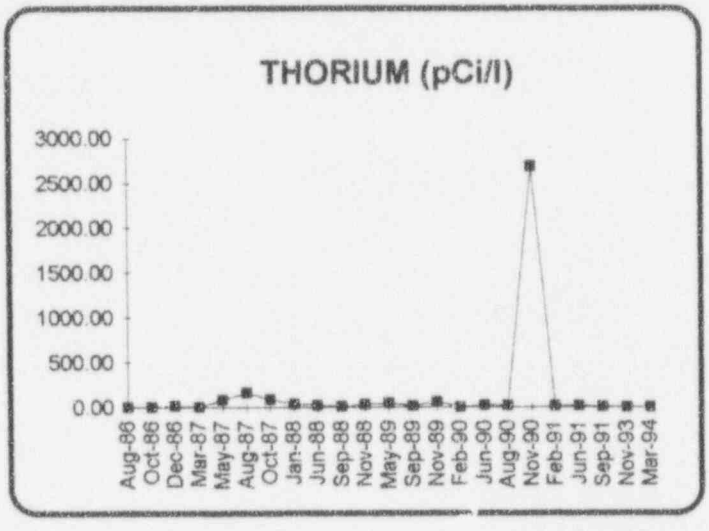


WELL 49SC

DATE	URANIUM	Ra 6+8	Th 230
Aug-86	0.02	12.60	0.15
Oct-86	0.03	22.50	0.22
Dec-86	0.02	12.40	11.70
Mar-87	0.03	21.10	1.34
May-87	12.70	2.39	81.00
Aug-87	3.14	37.10	157.00
Oct-87	0.14	13.00	85.40
Jan-88	0.05	28.20	33.00
Jun-88	0.11	5.26	17.90
Sep-88	0.04	3.12	3.45
Nov-88	0.05	0.07	29.40
May-89	0.03	5.13	42.50
Sep-89	0.03	11.97	10.00
Nov-89	0.04	10.41	55.20
Feb-90	0.05	52.13	0.00
Jun-90	0.06	15.09	16.80
Aug-90	0.11	6.20	15.80
Nov-90	2.41	10.82	2685.00
Feb-91	0.03	50.38	12.70
Jun-91	0.02	2.29	13.30
Sep-91	0.03	73.03	6.40
Nov-93	0.01	5.07	1.57
Mar-94	0.02	6.90	2.90

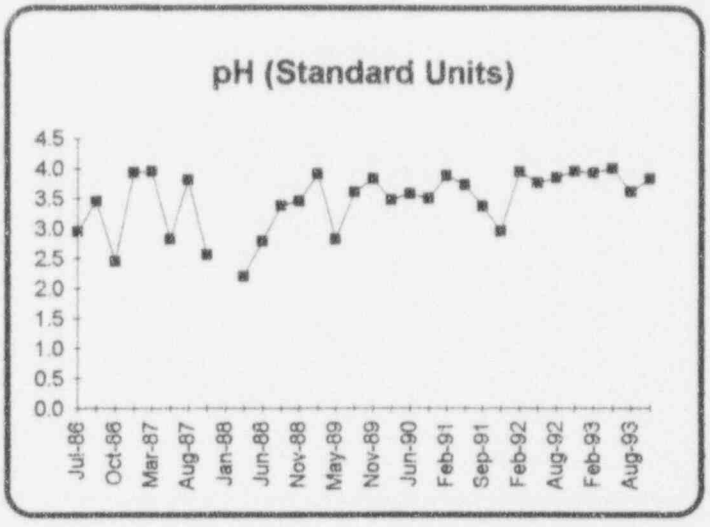


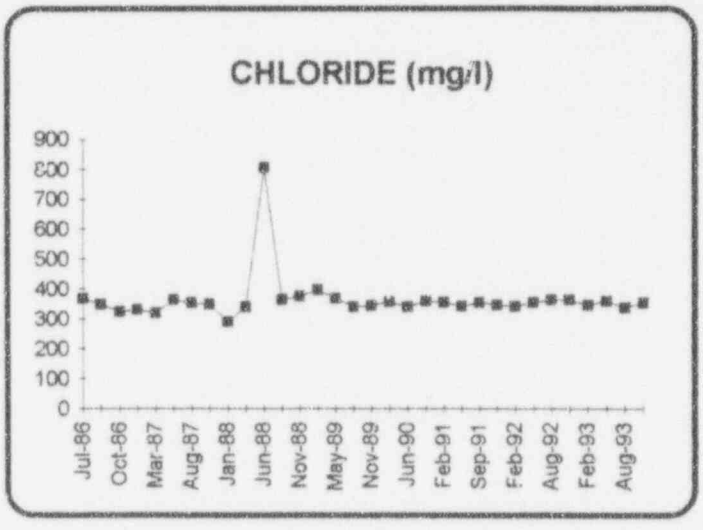


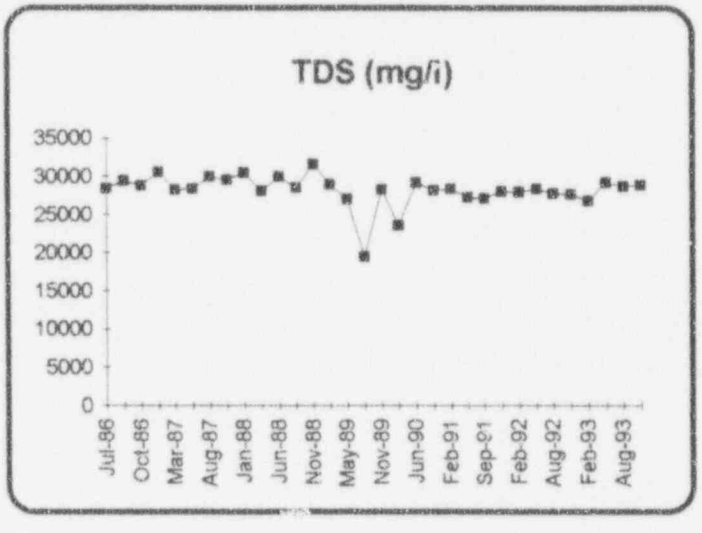


WELL 51SC

DATE	pH	CHLORIDE	TDS
Jul-86	3.0	368	28376
Aug-86	3.5	348	29433
Oct-86	2.5	324	28722
Dec-86	3.9	330	30508
Mar-87	4.0	320	28240
Jun-87	2.8	363	28278
Aug-87	3.8	353	29933
Oct-87	2.6	349	29497
Jan-88		289	30401
May-88	2.2	339	28082
Jun-88	2.8	806	29910
Sep-88	3.4	363	28487
Nov-88	3.5	375	31584
Mar-89	3.9	396	28917
May-89	2.8	368	26980
Sep-89	3.6	339	19410
Nov-89	3.8	343	28230
Mar-90	3.5	358	23560
Jun-90	3.6	339	29161
Aug-90	3.5	359	28174
Feb-91	3.9	355	28311
Jun-91	3.7	342	27204
Sep-91	3.4	354	27017
Dec-91	3.0	345	27958
Feb-92	4.0	342	27885
Jul-92	3.8	354	28272
Aug-92	3.9	364	27687
Dec-92	4.0	363	27591
Feb-93	3.9	345	26765
May-93	4.0	359	29119
Aug-93	3.6	338	28645
Nov-93	3.8	352	28815

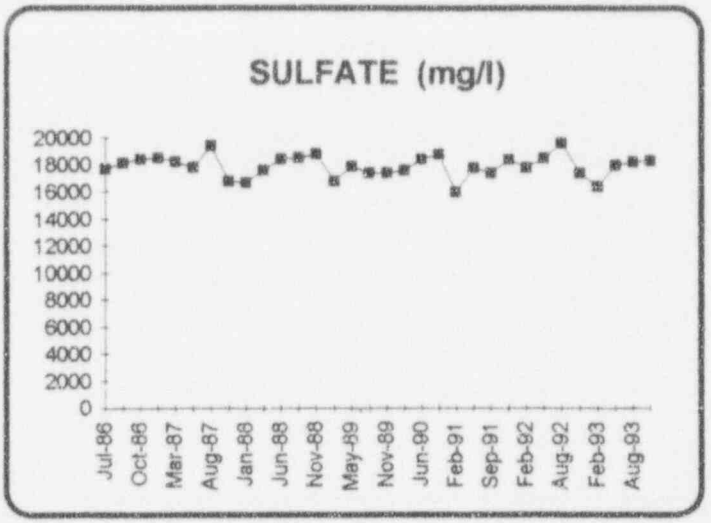


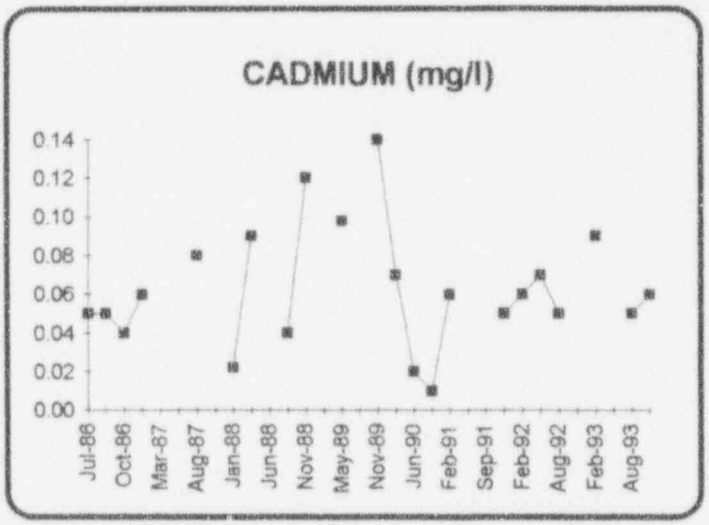


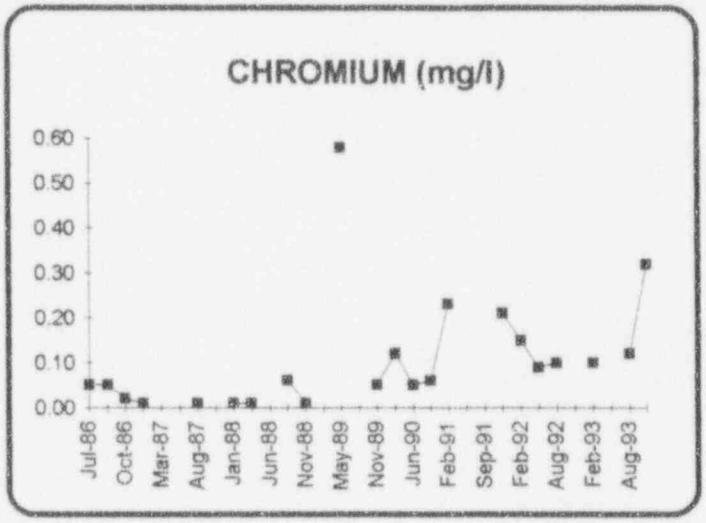


WELL 51SC

DATE	SULFATE	Cadmium	Chromium
Jul-86	17700	0.05	0.05
Aug-86	18100	0.05	0.05
Oct-86	18430	0.04	0.02
Dec-86	18529	0.06	0.01
Mar-87	18200		
Jun-87	17800		
Aug-87	19400	0.08	0.01
Oct-87	16800		
Jan-88	16660	0.02	0.01
May-88	17600	0.09	0.01
Jun-88	18400		
Sep-88	18500	0.04	0.06
Nov-88	18800	0.12	0.01
Mar-89	16800		
May-89	17900	0.10	0.58
Sep-89	17400		
Nov-89	17400	0.14	0.05
Mar-90	17600	0.07	0.12
Jun-90	18400	0.02	0.05
Aug-90	18800	0.01	0.06
Feb-91	16000	0.06	0.23
Jun-91	17800		
Sep-91	17400		
Dec-91	18400	0.05	0.21
Feb-92	17800	0.06	0.15
Jul-92	18500	0.07	0.09
Aug-92	19600	0.05	0.10
Dec-92	17400		
Feb-93	16400	0.09	0.10
May-93	18000		
Aug-93	18200	0.05	0.12
Nov-93	18300	0.06	0.32

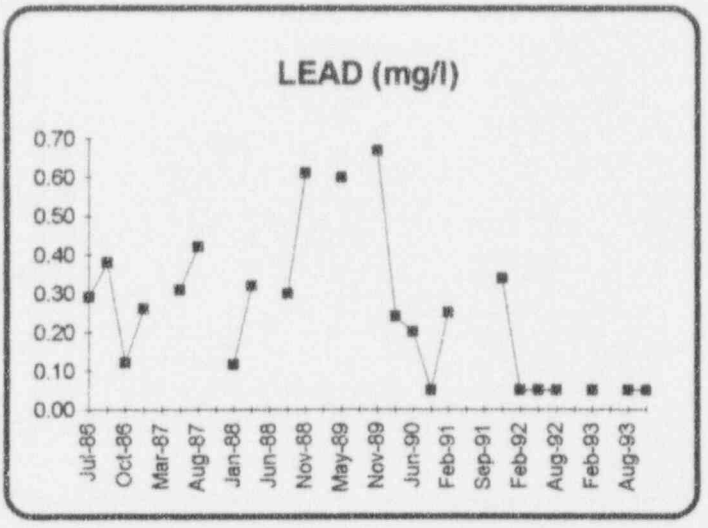


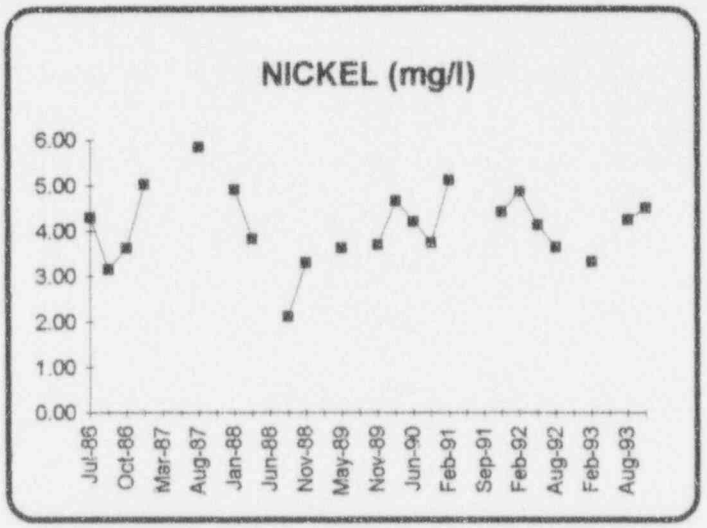


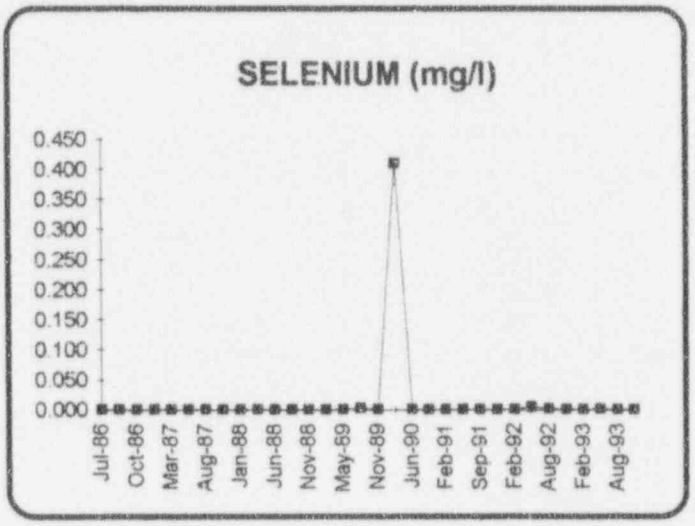


WELL 51SC

DATE	LEAD	NICKEL	SELENIUM
Jul-86	0.29	4.30	0.001
Aug-86	0.38	3.15	0.001
Oct-86	0.12	3.62	0.001
Dec-86	0.26	5.02	0.001
Mar-87			0.001
Jun-87	0.31		0.001
Aug-87	0.42	5.85	0.001
Oct-87			0.001
Jan-88	0.12	4.92	0.001
May-88	0.32	3.83	0.001
Jun-88			0.001
Sep-88	0.30	2.12	0.001
Nov-88	0.61	3.29	0.001
Mar-89			0.001
May-89	0.60	3.63	0.001
Sep-89			0.003
Nov-89	0.67	3.70	0.001
Mar-90	0.24	4.65	0.410
Jun-90	0.20	4.20	0.001
Aug-90	0.05	3.74	0.001
Feb-91	0.25	5.12	0.001
Jun-91			0.001
Sep-91			0.001
Dec-91	0.34	4.41	0.001
Feb-92	0.05	4.86	0.001
Jul-92	0.05	4.13	0.005
Aug-92	0.05	3.64	0.002
Dec-92			0.001
Feb-93	0.05	3.32	0.001
May-93			0.002
Aug-93	0.05	4.24	0.001
Nov-93	0.05	4.50	0.001

