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Site: Chevron Chemical
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Break: 6.3
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6-10-86

June 10, 1986
WCC Project 13C114-17

Mr. John Henderson
Chevron Chemical Co.
595 Market Street
San Francisco, CA 94120-7145

SITE CHARACTERIZATION REPORT
ORTHO-CHEVRON PLANT
MARYLAND HEIGHTS, MISSOURI

Dear John:

Per your request, we are transmitting with this letter the Site Characterization Report which includes information from past Woodward-Clyde investigations at the Ortho-Chevron Maryland Heights, Missouri plant.

Please call with any questions you may have regarding this report.

Very truly yours,

Jeffrey D. Young
Assistant Project Engineer

J. D. Campbell, P.E.
Vice President

gds

30825513
Superfund

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Woodward-Clyde Consultants

SITE CHARACTERIZATION REPORT
ORTHO-CHEVRON PLANT
MARYLAND HEIGHTS, MISSOURI

WOODWARD-CLYDE CONSULTANTS
5055 Antioch Road
Overland Park, Kansas 66203
June 5, 1986
WCC Project 13C114-17

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1.0 INTRODUCTION

1.1 SITE LOCATION

The Ortho-Chevron Agricultural Plant is located in an established industrial area along Adie Road in Maryland Heights, Missouri. The property is approximately 15 miles west of the greater St. Louis metropolitan area in the southwest quarter of Section 23, Township 46 North, Range 5 east (Figures 1 and 2). The site lies within the Fee Fee Creek watershed which ultimately drains into the Missouri River 5 miles to the northwest.

1.2 SITE DESCRIPTION

The site is rectangular (approximately 1300 feet by 325 feet) with the long axis orientated east-west (Figure 3). Plant facilities include office buildings, storage tanks, and two series of production buildings located adjacent to two rail spurs. A small storm water retention and spill containment pond is located near the northwest corner of the site.

1.3 PLANT HISTORY

The Ortho-Chevron Agricultural Plant has been operating at the Maryland Heights Site for over thirty years. Production processes at the site primarily consist of limited to formulating and packaging pesticides. Raw materials and finished products are shipped to and from the site by rail and truck. Past on-site disposal of wastes has occurred. These wastes may include fire debris. Few records are available indicating the locations or amounts of those wastes present at the site. Investigative work at the site has revealed buried drums and debris in some localized areas. Occasional leaks or spills of raw materials and/or products have also occurred in the past.

1.4 PAST INVESTIGATIONS

In 1981, Chevron Chemical Company initiated geohydrological investigations at the Maryland Heights site. Soil and ground water monitoring activities have also been implemented. Investigations have included installation and sampling of ground water monitoring wells, exploratory borings, and shallow soil borings. Figure 3 depicts the locations of recent exploratory borings, soil sampling locations, and ground water monitoring wells. Monitoring and investigative activities to date at the site are as follows:

1981 - Geohydrological investigation and evaluation

- 34 exploratory borings drilled
- 15 observation wells installed
- Geotechnical and chemical soil analyses
- Ground water analyses
- Field permeability tests
- Off-site drinking water well survey

1983 - Installation and sampling of 6 additional ground water monitoring wells
- Soil sampling and analysis on east and west boundaries.

1984 - Updated off-site drinking water well survey

1985 - Soil chemistry investigation along on-site railroad spur
- Soil sampling and analysis for 2,3,7,8-TCDD (dioxin)
- Building 'D' extension subsurface geotechnical investigation

1981 to present - Ongoing semi-annual or quarterly ground water sampling and analyses

2.0 SITE CHARACTERIZATION

2.1 HYDROGEOLOGY

2.1.1 Soils

The facility is situated on an eroded, gently sloping, upland loess deposit. Total relief at the site is approximately 30 feet. Natural surface drainage at the site has been altered by fill operations. Borings drilled on site indicate that some silty clay fill and rubble are present over most of the site with thicknesses up to 8 feet in some areas. Fifteen to 20 feet of loess (low

permeability silty clay) is present beneath the fill. The loess stratum in the north-northwestern and central portions of the site has been partially reworked by water in the geologic past (i.e., buried, shallow stream channels); therefore, the thickness of the silty clay loess stratum may vary across the site. Generalized cross sections depicting subsurface conditions across the northern and southern boundaries of the site are presented in Figures 4 and 5; the locations of the cross sections are shown in Figure 3.

2.1.2 Bedrock

Bedrock units beneath the loess consist of shale and limestone of Pennsylvanian and Mississippian age. The shale stratum is present beneath the loess in most areas across the site and, typically, the shale is weathered to a highly plastic residual clay. The shale and residual clay stratum thickness across the site ranges from 5 to 40 feet, generally thickening toward the east. The shale and residual clay is underlain by the St. Genevieve Limestone bedrock at depths ranging from 30 to 70 feet. The St. Genevieve Limestone is typically argillaceous (clayey), dense, with massive bedding and is estimated to be approximately 50 to 60 feet thick at the site. Limited information about the bedrock surface is available but the surface is believed to be irregular as illustrated in Figure 6. Regional and local bedrock dip is to the northeast at approximately 40 feet per mile, based on examination and correlation of regional well logs. Solution weathering has been documented regionally in the St. Genevieve Limestone and weathering is generally pronounced in the upper part of the unit. Fractures and joints are typical in the St. Genevieve, as observed in outcrops in the region. Joints and fractures in the bedrock beneath the site are likely to be infilled with the weathered shale, clays, and silts from overlying strata. The St. Genevieve Formation is underlain by the St. Louis Limestone, the Salem Limestone, and the Warsaw Formation, all of which are predominantly limestones.

2.1.3 Hydrological Units

Three separate hydrological units can be defined on the site with the information available to date. The upper silty clay unit (loess) is water

bearing and is underlain by the shale and residual clay, which make up a water-retarding unit. The limestone bedrock unit lies below the clay and shale. Limited hydrological information has been obtained on the limestone bedrock unit beneath the site. In the vicinity of the site, the ground water gradients in the upper portions of the limestone may be to the northwest toward Fee Fee Creek. Fee Fee Creek has eroded through the overlying Pennsylvanian Formations and may act as a local discharge point for Mississippian Formation waters. The general quality of the bedrock ground water is considered poor based on historical data on the limestone as a water source. Total dissolved solids (TDS) in the limestone formation increases with depth from the bedrock surface which makes this limestone unit unattractive as a potable water source. Due to the TDS problem and the low water yield potential of the unit, the public water supplies for the surrounding area are generally obtained from surface water sources.

The upper hydrological unit at the site (loess) has been more extensively characterized by site investigations. The lateral hydraulic conductivities measured in slug tests in this material range from 0.2 to 2.8 feet per day (1.0 x 10^{-3} to 3 x 10^{-5} cm/sec) with an average hydraulic conductivity estimated to be about 1 foot per day (3.4 x 10^{-4} cm/sec). The ground water gradient in this unit, based on water level measurements recorded at wells located throughout the site, is approximately 0.02 ft/ft or 110 feet/mile. The direction of gradient in the loess on site is approximately west-northwest as estimated from water table elevations in shallow monitoring wells. The observed ground water gradient is in agreement with the gradient direction inferred from the surface topography of the site and in adjacent areas. Figure 7 shows the February 1986 shallow water table contour surface at the site.

But not in agreement with bedrock topography

2.2 CONTAMINANT CHARACTERIZATION

2.2.1 History and Occurrence

During initial studies at the site to investigate the potential extent and distribution of contaminants, soil and ground water samples were analyzed for a wide array of organic pesticides and metals (see Table 1 for ground water

parameters). After the initial investigation, only analyses for those compounds which were identified or expected to be present at the site based on previous work were performed.

The analysis program implemented for routine ground water monitoring is listed in Table 2 and includes selected organo-chlorine pesticides, phenoxyacid herbicides, arsenic, and xylenes (xylol). Studies conducted in 1984 of the forty-two wells located within a 3-mile radious of the site showed most of the wells were drilled in the 1930's and 1940's. The wells are cased through the upper unconsolidated soils and are screened in the lower limestone units. The wells have operated at low flow rates (less than 10 gpm), and the water quality is at best fair to poor. A public drinking water source is now available to the well owners. Contaminants which have been detected in the ground water either regularly or occasionally are arsenic, lindane, aldrin, dieldrin, xylenes, 2,4-D, and 2,4,5-T. Present ground water contaminant concentrations are summarized in the sections below. Previous site investigations and ground water monitoring procedures and results are detailed in earlier reports which have been submitted to EPA. These include a report (#1) and supplement (#2) of hydrogeologic investigation and ground water evaluation dated October and December 1981 respectively, a report (#3) on ground water quality dated November 1982, and two ground water monitoring reports covering the periods July 1982 to May 1983 (#4) and July 1983 to January 1984 (#5). The analytical data obtained for ground water samples from these studies are summarized in the tables and appendices in this report. Ground water quality data are presented in Appendix A.

Is it used by all well owners?

2.2.2 Contaminant Distribution

2.2.2.1 Ground Water Contaminants in Shallow Bedrock

Data obtained from the sampling of wells OWC-12A, OWC-18, and OWC-20 were used to evaluate bedrock contamination. Concentration versus time plots (Appendix B) illustrate that aldrin, dieldrin, 2,4-D and 2,4,5-T concentrations in these deeply screened wells reached maximum levels during 1983. Arsenic and lindane levels appear to have remained fairly consistent over time. Xylenes

concentrations appear to have reached maximum levels in 1984 and began to decline in 1985. The xylenes peak in 1984 at OWC-12A may be associated with construction of a building addition in this area of the site during that period. ?
Generally, ground water contaminant concentrations from bedrock wells OWC-12A, OWC-18 and OWC-20 between May 1985, and February 1986, followed trends established from analyses of concentrations reported in previous samplings. Well OWC-12A continues to exhibit a wider range of contaminants at relatively higher concentrations than wells OWC-18 and OWC-20. Well OWC-20 continues to display non-detectable to low contaminant levels.

2.2.2.2 Ground Water Contaminants in Upper Sediments

Why not evaluate wells on south side or in middle of site?

Data obtained from the sampling of wells OWC-1, OWC-14, OWC-16, OWC-17, and OWC-19 were used in the evaluation of shallow site contamination. Four of the five shallow wells (OWC-14, OWC-16, OWC-17 and OWC-19) are located along the north boundary of the plant. The fifth well, OWC-1, is an upgradient well located on the south~~west~~ east corner of the site. The water quality of the upgradient well continues to be "clean" with nondetectible pesticides levels. Concentration versus time plots (Appendix B) indicate a 1984 maximum for xylenes in well OWC-17. This maximum corresponds with the maximum observed in the deeper monitoring wells located in the same area of the site. Aldrin, dieldrin, 2,4-D and 2,4,5-T concentrations remain relatively consistent over time at either trace or non-detectable levels in all shallow wells. Lindane levels are consistent per well but are elevated in wells OWC-17 and OWC-19, compared to the other shallow wells which exhibit trace to non-detectable levels. OWC-17 and OWC-19 lindane levels measured in 1985 and 1986 exceeded the NIPWDR Standard of 4.0 ug/l (Table A-1).

Arsenic concentrations in well OWC-19 are elevated in comparison to the other shallow wells but appear to be declining over the time period observed.

2.2.2.3 Contaminants in Shallow Surface Soil

During the initial site investigations performed in 1981, thirty-four soil borings were sampled for chemical analyses. These locations included samples

from the storm water retention pond sediments. The test results showed highest concentrations of arsenic to be in the north central area of the site in the vicinity of well OWC-11 and boring B-219. In these two locations, arsenic concentrations of 400 to 500 ug/g were detected in the top 1 to 2 feet of soil and then dropped to 3 to 5 ug/g at a depth of 10 feet.

WHAT ABOUT IN BETWEEN

Pesticides were detected in the soil samples taken from borings OWC-10 and OWC-11. These samples were taken at a depth of 5 feet in OWC-10 and from a depth of 2 feet in OWC-11. As with arsenic, higher concentrations were detected in the shallower sample (OWC-11) as compared to the deeper sample. Concentrations of approximately 100 ug/g aldrin, and 100 ug/g dieldrin, 570 ug/g arsenic, and 3 ug/g lindane were detected in samples.

In October, 1983, soil from the eastern and western portions of the site was sampled and analyzed for herbicides (2,4-D and 2,4,5-T), organo-chlorine pesticides, and arsenic. Herbicides were not detected above the detection limit of 0.1 ug/g. Arsenic was detected in samples from both the eastern portion (23-700 ug/g) and western portion (140 to 240 ug/g) of the site. Eight organo-chlorine pesticides were detected in six samples from the eastern portion of the site. Concentrations of aldrin ranged from not detected (.005 ug/g) to 1.69 ug/g, and lindane concentrations ranged from not detected (0.005 ug/g) to 0.446 ug/g. No 2,4,5-T was detected in any of the soil samples.

In July and August, 1985, shallow soil samples were obtained from the central railroad spur area (CHV locations on Figure 3) and analyzed for organo--phosphates, organo-halogens, and xylenes. The analytical results are presented on Table 7. The highest concentrations of 4,4'-DDD (440 ug/g), 4,4-DDE (100 ug/g), and 4,4-DDT (1230 ug/g) measured on site were found in the central section of the railroad spur. Chlordane concentrations ranging from 13 ug/g to 2100 ug/g were detected along the western portion of the spur. Toxaphene was detected at two of the six locations at levels of 500 ug/g and 5200 ug/g. Generally, the highest levels of soil contaminates were found in the upper 1 foot depth.

In February, 1985, soil samples from five locations (+ locations on Figure 3) were analyzed for 2,3,7,8-TCDD (dioxin). Concentrations in all samples were below the detection limit of 1 ppb.

3.0 POTENTIAL RECEPTORS INVESTIGATION

An investigation was made to identify potential receptors downgradient from the site where contact (dermal or oral) might occur in the event of off-site migration of contaminated surface or ground water. Two surveys have been conducted in order to assess potential ground water and surface water receptors. The 1981 site evaluation report (October 1981) included a survey of all water wells located within an area centered at the site and approximately three to four miles in radius. On March 20, 1986, a reconnaissance of the drainage on and around the site was conducted. The area surveyed included most of the Fee Fee Creek drainage basin in which the site is located. The results of these investigations are summarized below.

3.1 SURFACE WATER INVESTIGATION

3.1.1 Regional Surface Water Drainage Basin

The site is situated in the Fee Fee Creek watershed (Figure 8). Fee Fee Creek drains into the Missouri River which lies approximately 5 miles to the northwest of the site. This surface water basin drains an area of approximately 12 square miles and is bounded approximately by Olive Street Road to the south, I-270 to the west, Lackland Ave. and U.S. Highway 67 to the east, and the intersection of I-270 and the St. Louis and Southwestern (SL&SW) Railroad to the north. The area is highly developed (industrial, commercial, and residential), and local surface water runoff is controlled by railroads, highways, and man-altered drainage ways.

Surface water drainage on the site is generally to the west where it intersects a drainage ditch running north from Adie road. As interpreted from old aerial photographs, the original site drainage is generally similar, except that the north-south drainage of the creek originally transected the site further east

near the center of the site. The present day ditch drains into a 30-inch culvert near the northwest corner of the site which runs underground to Rock Island Court where it makes a 90 degree turn to the west running to the west side of Rock Island Road. The culvert runs north until it drains into a surface drainage ditch running along a railroad spur next to Fair Grove Ind. Road. This drainageway runs west until it drains into Fee Fee Creek at the intersection of Fee Fee Road and Fee Fee Creek. Although it had rained on March 19, 1986, very little water was observed on March 20, 1986 in the drainage ditches draining into Fee Fee Creek at the intersection of Fee Fee Road. Fee Fee Creek itself had flowing water as far south as Lackland Road which was the southern limit of the reconnaissance.

3.1.2 Upgradient Surface Water

Surface water runoff immediately upgradient of the site is diverted around the site by the drainage barriers of Adie Road and the railroad embankment to the east. Along Adie Road, east of the SL&SW Railroad, there is an old fertilizer factory which is referenced in the 1981 site evaluation report (October 1981). East-southeast of the site is an operating muncipal landfill which has been in existence for many years.

3.1.3 Downgradient Surface Water

It is unknown how many other industrial sources contribute runoff into the drainage system between the northwest corner of the site and the railroad spur ditch. Several potential downgradient contaminant sources were identified during the March 20, 1986 area surface drainage reconnaissance.

Approximately 2 miles downgradient from the site boundary, Fee Fee Creek crosses the SL&SW Railroad and passes within a few hundred yards of a residential area. The creek parallels the railroad tracks for a few hundred yards and then crosses under the tracks again. The creek bed adjacent to the residential area is low, appears to flood often, and contains a large amount of refuse (e.g., tires, trash, and dumped garbage). After crossing under the SL&SW Railroad to the

north again, Fee Fee Creek merges with the outflow from Creve Coeur Lake and then empties into the Missouri River.

Creve Coeur Lake, the associated recreational areas, and Creve Coeur Airport are all situated in the Missouri River alluvium upstream from the confluence of Fee Fee Creek and the Missouri River. This places them in a separate surface water drainage basin from Fee Fee Creek. There are no observable public access points to Fee Fee Creek.

3.2 GROUND WATER RECEPTORS INVESTIGATION

Surveys of water wells in the area surrounding the site were conducted in 1981 and 1984. A search was made in 1981 through the Missouri Geological Survey records and personal interviews were conducted in the immediate vicinity of the site. These investigations revealed six wells located within a 2-mile radius of the site and forty-two wells located within a 3-mile radius of the site. Of the six wells within 2 miles of the site, four are apparently abandoned. The remaining two were sampled and revealed no pesticide contamination. The locations of the nearest 34 wells are shown on Figure 9.

where are the two that were sampled?

4.0 SUMMARY

From analytical results, it appears that ground water entering the site from upgradient is relatively uncontaminated. On site, the area of highest concentrations of arsenic, xylenes, or pesticides in the ground water includes the central handling area and some of the northwestern portions of the site. The apparent lack of continuity in contaminant distribution between wells may indicate the presence of several sources of contaminants rather than a single source. From analyses of contaminant concentrations versus time plots, it appears that peak concentrations occurred in the years 1983 and 1984 and general improvements in the ground water quality at the site since that time are indicated.

ON SITE OR

why is it improving?

From the results of the site investigation and receptor evaluation, it appears that the on-site contamination does not pose an imminent or substantial threat

to human health. Additional investigations could be conducted to characterize the quality of groundwater immediately downgradient of the site where the potential for contamination exists.

TABLE 1

INITIAL PARAMETERS
ANALYZED PRIOR TO SELECTED ANALYSES
FOR ROUTE GROUND WATER
MONITORING PROGRAM

Organochlorine Pesticides

DDE	Toxaphene
DDT	Lindane
Endrin	DDD (TDE)
Dieldrin	Captan
Aldrin	Methoxychlor
Mirex	PCB's
Heptachlor	Difolatan
Chlordane	
Chlorobenzilate	

Organophosphorus Pesticides

Thosdrin (Mevinphos)	Parathion
Diozinon	Malathion
Guthion	

Phenoxyacid Herbicides
- 2,4-D
- 2,4,5-T

Heavy Metals
- Arsenic
- Copper
- Zinc
- Cadmium

Total Organic Carbon

Standard Water Chemistry Analyses

June 5, 1986
WCC Project 13C114-17

TABLE 2

COMPOUNDS ANALYZED FOR AS PART OF
ROUTINE GROUND WATER MONITORING PROGRAM

Parameters

2,4,5-T
2,4-D
4,4-DDD

4,4-DDE
4,4-DDT
Aldrin

Chlordane
Dieldrin
Heptachlor

Xylene (Xylol)
Lindane
Endrin

Methoxychlor
Toxaphene
Arsenic

Field Measurements

pH
Specific Conductance
Temperature, °C

June 5, 1986
WCC Project 13C114-17

TABLE 3

ANALYTICAL RESULTS FOR MAY 3, 1985 GROUND WATER SAMPLING
CHEVRON CHEMICAL COMPANY
MARYLAND HEIGHTS, MISSOURI
(Concentrations in ug/l)

	SHALLOW WELLS				
Analyses	OWC-1	OWC-14	OWC-16	OWC-17	QA/QC Duplicate OWC-17
2,4,5-T	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
2,4-D	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
4,4-DDD	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
4,4-DDE	ND(0.1)	ND(0.1)	ND(0.1)	1.77	1.61
4,4-DDT	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
Aldrin	ND(0.1)	0.12	ND(0.1)	ND(0.1)	ND(0.1)
Chlordane	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Dieldrin	ND(5.0)	0.56	ND(0.1)	ND(0.1)	ND(0.1)
Heptachlor	ND(5.0)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
Xylene (Xylol)	ND(1.0)	3.4	ND(1.0)	386	379
Lindane	ND(0.1)	1.28	0.65	43.2	52.8
Endrin	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
Methoxychlor	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Toxaphene	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Arsenic	ND(1.0)	3.0	1.0	3.0	4.0

Notes

ND ( ) - not detected and detection limit
NS - No sample; well inaccessible
NR - Not recorded

June 5, 1986
WCC Project 13C114-17

TABLE 3

ANALYTICAL RESULTS FOR MAY 3, 1985 GROUND WATER SAMPLING
CHEVRON CHEMICAL COMPANY
MARYLAND HEIGHTS, MISSOURI
(Concentrations in ug/l)

	DEEP WELLS			
Analyses	OWC-12A	OWC-18	OWC-20	QA/QC Blank
2,4,5-T	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
2,4-D	23.0	ND(1.0)	ND(1.0)	ND(1.0)
4,4-DDD	2.10	0.50	ND(0.1)	ND(0.1)
4,4-DDE	2.14	0.17	ND(0.1)	ND(0.1)
4,4-DDT	3.38	ND(0.1)	ND(0.1)	ND(0.1)
Aldrin	8.92	ND(0.1)	ND(0.1)	ND(0.1)
Chlordane	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Dieldrin	4.87	0.29	ND(0.1)	ND(0.1)
Heptachlor	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
Xylene (Xylol)	1060	15.6	ND(1.0)	ND(0.1)
Lindane	325	2.46	0.41	0.21
Endrin	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
Methoxychlor	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Toxaphene	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Arsenic	3.0	5.0	6.0	ND(1.0)

Notes

ND ( ) - not detected and detection limit
NS - No sample; well inaccessible
NR - Not recorded

TABLE 4

ANALYTICAL RESULTS FOR AUGUST 15, 1985 GROUND WATER SAMPLING
CHEVRON CHEMICAL COMPANY
MARYLAND HEIGHTS, MISSOURI
(Concentrations in ug/l)