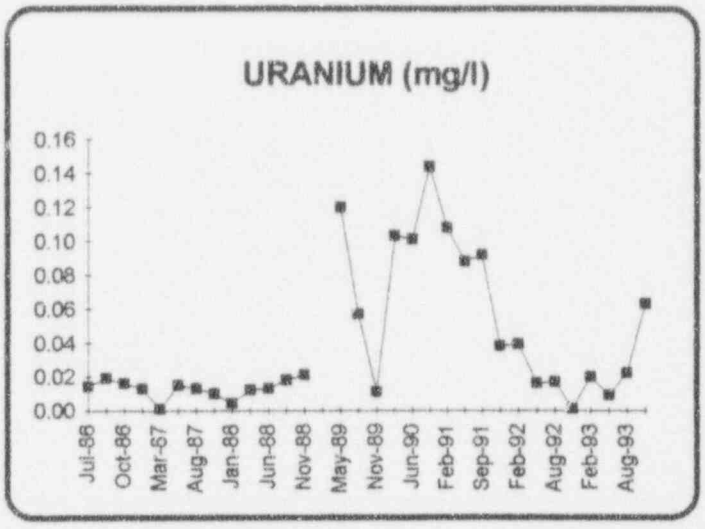


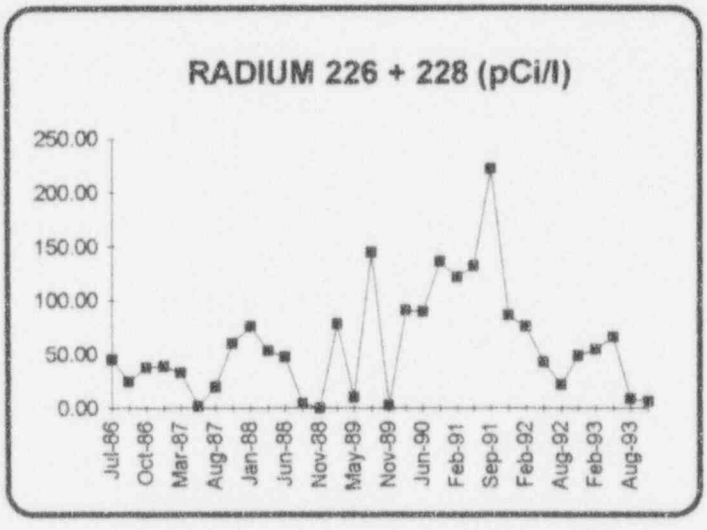


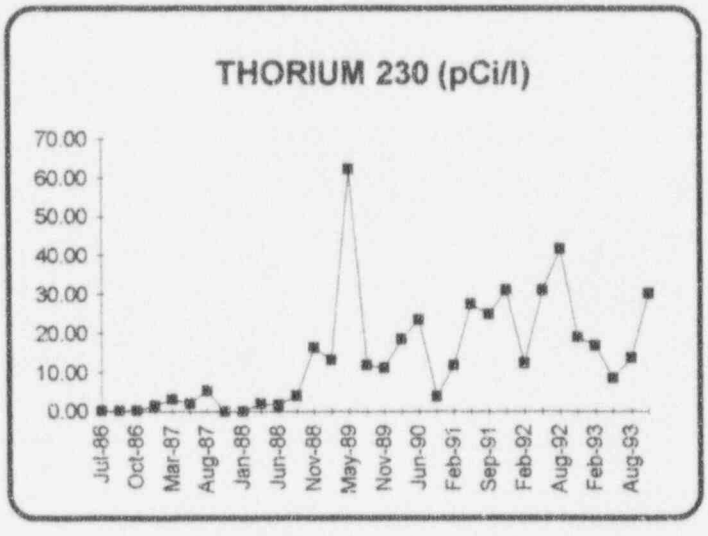


WELL 51SC

DATE	URANIUM	Ra 6+8	Th 230
Jul-86	0.01	44.80	0.09
Aug-86	0.02	24.30	0.14
Oct-86	0.02	37.30	0.20
Dec-86	0.01	38.80	1.45
Mar-87	0.00	32.80	3.17
Jun-87	0.02	1.09	1.95
Aug-87	0.01	19.50	5.24
Oct-87	0.01	59.80	0.00
Jan-88	0.00	75.80	0.00
May-88	0.01	53.40	2.02
Jun-88	0.01	47.10	1.70
Sep-88	0.02	4.17	3.95
Nov-88	0.02	0.11	16.40
Mar-89		77.90	13.20
May-89	0.12	9.64	62.10
Sep-89	0.06	144.30	11.80
Nov-89	0.01	2.06	11.10
Mar-90	0.10	90.90	18.50
Jun-90	0.10	89.20	23.50
Aug-90	0.14	136.30	3.84
Feb-91	0.11	121.60	11.80
Jun-91	0.09	131.70	27.60
Sep-91	0.09	222.10	24.80
Dec-91	0.04	86.10	31.10
Feb-92	0.04	75.50	12.30
Jul-92	0.02	42.20	31.10
Aug-92	0.02	21.82	41.80
Dec-92	0.00	48.20	19.00
Feb-93	0.02	54.62	16.90
May-93	0.01	66.10	8.42
Aug-93	0.02	8.44	13.60
Nov-93	0.06	5.96	30.20

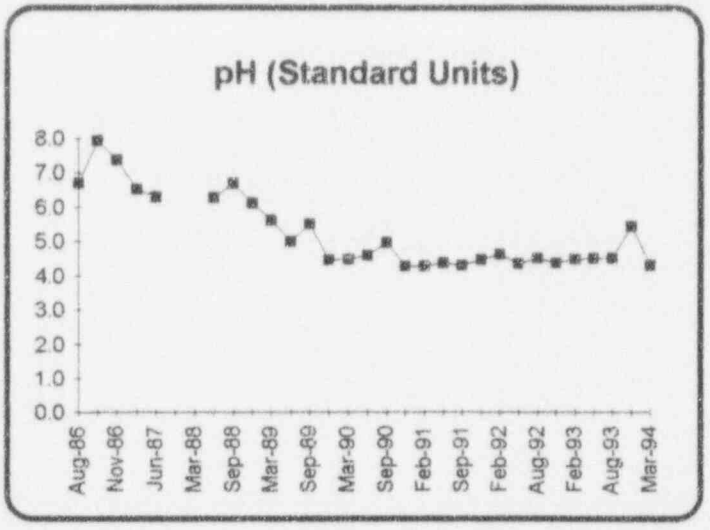


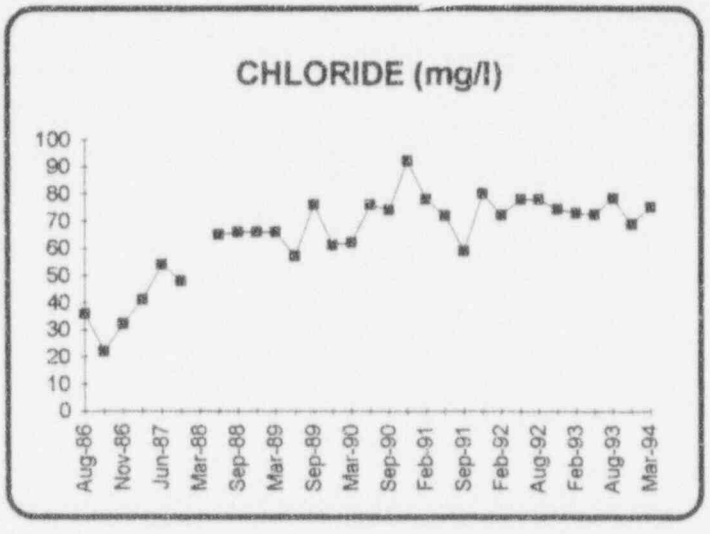


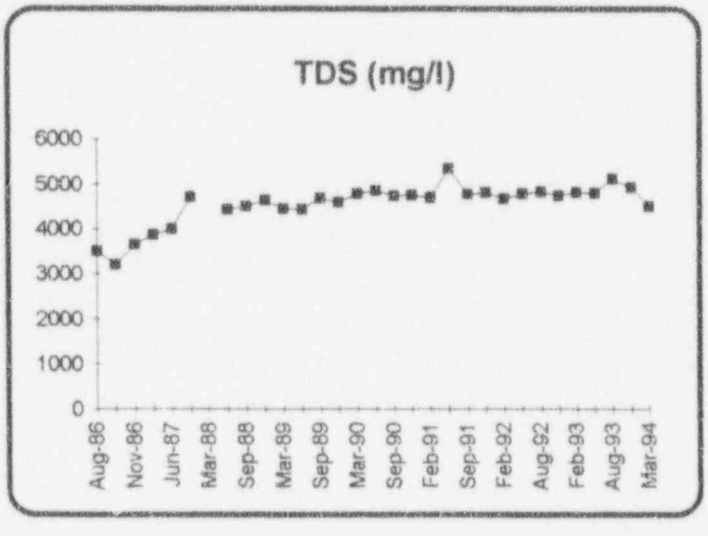


WELL 53SC

DATE	pH	CHLORIDE	TDS
Aug-86	6.7	36	3510
Sep-86	7.9	22	3204
Nov-86	7.4	32	3652
Mar-87	6.5	41	3859
Jun-87	6.3	54	3995
Jan-88		48	4703
Mar-88			
Jun-88	6.3	65	4432
Sep-88	6.7	66	4502
Nov-88	6.1	66	4629
Mar-89	5.6	66	4442
May-89	5.0	57	4430
Sep-89	5.5	76	4674
Nov-89	4.5	61	4591
Mar-90	4.5	62	4779
Jun-90	4.6	76	4850
Sep-90	5.0	74	4727
Dec-90	4.3	92	4755
Feb-91	4.3	78	4695
May-91	4.4	72	5345
Sep-91	4.3	59	4770
Dec-91	4.5	80	4805
Feb-92	4.6	72	4666
Jun-92	4.4	78	4773
Aug-92	4.5	78	4817
Dec-92	4.4	74	4732
Feb-93	4.5	73	4804
May-93	4.5	72	4789
Aug-93	4.5	78	5107
Nov-93	5.4	69	4918
Mar-94	4.3	75	4500