	SHALLOW WELLS				
Analyses	OWC-1	QA/QC Duplicate OWC-1	OWC-14	OWC-16	OWC-17
2,4,5-T	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
2,4D	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	7.3
4,4-DDD	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
4,4-DDE	ND(0.1)	ND(0.1)	ND(0.1)	0.14	6.87
4,4-DDT	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	0.35
Aldrin	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	7.63
Chlordane	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
Dieldrin	ND(0.1)	ND(0.1)	0.32	ND(0.1)	ND(0.1)
Heptachlor	ND(0.1)	ND(0.1)	ND(0.1)	1.75	ND(0.1)
Xylene (Xylol)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Lindane	ND(1.0)	0.17	1.08	1.15	73.4
Endrin	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
Methoxychlor	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Toxaphene	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Arsenic	ND(1.0)	ND(1.0)	2.0	ND(1.0)	ND(1.0)

Notes

ND ( ) - not detected and detection limit
NS - No sample; well inaccessible
NR - Not recorded

TABLE 4

ANALYTICAL RESULTS FOR AUGUST 15, 1985 GROUND WATER SAMPLING
CHEVRON CHEMICAL COMPANY
MARYLAND HEIGHTS, MISSOURI
(Concentrations in ug/l)

	DEEP WELLS			
Analyses	OWC-12A	OWC-18	OWC-20	QA/QC Blank
2,4,5-T	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
2,4-D	16.1	ND(1.0)	ND(1.0)	ND(1.0)
4,4-DDD	ND(0.1)	0.16	ND(0.1)	ND(0.1)
4,4-DDE	1.10	ND(0.1)	ND(0.1)	ND(0.1)
4,4-DDT	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
Aldrin	12.4	ND(0.1)	ND(0.1)	ND(0.1)
Chlordane	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
Dieldrin	1.90	0.19	ND(0.1)	ND(0.1)
Heptachlor	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
Xylene (Xylol)	1360	ND(1.0)	ND(1.0)	ND(1.0)
Lindane	248	2.59	0.45	ND(0.1)
Endrin	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
Methoxychlor	ND(0.1)	ND(5.0)	ND(5.0)	ND(5.0)
Toxaphene	ND(0.1)	ND(5.0)	ND(5.0)	ND(5.0)
Arsenic	3.0	1.0	6.0	ND(1.0)

Notes

ND ( ) - not detected and detection limit
NS - No sample; well inaccessible
NR - Not recorded

TABLE 5

ANALYTICAL RESULTS FOR NOVEMBER 15, 1985 GROUND WATER SAMPLING
CHEVRON CHEMICAL COMPANY
MARYLAND HEIGHTS, MISSOURI
(Concentrations in ug/l)

	SHALLOW WELLS				
Analyses	OWC-1	OWC-14	OWC-16	QA/QC Duplicate OWC-16	OWC-17
2,4,5-T	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	NS
2,4-D	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	NS
4,4-DDD	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	NS
4,4-DDE	ND(0.1)	0.10	ND(0.1)	ND(0.1)	NS
4,4-DDT	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	NS
Aldrin	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	NS
Chlordane	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	NS
Dieldrin	ND(0.1)	0.35	ND(0.1)	ND(0.1)	NS
Heptachlor	ND(1.0)	ND(0.1)	0.89	0.92	NS
Xylene (Xylol)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	NS
Lindane	ND(0.1)	0.73	0.39	0.42	NS
Endrin	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	NS
Methoxychlor	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	NS
Toxaphene	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	NS
Arsenic	ND(1.0)	4.0	ND(1.0)	ND(1.0)	NS

Notes

ND ( ) - not detected and detection limit
NS - No sample; well inaccessible
NR - Not recorded

TABLE 5

ANALYTICAL RESULTS FOR NOVEMBER 15, 1985 GROUND WATER SAMPLING
CHEVRON CHEMICAL COMPANY
MARYLAND HEIGHTS, MISSOURI
(Concentrations in ug/l)

	DEEP WELLS			
Analyses	OWC-12A	OWC-18	OWC-20	QA/QC Blank
2,4,5-T	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
2,4-D	22.4	ND(1.0)	ND(1.0)	ND(1.0)
4,4-DDD	ND(0.1)	0.22	ND(0.1)	ND(0.1)
4,4-DDE	0.47	ND(0.1)	ND(0.1)	ND(0.1)
4,4-DDT	ND(0.1)	0.13	ND(0.1)	ND(0.1)
Aldrin	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
Chlordane	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
Dieldrin	1.44	0.19	ND(0.1)	ND(0.1)
Heptachlor	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
Xylene (Xylol)	1010.0	ND(1.0)	ND(1.0)	ND(1.0)
Lindane	146.0	3.48	0.28	ND(0.1)
Endrin	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
Methoxychlor	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Toxaphene	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Arsenic	ND(1.0)	9.0	5.0	ND(1.0)

Notes

ND ( ) - not detected and detection limit
NS - No sample; well inaccessible
NR - Not recorded
SB - Sample bottle broken - no analysis performed

TABLE 6

ANALYTICAL RESULTS FOR FEBRUARY 24, 1986 GROUND WATER SAMPLING
CHEVRON CHEMICAL COMPANY
MARYLAND HEIGHTS, MISSOURI
(Concentrations in ug/l)

	SHALLOW WELLS					
			QA/QC Duplicate			
Analyses	OWC-1	OWC-14	OWC-14	OWC-16	OWC-17	OWC-19
2,4,5-T	ND(1.0)	1.5	ND(4.0)	ND(1.0)	4.2	4.2
2,4-D	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
4,4-DDD	ND(0.1)	ND(0.1)	0.77	ND(0.1)	0.95	0.19
4,4-DDE	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
4,4-DDT	ND(0.1)	ND(0.1)	ND(0.1)	1.28	ND(0.1)	0.26
Aldrin	ND(0.1)	ND(0.1)	2.86	ND(0.1)	3.94	3.31
Chlordane	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
Dieldrin	ND(0.1)	ND(0.1)	ND(0.1)	1.25	ND(0.1)	0.63
Heptachlor	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
Xylene (Xylol)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Lindane	ND(0.1)	0.82	8.07	0.53	27.5	34.8
Endrin	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(1.0)	ND(0.1)
Methoxychlor	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Toxaphene	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
Arsenic	ND(1.0)	2	6	ND(1.0)	ND(1.0)	40.

Notes

ND ( ) - not detected and detection limit
NS - No sample; well inaccessible
NR - Not recorded

TABLE 6

ANALYTICAL RESULTS FOR FEBRUARY 24, 1986 GROUND WATER SAMPLING
CHEVRON CHEMICAL COMPANY
MARYLAND HEIGHTS, MISSOURI
(Concentrations in ug/l)

	DEEP WELLS			
Analyses	OWC-12A	OWC-18	OWC-20	QA/QC Blank
2,4,5-T	ND(1.0)	ND(1.0)	ND(1.0)	SB
2,4-D	ND(1.0)	ND(1.0)	ND(1.0)	SB
4,4-DDD	0.55	0.48	ND(0.1)	SB
4,4-DDE	ND(0.1)	0.16	ND(0.1)	SB
4,4-DDT	1.55	0.77	ND(0.1)	SB
Aldrin	8.18	0.59	ND(0.1)	SB
Chlordane	ND(0.1)	ND(0.1)	ND(0.1)	SB
Dieldrin	3.13	0.22	ND(0.1)	SB
Heptachlor	ND(0.1)	ND(0.1)	ND(0.1)	SB
Xylene (Xylol)	120.0	ND(1.0)	ND(1.0)	ND(1.0)
Lindane	57.6	2.63	0.38	SB
Endrin	ND(0.1)	ND(0.1)	ND(0.1)	SB
Methoxychlor	ND(5.0)	ND(5.0)	ND(5.0)	SB
Toxaphene	ND(5.0)	ND(5.0)	ND(5.0)	SB
Arsenic	ND(1.0)	5.	11.	ND(1.0)

Notes

ND ( ) - not detected and detection limit
NS - No sample; well inaccessible
NR - Not recorded
SB - Sample bottle broken - no analysis performed

TABLE 7
SOIL SAMPLE ANALYTICAL DATA SUMMARY
(concentrations are in ug/g)

Compound	CHV-S-01	CHV-S-02	CHV-S-03	CHV-S-04A	CHV-S-04B	CHV-S-05	CHV-S-06
4,4'-DDD	21.0	18.0	ND(2)	440.0	ND(2)	35.0	62.0
4,4'-DDE	10.0	6.0	ND(2)	26.0	ND(2)	7.0	27.0
4,4'-DDT	37.0	8.0	ND(2)	1230.0	75.0	134.0	140.0
Aldrin	5.0	2.0	ND(2)	52.0	42.0	5.0	15.0
Chlordane	200.0	1000.0	2100.0	ND(2)	ND(2)	ND(2)	ND(2)
Dieldrin	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)
Heptachlor	5.0	6.0	180.0	ND(2)	ND(2)	ND(2)	ND(2)
Lindane	ND(2)	ND(2)	ND(2)	160.0	25.0	4.0	2.0
Toxaphene	ND(100)	ND(100)	ND(100)	ND(100)	500.0	ND(100)	ND(100)
Captan	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)	16.0	ND(2)

Notes

1. Samples were taken on July 12, 1985.
2. All samples taken from 0 to 1 foot except CHV-S-04B which was taken from 1 to 2 feet.
3. ND indicates 'Not Detected' with the numbers in parenthesis denoting the detection limits.
4. The above table represents contaminants that were detected during this sampling period. See the Appendix for the analytic results for contaminants tested.

TABLE 7 (continued)
SOIL SAMPLE ANALYTICAL DATA SUMMARY
(concentrations in ug/g)

Compound	CHV-S-07			CHV-S-08		
	A	B	C	A	B	C
4,4'-DDD	14.0	ND(2)	ND(2)	56.0	ND(2)	14.0
4,4'-DDE	6.0	ND(2)	ND(2)	25.0	ND(2)	8.0
4,4'-DDT	ND(2)	ND(2)	ND(2)	370.0	ND(2)	71.0
Aldrin	ND(2)	ND(2)	ND(2)	39.0	ND(2)	ND(2)
Chlordane	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)
Dieldrin	ND(2)	ND(2)	ND(2)	14.0	ND(2)	ND(2)
Hepachlor	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)
Lindane	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)	3.0
Toxaphene	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)
Captan	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)

Notes

1. Samples were taken on August 22, 1985.

2. Sampling intervals:
   A = 0 - 1 foot
   B = 1 - 2 feet
   C = 2 - 3 feet

3. ND indicates "Not Detected" with the numbers in parenthesis denoting the detection limits.

4. The above table represents contaminants that were detected during this sampling period. See the appendix for the analytic results for contaminants tested.

TABLE 7 (continued)
SOIL SAMPLE ANALYTICAL DATA SUMMARY
(concentrations in ug/g)

Name	CHV-S-09			CHV-S-10		
	A	B	C	A	B	C
4,4'-DDD	19.0	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)
4,4'-DDE	100.0	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)
4,4'-DDT	120.0	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)
Aldrin	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)
Chlordane	ND(2)	ND(2)	ND(2)	140.0	ND(2)	76.0
Dieldrin	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)
Heptachlor	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)
Lindane	18.0	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)
Toxaphene	5200.0	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)
Captan	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)

Notes

1. Samples were taken on August 22, 1985.

2. Sampling intervals:
   A = 0 - 1 foot
   B = 1 - 2 feet
   C = 2 - 3 feet

3. ND indicates "Not Detected" with the numbers in parenthesis denoting detection limits.

4. The above table represents contaminants that were detected during this sampling period. See the Appendix for the analytic results for contaminants tested.

TABLE 7 (continued)
SOIL SAMPLE ANALYTICAL DATA SUMMARY
(concentrations in ug/g)

Name	CHV-S-11			CHV-S-12		
	A	B	C	A	B	C
4,4'-DDD	5.5	ND(2)	2.8	ND(2)	ND(2)	ND(2)
4,4'-DDE	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)
4,4'-DDT	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)
Aldrin	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)
Chlordane	940.0	130.0	590.0	31.0	ND(2)	ND(2)
Dieldrin	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)
Hepachlor	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)
Lindane	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)
Toxaphene	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)
Captan	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)	ND(2)

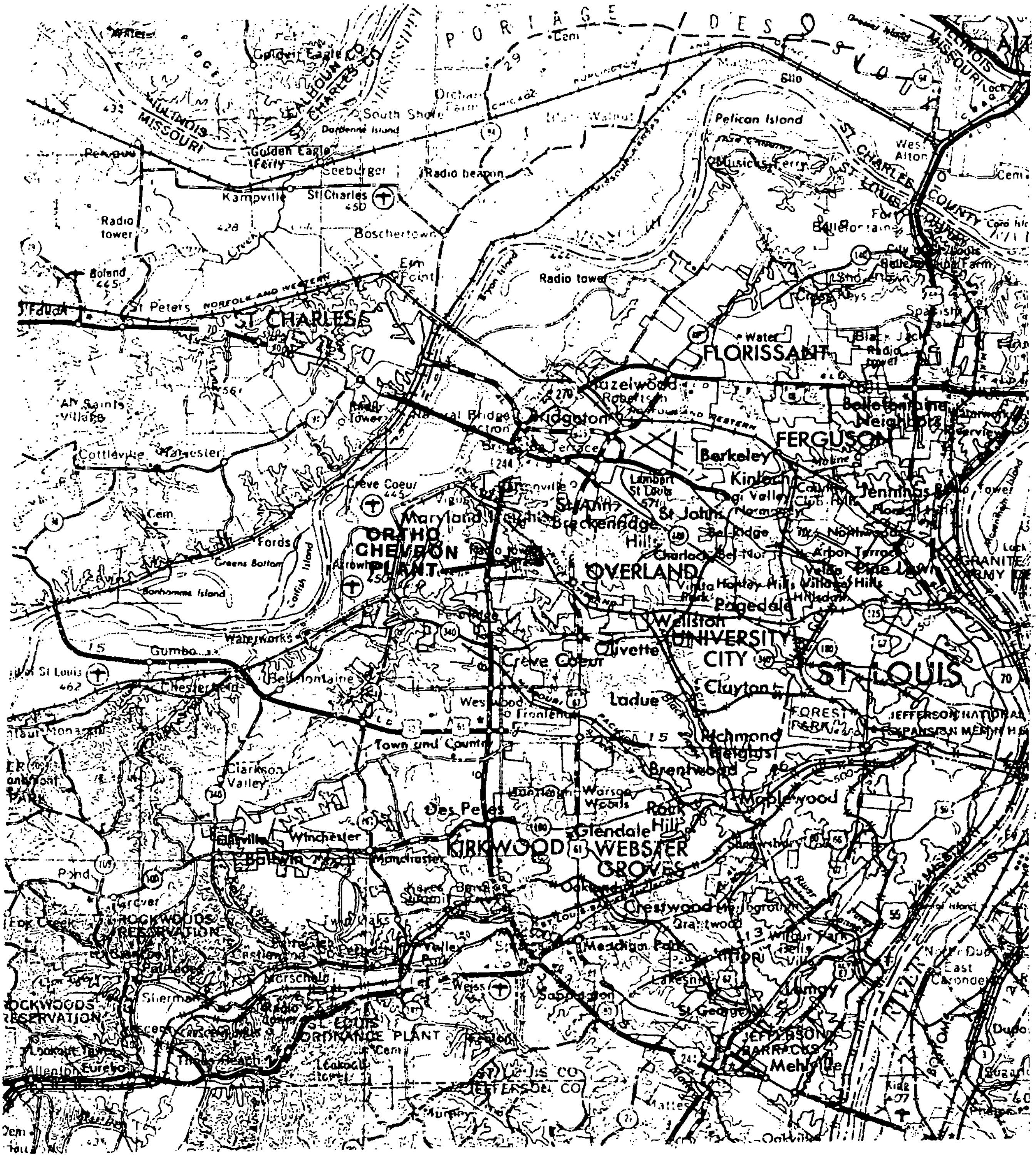
Notes

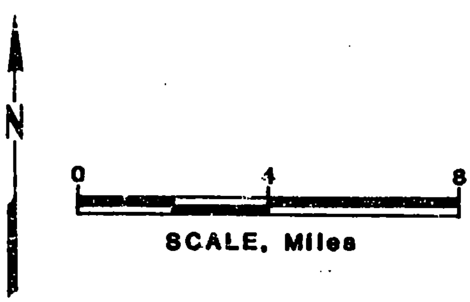
1. Samples were taken on August 22, 1985.

2. Sampling intervals:
   A = 0 - 1 foot
   B = 1 - 2 feet
   C = 2 - 3 feet

3. ND indicates "Not Detected" with the numbers in parenthesis denoting detection limits.

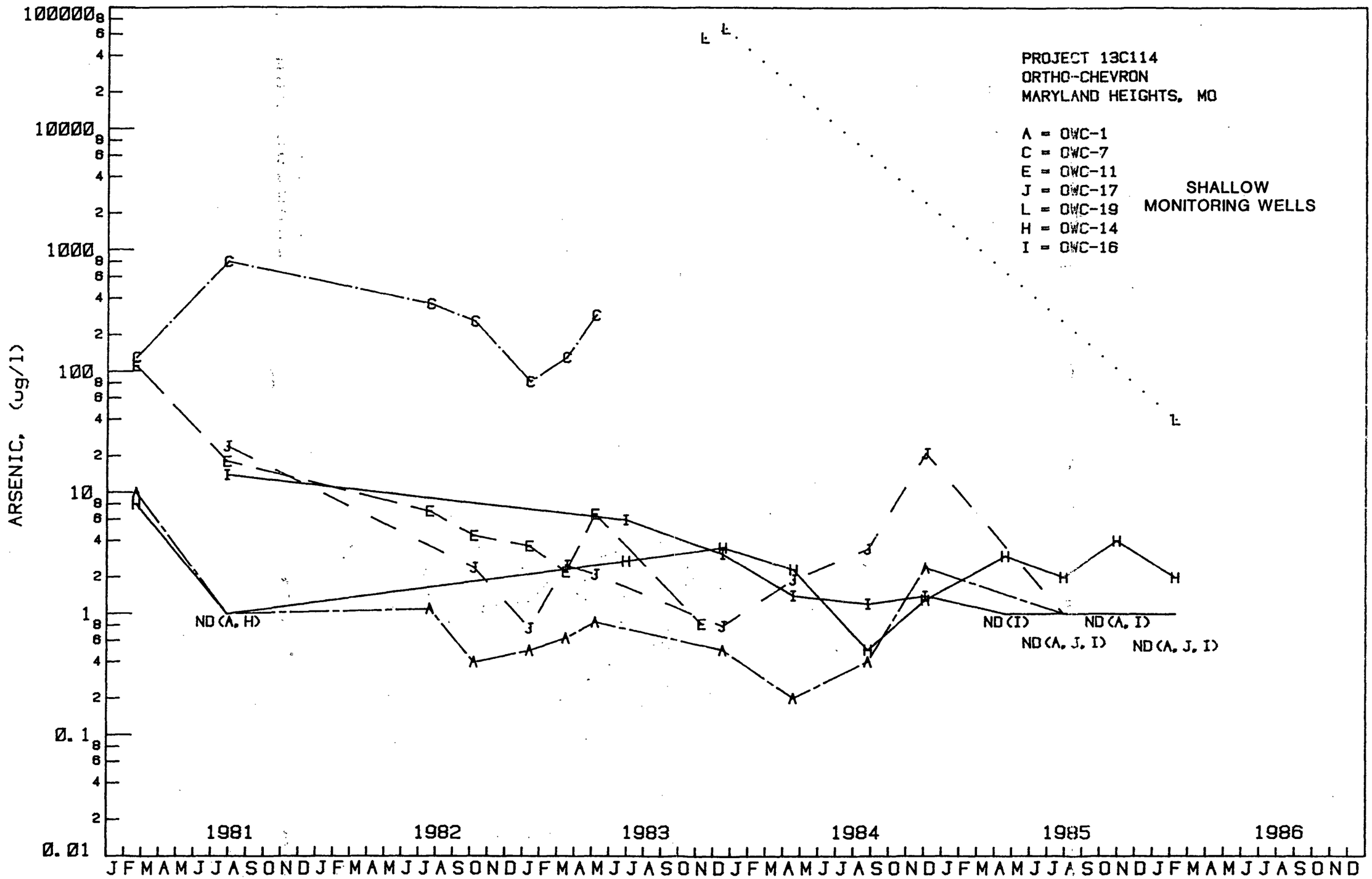
4. The above table represents contaminants that were detected during this sampling period. See the Appendix for the analytic results of contaminants tested.





SCALE, Miles

ORTHO CHEVRON PLANT MARYLAND HEIGHTS, MISSOURI			
Woodward-Clyde Consultants ENGINEERS, GEOLOGISTS, AND ENVIRONMENTAL SCIENTISTS			
SITE VICINITY MAP			
DRN. BY [signature]	DATE 4/8/86	PROJECT NO.	FIG. NO.
CHK'D. BY	DATE	13C114-7	1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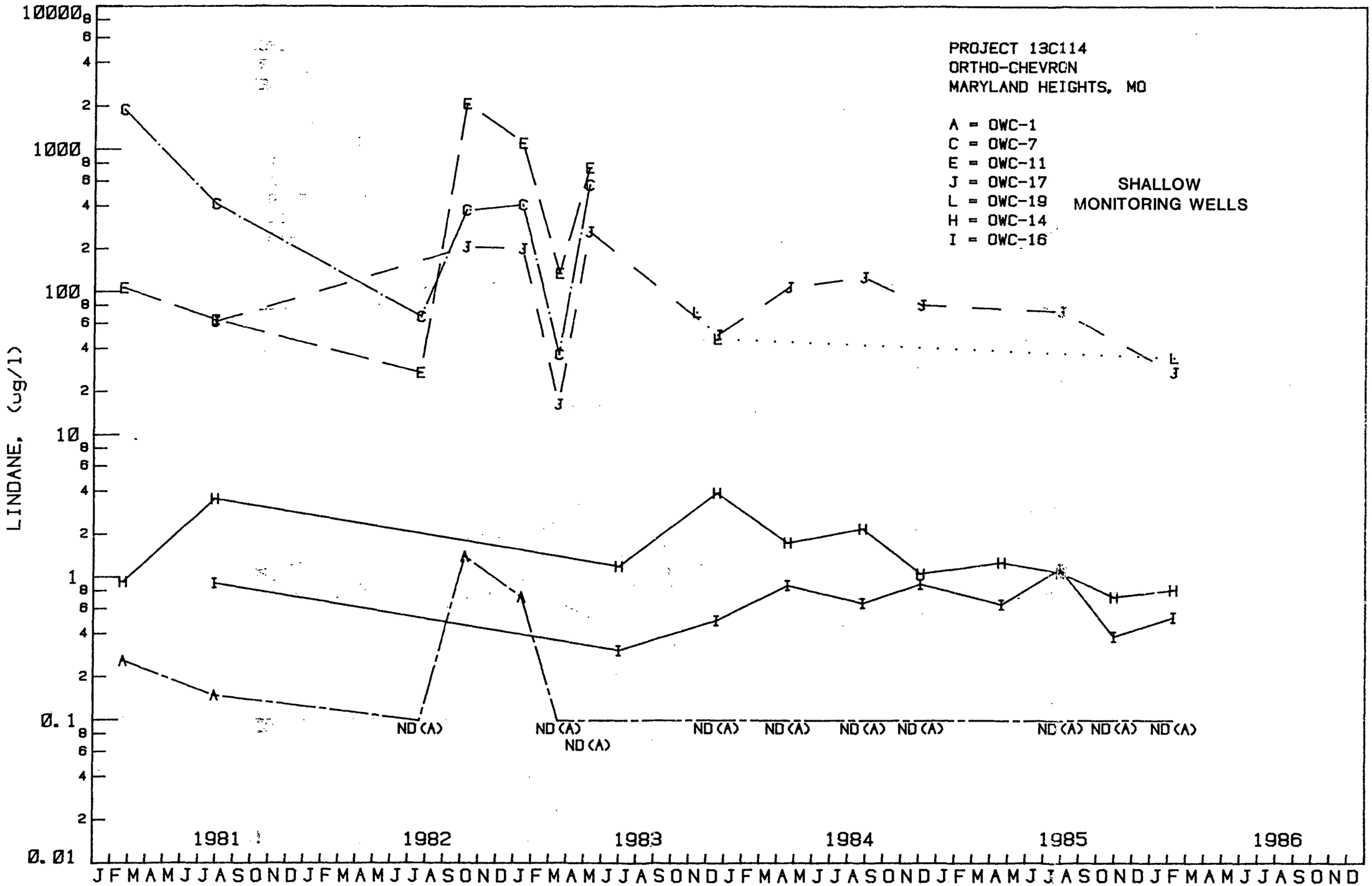
MARYLAND HEIGHTS, MO
A = OWC-1
C = OWC-7
E = OWC-11
J = OWC-17
L = OWC-19
H = OWC-14
I = OWC-16
SHALLOW
MONITORING WELLS
ARSENIC, (ug/l)
100000
10000
1000
100
10
1
0.1
0.01
ND (A, H)
ND (I)
ND (A, I)
ND (A, J, I)
ND (A, J, I)
1981
1982
1983
1984
1985
1986
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D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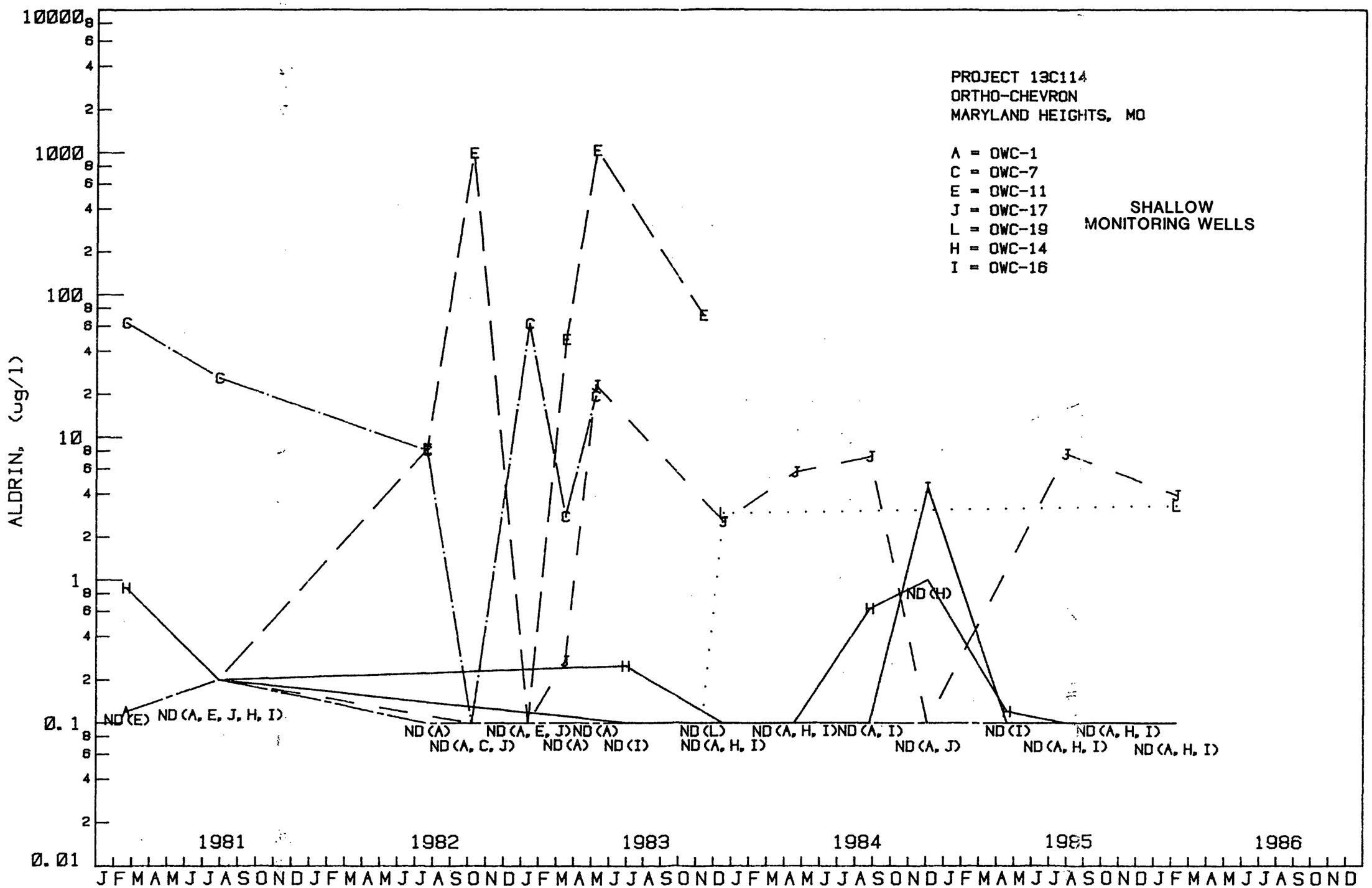
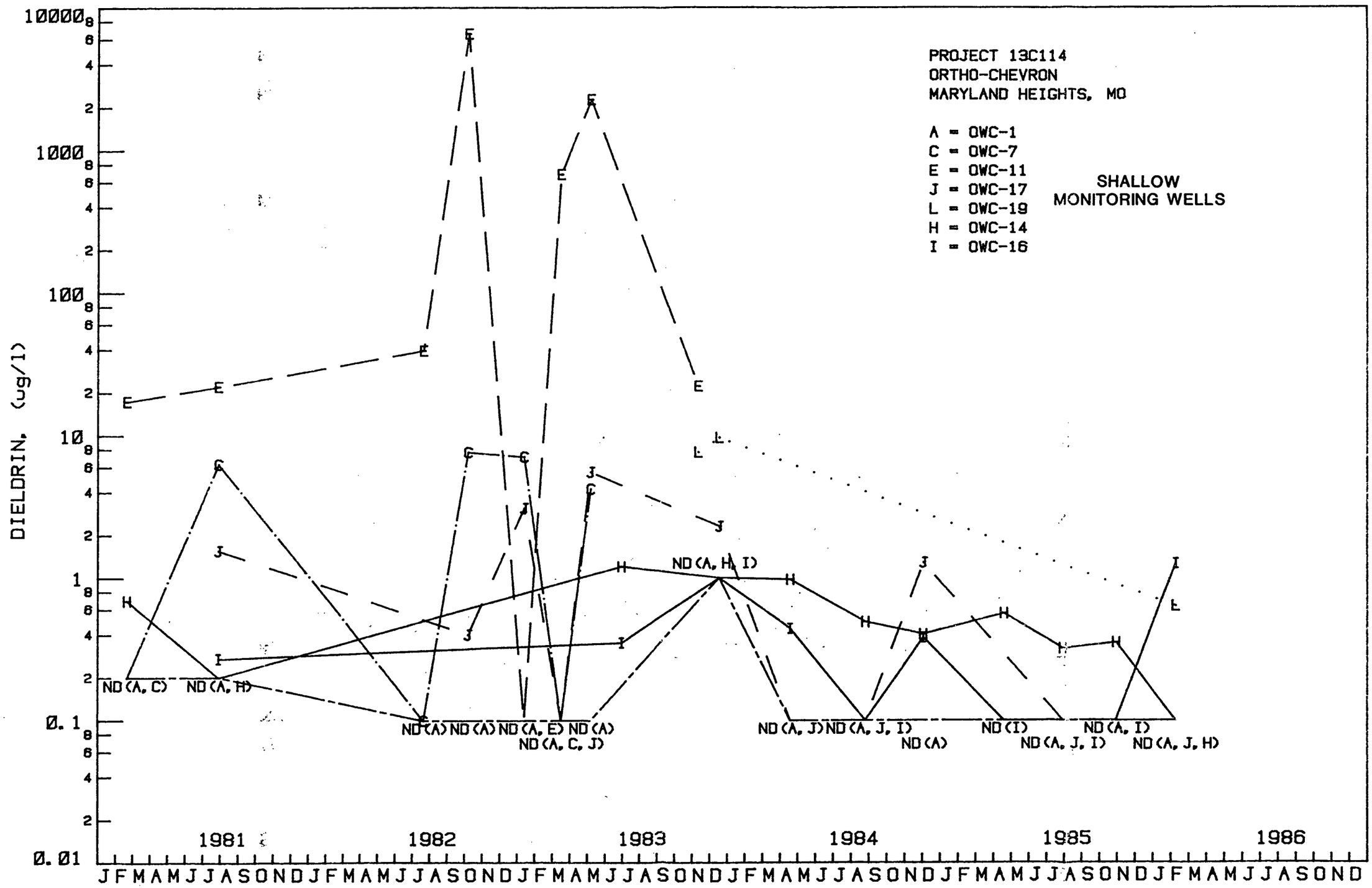
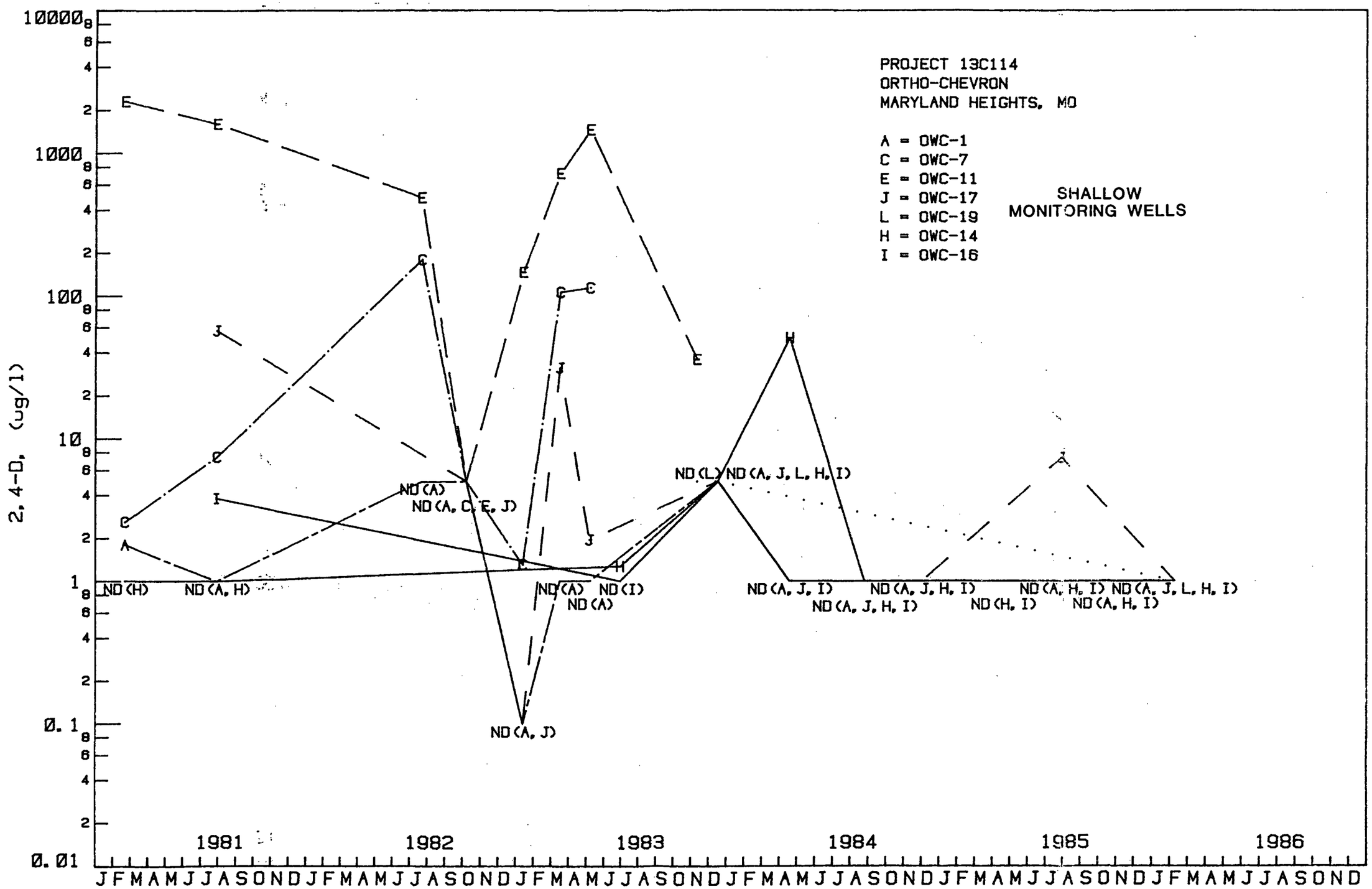
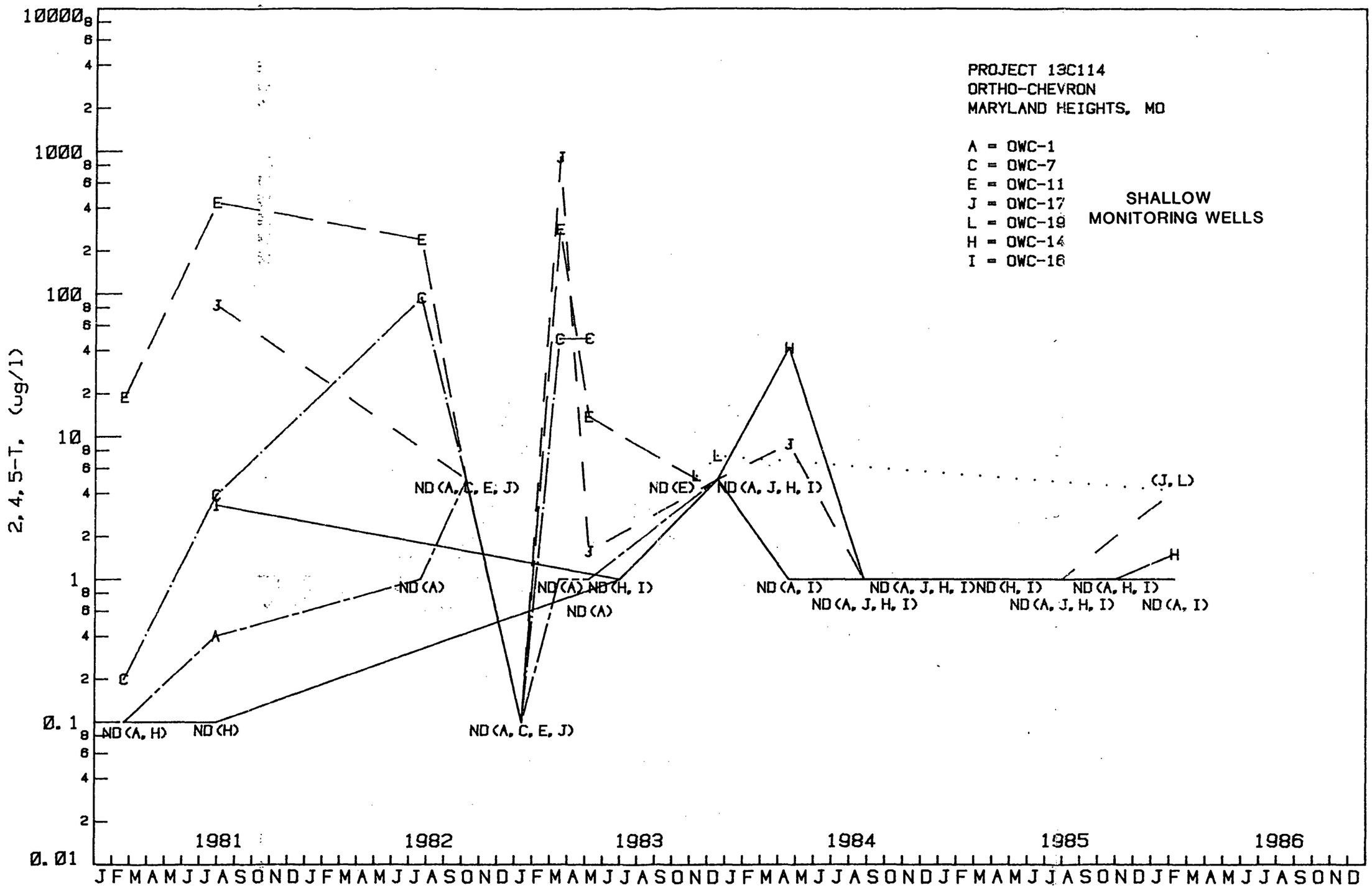
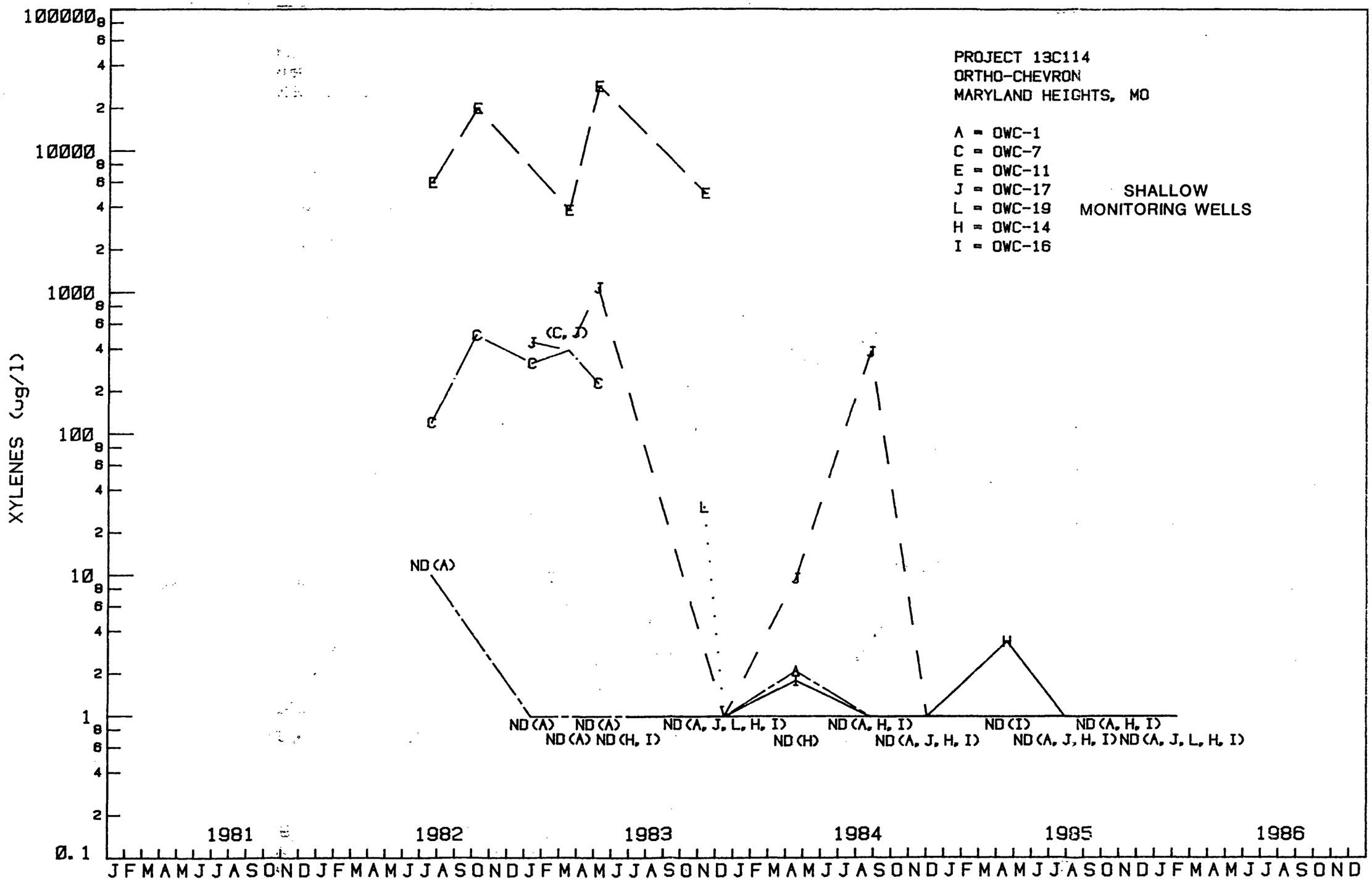
ORTHO-CHEVRON
MARYLAND HEIGHTS, MO
A = OWC-1
C = OWC-7
E = OWC-11
J = OWC-17
L = OWC-19
H = OWC-14
I = OWC-16
SHALLOW
MONITORING WELLS
LINDANE, (ug/l)
10000
1000
100
10
1
0.1
0.01
ND(A)
1981
1982
1983
1984
1985
1986
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D