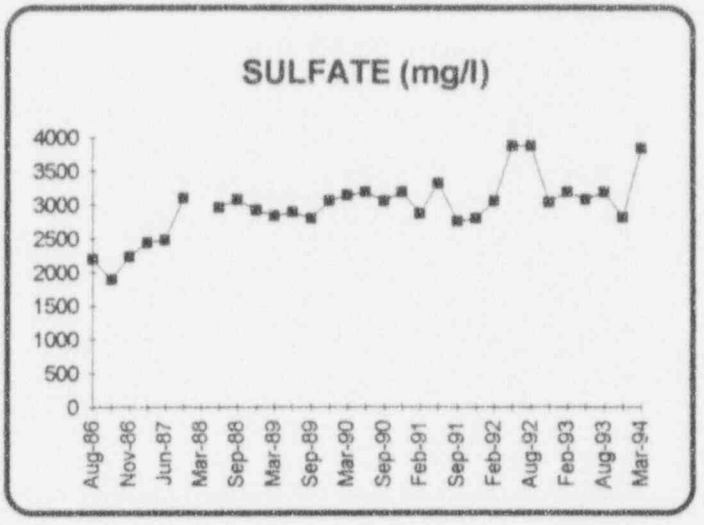


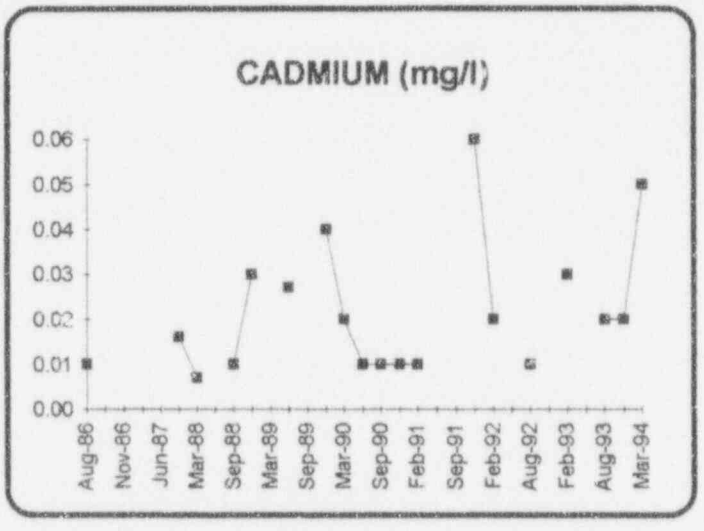


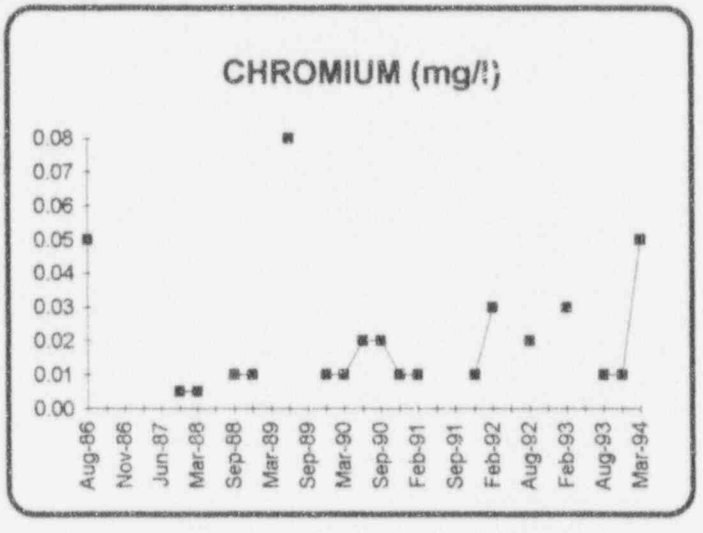


WELL 53SC

DATE	SULFATE	Cadmium	Chromium
Aug-86	2190	0.01	0.05
Sep-86	1888		
Nov-86	2230		
Mar-87	2440		
Jun-87	2480		
Jan-88	3100	0.02	0.01
Mar-88		0.01	0.01
Jun-88	2960		
Sep-88	3080	0.01	0.01
Nov-88	2920	0.03	0.01
Mar-89	2840		
May-89	2900	0.03	0.08
Sep-89	2800		
Nov-89	3060	0.04	0.01
Mar-90	3150	0.02	0.01
Jun-90	3200	0.01	0.02
Sep-90	3060	0.01	0.02
Dec-90	3200	0.01	0.01
Feb-91	2880	0.01	0.01
May-91	3320		
Sep-91	2760		
Dec-91	2800	0.06	0.01
Feb-92	3060	0.02	0.03
Jun-92	3880		
Aug-92	3880	0.01	0.02
Dec-92	3040		
Feb-93	3200	0.03	0.03
May-93	3080		
Aug-93	3200	0.02	0.01
Nov-93	2820	0.02	0.01
Mar-94	3840	0.05	0.05

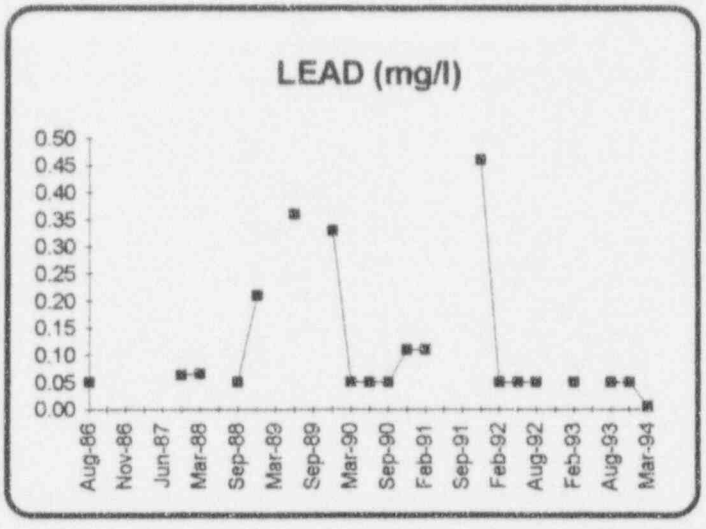


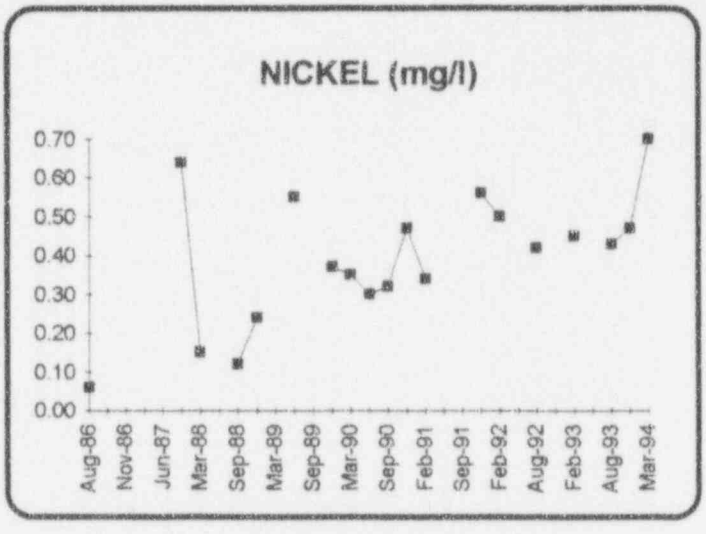


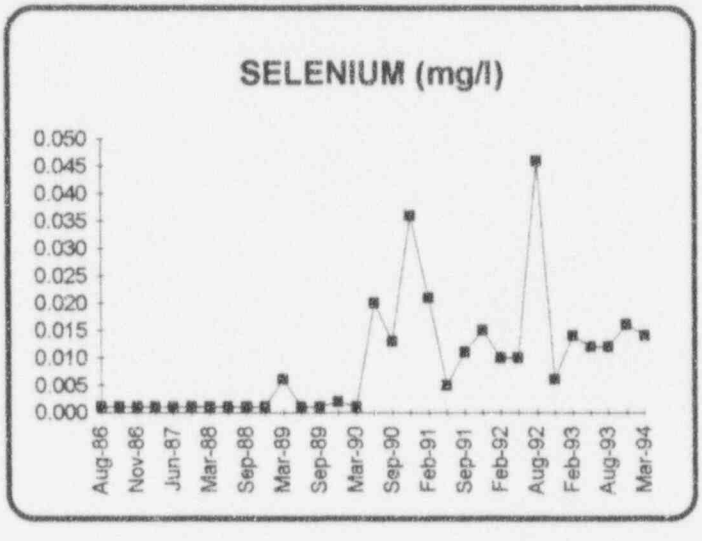


WELL 53SC

DATE	LEAD	NICKEL	SELENIUM
Aug-86	0.05	0.06	0.001
Sep-86			0.001
Nov-86			0.001
Mar-87			0.001
Jun-87			0.001
Jan-88	0.06	0.64	0.001
Mar-88	0.07	0.15	0.001
Jun-88			0.001
Sep-88	0.05	0.12	0.001
Nov-88	0.21	0.24	0.001
Mar-89			0.006
May-89	0.36	0.55	0.001
Sep-89			0.001
Nov-89	0.33	0.37	0.002
Mar-90	0.05	0.35	0.001
Jun-90	0.05	0.30	0.020
Sep-90	0.05	0.32	0.013
Dec-90	0.11	0.47	0.036
Feb-91	0.11	0.34	0.021
May-91			0.005
Sep-91			0.011
Dec-91	0.46	0.56	0.015
Feb-92	0.05	0.50	0.010
Jun-92	0.05		0.010
Aug-92	0.05	0.42	0.046
Dec-92			0.006
Feb-93	0.05	0.45	0.014
May-93			0.012
Aug-93	0.05	0.43	0.012
Nov-93	0.05	0.47	0.016
Mar-94	0.01	0.70	0.014

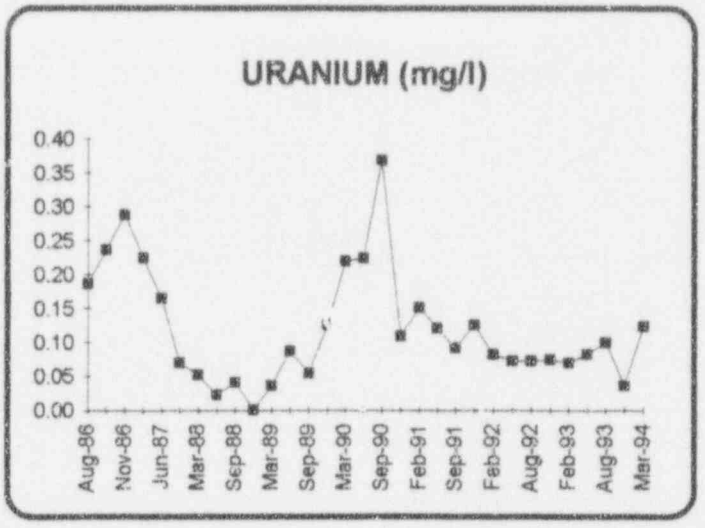


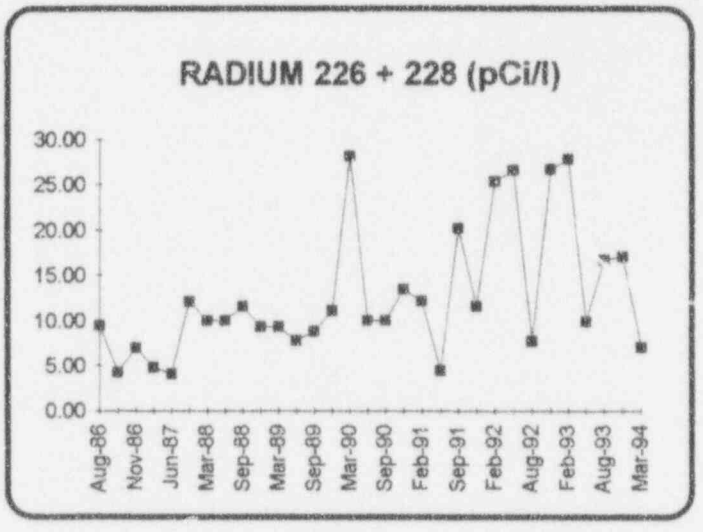


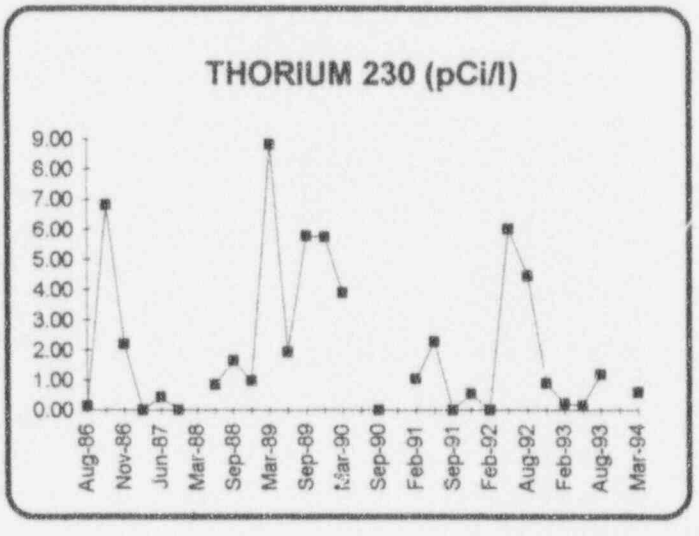


WELL 53SC

DATE	URANIUM	Ra 6+8	Th 230
Aug-86	0.19	9.41	0.15
Sep-86	0.24	4.22	6.82
Nov-86	0.29	6.92	2.20
Mar-87	0.22	4.78	0.00
Jun-87	0.17	4.09	0.44
Jan-88	0.07	12.10	0.00
Mar-88	0.05	9.97	
Jun-88	0.02	10.00	0.85
Sep-88	0.04	11.55	1.66
Nov-88	0.00	9.23	0.98
Mar-89	0.04	9.23	8.83
May-89	0.09	7.78	1.94
Sep-89	0.05	8.72	5.79
Nov-89	0.13	11.03	5.73
Mar-90	0.22	28.10	3.91
Jun-90	0.22	10.01	
Sep-90	0.37	9.99	0.00
Dec-90	0.11	13.42	
Feb-91	0.15	12.12	1.04
May-91	0.12	4.41	2.27
Sep-91	0.09	20.17	0.00
Dec-91	0.13	11.59	0.55
Feb-92	0.08	25.33	0.00
Jun-92	0.07	26.57	6.02
Aug-92	0.07	7.64	4.47
Dec-92	0.07	26.59	0.85
Feb-93	0.07	27.75	0.22
May-93	0.08	9.84	0.17
Aug-93	0.10	16.68	1.20
Nov-93	0.04	17.06	
Mar-94	0.12	7.00	0.60

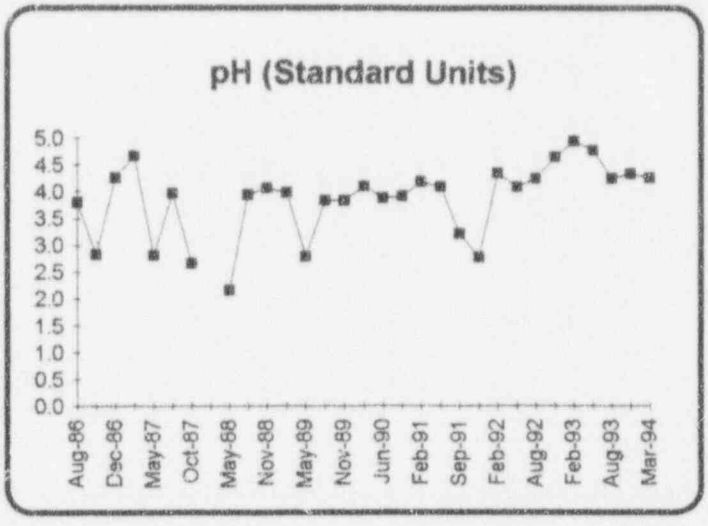


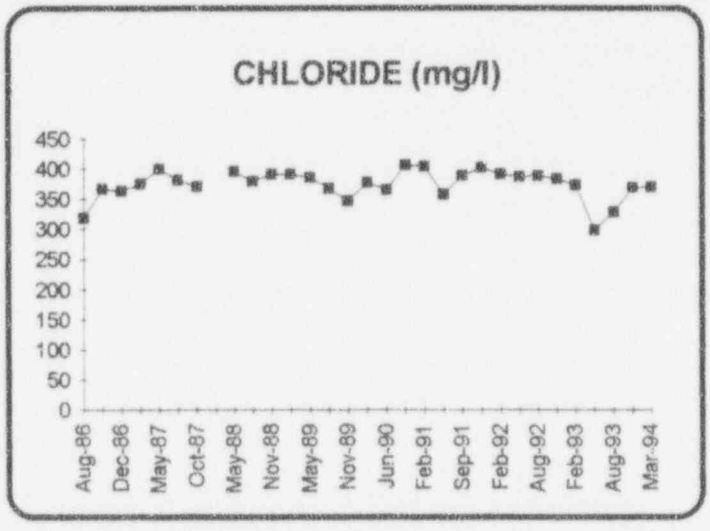


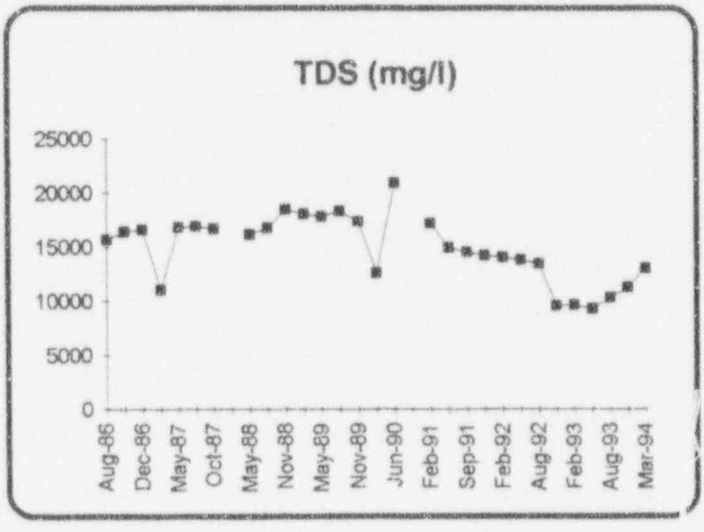


WELL 54SC

DATE	pH	CHLORIDE	TDS
Aug-86	3.8	319	15645
Oct-86	2.8	367	16396
Dec-86	4.3	363	16583
Mar-87	4.7	375	11038
May-87	2.8	400	16800
Aug-87	4.0	382	16935
Oct-87	2.7	371	16682
Jan-88			
May-88	2.2	396	16166
Sep-88	4.0	379	16750
Nov-88	4.1	392	18516
Mar-89	4.0	391	18075
May-89	2.8	386	17836
Sep-89	3.8	368	18309
Nov-89	3.8	347	17368
Mar-90	4.1	378	12626
Jun-90	3.9	365	20928
Aug-90	3.9	407	
Feb-91	4.2	404	17170
Jun-91	4.1	358	14966
Sep-91	3.2	389	14561
Dec-91	2.8	402	14224
Feb-92	4.4	392	14024
Jul-92	4.1	387	13784
Aug-92	4.3	388	13435
Dec-92	4.7	384	9562
Feb-93	5.0	373	9637
May-93	4.8	298	9282
Aug-93	4.3	329	10302
Nov-93	4.3	369	11298
Mar-94	4.3	370	13000

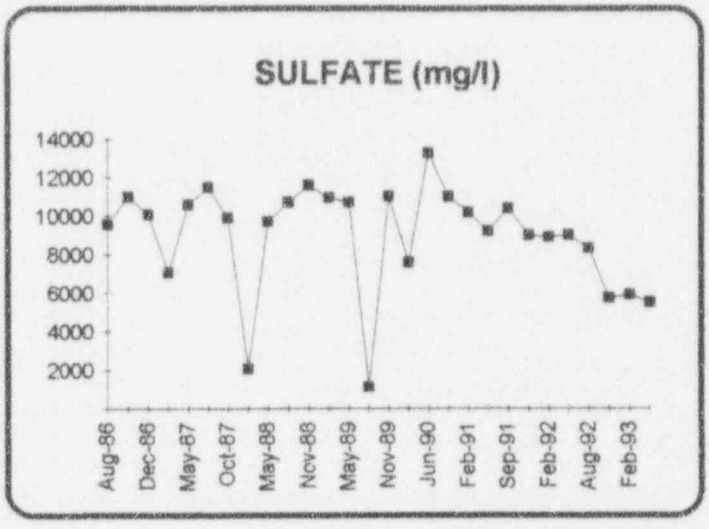


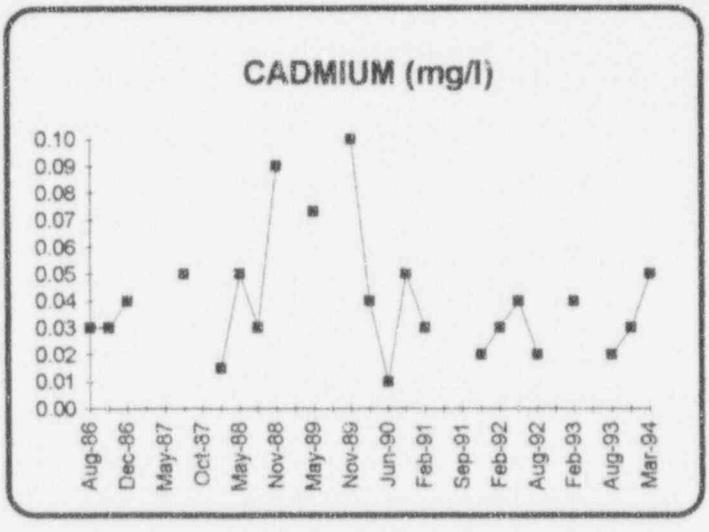


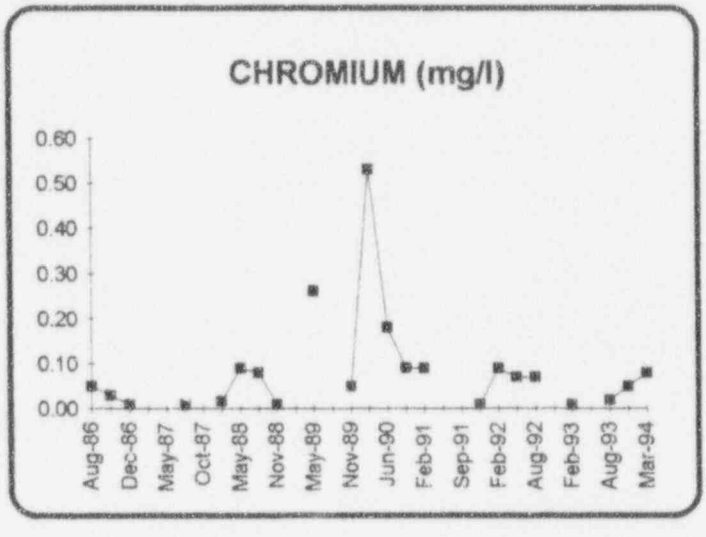


WELL 54SC

DATE	SULFATE	Cadmium	Chromium
Aug-86	9550	0.03	0.05
Oct-86	10980	0.03	0.03
Dec-86	10068	0.04	0.01
Mar-87	7040		
May-87	10560		
Aug-87	11480	0.05	0.01
Oct-87	9900		
Jan-88	2080	0.02	0.02
May-88	9700	0.05	0.09
Sep-88	10722	0.03	0.08
Nov-88	11600	0.09	0.01
Mar-89	10933		
May-89	10700	0.07	0.26
Sep-89	1110		
Nov-89	11000	0.10	0.05
Mar-90	7600	0.04	0.53
Jun-90	13280	0.01	0.18
Aug-90	11000	0.05	0.09
Feb-91	10200	0.03	0.09
Jun-91	9200		
Sep-91	10400		
Dec-91	9000	0.02	0.01
Feb-92	8900	0.03	0.09
Jul-92	9000	0.04	0.07
Aug-92	8330	0.02	0.07
Dec-92	5760		
Feb-93	5920	0.04	0.01
May-93	5520		
Aug-93	6720	0.02	0.02
Nov-93	6440	0.03	0.05
Mar-94	9440	0.05	0.08

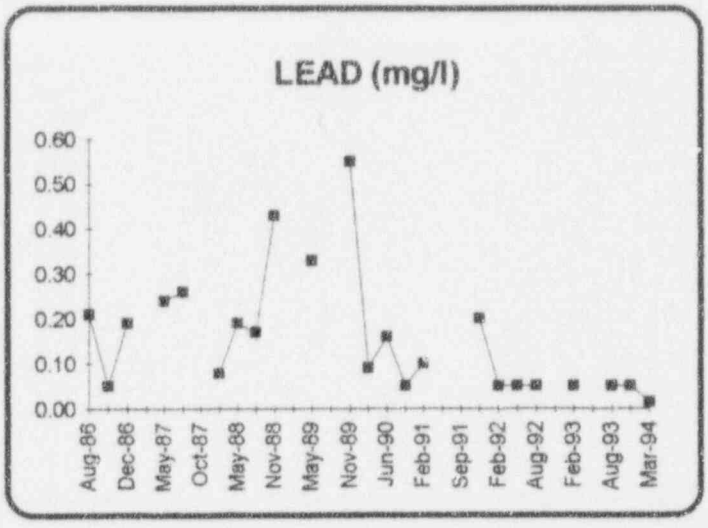


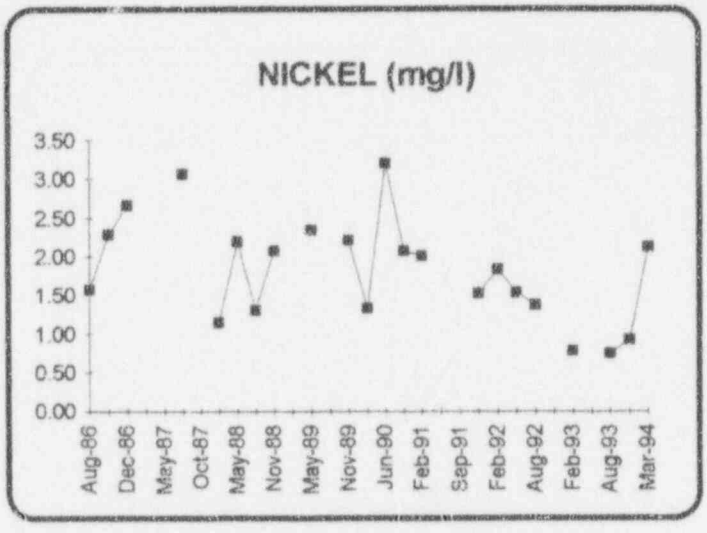


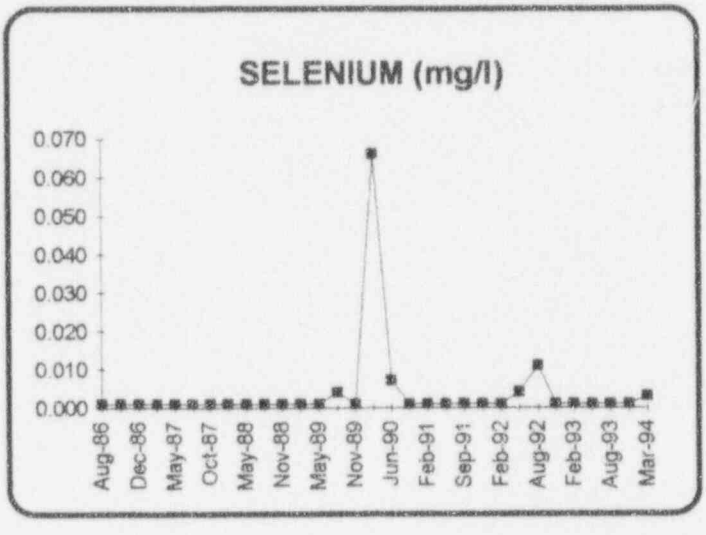


WELL 54SC

DATE	LEAD	NICKEL	SELENIUM
Aug-86	0.21	1.57	0.001
Oct-86	0.05	2.28	0.001
Dec-86	0.19	2.66	0.001
Mar-87			0.001
May-87	0.24		0.001
Aug-87	0.26	3.06	0.001
Oct-87			0.001
Jan-88	0.08	1.14	0.001
May-88	0.19	2.19	0.001
Sep-88	0.17	1.30	0.001
Nov-88	0.43	2.07	0.001
Mar-89			0.001
May-89	0.33	2.34	0.001
Sep-89			0.004
Nov-89	0.55	2.20	0.001
Mar-90	0.09	1.33	0.066
Jun-90	0.16	3.20	0.007
Aug-90	0.05	2.07	0.001
Feb-91	0.10	2.00	0.001
Jun-91			0.001
Sep-91			0.001
Dec-91	0.20	1.52	0.001
Feb-92	0.05	1.83	0.001
Jul-92	0.05	1.53	0.004
Aug-92	0.05	1.37	0.011
Dec-92			0.001
Feb-93	0.05	0.78	0.001
May-93			0.001
Aug-93	0.05	0.75	0.001
Nov-93	0.05	0.92	0.001
Mar-94	0.02	2.12	0.003