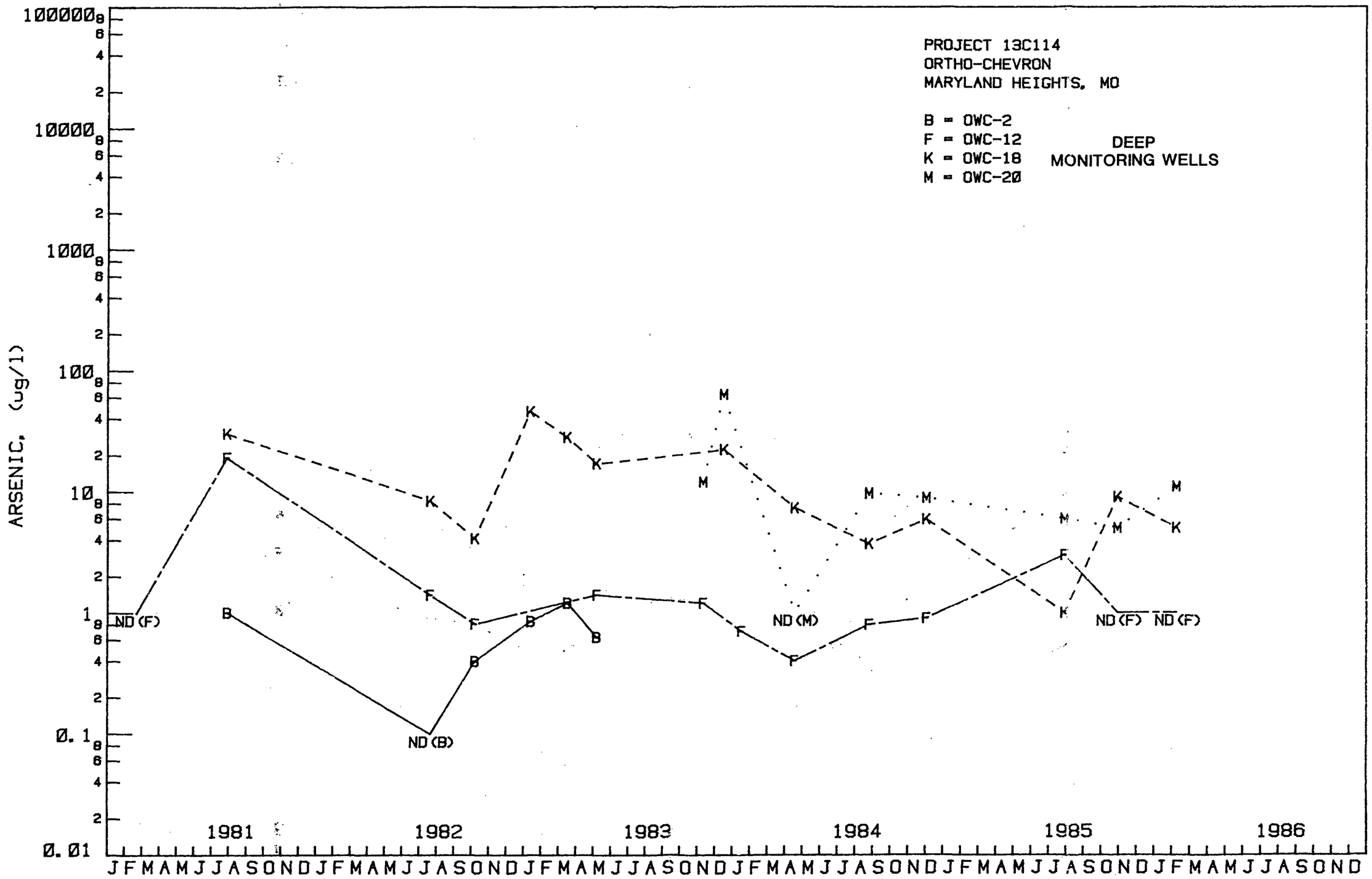

PROJECT 13C114
ORTHO-CHEVRON
MARYLAND HEIGHTS, MO
A = OWC-1
C = OWC-7
E = OWC-11
J = OWC-17
L = OWC-19
H = OWC-14
I = OWC-16
SHALLOW
MONITORING WELLS
ALDRIN, (ug/l)
10000
1000
100
10
1
0.1
0.01
ND (E)
ND (A, E, J, H, I)
ND (A)
ND (A, C, J)
ND (A, E, J)
ND (A)
ND (A)
ND (I)
ND (L)
ND (A, H, I)
ND (A, H, I)
ND (A, I)
ND (H)
ND (A, J)
ND (I)
ND (A, H, I)
ND (A, H, I)
ND (A, H, I)
1981
1982
1983
1984
1985
1986
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D

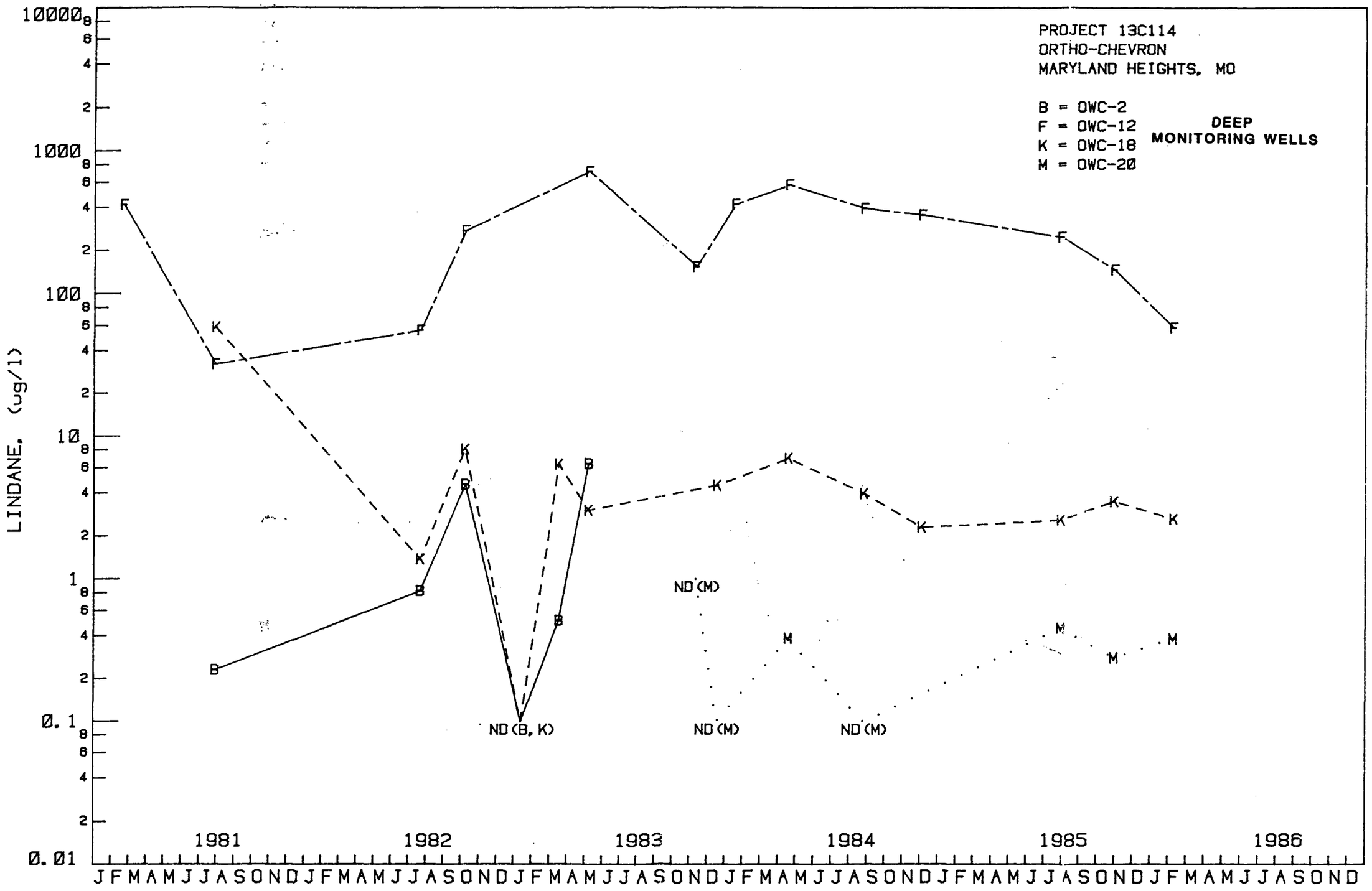

PROJECT 13C114
ORTHO-CHEVRON
MARYLAND HEIGHTS, MO
A = OWC-1
C = OWC-7
E = OWC-11
J = OWC-17
L = OWC-19
H = OWC-14
I = OWC-16
SHALLOW
MONITORING WELLS
DIELDRIN, (ug/l)
10000
1000
100
10
1
0.1
0.01
ND (A, C)
ND (A, H)
ND (A)
ND (A)
ND (A, E)
ND (A)
ND (A, C, J)
ND (A, H, I)
ND (A, J)
ND (A, J, I)
ND (A)
ND (I)
ND (A, J, I)
ND (A, I)
ND (A, J, H)
1981
1982
1983
1984
1985
1986
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D

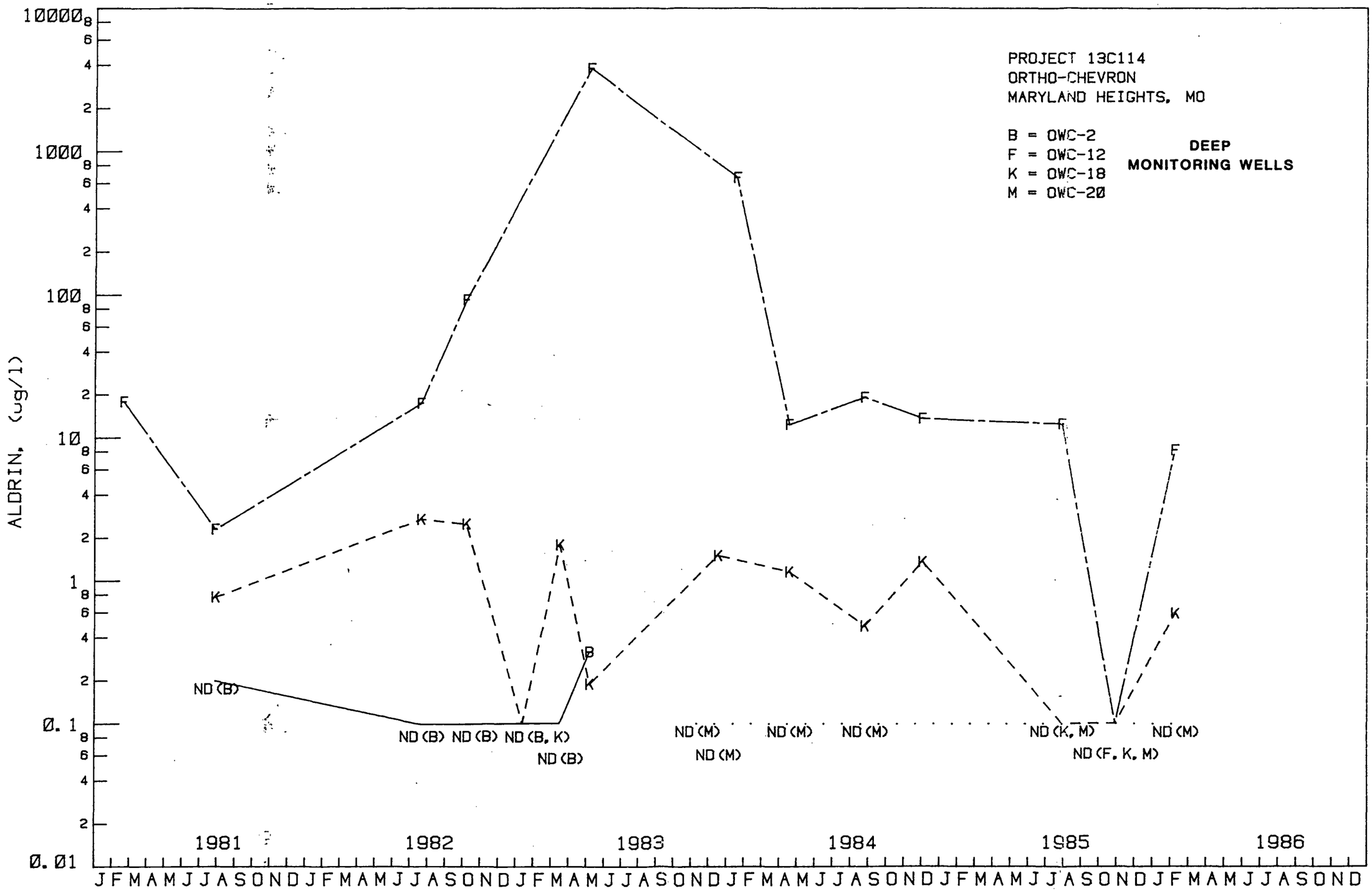

PROJECT 13C114
ORTHO-CHEVRON
MARYLAND HEIGHTS, MO
A = OWC-1
C = OWC-7
E = OWC-11
J = OWC-17
L = OWC-19
H = OWC-14
I = OWC-16
SHALLOW
MONITORING WELLS
2,4-D, (ug/l)
10000
1000
100
10
1
0.1
0.01
ND (H)
ND (A, H)
ND (A)
ND (A, C, E, J)
ND (A, J)
ND (A)
ND (A)
ND (I)
ND (L)
ND (A, J, L, H, I)
ND (A, J, I)
ND (A, J, H, I)
ND (A, J, H, I)
ND (H, I)
ND (A, H, I)
ND (A, H, I)
ND (A, J, L, H, I)
1981
1982
1983
1984
1985
1986
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D

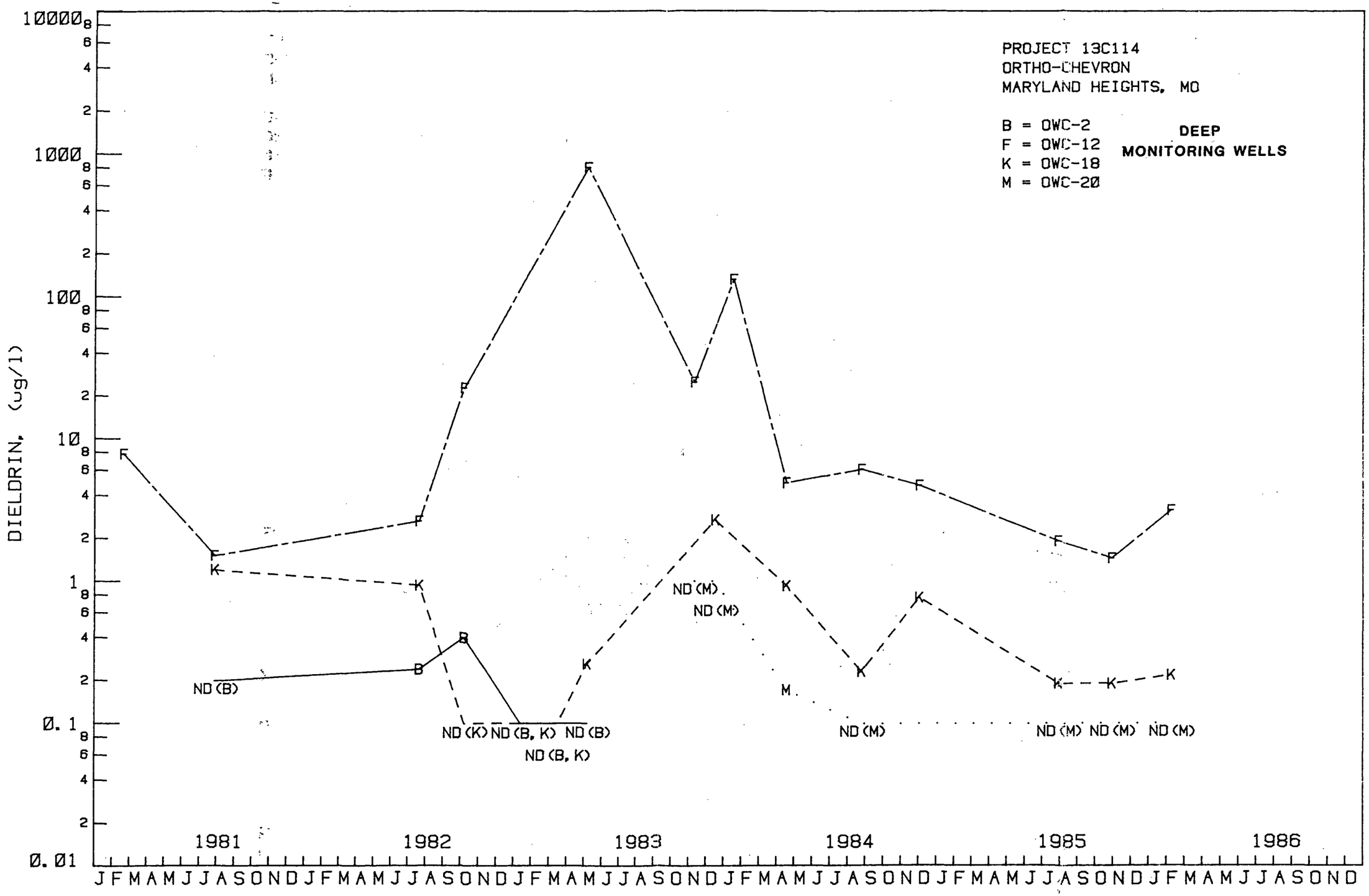

PROJECT 13C114
ORTHO-CHEVRON
MARYLAND HEIGHTS, MO
A = OWC-1
C = OWC-7
E = OWC-11
J = OWC-17
L = OWC-19
H = OWC-14
I = OWC-16
SHALLOW
MONITORING WELLS
2,4,5-T, (ug/l)
10000
1000
100
10
1
0.1
0.01
ND (A, H)
ND (H)
ND (A, C, E, J)
ND (A)
ND (A) ND (H, I)
ND (A)
ND (E)
ND (A, J, H, I)
ND (A, I)
ND (A, J, H, I)
ND (A, J, H, I)
ND (H, I)
ND (A, J, H, I)
ND (A, H, I)
ND (A, I)
(J, L)
1981
1982
1983
1984
1985
1986
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D

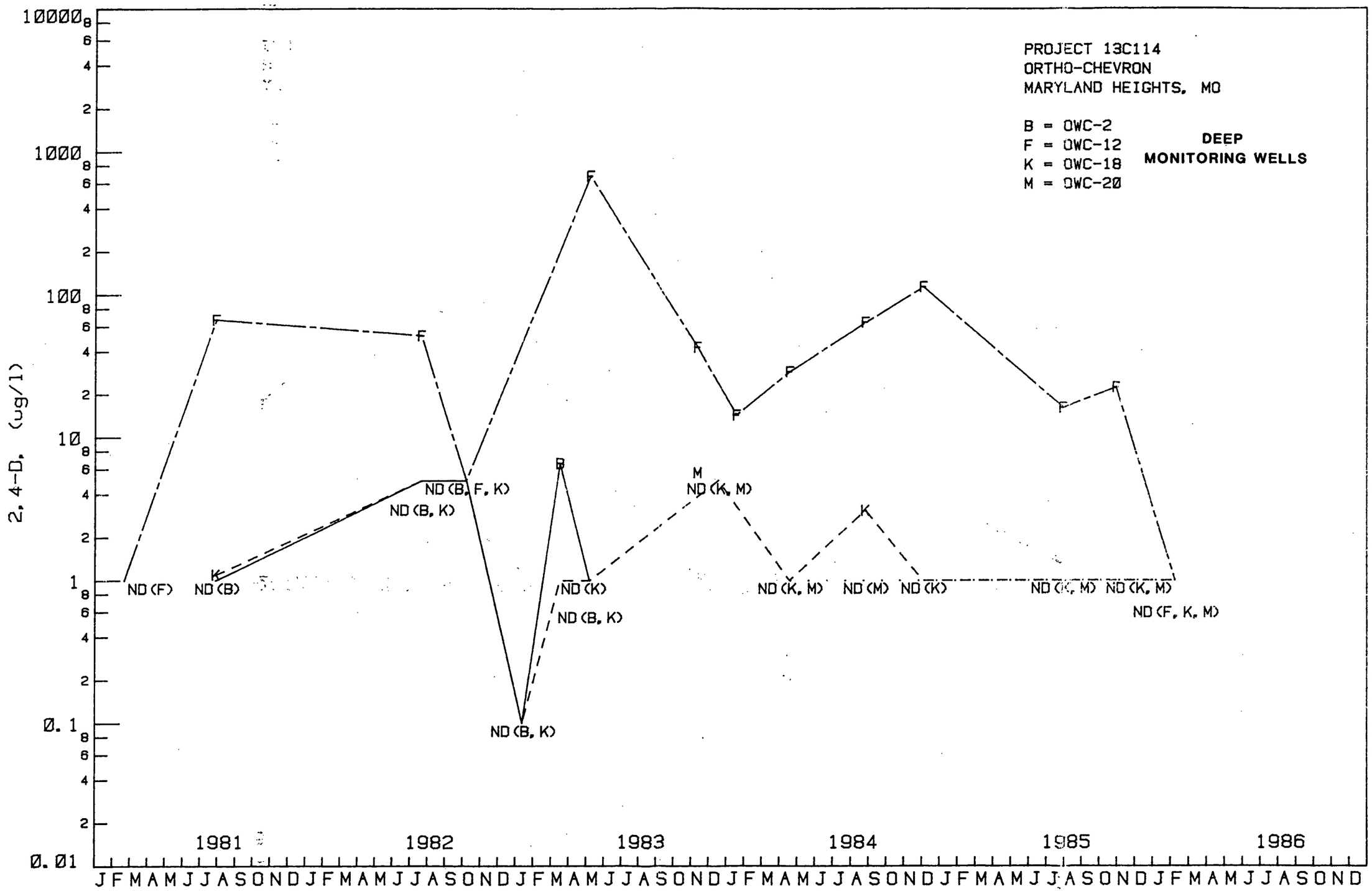

PROJECT 13C114
ORTHO-CHEVRON
MARYLAND HEIGHTS, MO
A = OWC-1
C = OWC-7
E = OWC-11
J = OWC-17
L = OWC-19
H = OWC-14
I = OWC-16
SHALLOW
MONITORING WELLS
XYLENES (ug/l)
100000
10000
1000
100
10
1
0.1
ND (A)
ND (A)
ND (A) ND (H, I)
ND (A)
ND (A, J, L, H, I)
ND (H)
ND (A, H, I)
ND (A, J, H, I)
ND (I)
ND (A, J, H, I)
ND (A, H, I)
ND (A, J, L, H, I)
(C, J)
1981
1982
1983
1984
1985
1986
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D