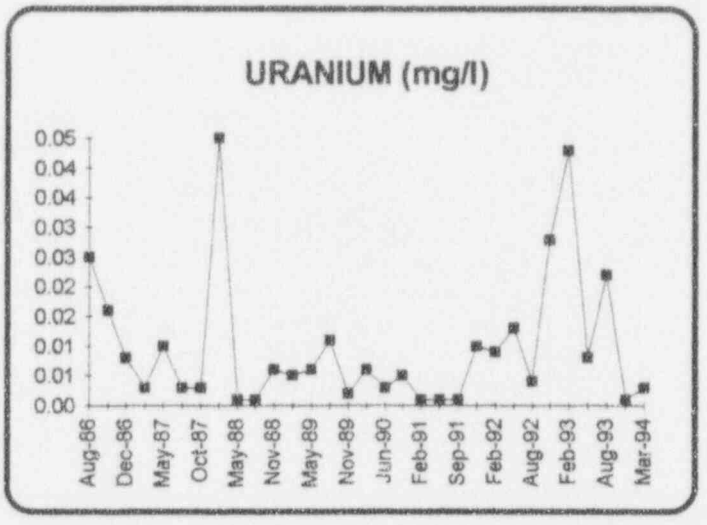


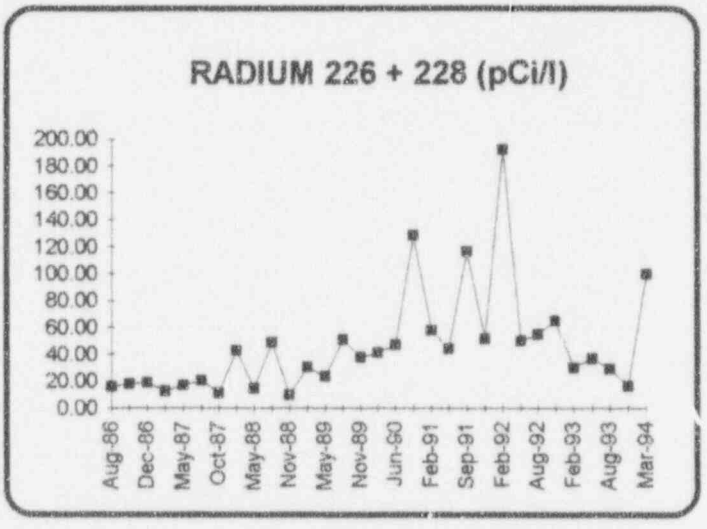


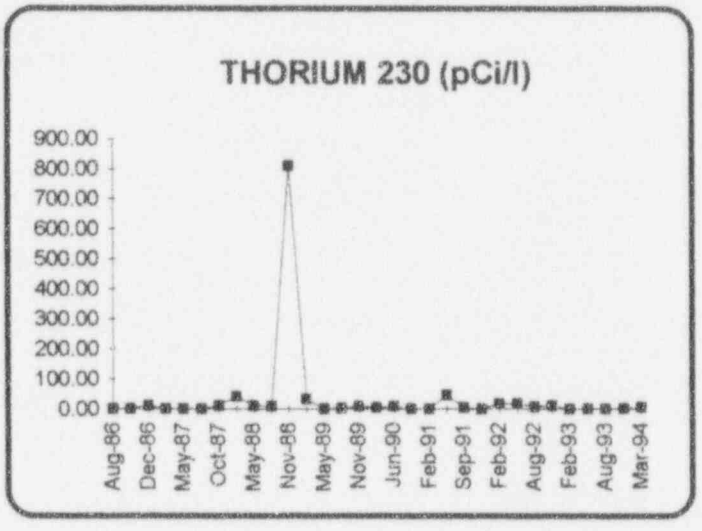


WELL 54SC

DATE	URANIUM	Ra 6+8	Th 230
Aug-86	0.03	15.80	0.15
Oct-86	0.02	18.00	0.22
Dec-86	0.01	18.60	11.70
Mar-87	0.00	12.80	0.08
May-87	0.01	17.10	0.22
Aug-87	0.00	20.10	0.00
Oct-87	0.00	10.80	11.20
Jan-88	0.05	42.49	42.00
May-88	0.00	14.60	10.10
Sep-88	0.00	48.70	8.60
Nov-88	0.01	9.71	809.00
Mar-89	0.01	30.30	33.40
May-89	0.01	23.80	0.74
Sep-89	0.01	51.00	1.74
Nov-89	0.00	37.73	9.41
Mar-90	0.01	41.00	3.99
Jun-90	0.00	46.90	9.39
Aug-90	0.01	128.10	0.00
Feb-91	0.00	57.60	0.00
Jun-91	0.00	43.86	46.00
Sep-91	0.00	116.00	3.37
Dec-91	0.01	51.10	0.00
Feb-92	0.01	192.29	17.90
Jul-92	0.01	50.00	17.90
Aug-92	0.00	54.40	6.29
Dec-92	0.03	64.60	10.00
Feb-93	0.04	29.84	0.24
May-93	0.01	36.80	0.00
Aug-93	0.02	29.02	0.53
Nov-93	0.00	16.31	1.90
Mar-94	0.00	99.50	6.80

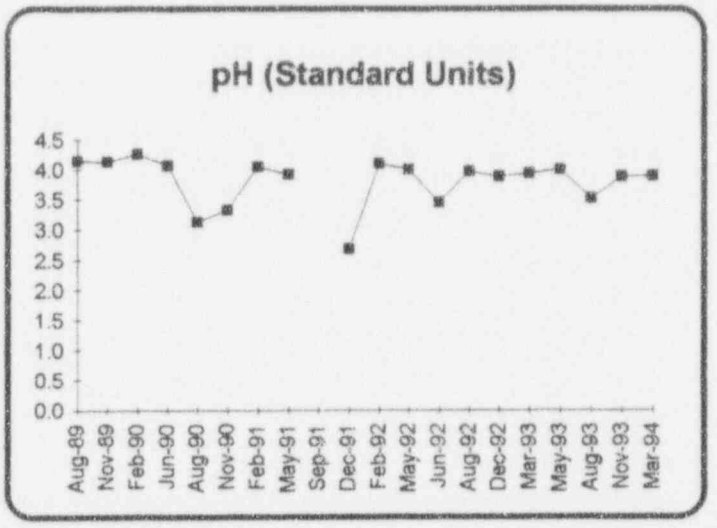


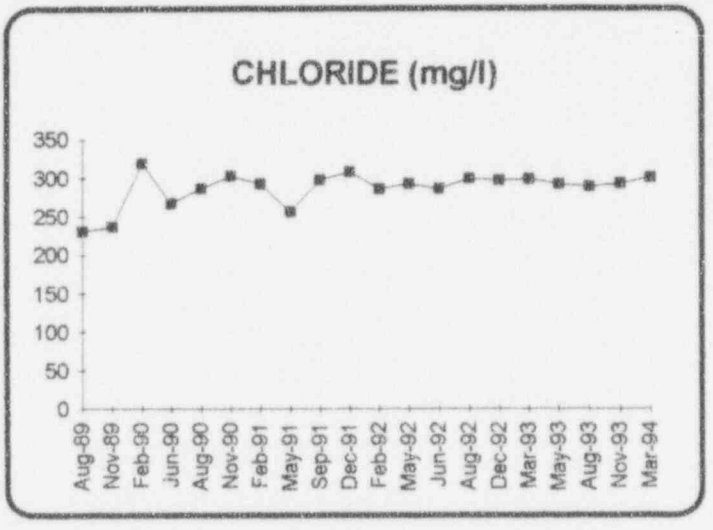


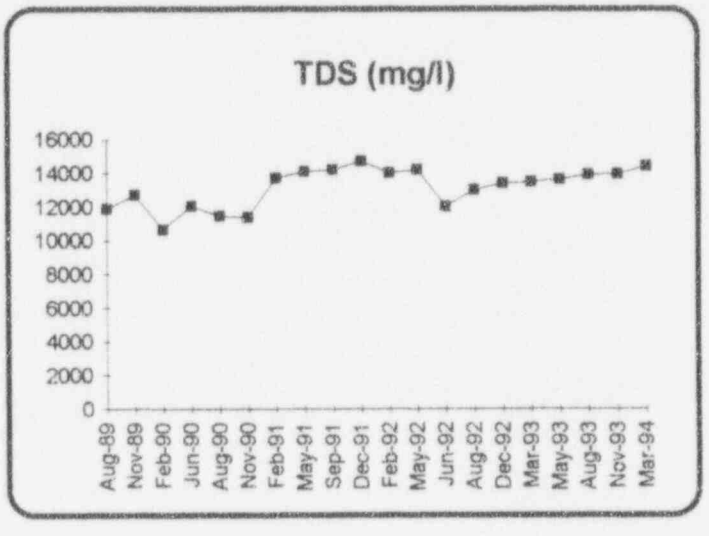


WELL 56SC

DATE	pH	CHLORIDE	TDS
Aug-89	4.1	230	11869
Nov-89	4.1	236	12686
Feb-90	4.3	318	10650
Jun-90	4.1	267	12033
Aug-90	3.1	286	11458
Nov-90	3.3	302	11376
Feb-91	4.0	292	13689
May-91	3.9	256	14108
Sep-91		297	14190
Dec-91	2.7	307	14703
Feb-92	4.1	285	14006
May-92	4.0	292	14211
Jun-92	3.5	285	12009
Aug-92	4.0	299	13016
Dec-92	3.9	296	13398
Mar-93	3.9	298	13458
May-93	4.0	291	13631
Aug-93	3.5	288	13896
Nov-93	3.9	292	13946
Mar-94	3.9	300	14400

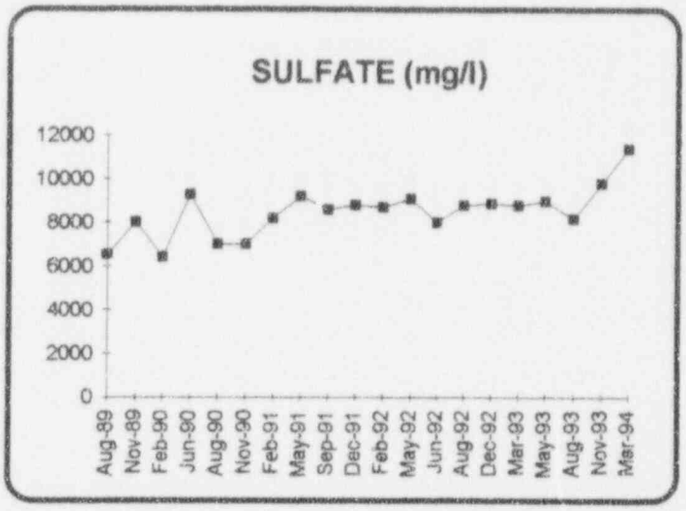


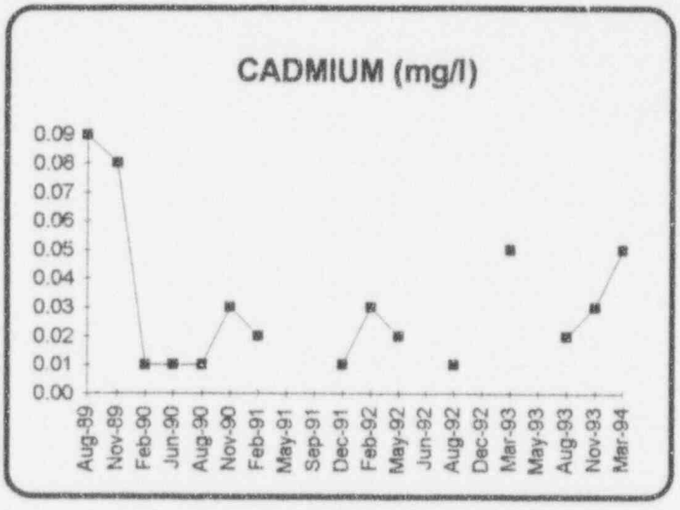


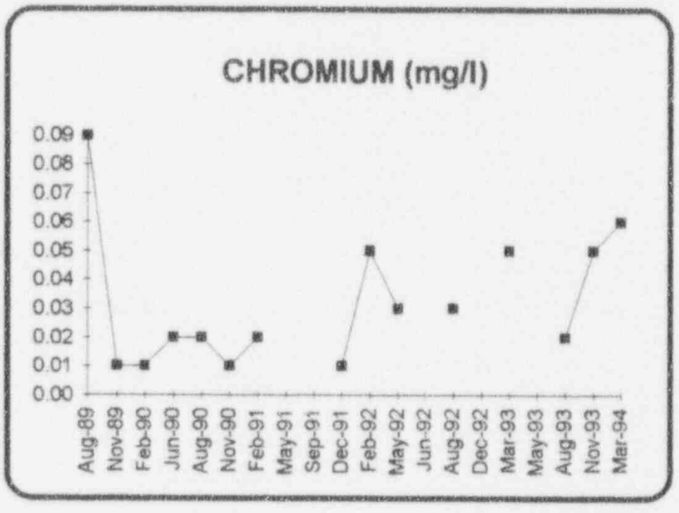


WELL 56SC

DATE	SULFATE	Cadmium	Chromium
Aug-89	6520	0.09	0.09
Nov-89	8000	0.08	0.01
Feb-90	6400	0.01	0.01
Jun-90	9280	0.01	0.02
Aug-90	7000	0.01	0.02
Nov-90	7000	0.03	0.01
Feb-91	8200	0.02	0.02
May-91	9200		
Sep-91	8600		
Dec-91	8800	0.01	0.01
Feb-92	8700	0.03	0.05
May-92	9100	0.02	0.03
Jun-92	8000		
Aug-92	8800	0.01	0.03
Dec-92	8880		
Mar-93	8800	0.05	0.05
May-93	9000		
Aug-93	8200	0.02	0.02
Nov-93	9800	0.03	0.05
Mar-94	11400	0.05	0.06

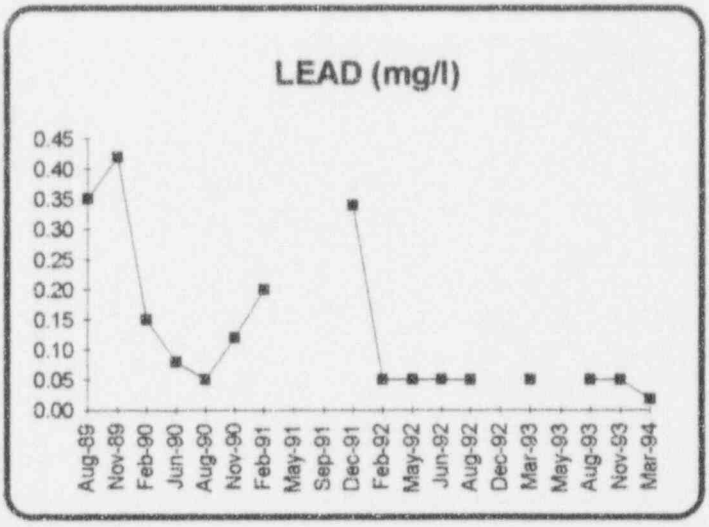


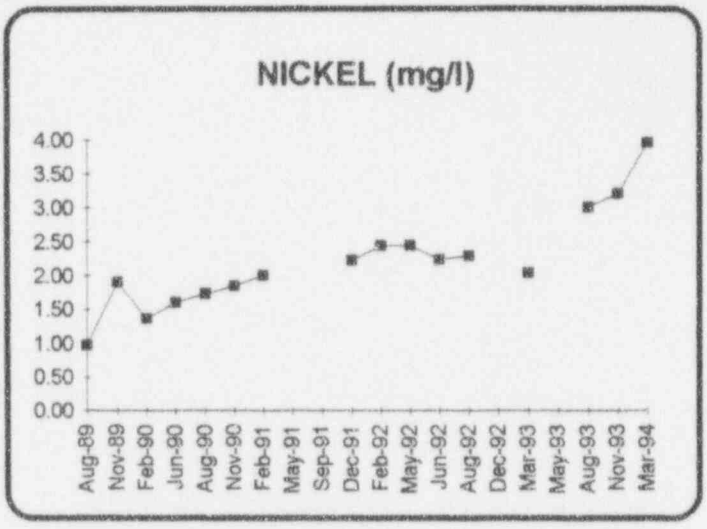


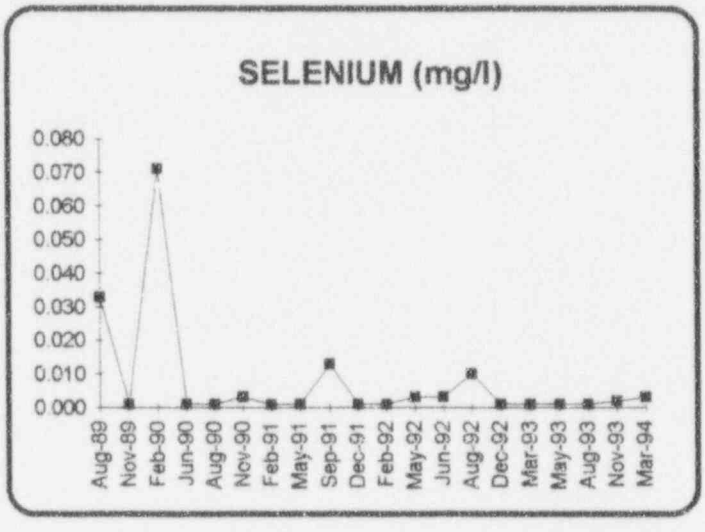


WELL 56SC

DATE	LEAD	NICKEL	SELENIUM
Aug-89	0.35	0.97	0.033
Nov-89	0.42	1.90	0.001
Feb-90	0.15	1.36	0.071
Jun-90	0.08	1.60	0.001
Aug-90	0.05	1.73	0.001
Nov-90	0.12	1.84	0.003
Feb-91	0.20	2.00	0.001
May-91			0.001
Sep-91			0.013
Dec-91	0.34	2.22	0.001
Feb-92	0.05	2.44	0.001
May-92	0.05	2.44	0.003
Jun-92	0.05	2.23	0.003
Aug-92	0.05	2.29	0.010
Dec-92			0.001
Mar-93	0.05	2.04	0.001
May-93			0.001
Aug-93	0.05	3.00	0.001
Nov-93	0.05	3.20	0.002
Mar-94	0.02	3.95	0.003