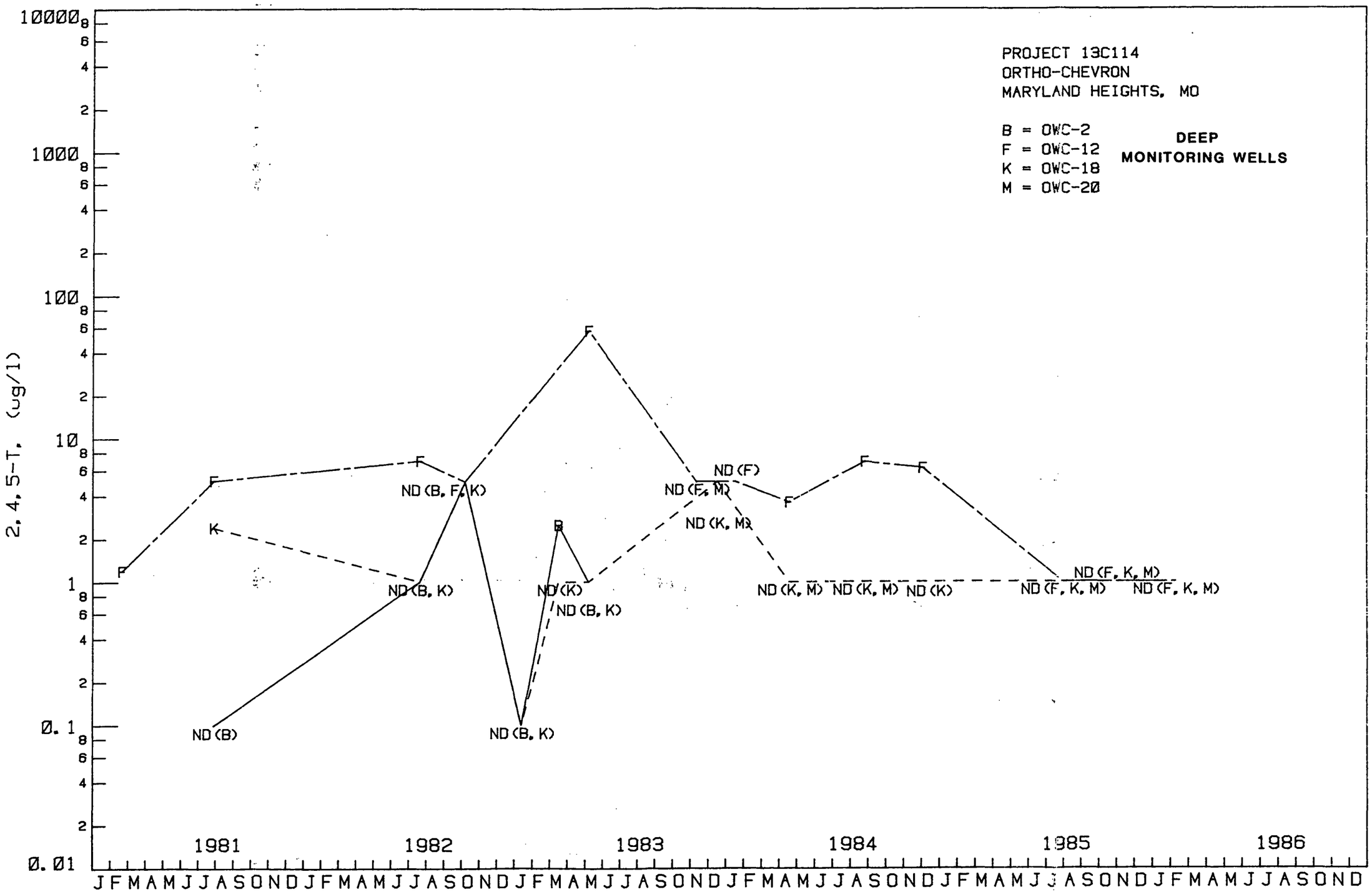

PROJECT 13C114
ORTHO-CHEVRON
MARYLAND HEIGHTS, MO
B = OWC-2
F = OWC-12
K = OWC-18
M = OWC-20
DEEP
MONITORING WELLS
ARSENIC, (ug/l)
100000
10000
1000
100
10
1
0.1
0.01
ND (F)
ND (B)
ND (M)
ND (F)
ND (F)
1981
1982
1983
1984
1985
1986
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D

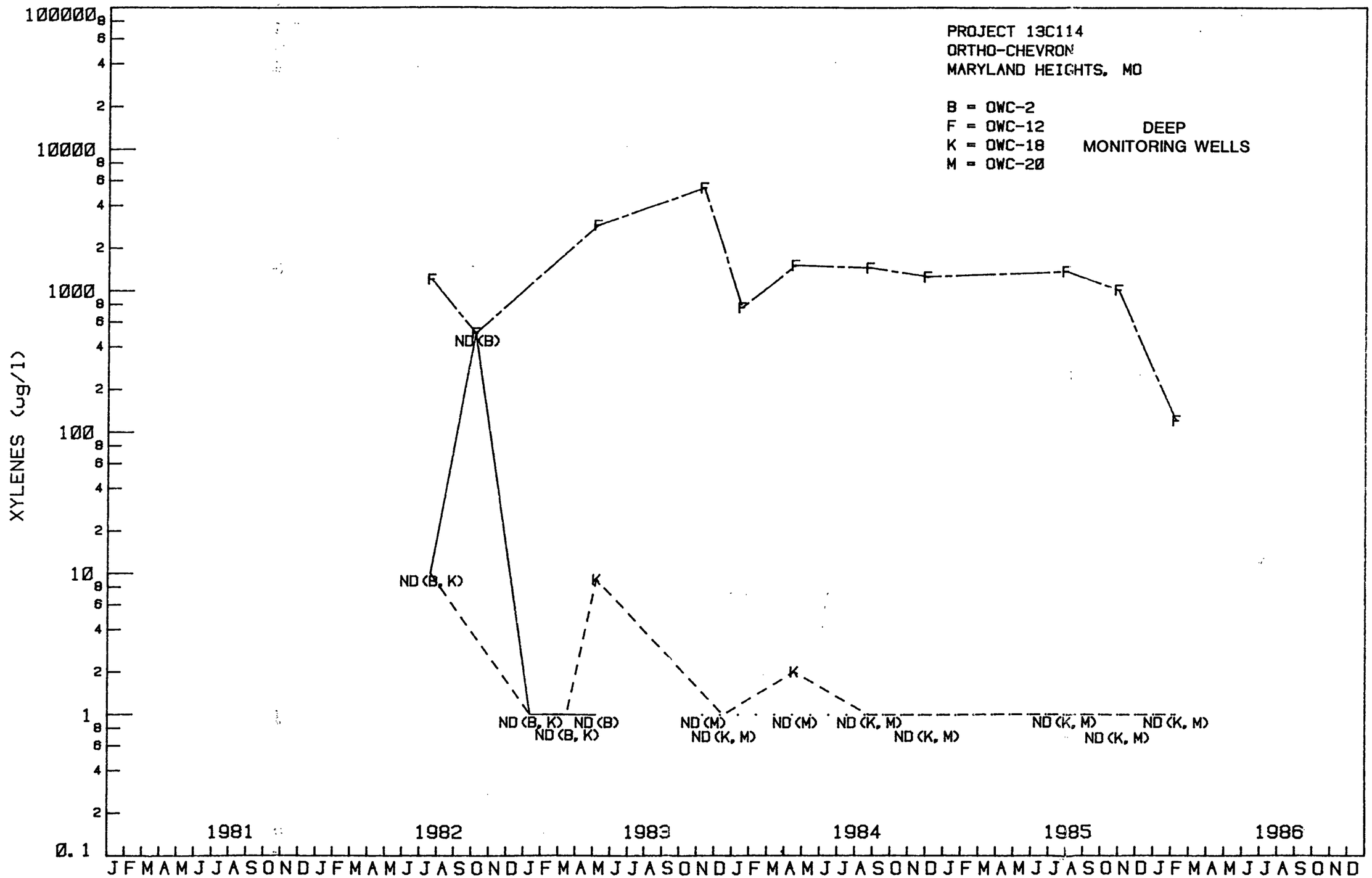

PROJECT 13C114
ORTHO-CHEVRON
MARYLAND HEIGHTS, MO
B = OWC-2
F = OWC-12
K = OWC-18
M = OWC-20
DEEP
MONITORING WELLS
LINDANE, (ug/l)
10000
1000
100
10
1
0.1
0.01
ND (B, K)
ND (M)
ND (M)
ND (M)
1981
1982
1983
1984
1985
1986
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D

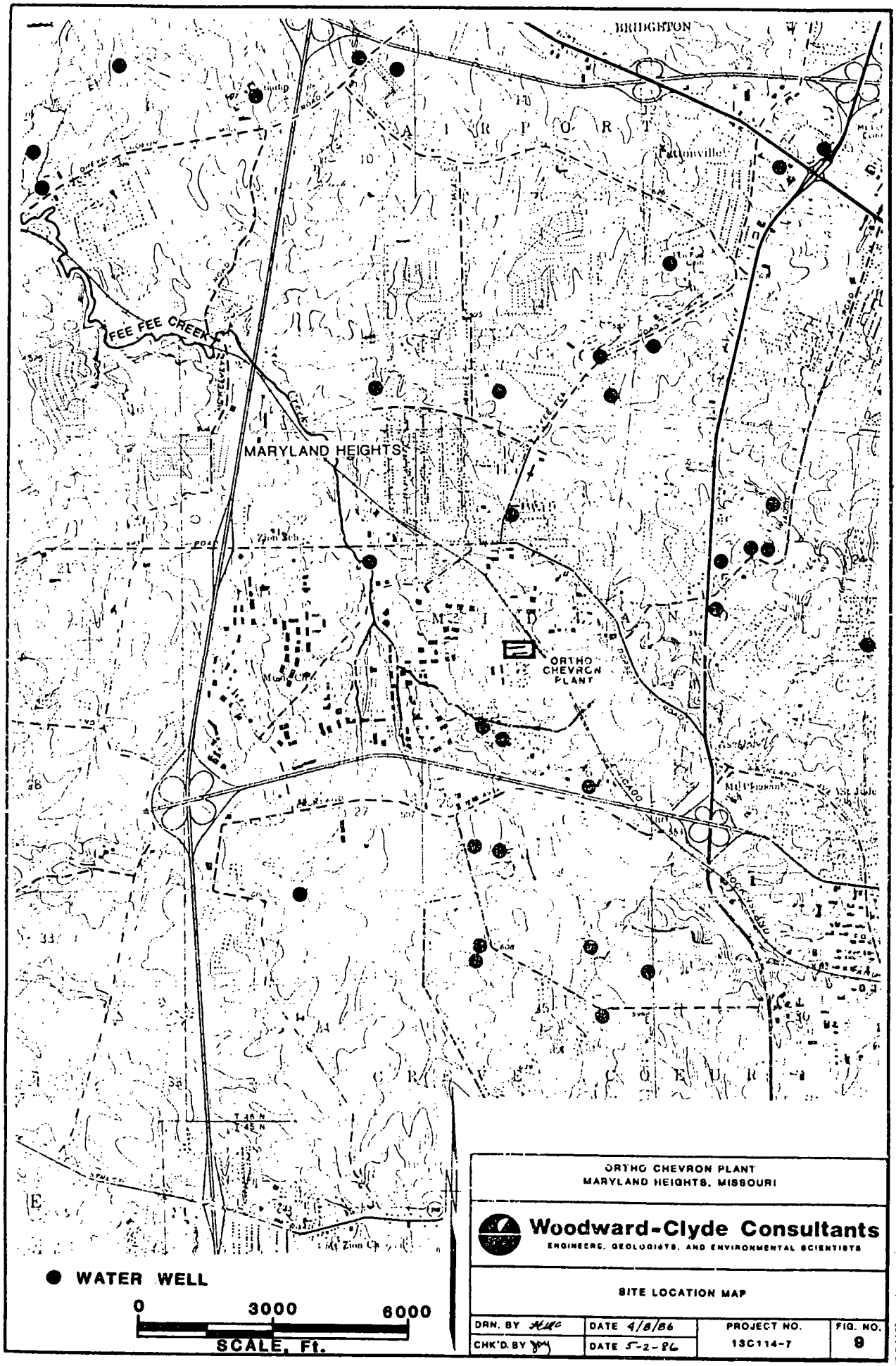

PROJECT 13C114
ORTHO-CHEVRON
MARYLAND HEIGHTS, MO
B = OWC-2
F = OWC-12
K = OWC-18
M = OWC-20
DEEP
MONITORING WELLS
ALDRIN, (ug/l)
10000
1000
100
10
1
0.1
0.01
ND (B)
ND (B)
ND (B)
ND (B, K)
ND (B)
ND (M)
ND (M)
ND (M)
ND (M)
ND (M)
ND (K, M)
ND (F, K, M)
1981
1982
1983
1984
1985
1986
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D


PROJECT 13C114
ORTHO-CHEVRON
MARYLAND HEIGHTS, MO
B = OWC-2
F = OWC-12
K = OWC-18
M = OWC-20
DEEP
MONITORING WELLS
DIELDRIN, (ug/l)
10000
1000
100
10
1
0.1
0.01
ND (B)
ND (K)
ND (B, K)
ND (B)
ND (B, K)
ND (M)
ND (M)
ND (M)
ND (M)
ND (M)
ND (M)
1981
1982
1983
1984
1985
1986
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D


PROJECT 13C114
ORTHO-CHEVRON
MARYLAND HEIGHTS, MO
B = OWC-2
F = OWC-12
K = OWC-18
M = OWC-20
DEEP
MONITORING WELLS
2,4-D, (ug/l)
10000
1000
100
10
1
0.1
0.01
ND (F)
ND (B)
ND (B, K)
ND (B, F, K)
ND (B, K)
ND (K)
ND (B, K)
ND (K, M)
ND (K, M)
ND (M)
ND (K)
ND (K, M)
ND (K, M)
ND (F, K, M)
1981
1982
1983
1984
1985
1986
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D


PROJECT 13C114
ORTHO-CHEVRON
MARYLAND HEIGHTS, MO
B = OWC-2
F = OWC-12
K = OWC-18
M = OWC-20
DEEP
MONITORING WELLS
2,4,5-T, (ug/l)
10000
1000
100
10
1
0.1
0.01
1981
1982
1983
1984
1985
1986
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
ND (B)
ND (B, K)
ND (B, F, K)
ND (B, K)
ND (K)
ND (B, K)
ND (F)
ND (F, M)
ND (K, M)
ND (K, M)
ND (K, M)
ND (K)
ND (F, K, M)
ND (F, K, M)
ND (F, K, M)


PROJECT 13C114
ORTHO-CHEVRON
MARYLAND HEIGHTS, MO
B = OWC-2
F = OWC-12
K = OWC-18
M = OWC-20
DEEP
MONITORING WELLS
XYLENES (ug/l)
100000
10000
1000
100
10
1
0.1
ND (B)
ND (B, K)
K
ND (B, K) ND (B)
ND (B, K)
ND (M)
ND (K, M)
ND (M)
ND (K, M)
ND (K, M)
ND (K, M)
ND (K, M)
ND (K, M)
1981
1982
1983
1984
1985
1986
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D



ORTHO CHEVRON PLANT
MARYLAND HEIGHTS, MISSOURI

Woodward-Clyde Consultants
ENGINEERS, GEOLOGISTS, AND ENVIRONMENTAL SCIENTISTS

SITE LOCATION MAP

DRN. BY	DATE 4/8/86	PROJECT NO.	FIG. NO.
CHK'D. BY	DATE 5-2-86	13C114-7	9

APPENDIX A

GROUND WATER QUALITY DATA

TABLE A-1
SUMMARY OF GROUND WATER QUALITY DATA
CHEVRON CHEMICAL COMPANY, MARYLAND HEIGHTS, MISSOURI

Well No.	Range in Concentration Previously Reported	ARSENIC (mg/l) 13 Dec 84	14 May 85	15 Aug 85	16 Nov 85	17 Feb 86
Shallow						
OWC-1	.2 to 2.4	2.4	ND(1)	ND(1)	ND(1)	ND(1)
OWC-14	ND(1) to 8	1.3	3	2	4	2
OWC-16	ND(1) 14	1.4	1.	ND(1)	ND(1)	ND(1)
OWC-17	.76 to 21	21	3	ND(1)	NS	ND(1)
OWC-19	55.8 to 66.7	NS	NS	NS	NS	40
Deep						
OWC-12A	ND(1) to 19	9	3	3	ND(1)	ND(1)
OWC-18	4.1 to 30	5.9	5	1	9	5
OWC-20	12 to 63	8.9	6	6	5	11

Well No.	Range in Concentration Previously Reported	2,4-D (ug/l) 13 Dec 84	14 May 85	15 Aug 85	16 Nov 85	17 Feb 86
Shallow						
OWC-1	ND(.1) to 1.8	ND(1)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
OWC-14	ND(1) to 50.9	ND(1)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
OWC-16	ND(1) to 3.8	ND(1)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
OWC-17	ND(.1) to 57	ND(1)	ND(1.0)	7.3	NS	ND(1.0)
OWC-19	ND(5.0)	NS	NS	NS	NS	ND(1.0)
Deep						
OWC-12A	ND(1) to 670*	113	23	16.1	22.4	ND(1.0)
OWC-18	ND(.1) to 1.1	ND(1)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
OWC-20	ND(1) to 5.7	NS	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)

Notes
ND ( ) - not detected and detection limit
NS - Not sampled
* - Indicated range of concentration is for well OWC-12

May 1986
WCC Project 13C114-17

TABLE A-1
GROUND WATER QUALITY
CHEVRON CHEMICAL COMPANY, MARYLAND HEIGHTS, MISSOURI

Well No.	Range in Concentration Previously Reported	2,4,5-T (ug/l) 13 Dec 84	14 May 85	15 Aug 85	16 Nov 85	17 Feb 86
Shallow						
OWC-1	ND(.1) to 0.4	ND(1)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
OWC-14	ND(.1) to 42.0	ND(1)	ND(1.0)	ND(1.0)	ND(1.0)	1.5
OWC-16	ND(1) to 3.3	ND(1)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
OWC-17	ND(.1) to 906	ND(1)	ND(1.0)	ND(1.0)	NS	4.2
OWC-19	5.3 to 7.3	NS	NS	NS	NS	4.2
Deep						
OWC-12A	ND(5) to 56.5*	6.2	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
OWC-18	ND(.1) to 2.4	ND(1)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
OWC-20	ND(1) to ND(5)	NS	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)

Well No.	Range in Concentration Previously Reported	LINDANE (ug/l) 13 Dec 84	14 May 85	15 Aug 85	16 Nov 85	17 Feb 86
Shallow						
OWC-1	ND(.1) to 1.4	ND(.1)	ND(0.1)	ND(1.0)	ND(1.0)	ND(0.1)
OWC-14	0.93 to 3.9	1.07	1.28	1.08	.73	0.82
OWC-16	ND(.1) to 0.91	0.9	0.65	1.15	.39[.42]	0.53
OWC-17	16.5 to 264	81.6	43.2	73.4	NS	27.5
OWC-19	47.2 to 72.7	NS	NS	NS	NS	34.8
Deep						
OWC-12A	32 to 711*	353	325	248	146	57.6
OWC-18	ND(.1) to 58	2.29	2.46	2.59	3.48	2.63
OWC-20	ND(.1) to 0.38	NS	.41	.45	0.28	0.38

Notes
ND ( ) - not detected and detection limit
NS - Not sampled
* - Indicated range of concentration is for well OWC-12
[ ] - Indicates duplicate sample

May 1986
WCC Project 13C114-17

TABLE A-1
GROUND WATER QUALITY
CHEVRON CHEMICAL COMPANY, MARYLAND HEIGHTS, MISSOURI

Well No.	Range in Concentration Previously Reported	ALDRIN (ug/l) 13 Dec 84	14 May 85	15 Aug 85	16 Nov 85	17 Feb 86
Shallow						
OWC-1	ND(.1) to 0.2	ND(.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
OWC-14	ND(.2) to 0.88	ND(.1)	.12	ND(0.1)	ND(0.1)	ND(0.1)
OWC-16	ND(.1) to 4.45	4.45	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
OWC-17	ND(.1) to 23.2	ND(.1)	ND(0.1)	7.63	NS	3.94
OWC-19	ND(.1) to 2.94	NS	NS	NS	NS	3.31
Deep						
OWC-12A	2.3 to 3,780*	13.6	8.92	12.4	ND(0.1)	8.18
OWC-18	ND(.1) to 2.7	1.35	ND(0.1)	ND(0.1)	ND(0.1)	0.59
OWC-20	ND(.1)	NS	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)

Well No.	Range in Concentration Previously Reported	DIELDRIN (ug/l) 13 Dec 84	14 May 85	15 Aug 85	16 Nov 85	17 Feb 86
Shallow						
OWC-1	ND(.1) to ND(0.2)	ND(.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
OWC-14	ND(.1) to 1.2	0.4	.56	.32	.35	ND(0.1)
OWC-16	ND(.1) to 0.44	0.38	ND(0.1)	ND(0.1)	ND(0.1)	1.25
OWC-17	ND(.1) to 5.5	1.27	ND(0.1)	ND(0.1)	NS	ND(0.1)
OWC-19	7.6 to 9.6	NS	NS	NS	NS	0.63
Deep						
OWC-12A	1.51 to 798*	4.66	4.87	1.90	1.44	3.13
OWC-18	ND(.1) to 2.68	0.76	0.29	0.19	0.19	0.22
OWC-20	ND(1) to 0.17	NS	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)

Notes
ND ( ) - not detected and detection limit
NS - Not sampled
* - Indicated range of concentration is for well OWC-12

May 1986
WCC Project 13C114-17

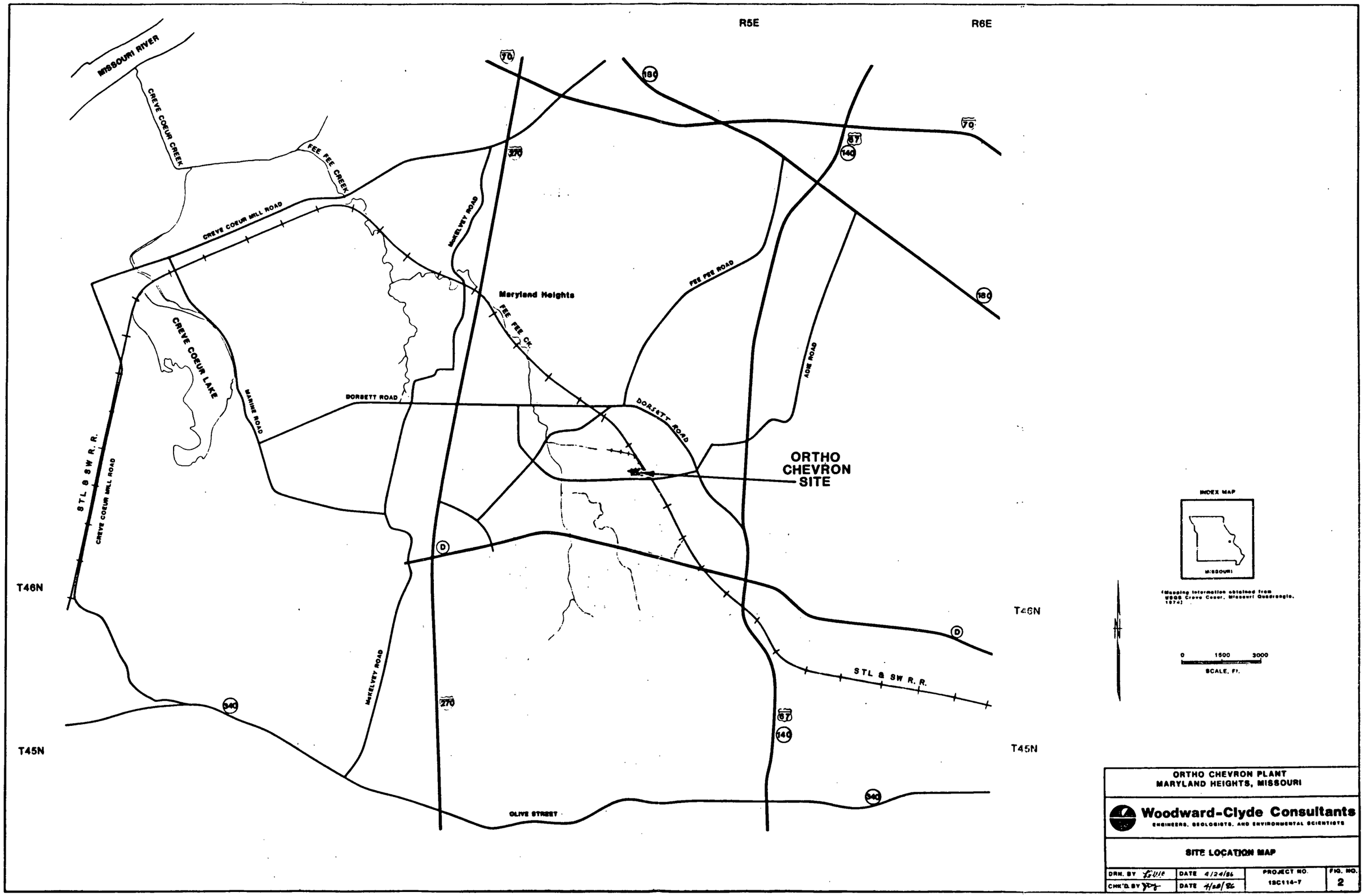
TABLE A-1
GROUND WATER QUALITY
CHEVRON CHEMICAL COMPANY, MARYLAND HEIGHTS, MISSOURI

Well No.	Range in Concentration Previously Reported	XYLENE (XYLOL) (ug/l) 13 Dec 84	14 May 85	15 Aug 85	16 Nov 85	17 Feb 86
Shallow						
OWC-1	ND(1) to 2.1	ND(1)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
OWC-14	ND(1)	ND(1)	3.4	ND(1.0)	ND(1.0)	ND(1.0)
OWC-16	ND(1) to 1,080	ND(1)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
OWC-17	ND(1) to 380	ND(1)	386	ND(1.0)	NS	ND(1.0)
OWC-19	ND(1) to 30.1	NS	NS	NS	NS	ND(1.0)
Deep						
OWC-12A	500 to 5,310*	1250	1060	1360	1010	120
OWC-18	ND(1) to 2.0	ND(1)	15.6	ND(1.0)	ND(1.0)	ND(1.0)
OWC-20	ND(1)	ND(1)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)

Notes
ND ( ) - not detected and detection limit
NS - Not sampled
* - Indicated range of concentration is for well OWC-12

APPENDIX B

GRAPHS OF GROUND WATER CHEMICAL CONCENTRATION VS. TIME

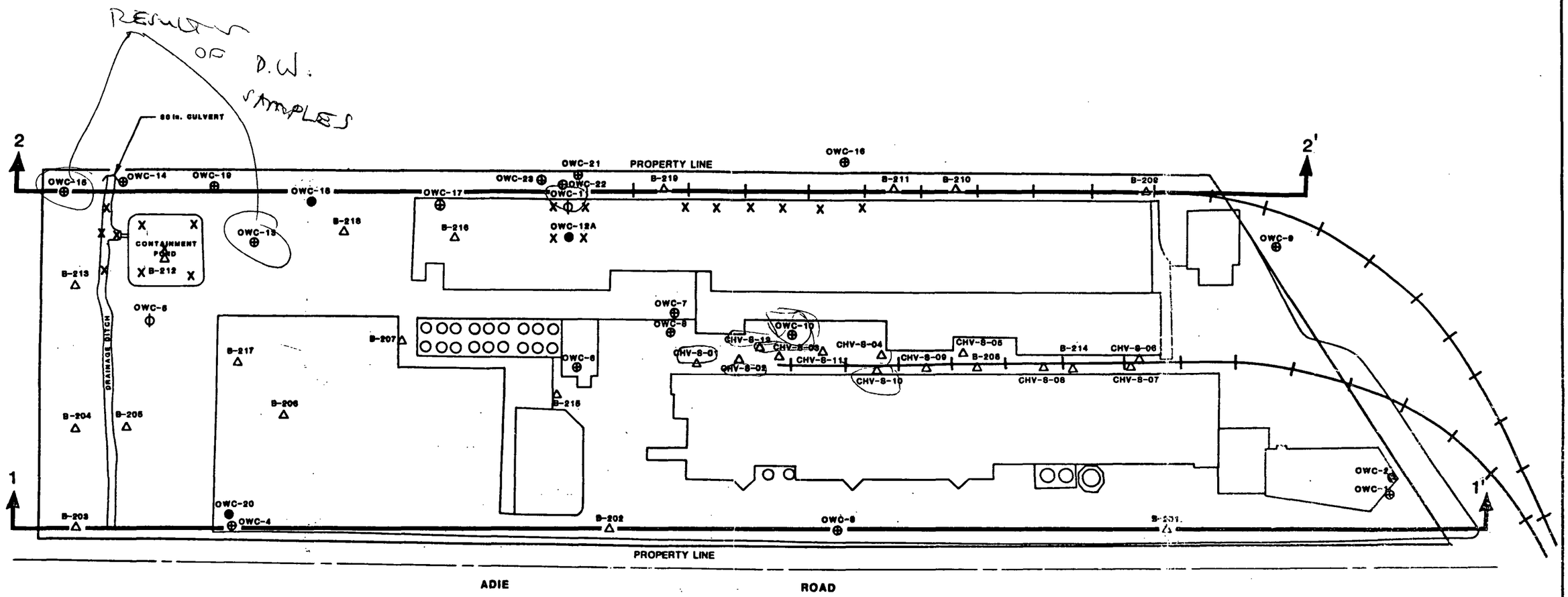


ORTHO CHEVRON PLANT
MARYLAND HEIGHTS, MISSOURI

Woodward-Clyde Consultants
ENGINEERS, GEOLOGISTS, AND ENVIRONMENTAL SCIENTISTS

SITE LOCATION MAP

DRN. BY Leslie	DATE 4/24/86	PROJECT NO. 13C114-7	FIG. NO. 2
CHK'D. BY [illegible]	DATE 4/28/86		



LEGEND

△ SHALLOW BORINGS

OWC-1 ⊕ MONITORING WELL LOCATION AND NUMBER

● DEEP MONITORING WELL

ϕ INACTIVE MONITORING WELL

X DIOXIN SURFACE SOIL SAMPLE LOCATION

CROSS SECTION LOCATION

N

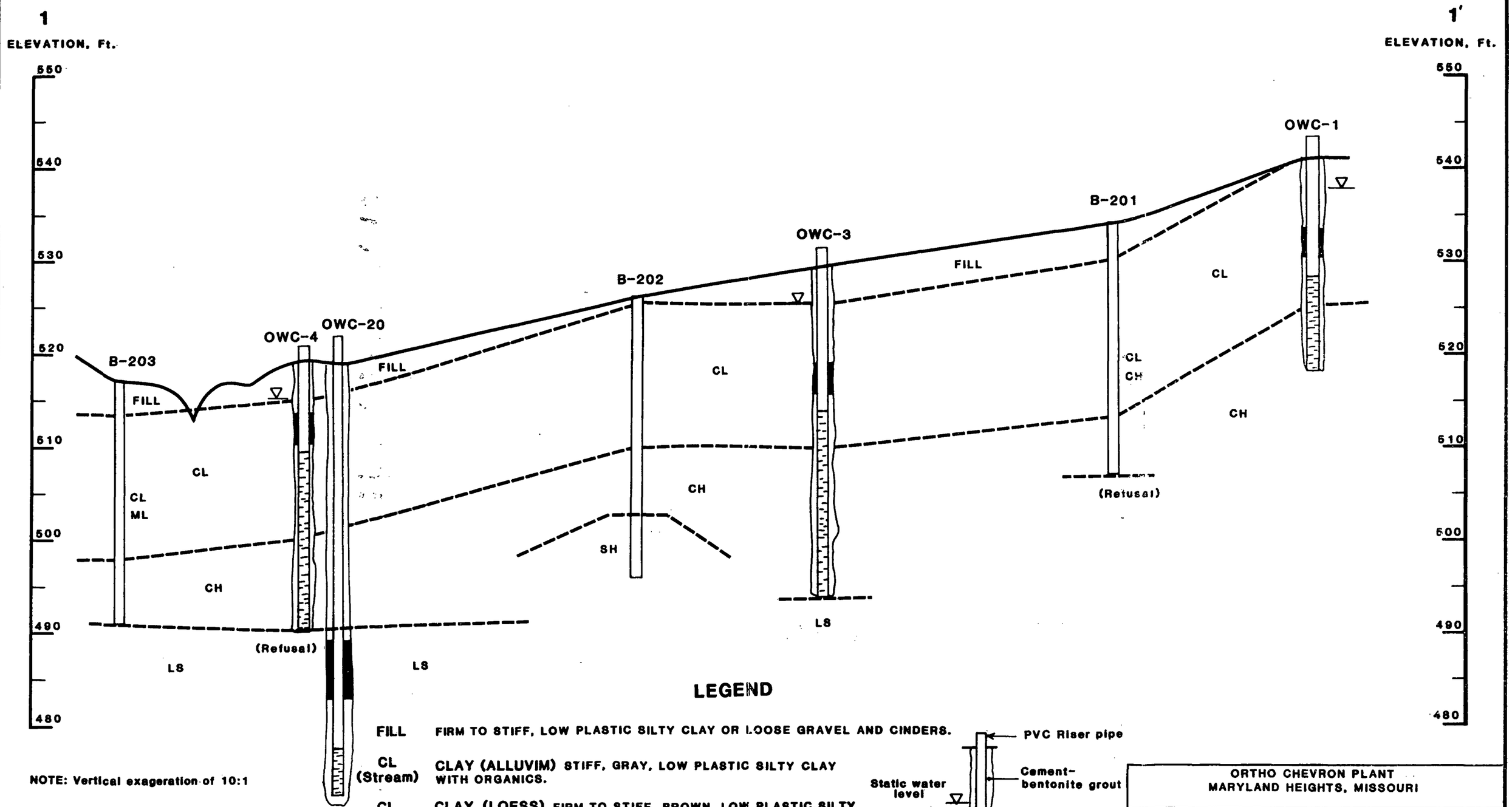
0 50 100
SCALE, FT.

ORTHO CHEVRON PLANT
MARYLAND HEIGHTS, MISSOURI

Woodward-Clyde Consultants
ENGINEERS, GEOLOGISTS, AND ENVIRONMENTAL SCIENTISTS

MONITORING WELLS AND BORINGS LOCATION PLAN

DRN. BY	DATE 4/2/86	PROJECT NO. 13C114-17	FIG. NO. 3
CHK'D. BY	DATE 4/7/86		



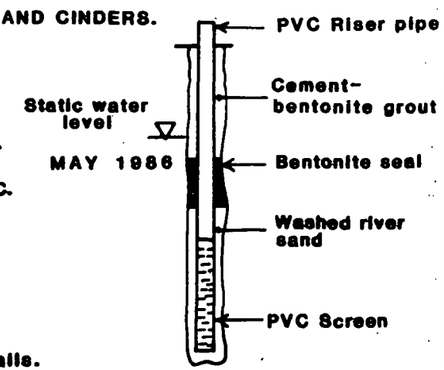
LEGEND

FILL	FIRM TO STIFF, LOW PLASTIC SILTY CLAY OR LOOSE GRAVEL AND CINDERS.
CL (Stream)	CLAY (ALLUVIM) STIFF, GRAY, LOW PLASTIC SILTY CLAY WITH ORGANICS.
CL	CLAY (LOESS) FIRM TO STIFF, BROWN, LOW PLASTIC, SILTY.
CH	CLAY (RESIDUAL) STIFF TO HARD, BROWN, HIGHLY PLASTIC.
SH	SHALE, HARD, GRAY, UNWEATHERED.
LS	LIMESTONE, LIGHT GRAY, WEATHERED TO UNWEATHERED.

NOTE: These logs have been generalized to illustrate general subsurface conditions. Refer to individual boring logs for details.

NOTE: Vertical exageration of 10:1

0 50 100 200
SCALE, Ft.

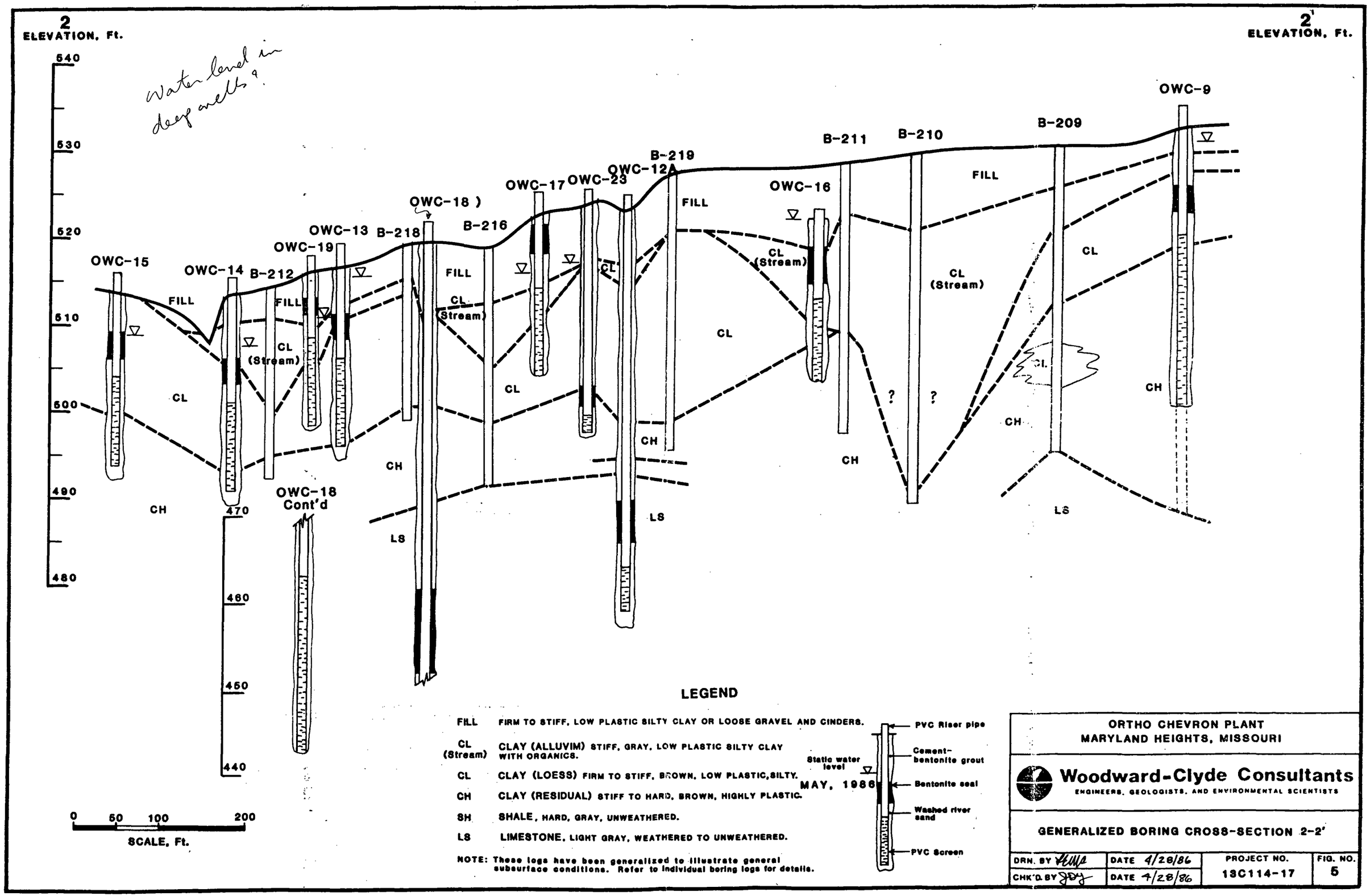


ORTHO CHEVRON PLANT
MARYLAND HEIGHTS, MISSOURI

Woodward-Clyde Consultants
ENGINEERS, GEOLOGISTS, AND ENVIRONMENTAL SCIENTISTS

GENERALIZED BORING CROSS-SECTION 1-1'

DRN. BY	DATE 4/28/86	PROJECT NO.	FIG. NO.
CHK'D. BY	DATE 4/28/86	13C114-17	4



LEGEND

FILL	FIRM TO STIFF, LOW PLASTIC SILTY CLAY OR LOOSE GRAVEL AND CINDERS.
CL (Stream)	CLAY (ALLUVIM) STIFF, GRAY, LOW PLASTIC SILTY CLAY WITH ORGANICS.
CL	CLAY (LOESS) FIRM TO STIFF, BROWN, LOW PLASTIC, SILTY.
CH	CLAY (RESIDUAL) STIFF TO HARD, BROWN, HIGHLY PLASTIC.
SH	SHALE, HARD, GRAY, UNWEATHERED.
LS	LIMESTONE, LIGHT GRAY, WEATHERED TO UNWEATHERED.

NOTE: These logs have been generalized to illustrate general subsurface conditions. Refer to individual boring logs for details.

Static water level
MAY, 1986

PVC Riser pipe
Cement-bentonite grout
Bentonite seal
Washed river sand
PVC Screen

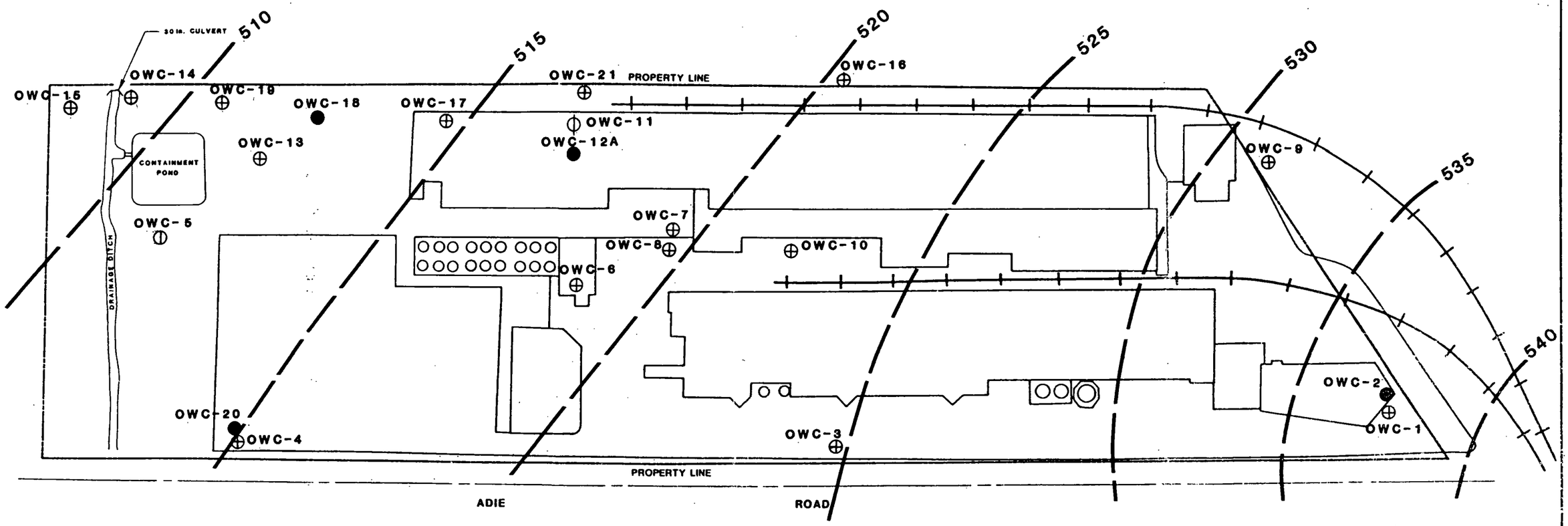
ORTHO CHEVRON PLANT
MARYLAND HEIGHTS, MISSOURI

Woodward-Clyde Consultants
ENGINEERS, GEOLOGISTS, AND ENVIRONMENTAL SCIENTISTS

GENERALIZED BORING CROSS-SECTION 2-2'

DRN. BY	DATE 4/28/86	PROJECT NO.	FIG. NO.
CHK'D. BY	DATE 4/28/86	13C114-17	5

⊕ ● PROPOSED



LEGEND

OWC-1 ⊕ MONITORING WELL LOCATION AND NUMBER

● DEEP MONITORING WELL

⦶ INACTIVE MONITORING WELL

C.I. = 5 Ft.

CONTOUR LINE REPRESENTS FEET ABOVE MEAN SEA LEVEL

NOTE: Water Table measured May, 1986.