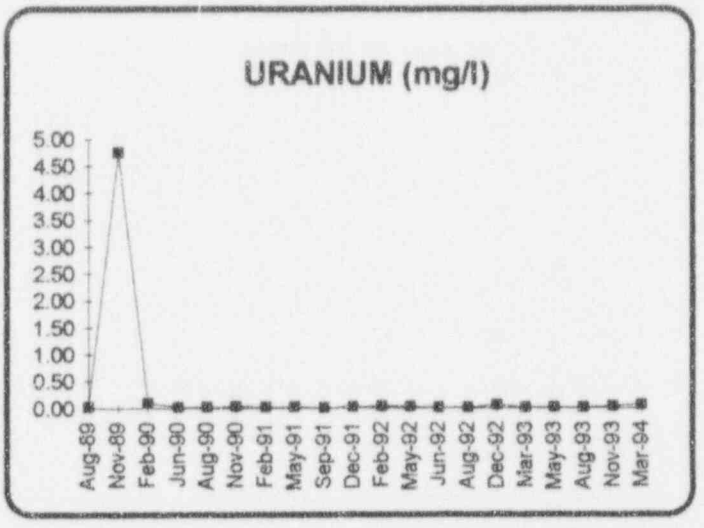


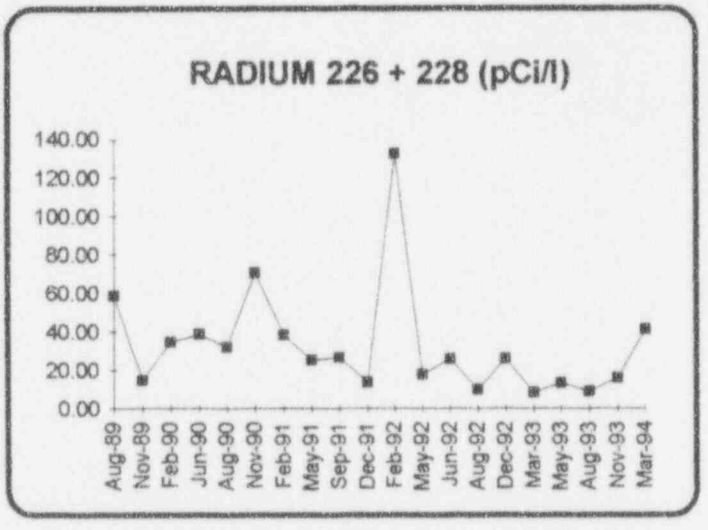


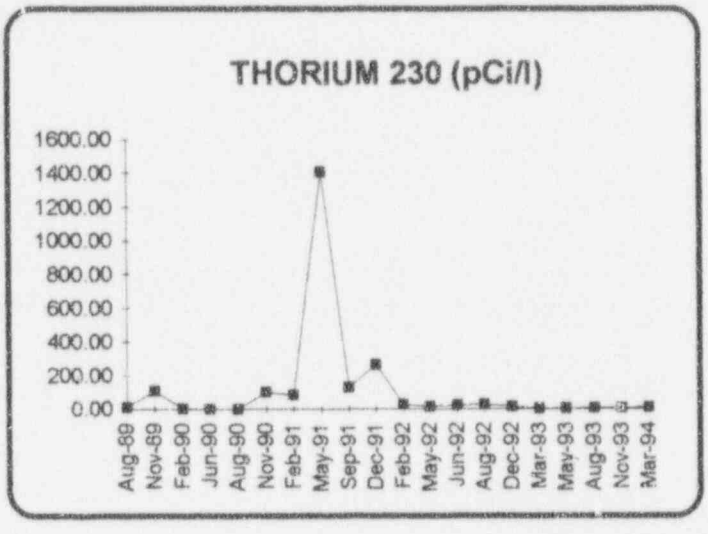


WELL 56SC

DATE	URANIUM	Ra 6+8	Th 230
Aug-89	0.02	58.60	8.89
Nov-89	4.75	14.34	109.00
Feb-90	0.09	34.60	1.33
Jun-90	0.02	38.46	0.00
Aug-90	0.02	31.87	0.29
Nov-90	0.04	70.55	101.00
Feb-91	0.02	38.24	83.30
May-91	0.02	25.04	1406.00
Sep-91	0.01	26.39	127.00
Dec-91	0.03	13.61	262.00
Feb-92	0.03	132.51	27.00
May-92	0.03	17.67	13.70
Jun-92	0.01	25.79	22.60
Aug-92	0.01	9.88	25.00
Dec-92	0.06	25.59	13.90
Mar-93	0.01	7.95	3.99
May-93	0.01	13.19	2.55
Aug-93	0.01	8.64	8.32
Nov-93	0.03	15.77	6.20
Mar-94	0.05	40.90	9.40

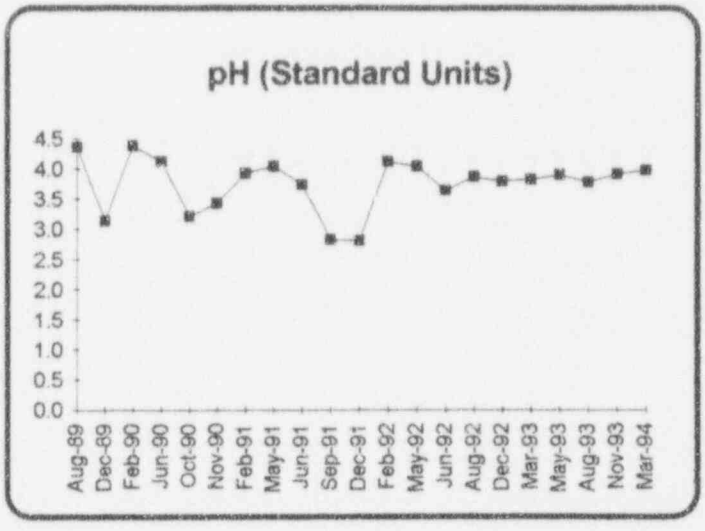


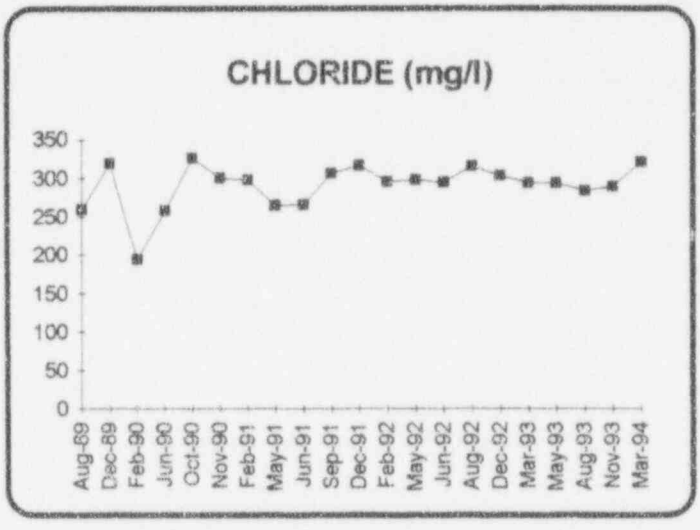


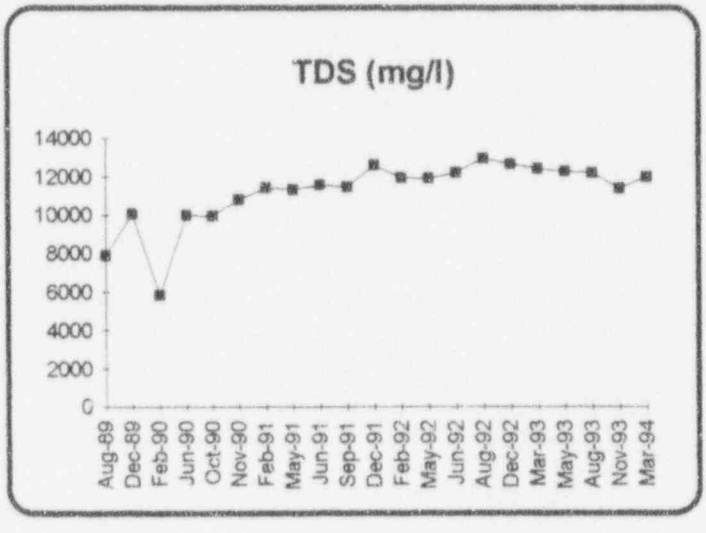


WELL 57SC

DATE	pH	CHLORIDE	TDS
Aug-89	4.4	259	7899
Dec-89	3.1	318	10067
Feb-90	4.4	194	5809
Jun-90	4.1	257	9970
Oct-90	3.2	326	9957
Nov-90	3.4	300	10814
Feb-91	3.9	297	11417
May-91	4.0	264	11312
Jun-91	3.7	265	11564
Sep-91	2.8	306	11442
Dec-91	2.8	316	12559
Feb-92	4.1	295	11929
May-92	4.0	297	11881
Jun-92	3.6	294	12199
Aug-92	3.9	315	12936
Dec-92	3.8	302	12650
Mar-93	3.8	293	12391
May-93	3.9	293	12247
Aug-93	3.8	283	12176
Nov-93	3.9	288	11360
Mar-94	4.0	320	12000

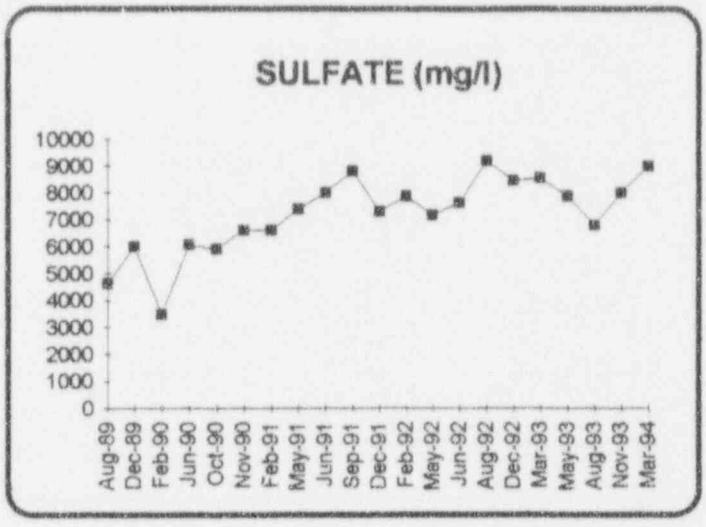


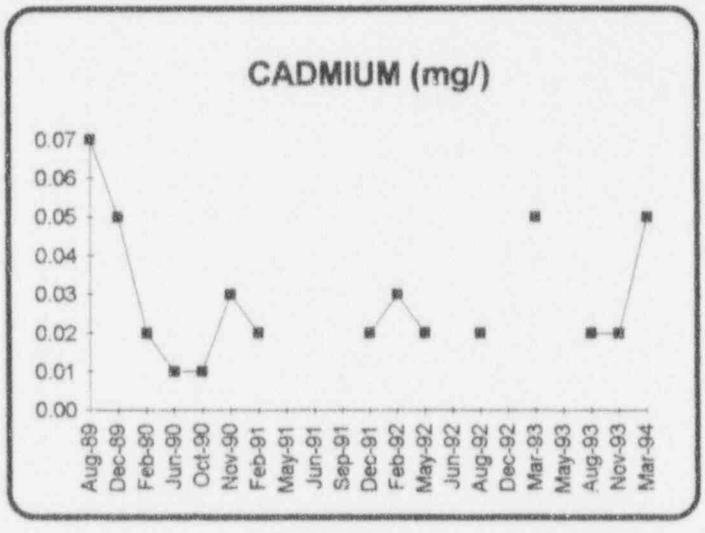


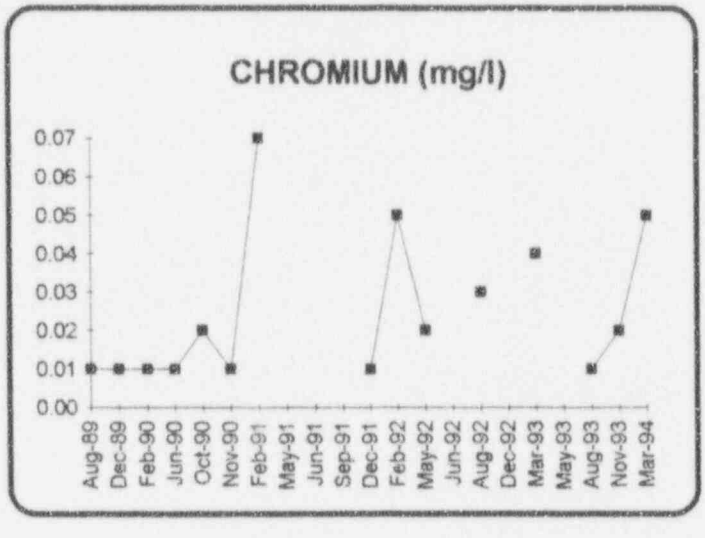


WELL 57SC

DATE	SULFATE	Cadmium	Chromium
Aug-89	4640	0.07	0.01
Dec-89	6000	0.05	0.01
Feb-90	3480	0.02	0.01
Jun-90	6080	0.01	0.01
Oct-90	5900	0.01	0.02
Nov-90	6600	0.03	0.01
Feb-91	6600	0.02	0.07
May-91	7400		
Jun-91	8000		
Sep-91	8800		
Dec-91	7300	0.02	0.01
Feb-92	7900	0.03	0.05
May-92	7200	0.02	0.02
Jun-92	7640		
Aug-92	9200	0.02	0.03
Dec-92	8480		
Mar-93	8560	0.05	0.04
May-93	7900		
Aug-93	6800	0.02	0.01
Nov-93	8000	0.02	0.02
Mar-94	9000	0.05	0.05

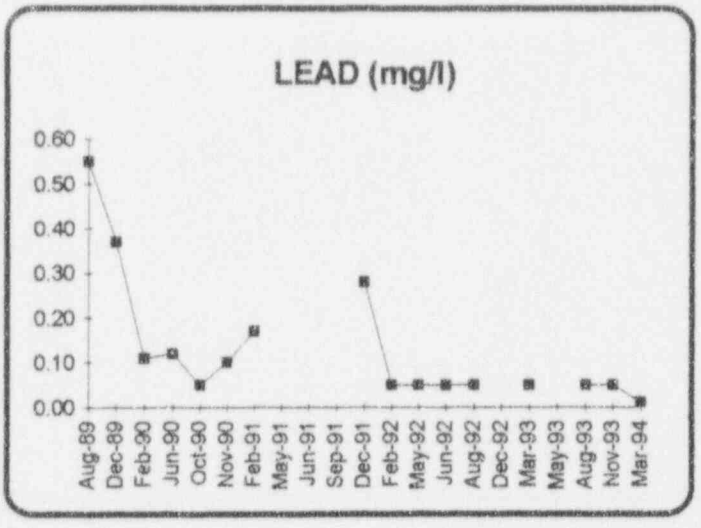


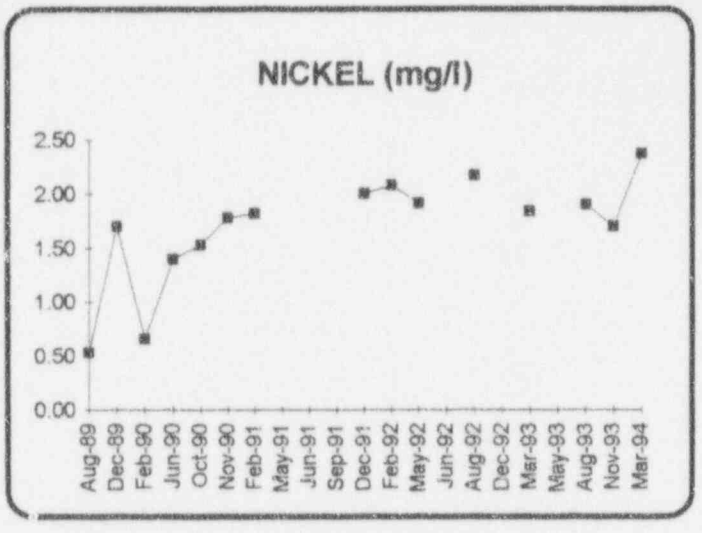


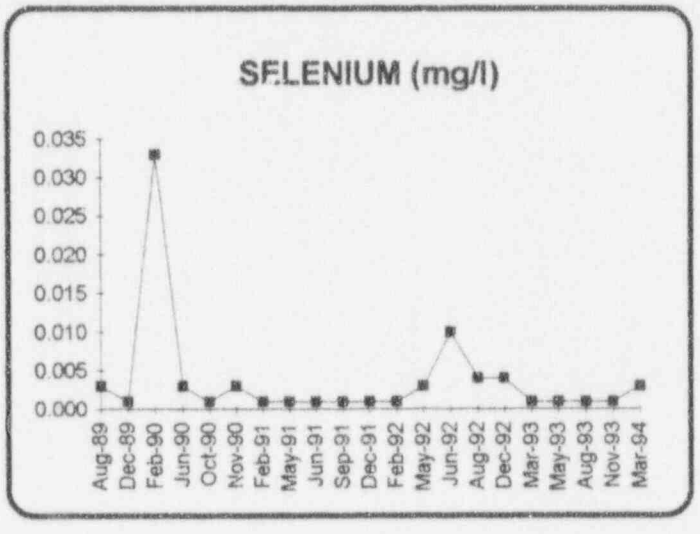


WELL 57SC

DATE	LEAD	NICKEL	SELENIUM
Aug-89	0.55	0.53	0.003
Dec-89	0.37	1.70	0.001
Feb-90	0.11	0.66	0.033
Jun-90	0.12	1.40	0.003
Oct-90	0.05	1.53	0.001
Nov-90	0.10	1.78	0.003
Feb-91	0.17	1.82	0.001
May-91			0.001
Jun-91			0.001
Sep-91			0.001
Dec-91	0.28	2.00	0.001
Feb-92	0.05	2.08	0.001
May-92	0.05	1.91	0.003
Jun-92	0.05		0.010
Aug-92	0.05	2.17	0.004
Dec-92			0.004
Mar-93	0.05	1.84	0.001
May-93			0.001
Aug-93	0.05	1.90	0.001
Nov-93	0.05	1.70	0.001
Mar-94	0.01	2.37	0.003

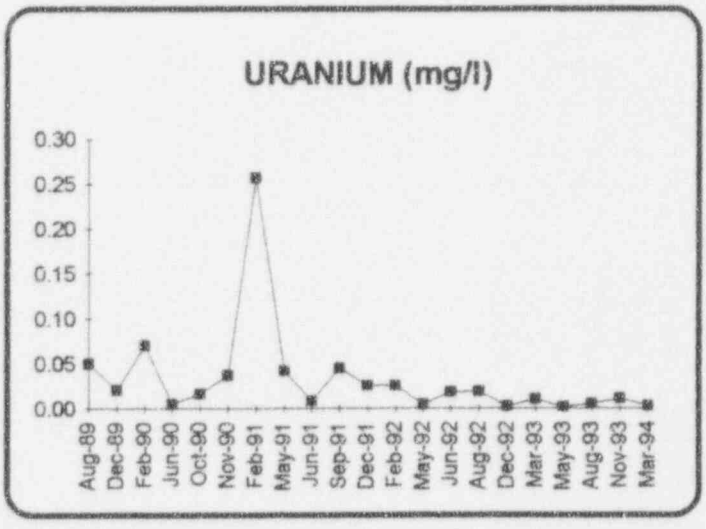


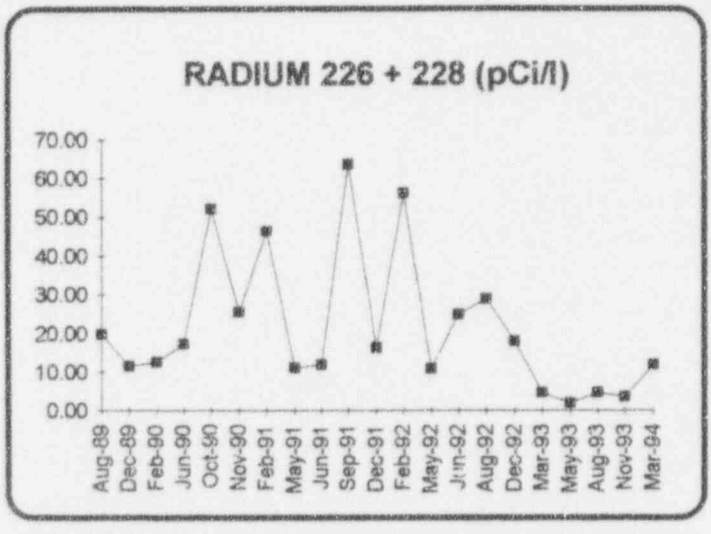


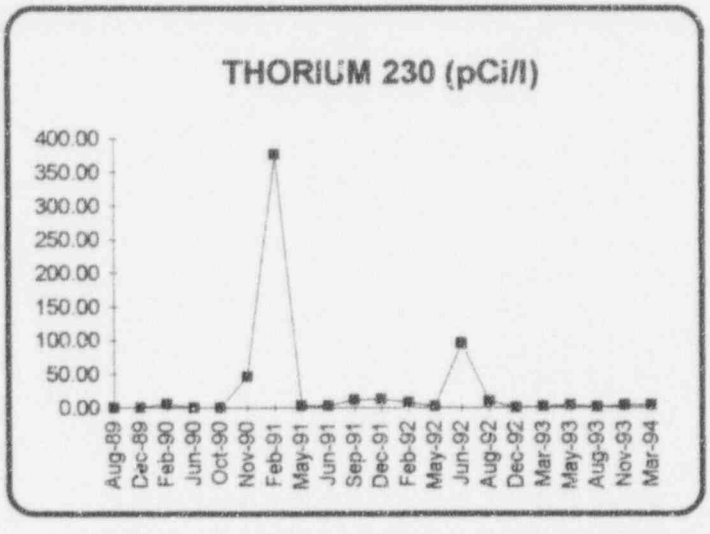


WELL 57SC

DATE	URANIUM	Ra 6+8	Th 230
Aug-89	0.05	19.79	0.00
Dec-89	0.02	11.52	0.07
Feb-90	0.07	12.55	5.38
Jun-90	0.01	17.32	0.00
Oct-90	0.02	52.20	0.00
Nov-90	0.04	25.50	46.50
Feb-91	0.26	46.42	376.00
May-91	0.04	11.03	2.34
Jun-91	0.01	11.96	2.35
Sep-91	0.05	63.57	10.90
Dec-91	0.03	16.21	12.60
Feb-92	0.03	56.28	7.99
May-92	0.00	10.83	1.74
Jun-92	0.02	24.90	96.00
Aug-92	0.02	28.94	9.93
Dec-92	0.00	17.94	0.00
Mar-93	0.01	4.59	2.00
May-93	0.00	1.96	4.20
Aug-93	0.01	4.60	0.68
Nov-93	0.01	3.71	3.25
Mar-94	0.00	11.80	4.10

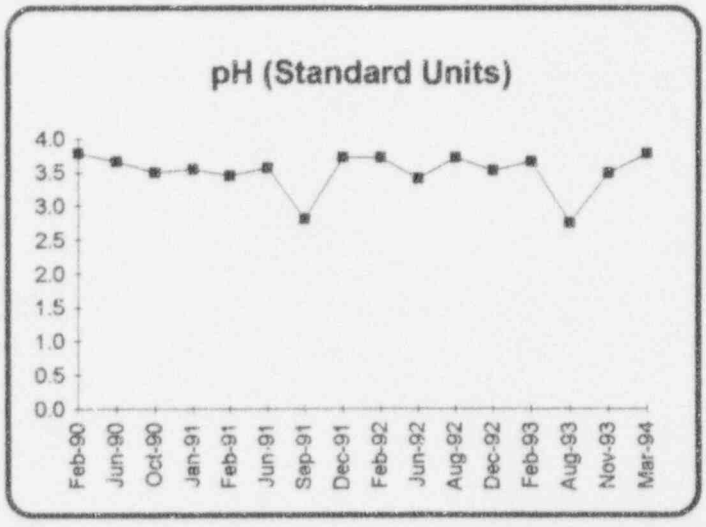


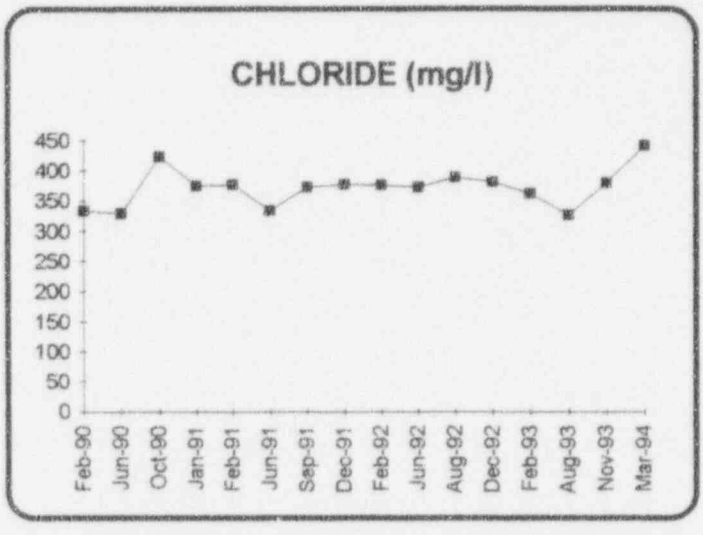


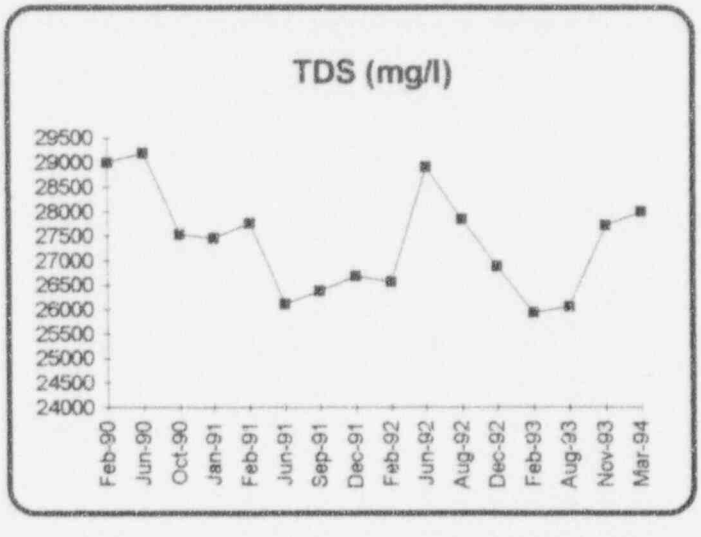


WELL 58SC

DATE	pH	CHLORIDE	TDS
Feb-90	3.8	333	28992
Jun-90	3.7	329	29189
Oct-90	3.5	423	27536
Jan-91	3.5	374	27445
Feb-91	3.5	377	27762
Jun-91	3.6	333	26115
Sep-91	2.8	372	26376
Dec-91	3.7	376	26678
Feb-92	3.7	375	26558
Jun-92	3.4	372	28899
Aug-92	3.7	388	27842
Dec-92	3.5	381	26885
Feb-93	3.7	362	25934
Aug-93	2.8	326	26053
Nov-93	3.5	379	27717
Mar-94	3.8	440	28000