N

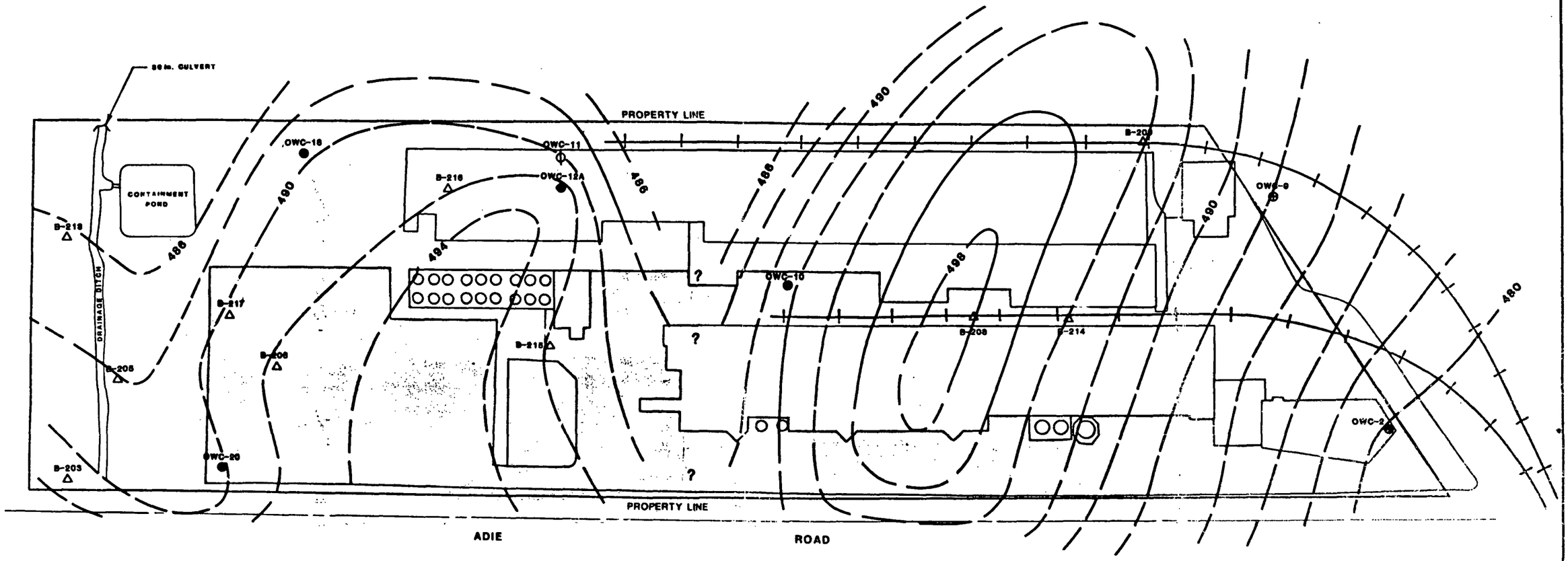
0 50 100
SCALE, Ft.

ORTHO CHEVRON PLANT
MARYLAND HEIGHTS, MISSOURI

Woodward-Clyde Consultants
ENGINEERS, GEOLOGISTS, AND ENVIRONMENTAL SCIENTISTS

WATER TABLE SURFACE MAP

DRN. BY JDMC	DATE 6/6/86	PROJECT NO. 13C114-17	FIG. NO. 7
CHK'D. BY	DATE		



LEGEND

OWC-2 ⊕ MONITORING WELL LOCATION AND NUMBER

● DEEP MONITORING WELL

ϕ INACTIVE MONITORING WELL

△ SHALLOW BORINGS

C.I. = 2 FT.

CONTOUR LINE REPRESENTS ESTIMATED ELEVATION OF TOP OF LIMESTONE IN FEET ABOVE MEAN SEA LEVEL

N

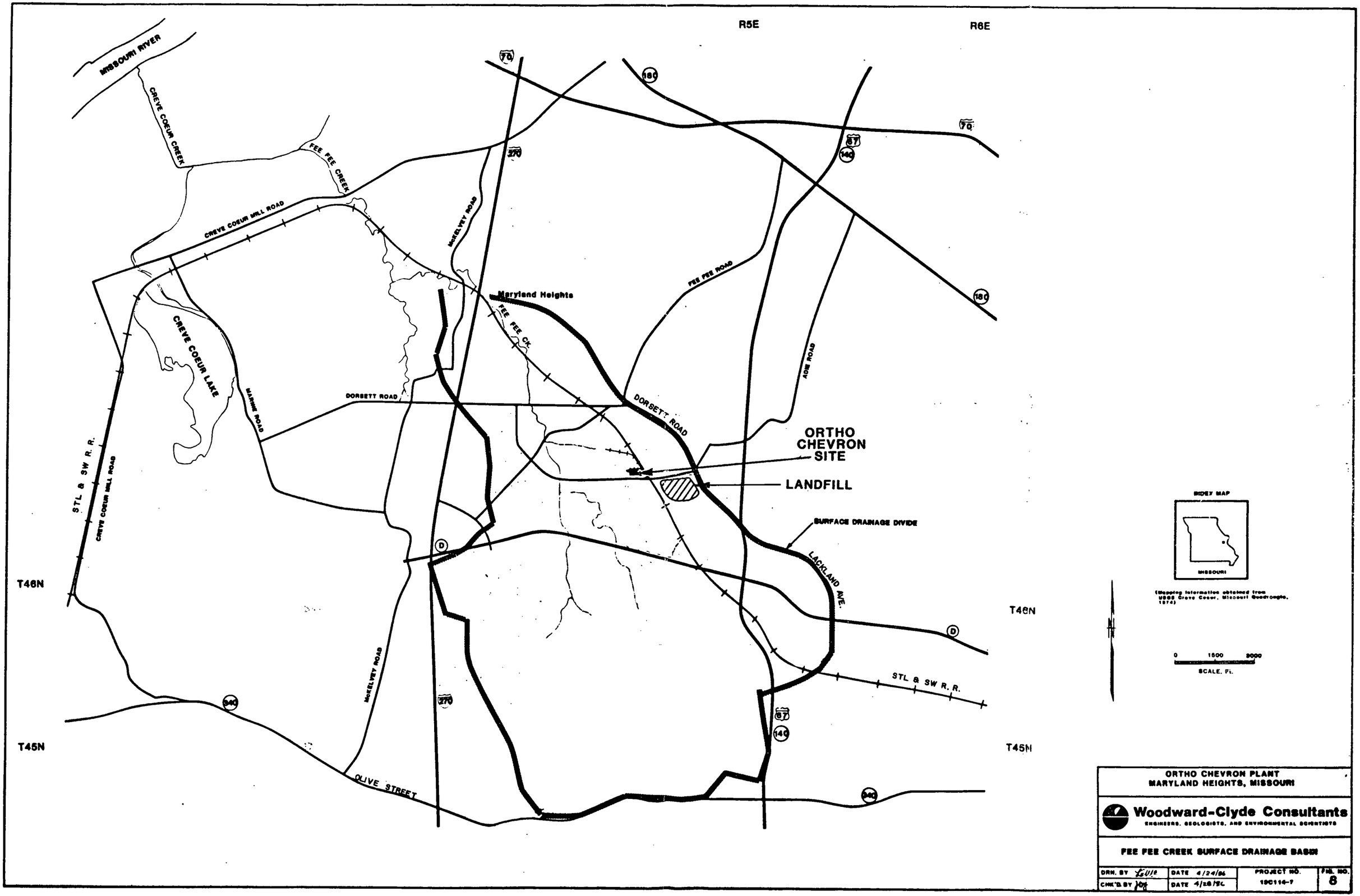
0 50 100
SCALE, Ft.

ORTHO CHEVRON PLANT
MARYLAND HEIGHTS, MISSOURI

Woodward-Clyde Consultants
ENGINEERS, GEOLOGISTS, AND ENVIRONMENTAL SCIENTISTS

TOP OF LIMESTONE CONTOUR MAP

DRN. BY	DATE 1/8/86	PROJECT NO.	FIG. NO.
CHK'D. BY	DATE 1/8/86	13C114-7	6


R5E
R6E
T46N
T45N
MISSOURI RIVER
CREVE COEUR CREEK
FEE FEE CREEK
CREVE COEUR MILL ROAD
McKELVEY ROAD
FEE FEE ROAD
Maryland Heights
FEE FEE CK.
CREVE COEUR LAKE
MARINE ROAD
DORSETT ROAD
ADIE ROAD
ORTHO CHEVRON SITE
LANDFILL
SURFACE DRAINAGE DIVIDE
LACKLAND AVE.
STL & SW R.R.
OLIVE STREET
INDEX MAP
MISSOURI
(Mapping information obtained from USGS Grove Coeur, Missouri Quadrangle, 1974)
0 1500 3000
SCALE, Ft.
ORTHO CHEVRON PLANT
MARYLAND HEIGHTS, MISSOURI
Woodward-Clyde Consultants
ENGINEERS, GEOLOGISTS, AND ENVIRONMENTAL SCIENTISTS
FEE FEE CREEK SURFACE DRAINAGE BASIN
DRN. BY
DATE 4/24/86
CHK'D BY
DATE 4/28/86
PROJECT NO. 190114-7
FIG. NO. 8

APPENDIX C

HISTORICAL GROUND WATER QUALITY DATA

Waste Management chemical report

Chemical Name	Location DWI-01 Samp No. 01 26 FEB 1981	Location DWI-01 Samp No. 02 01 AUG 1981	Location DWI-01 Samp No. 03 26 JUL 1982	Location DWI-01 Samp No. 04 12 OCT 1982	Location DWI-01 Samp No. 05 01 JAN 1983	Location DWI-01 Samp No. 06 01 1983
XYLOL	ns	ns	(10)	ns	(1)	(1)
CYCLOHEXANONE	ns	ns	(10)	ns	ns	ns
N-BUTYL ALCOHOL	ns	ns	(10)	ns	ns	ns
ISOBUTYL ALCOHOL	ns	ns	(10)	ns	ns	ns
ISOPROPYL ALCOHOL	ns	ns	(10)	ns	ns	ns
ALDRIN	0.12	(0.2)	(0.1)	(0.1)	(0.1)	(0.1)
DIELDRIN	(0.2)	(0.2)	(0.1)	(0.1)	(0.1)	(0.1)
CHLORDANE	(1)	(1)	ns	ns	ns	ns
4,4-DDT	(0.3)	(0.3)	ns	ns	ns	ns
4,4-DDE	(0.2)	(0.2)	ns	ns	ns	ns
4,4-DDD	(0.3)	(0.3)	ns	ns	ns	ns
ENDRIN	(0.4)	(0.4)	ns	ns	ns	ns
HEPTACHLOR	(0.1)	(0.2)	ns	ns	ns	ns
PCB-1242	ns	(10)	ns	ns	ns	ns
PCB-1254	ns	(10)	ns	ns	ns	ns
PCB-1221	ns	(10)	ns	ns	ns	ns
PCB-1232	ns	(10)	ns	ns	ns	ns
PCB-1248	ns	(10)	ns	ns	ns	ns
PCB-1260	ns	(10)	ns	ns	ns	ns
TOXAPHENE	(10)	(10)	ns	ns	ns	ns
2,4-D	1.8	(1)	(5)	(5)	(0.1)	(1)
2,4,5-TP	ns	0.4	(1)	ns	ns	ns
2,4,5-T	(0.1)	0.4	ns	(5)	(0.1)	(1)
CAPTAN	(0.2)	(0.2)	ns	ns	ns	ns
CHLOROBENZILATE	(0.3)	(0.3)	ns	ns	ns	ns
DIAZINON	(0.5)	(0.5)	ns	ns	ns	ns
DIPOLATAN	(20)	(20)	ns	ns	ns	ns
EUTHION	(100)	(100)	ns	ns	ns	ns
LINDANE	0.26	0.15	(0.1)	1.4	(0.73)	(0.1)
MALATHION	(2)	(1)	ns	ns	ns	ns
METHOXYCHLOR	(0.8)	(0.8)	ns	ns	ns	ns
MIREX	(0.5)	(0.5)	ns	ns	ns	ns
PARATHION, ETHYL	(0.5)	(0.5)	ns	ns	ns	ns
PARATHION, METHYL	(2)	(1)	ns	ns	ns	ns
PCB	(10)	ns	ns	ns	ns	ns
PHOSDRIN (MEVINPHOS)	(2)	(1)	ns	ns	ns	ns
SEVIN	00	ns	ns	ns	ns	ns
TRITHION	ns	(100)	ns	ns	ns	ns
KELTHANE	ns	(10)	ns	ns	ns	ns
ARSENIC	10	(1)	1.1	0.4	0.5	0.63
CADMIUM	0.5	0.57	ns	ns	ns	ns
COPPER	2.7	0.5	ns	ns	ns	ns
ZINC	50	100	ns	ns	ns	ns
SILICON	ns	ns	16700	ns	ns	ns
TOTAL ORGANIC CARBON	ns	15000	ns	ns	ns	ns
TOTAL ORGANIC CARBON	2600	ns	ns	ns	ns	ns
CALCIUM	112000	116000	116000	ns	ns	ns
IRON	100	50	50	ns	ns	ns
MAGNESIUM	42700	52000	45000	ns	ns	ns
MANGANESE	0	950	650	ns	ns	ns
POTASSIUM	1900	1300	1200	ns	ns	ns
SODIUM	45000	48000	42100	ns	ns	ns
BICARBONATE	256030	231640	305120	ns	ns	ns
CARBONATE	80	70	60	ns	ns	ns
CHLORIDE	142000	120000	122000	ns	ns	ns
FLUORIDE	215	240	290	ns	ns	ns
HYDROXIDE	0	0	0	ns	ns	ns
NITRATE	11520	7970	5670	ns	ns	ns
PHOSPHATE	0	0	ns	ns	ns	ns
SULFATE	140000	150000	150000	ns	ns	ns
SILICATE	30	30	20	ns	ns	ns
NITRATE/NITRITE	ns	ns	1280	ns	ns	ns
ORTHOPHOSPHATE	(50)	ns	(100)	ns	ns	ns
SILICA	40560	40550	35740	ns	ns	ns
TOTAL FREE CARBON DIOXIDE	267030	273390	546410	ns	ns	ns
EQUILIBRIUM CARBON DIOXIDE	37090	31240	54610	ns	ns	ns
TOTAL DISSOLVED SOLIDS (CALC)	788030	765120	819920	ns	ns	ns
TOTAL ALKALINITY	209940	189940	251000	ns	ns	ns
CALCIUM ALKALINITY	209940	189940	250950	ns	ns	ns
MAGNESIUM ALKALINITY	0	0	0	ns	ns	ns
SODIUM ALKALINITY	0	0	0	ns	ns	ns
TOTAL HARDNESS	455070	503380	474510	ns	ns	ns
CALCIUM HARDNESS	280000	290000	290000	ns	ns	ns
MAGNESIUM HARDNESS	175500	213720	184950	ns	ns	ns
NON-CARBONATE HARDNESS	245130	313360	223560	ns	ns	ns
CALCIUM NON-CARBONATE HARDNESS	70050	100260	39050	ns	ns	ns
MAGNESIUM NON-CARBONATE HARD.	175500	213720	184950	ns	ns	ns
pH	6.5	6.48	6.3	ns	ns	ns
EQUILIBRIUM pH	7.21	7.24	7.12	ns	ns	ns
STABILITY INDEX	7.93	8.01	7.95	ns	ns	ns
SATURATION INDEX	0.71	-0.76	-0.82	ns	ns	ns
TEMPERATURE-FAHRENHEIT	68	68	68	ns	ns	ns
CONDUCTIVITY, MEASURED	1210	1090	1100	ns	ns	ns
IONIC STRENGTH (MOLAR)	0.017	0.018	0.018	ns	ns	ns
ION BALANCE ERROR (%) BY CONC.	-0.92	-0.63	-1.35	ns	ns	ns

Waste Managment chemical report

Chemical Name	Location OWC-01 Samp No. 07 01 MAY 1983	Location OWC-01 Samp No. 12 21 DEC 1983	Location OWC-01 Samp No. 16 08 MAY 1984	Location OWC-01 Samp No. 17 14 1984	Location OWC-01 Samp No. 18 18 DEC 1984	Location OWC-01 Samp No. 20 03 MAY 1985
XYLOL	(1)	(1)	2.1	(1)	(1)	(1)
ALDRIN	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)
DIELDRIN	(0.1)	(1)	(0.1)	(0.1)	(0.1)	(0.1)
CHLORDANE	ns	(5)	(5)	(5)	(5)	(5)
4,4-DDT	ns	(1)	(0.1)	(0.1)	(0.1)	(0.1)
4,4-DDE	ns	(1)	(0.1)	(0.1)	(0.1)	(0.1)
4,4-DDD	ns	(1)	(0.1)	(0.1)	(0.1)	(0.1)
ENDRIN	ns	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)
HEPTACHLOR	ns	(0.1)	(0.1)	ns	(0.1)	(0.1)
TOXAPHENE	ns	(5)	(5)	(5)	(5)	(5)
2,4-D	(1)	(5)	(1)	(1)	(1)	(1)
2,4,5-T	(1)	(5)	(1)	(1)	(1)	(1)
HEPTACHLOR	ns	ns	ns	(0.1)	ns	ns
LINDANE	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)
METHOXYCHLOR	ns	(5)	(5)	(5)	(5)	(5)
ARSENIC	0.85	0.5	0.2	0.4	2.4	(0.021)
pH	ns	6.3	ns	ns	ns	ns
CONDUCTIVITY, MEASURED	ns	1168	ns	ns	ns	ns

Waste Managment chemical report

Chemical Name	Location OWC-01 Samp No. 19 15 1985	Location OWC-01 Samp No. 21 15 1985	Location OWC-01 Samp No. 22 24 1986
XYLOL	(1)	(1)	(1)
ALDRIN	(0.1)	n0.1	(0.1)
DIELDRIN	(0.1)	(0.1)	(0.1)
CHLORDANE	(0.1)	(0.1)	(0.1)
4,4-DDT	(0.1)	(0.1)	(0.1)
4,4-DDE	(0.1)	(0.1)	(0.1)
4,4-DDD	(0.1)	(0.1)	(0.1)
ENDRIN	(0.1)	(0.1)	(0.1)
HEPTACHLOR	(0.1)	(0.1)	(0.1)
TOXAPHENE	(5)	(5)	(5)
2,4-D	(1)	(1)	(1)
2,4,5-T	(1)	(1)	(1)
LINDANE	(0.1)	(0.1)	(0.1)
METHOXYCHLOR	(5)	(5)	(5)
ARSENIC	(1)	(0.001)	(0.001)

Waste Management chemical report

Chemical Name	Location DWC-02 Samp No. 02 01 AUG 1981	Location DWC-02 Samp No. 03 26 JUL 1982	Location DWC-02 Samp No. 04 12 OCT 1982	Location DWC-02 Samp No. 05 01 JAN 1983	Location DWC-02 Samp No. 06 01 MAR 1983	Location DWC-02 Samp No. 07 01 MAY 1983
XYLOL	ns	ns	(500)	(1)	(1)	(1)
CYCLOHEXANONE	ns	ns	(500)	ns	ns	ns
N-BUTYL ALCOHOL	ns	ns	(500)	ns	ns	ns
ISOBUTYL ALCOHOL	ns	ns	(500)	ns	ns	ns
ISOPROPYL ALCOHOL	ns	ns	(500)	ns	ns	ns
ALDRIN	(0.2)	(0.1)	(0.1)	(0.1)	(0.1)	0.32
DIELDRIN	(0.2)	0.24	0.4	(0.1)	(0.1)	(0.1)
CHLORDANE	(1)	ns	ns	ns	ns	ns
4,4-DDT	(0.3)	ns	ns	ns	ns	ns
4,4-DDE	(0.2)	ns	ns	ns	ns	ns
4,4-DDD	(0.3)	ns	ns	ns	ns	ns
ENDRIN	(0.4)	ns	ns	ns	ns	ns
HEPTACHLOR	(0.2)	ns	ns	ns	ns	ns
PCB-1242	(10)	ns	ns	ns	ns	ns
PCB-1254	(10)	ns	ns	ns	ns	ns
PCB-1221	(10)	ns	ns	ns	ns	ns
PCB-1232	(10)	ns	ns	ns	ns	ns
PCB-1248	(10)	ns	ns	ns	ns	ns
PCB-1260	(10)	ns	ns	ns	ns	ns
TOXAPHENE	(10)	ns	ns	ns	ns	ns
2,4-D	(1)	(5)	(5)	(0.1)	6.6	(1)
2,4,5-TP	(0.1)	(1)	ns	ns	ns	ns
2,4,5-T	ns	ns	(5)	(0.1)	2.49	(1)
CAPTAN	(0.2)	ns	ns	ns	ns	ns
CHLOROBENZILATE	(0.3)	ns	ns	ns	ns	ns
DIAZINON	(0.5)	ns	ns	ns	ns	ns
DIFOLATAN	(20)	ns	ns	ns	ns	ns
EUTHION	(100)	ns	ns	ns	ns	ns
LINDANE	0.23	0.82	4.6	(0.1)	0.51	6.41
MALATHION	(1)	ns	ns	ns	ns	ns
METHOXYCHLOR	(0.8)	ns	ns	ns	ns	ns
MIREX	(0.5)	ns	ns	ns	ns	ns
PARATHION, ETHYL	(0.5)	ns	ns	ns	ns	ns
PARATHION, METHYL	(1)	ns	ns	ns	ns	ns
PHOSDRIN (MEVINPHOS)	(1)	ns	ns	ns	ns	ns
TRITHION	(100)	ns	ns	ns	ns	ns
KELTHANE	(10)	ns	ns	ns	ns	ns
ARSENIC	1	(0.1)	0.4	0.85	1.2	0.63
CADMIUM	0.69	ns	ns	ns	ns	ns
COPPER	0.5	ns	ns	ns	ns	ns
ZINC	160	ns	ns	ns	ns	ns
TOTAL ORGANIC CARBON	200000	ns	ns	ns	ns	ns
CALCIUM	80000	ns	ns	ns	ns	ns
IRON	3100	ns	ns	ns	ns	ns
MAGNESIUM	38000	ns	ns	ns	ns	ns
MANGANESE	1610	ns	ns	ns	ns	ns
POTASSIUM	2400	ns	ns	ns	ns	ns
SODIUM	40000	ns	ns	ns	ns	ns
BICARBONATE	340290	ns	ns	ns	ns	ns
CARBONATE	600	ns	ns	ns	ns	ns
CHLORIDE	29000	ns	ns	ns	ns	ns
FLUORIDE	1000	ns	ns	ns	ns	ns
HYDROXIDE	0	ns	ns	ns	ns	ns
NITRATE	890	ns	ns	ns	ns	ns
PHOSPHATE	0	ns	ns	ns	ns	ns
SULFATE	97000	ns	ns	ns	ns	ns
SILICATE	70	ns	ns	ns	ns	ns
SILICA	17120	ns	ns	ns	ns	ns
TOTAL FREE CARBON DIOXIDE	61520	ns	ns	ns	ns	ns
EQUILIBRIUM CARBON DIOXIDE	48770	ns	ns	ns	ns	ns
TOTAL DISSOLVED SOLIDS (CALC)	645500	ns	ns	ns	ns	ns
TOTAL ALKALINITY	279870	ns	ns	ns	ns	ns
CALCIUM ALKALINITY	200000	ns	ns	ns	ns	ns
MAGNESIUM ALKALINITY	79870	ns	ns	ns	ns	ns
SODIUM ALKALINITY	0	ns	ns	ns	ns	ns
TOTAL HARDNESS	355890	ns	ns	ns	ns	ns
CALCIUM HARDNESS	200000	ns	ns	ns	ns	ns
MAGNESIUM HARDNESS	156180	ns	ns	ns	ns	ns
NON-CARBONATE HARDNESS	76020	ns	ns	ns	ns	ns
CALCIUM NON-CARBONATE HARDNESS	0	ns	ns	ns	ns	ns
MAGNESIUM NON-CARBONATE HARD.	76310	ns	ns	ns	ns	ns
pH	7.28	ns	ns	ns	ns	ns
EQUILIBRIUM pH	7.23	ns	ns	ns	ns	ns
STABILITY INDEX	7.17	ns	ns	ns	ns	ns
SATURATION INDEX	0.05	ns	ns	ns	ns	ns
TEMPERATURE-FAHRENHEIT	68	ns	ns	ns	ns	ns
CONDUCTIVITY, MEASURED	795	ns	ns	ns	ns	ns
IONIC STRENGTH (MOLAR)	0.013	ns	ns	ns	ns	ns
ION BALANCE ERROR (%) BY CONC.	3.33	ns	ns	ns	ns	ns