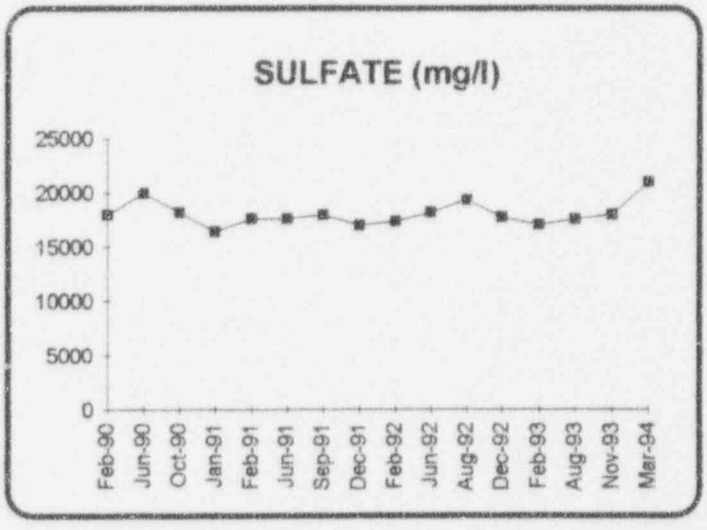


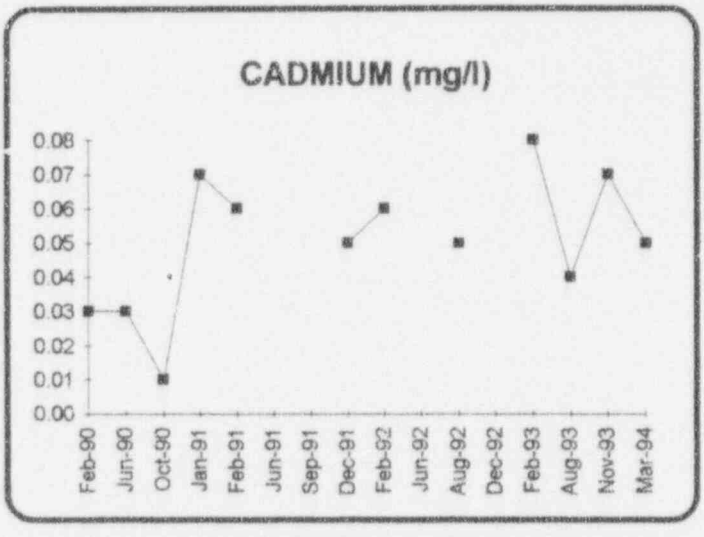


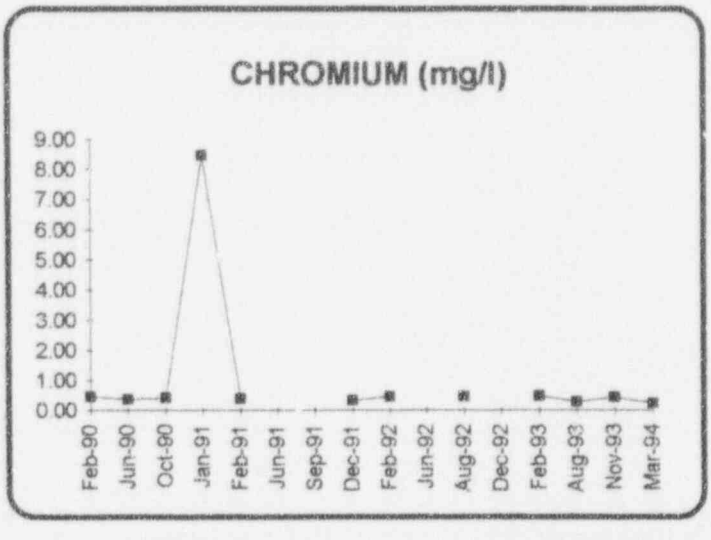


WELL 58SC

DATE	SULFATE	Cadmium	Chromium
Feb-90	18000	0.03	0.46
Jun-90	20000	0.03	0.39
Oct-90	18200	0.01	0.43
Jan-91	16400	0.07	8.45
Feb-91	17600	0.06	0.41
Jun-91	17600		
Sep-91	18000		
Dec-91	17000	0.05	0.34
Feb-92	17400	0.06	0.46
Jun-92	18200		
Aug-92	19400	0.05	0.46
Dec-92	17800		
Feb-93	17100	0.08	0.48
Aug-93	17600	0.04	0.30
Nov-93	18000	0.07	0.45
Mar-94	21000	0.05	0.25

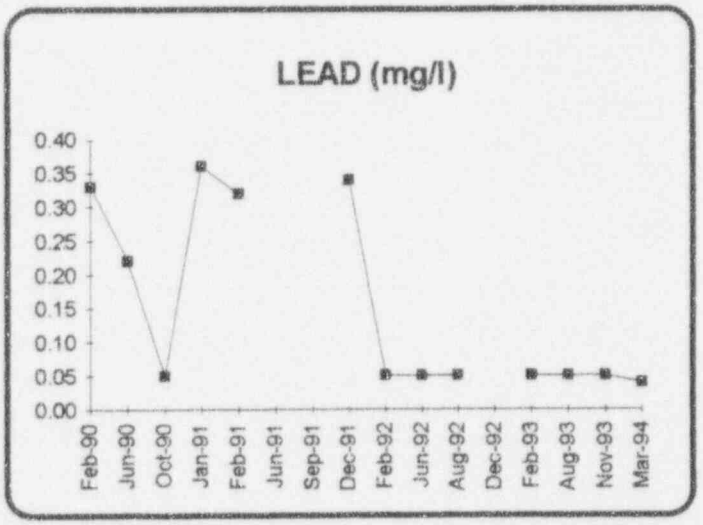


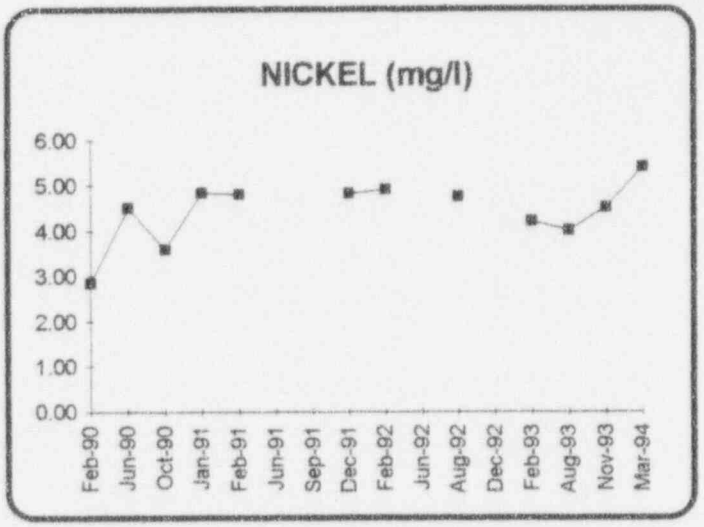


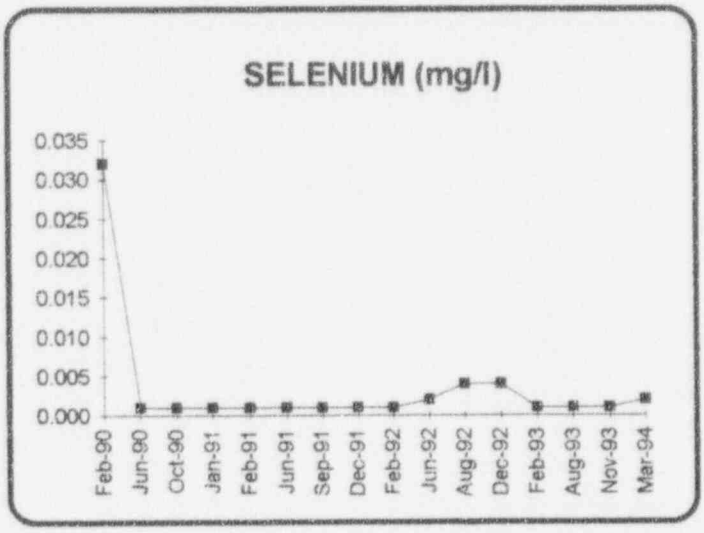


WELL 58SC

DATE	LEAD	NICKEL	SELENIUM
Feb-90	0.33	2.85	0.032
Jun-90	0.22	4.50	0.001
Oct-90	0.05	3.60	0.001
Jan-91	0.36	4.83	0.001
Feb-91	0.32	4.81	0.001
Jun-91			0.001
Sep-91			0.001
Dec-91	0.34	4.82	0.001
Feb-92	0.05	4.90	0.001
Jun-92	0.05		0.002
Aug-92	0.05	4.75	0.004
Dec-92			0.004
Feb-93	0.05	4.20	0.001
Aug-93	0.05	4.00	0.001
Nov-93	0.05	4.50	0.001
Mar-94	0.04	5.40	0.002

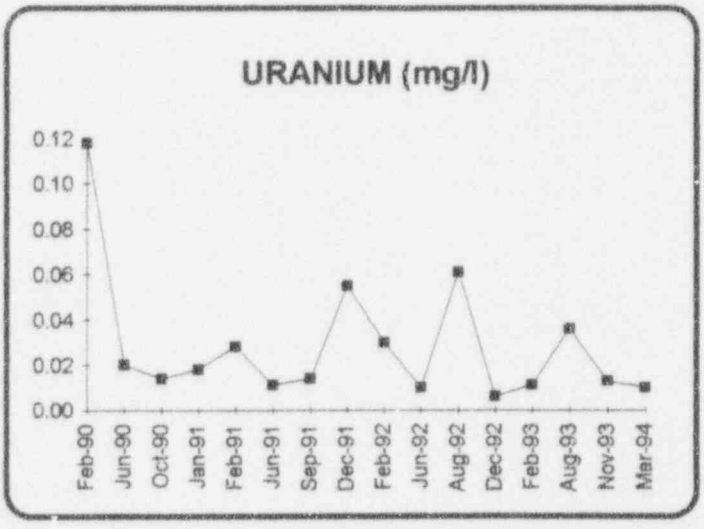


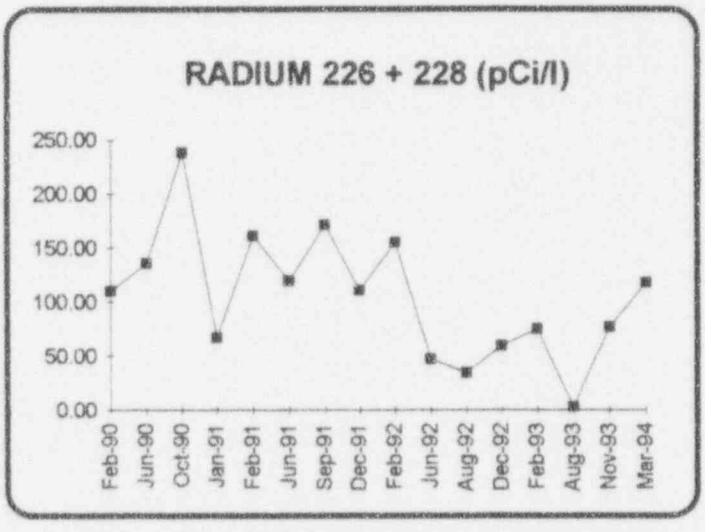


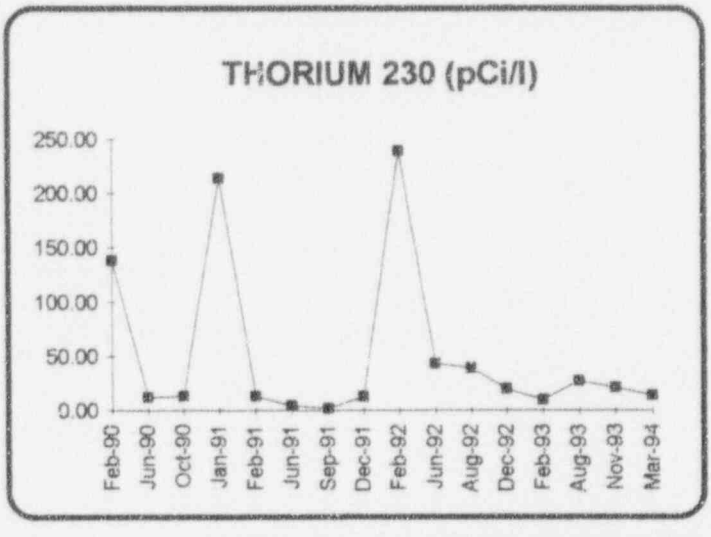


WELL 58SC

DATE	URANIUM	Ra 6+8	Th 230
Feb-90	0.12	109.77	138.00
Jun-90	0.02	135.70	12.20
Oct-90	0.01	238.30	13.70
Jan-91	0.02	67.10	214.00
Feb-91	0.03	161.30	13.50
Jun-91	0.01	119.18	4.60
Sep-91	0.01	171.56	2.01
Dec-91	0.06	110.10	13.20
Feb-92	0.03	154.79	239.00
Jun-92	0.01	46.80	43.30
Aug-92	0.06	34.50	39.10
Dec-92	0.01	59.00	20.40
Feb-93	0.01	74.90	10.20
Aug-93	0.04	2.78	27.30
Nov-93	0.01	76.80	21.10
Mar-94	0.01	117.40	14.00







WELL 66SC

DATE	pH	CHLORIDE	TDS	SULFATE	CADMIUM	CHROMIUM
Mar-93	3.9	359	24601	15440	0.01	0.04
May-93	4.5	353	14852	9000		
Aug-93	4.2	353	15084	8640	0.03	0.01
Nov-93	3.9	345	21581	14300	0.05	0.02
Mar-94	4.1	425	21500	15000	0.05	0.07

DATE	LEAD	NICKEL	SELENIUM	URANIUM	RADIUM 6+8	THORIUM 230
Mar-93	0.05	0.67	0.001	0.01	65.02	3.19
May-93			0.001	0.01	40.19	3.41
Aug-93	0.05	1.80	0.001	0.01	13.84	0.00
Nov-93	0.05	3.10	0.010	0.01	40.63	3.48
Mar-94	0.01	3.98	0.002	0.00	163.30	17.30

WELL 67SC

DATE	pH	CHLORIDE	TDS	SULFATE	CADMIUM	CHROMIUM
Mar-93	7.4	127	2665	1300	0.01	0.01
May-93	7.1	147	3207	1480		
Aug-93	6.5	134	3055	1400	0.01	0.01
Nov-93	7.0	117	2681	1280	0.01	0.01
Mar-94	7.2	110	2490	1600	0.05	0.05

DATE	LEAD	NICKEL	SELENIUM	URANIUM	RADIUM 6+8	THORIUM 230
Mar-93	0.05	0.03	0.001	0.04	35.90	0.24
May-93			0.001	0.02	41.60	0.09
Aug-93	0.05	0.06	0.001	0.03	31.08	0.00
Nov-93	0.05	0.03	0.001	0.02	41.20	0.17
Mar-94	0.01	0.13	0.002	0.03	56.80	14.50

WELL 68SC

DATE	pH	CHLORIDE	TDS	SULFATE	CADMIUM	CHROMIUM
Mar-93	6.2	243	6630	3760	0.03	0.01
May-93	6.4	336	10895	6300		
Aug-93	5.9	363	11194	6133	0.02	0.01
Nov-93	6.2	355	14052	8900	0.03	0.01
Mar-94	6.3	310	9430	6760	0.05	0.05

DATE	LEAD	NICKEL	SELENIUM	URANIUM	RADIUM 6+8	THORIUM 230
Mar-93	0.05	0.21	0.001	0.02	13.74	0.00
May-93			0.001	0.00	39.20	0.34
Aug-93	0.05	0.59	0.005	0.01	25.45	0.00
Nov-93	0.05	0.85	0.001	0.01	18.88	0.12
Mar-94	0.01	1.24	0.002	0.00	17.80	3.10