Waste Managment chemical report

Chemical Name	Location OWC-02 Samp No. 01 26 FEB 1981	Location OWC-03 Samp No. 02 01 AUG 1981
ALDRIN	(0.12)	(0.2)
DIELDRIN	(0.2)	(0.2)
CHLORDANE	(1)	(1)
4,4-DDT	(0.3)	(0.3)
4,4-DDE	(0.2)	(0.2)
4,4-DDD	(0.2)	(0.2)
ENDRIN	(0.4)	(0.4)
HEPTACHLOR	(0.1)	(0.2)
PCB-1242	ns	(10)
PCB-1254	ns	(10)
PCB-1221	ns	(10)
PCB-1232	ns	(10)
PCB-1248	ns	(10)
PCB-1260	ns	(10)
TOXAPHENE	(10)	(10)
2,4-D	(1)	(1)
2,4,5-TP	ns	(0.1)
2,4,5-T	0.1	ns
CAPTAN	(0.2)	(0.2)
CHLOROBENZILATE	(0.3)	(0.3)
DIAZINON	1.7	(0.5)
DIFOLATAN	(20)	(20)
GUTHION	(100)	(100)
LINDANE	1.07	0.3
MALATHION	(2)	(1)
METHOXYCHLOR	(0.8)	(0.8)
MIREX	(0.5)	(0.5)
PARATHION, ETHYL	(0.5)	ns
PARATHION, METHYL	(2)	(1)
PCB	(10)	ns
PHOSDRIN (MEVINPHOS)	(2)	(1)
SEVIN	00	ns
TRITHION	00	(100)
KELTHANE	ns	(10)
ARSENIC	24	(1)
CADMIUM	0.6	0.82
COPPER	6.9	0.4
ZINC	40	100
TOTAL ORGANIC CARBON	ns	10000
TOTAL ORGANIC CARBON	2500	ns
CALCIUM	129000	163000
IRON	50	70
MAGNESIUM	38000	65000
MANGANESE	240	60
POTASSIUM	900	1300
SODIUM	90000	142000
BICARBONATE	158450	121880
CARBONATE	60	50
CHLORIDE	284000	510000
FLUORIDE	140	140
HYDROXIDE	0	0
NITRATE	7970	11070
PHOSPHATE	0	0
SULFATE	115000	113000
SILICATE	30	20
ORTHOPHOSPHATE	(50)	ns
SILICA	34240	34240
TOTAL FREE CARBON DIOXIDE	160730	152670
EQUILIBRIUM CARBON DIOXIDE	16060	11370
TOTAL DISSOLVED SOLIDS (CALC)	855480	1160380
TOTAL ALKALINITY	129940	99940
CALCIUM ALKALINITY	129940	99940
MAGNESIUM ALKALINITY	0	0
SODIUM ALKALINITY	0	0
TOTAL HARDNESS	478150	674030
CALCIUM HARDNESS	322500	407500
MAGNESIUM HARDNESS	156180	267150
NON-CARBONATE HARDNESS	348210	574090
CALCIUM NON-CARBONATE HARDNESS	192560	307560
MAGNESIUM NON-CARBONATE HARD.	156180	267150
pH	6.55	6.48
EQUILIBRIUM pH	7.37	7.39
STABILITY INDEX	8.18	8.31
SATURATION INDEX	0.82	-0.91
TEMPERATURE-FAHRENHEIT	68	68
CONDUCTIVITY, MEASURED	1590	1978
IONIC STRENGTH (MOLAR)	0.019	0.027
ION BALANCE ERROR (%) BY COND.	1.39	2.04

Chemical Name	OWC-04 Samp No. 01 24 FEB 1981	OWC-04 Samp No. 02 01 AUG 1981	OWC-04 Samp No. 03 26 JUL 1982
XYLOL	ns	ns	(10)
CYCLOHEXANONE	ns	ns	(10)
N-BUTYL ALCOHOL	ns	ns	(10)
ISOBUTYL ALCOHOL	ns	ns	(10)
ISOPROPYL ALCOHOL	ns	ns	(10)
ALDRIN	(0.12)	(0.2)	(0.1)
DIELDRIN	(0.2)	(0.2)	0.41
CHLORDANE	(1)	(1)	ns
4,4-DDT	(0.3)	(0.3)	ns
4,4-DDE	(0.2)	(0.2)	ns
4,4-DDD	(0.2)	(0.2)	ns
ENDRIN	(0.4)	(0.4)	ns
HEPTACHLOR	1.76	(0.2)	ns
PCB-1242	ns	(10)	ns
PCB-1254	ns	(10)	ns
PCB-1221	ns	(10)	ns
PCB-1232	ns	(10)	ns
PCB-1248	ns	(10)	ns
PCB-1260	ns	(10)	ns
TOXAPHENE	(10)	(10)	ns
2,4-D	47	(1)	(5)
2,4,5-TP	ns	(0.1)	(1)
2,4,5-T	1.9	(0.1)	ns
CAPTAN	(0.2)	(0.2)	ns
CHLOROBENZILATE	(0.3)	(0.3)	ns
DIAZINON	1.6	(0.5)	ns
DIFOLATAN	(20)	(20)	ns
EDTHION	(100)	(100)	ns
LINDANE	1.25	(0.1)	1.19
MALATHION	(2)	(1)	ns
METHOXYCHLOR	(0.8)	(0.8)	ns
MIREX	3.07	(0.5)	ns
PARATHION, ETHYL	(0.5)	(0.5)	ns
PARATHION, METHYL	(2)	(1)	ns
PCB	(10)	ns	ns
PHOSDRIN (MEVINPHOS)	(2)	(1)	ns
SEVIN	80	ns	ns
TRITHION	80	(100)	ns
KELTHANE	ns	(10)	ns
ARSENIC	(1)	(1)	ns
CADMIUM	2.1	0.95	ns
COPPER	2.3	0.5	ns
ZINC	48	50	ns
SILICON	14000	ns	ns
TOTAL ORGANIC CARBON	ns	9800	ns
TOTAL ORGANIC CARBON	5700	ns	ns
CALCIUM	183000	200000	ns
IRON	170	160	ns
MAGNESIUM	44000	64000	ns
MANGANESE	310	490	ns
POTASSIUM	2500	2000	ns
SODIUM	170000	230000	ns
BICARBONATE	134190	85380	ns
CARBONATE	10	10	ns
CHLORIDE	540000	100000	ns
FLUORIDE	110	120	ns
HYDROXIDE	0	0	ns
NITRATE	12400	14620	ns
PHOSPHATE	150	0	ns
SULFATE	75000	85000	ns
SILICATE	10	10	ns
ORTHOPHOSPHATE	50	ns	ns
SILICA	29960	32100	ns
TOTAL FREE CARBON DIOXIDE	637590	282850	ns
EQUILIBRIUM CARBON DIOXIDE	16330	6960	ns
TOTAL DISSOLVED SOLIDS (CALC)	1189620	812490	ns
TOTAL ALKALINITY	109930	69940	ns
CALCIUM ALKALINITY	109930	69940	ns
MAGNESIUM ALKALINITY	0	0	ns
SODIUM ALKALINITY	0	0	ns
TOTAL HARDNESS	637560	762230	ns
CALCIUM HARDNESS	457500	500000	ns
MAGNESIUM HARDNESS	180840	263040	ns
NON-CARBONATE HARDNESS	527630	692290	ns
CALCIUM NON-CARBONATE HARDNESS	347570	430060	ns
MAGNESIUM NON-CARBONATE HARD.	180840	263040	ns
pH	5.9	6.85	ns
EQUILIBRIUM pH	7.28	7.45	ns
STABILITY INDEX	8.66	8.86	ns
SATURATION INDEX	1.3	-1.4	ns
TEMPERATURE-FAHRENHEIT	69.8	68	ns
CONDUCTIVITY, MEASURED	2480	2632	ns
IONIC STRENGTH (MOLAR)	0.027	0.024	ns
ION BALANCE ERROR (%) BY CONC.	2.59	ns	ns

Waste Managment chemical report

Chemical Name	Location OWD-05 Samp No. 01 25 FEB 1981	Location OWD-05 Samp No. 02 01 AUG 1981	Location OWD-05 Samp No. 05 05 JUL 1983
XYLOL	ns	ns	31.5
ALDRIN	(0.12)	(0.2)	(0.1)
DIELDRIN	(0.2)	(0.2)	(0.1)
CHLORDANE	(1)	(1)	ns
4,4-DDT	(0.3)	(0.3)	ns
4,4-DDE	(0.2)	(0.2)	ns
4,4-DDD	(0.2)	(0.2)	ns
ENDRIN	(0.4)	(0.4)	ns
HEPTACHLOR	(0.1)	(0.2)	ns
PCB-1242	ns	(10)	ns
PCB-1254	ns	(10)	ns
PCB-1221	ns	(10)	ns
PCB-1232	ns	(10)	ns
PCB-1248	ns	(10)	ns
PCB-1260	ns	(10)	ns
TOXAPHENE	(10)	(10)	ns
2,4-D	(1)	1.7	(1)
2,4,5-TP	ns	0.22	(1)
2,4,5-T	(0.1)	ns	(1)
CAPTAN	(0.2)	(0.2)	ns
CHLOROBENZILATE	(0.3)	(0.3)	ns
DIAZINON	(0.5)	(0.5)	(25)
DIFOLATAN	(20)	(20)	ns
GUTHION	(100)	(100)	ns
LINDANE	0.29	0.26	1.76
MALATHION	(2)	(1)	ns
METHOXYCHLOR	(0.8)	(0.8)	ns
MIREX	(0.5)	(0.5)	ns
PARATHION, ETHYL	(0.5)	(0.5)	ns
PARATHION, METHYL	3.8	(1)	ns
PCB	(10)	ns	ns
PHOSDRIN (MEVINPHOS)	(2)	(1)	ns
SEVIN	00	ns	ns
TRITHION	00	(100)	ns
KELTHANE	ns	(10)	ns
ARSENIC	3	2	1.4
CADMIUM	1	50	ns
COPPER	12	0.59	ns
ZINC	70	0.9	ns
TOTAL ORGANIC CARBON	ns	9100	ns
CALCIUM	134000	87000	ns
IRON	120	250	ns
MAGNESIUM	36700	19300	ns
MANGANESE	4500	750	ns
POTASSIUM	2200	700	ns
SODIUM	82000	46000	ns
BICARBONATE	426820	225480	ns
CARBONATE	110	90	ns
CHLORIDE	46000	60000	ns
FLUORIDE	140	130	ns
HYDROXIDE	0	0	ns
NITRATE	0	0	ns
PHOSPHATE	920	1870	ns
SULFATE	95000	107000	ns
SILICATE	20	40	ns
SILICA	38520	44940	ns
TOTAL FREE CARBON DIOXIDE	605200	175410	ns
EQUILIBRIUM CARBON DIOXIDE	122720	23620	ns
TOTAL DISSOLVED SOLIDS (CALC)	860050	589860	ns
TOTAL ALKALINITY	349940	184920	ns
CALCIUM ALKALINITY	335000	184920	ns
MAGNESIUM ALKALINITY	14940	0	ns
SODIUM ALKALINITY	0	0	ns
TOTAL HARDNESS	485280	296450	ns
CALCIUM HARDNESS	335000	217500	ns
MAGNESIUM HARDNESS	150840	79220	ns
NON-CARBONATE HARDNESS	135330	111530	ns
CALCIUM NON-CARBONATE HARDNESS	0	32580	ns
MAGNESIUM NON-CARBONATE HARD.	135890	79320	ns
pH	6.4	6.64	6.2
EQUILIBRIUM pH	6.92	7.36	ns
STABILITY INDEX	7.43	8.08	ns
SATURATION INDEX	0.52	-0.72	ns
TEMPERATURE-FAHRENHEIT	68	68	ns
CONDUCTIVITY, MEASURED	1450	776	584
IONIC STRENGTH (MOLAR)	0.018	0.012	ns
ION BALANCE ERROR (%) BY CONC.	4.61	1.91	ns

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Chemical Name	Location OWC-06 Samp No. 01 24 FEB 1981	Location OWC-06 Samp No. 02 01 AUG 1991
ALDRIN	6.94	(0.2)
DIELDRIN	3.89	1.46
CHLORDANE	(1)	(1)
4,4-DDT	0.96	(0.3)
4,4-DDE	(0.2)	(0.2)
4,4-DDD	2.53	0.99
ENDRIN	(0.4)	(0.4)
HEPTACHLOR	4.52	(0.2)
PCB-1242	ns	(10)
PCB-1254	ns	(10)
PCB-1221	ns	(10)
PCB-1232	ns	(10)
PCB-1248	ns	(10)
PCB-1260	ns	(10)
TOXAPHENE	(10)	(10)
2,4-D	1.1	(1)
2,4,5-TP	ns	(0.1)
2,4,5-T	(0.1)	ns
CAPTAN	(2)	(0.2)
CHLOROBENZILATE	(0.3)	(0.3)
DIAZINON	27.3	5.8
DIFOLATAN	(20)	(20)
GUTHION	(100)	(100)
LINDANE	43.2	5.78
MALATHION	(2)	4.1
METHOXYCHLOR	(0.8)	(0.8)
MIREX	(0.5)	(0.5)
PARATHION, ETHYL	0.8	(0.5)
PARATHION, METHYL	2.2	(1)
PCB	1600	ns
PHOSDRIN (MEVINPHOS)	2.3	(1)
SEVIN	80	ns
TRITHION	80	(100)
KELTHANE	ns	(10)
ARSENIC	56	59
CADMIUM	2.1	150
COPPER	1.8	0.28
ZINC	39	1
SILICON	16000	ns
TOTAL ORGANIC CARBON	ns	14000
TOTAL ORGANIC CARBON	4400	ns
CALCIUM	107000	93000
IRON	260	2000
MAGNESIUM	26000	34000
MANGANESE	3000	6500
POTASSIUM	1600	1300
SODIUM	33000	33000
BICARBONATE	170760	134130
CARBONATE	30	30
CHLORIDE	116000	104000
FLUORIDE	190	210
HYDROXIDE	0	0
NITRATE	3990	3590
PHOSPHATE	150	0
SULFATE	145000	133000
SILICATE	10	20
ORTHOPHOSPHATE	50	ns
SILICA	34240	34240
TOTAL FREE CARBON DIOXIDE	373650	188590
EQUILIBRIUM CARBON DIOXIDE	16180	8720
TOTAL DISSOLVED SOLIDS (CALC)	638430	576820
TOTAL ALKALINITY	139950	109950
CALCIUM ALKALINITY	139950	109950
MAGNESIUM ALKALINITY	0	0
SODIUM ALKALINITY	0	0
TOTAL HARDNESS	373900	371880
CALCIUM HARDNESS	267500	232500
MAGNESIUM HARDNESS	106850	139740
NON-CARBONATE HARDNESS	233950	261930
CALCIUM NON-CARBONATE HARDNESS	127550	122550
MAGNESIUM NON-CARBONATE HARD.	106850	139740
pH	6.2	6.39
EQUILIBRIUM pH	7.4	7.57
STABILITY INDEX	8.6	8.74
SATURATION INDEX	1.2	-1.18
TEMPERATURE-FAHRENHEIT	68	68
CONDUCTIVITY, MEASURED	1050	871
IONIC STRENGTH (MOLAR)	0.014	0.014
ION BALANCE ERROR (%) BY CONC.	0.53	-0.17

Waste Management chemical report

Chemical Name	Location OWC-07 Samp No. 01 24 FEB 1981	Location OWC-07 Samp No. 02 01 AUG 1981	Location OWC-07 Samp No. 03 26 JUL 1982	Location OWC-07 Samp No. 04 12 OCT 1982	Location OWC-07 Samp No. 05 01 JAN 1983	Location OWC-07 Samp No. 06 01 1983
XYLOL	ns	ns	121	(500)	320	390
CYCLOHEXANONE	ns	ns	(10)	(500)	ns	ns
N-BUTYL ALCOHOL	ns	ns	(10)	(500)	ns	ns
ISOBUTYL ALCOHOL	ns	ns	(10)	(500)	ns	ns
ISOPROPYL ALCOHOL	ns	ns	(10)	(500)	ns	ns
ALDRIN	63.3	26	8.05	(0.1)	62.7	2.78
DIELDRIN	(0.2)	6.25	8.1	7.6	7.05	(0.1)
CHLORDANE	(1)	(1)	ns	ns	ns	ns
4,4-DDT	(0.3)	8.8	ns	ns	ns	ns
4,4-DDE	(0.2)	(0.2)	ns	ns	ns	ns
4,4-DDD	(0.2)	12.3	ns	ns	ns	ns
ENDRIN	(0.4)	(0.4)	ns	ns	ns	ns
HEPTACHLOR	(0.1)	(0.2)	ns	ns	ns	ns
PCB-1242	ns	(10)	ns	ns	ns	ns
PCB-1254	ns	(10)	ns	ns	ns	ns
PCB-1221	ns	(10)	ns	ns	ns	ns
PCB-1232	ns	(10)	ns	ns	ns	ns
PCB-1248	ns	(10)	ns	ns	ns	ns
PCB-1260	ns	(10)	ns	ns	ns	ns
TOXAPHENE	(10)	(10)	ns	ns	ns	ns
2,4-D	2.6	7.4	180	(5)	1.3	186
2,4,5-TP	ns	3.9	94	ns	ns	ns
2,4,5-T	8.2	3.9	ns	(5)	(0.1)	48.4
CAPTAN	(0.2)	(0.2)	ns	ns	ns	ns
CHLOROBENZILATE	(0.3)	(0.3)	ns	ns	ns	ns
DIAZINON	427	(0.5)	ns	ns	ns	ns
DICOFOLATAN	(20)	(20)	ns	ns	ns	ns
EDTHION	(100)	(100)	ns	ns	ns	ns
LINDANE	1880	410	67.9	373	407	35.9
MALATHION	100	(1)	ns	ns	ns	ns
METHOXYCHLOR	(0.8)	(0.8)	ns	ns	ns	ns
MIREX	(0.5)	(0.5)	ns	ns	ns	ns
PARATHION, ETHYL	12.9	(0.5)	ns	ns	ns	ns
PARATHION, METHYL	6.1	(1)	ns	ns	ns	ns
PCB	(10)	ns	ns	ns	ns	ns
PHOSDRIN (MEVINPHOS)	7.9	(1)	ns	ns	ns	ns
SEVIN	80	ns	ns	ns	ns	ns
TRITHION	80	(100)	ns	ns	ns	ns
KELTHANE	ns	(10)	ns	ns	ns	ns
ARSENIC	130	800	360	250	82	130
CADMIUM	12	190	ns	ns	ns	ns
COPPER	96	2.1	ns	ns	ns	ns
ZINC	350	19	ns	ns	ns	ns
SILICON	11000	ns	ns	ns	ns	ns
TOTAL ORGANIC CARBON	ns	145000	ns	ns	ns	ns
TOTAL ORGANIC CARBON	93000	ns	ns	ns	ns	ns
CALCIUM	139000	150000	ns	ns	ns	ns
IRON	690	10500	ns	ns	ns	ns
MAGNESIUM	58000	62000	ns	ns	ns	ns
MANGANESE	14000	25000	ns	ns	ns	ns
POTASSIUM	5500	6900	ns	ns	ns	ns
SODIUM	114000	125000	ns	ns	ns	ns
BICARBONATE	390260	482210	ns	ns	ns	ns
CARBONATE	100	210	ns	ns	ns	ns
CHLORIDE	296000	230000	ns	ns	ns	ns
FLUORIDE	240	350	ns	ns	ns	ns
HYDROXIDE	0	0	ns	ns	ns	ns
NITRATE	0	890	ns	ns	ns	ns
PHOSPHATE	460	770	ns	ns	ns	ns
SULFATE	220000	190000	ns	ns	ns	ns
SILICATE	10	30	ns	ns	ns	ns
ORTHOPHOSPHATE	150	ns	ns	ns	ns	ns
SILICA	23540	27820	ns	ns	ns	ns
TOTAL FREE CARBON DIOXIDE	737780	364960	ns	ns	ns	ns
EQUILIBRIUM CARBON DIOXIDE	99910	11430	ns	ns	ns	ns
TOTAL DISSOLVED SOLIDS (CALC)	1255410	1225270	ns	ns	ns	ns
TOTAL ALKALINITY	319960	329940	ns	ns	ns	ns
CALCIUM ALKALINITY	319960	329940	ns	ns	ns	ns
MAGNESIUM ALKALINITY	0	0	ns	ns	ns	ns
SODIUM ALKALINITY	0	0	ns	ns	ns	ns
TOTAL HARDNESS	585360	629260	ns	ns	ns	ns
CALCIUM HARDNESS	347500	375000	ns	ns	ns	ns
MAGNESIUM HARDNESS	238360	254820	ns	ns	ns	ns
NON-CARBONATE HARDNESS	265400	299310	ns	ns	ns	ns
CALCIUM NON-CARBONATE HARDNESS	27540	45060	ns	ns	ns	ns
MAGNESIUM NON-CARBONATE HARD.	238380	254820	ns	ns	ns	ns
pH	6.3	6.62	ns	ns	ns	ns
EQUILIBRIUM pH	6.96	6.91	ns	ns	ns	ns
STABILITY INDEX	7.61	7.2	ns	ns	ns	ns
SATURATION INDEX	0.66	-0.29	ns	ns	ns	ns
TEMPERATURE-FAHRENHEIT	68	68	ns	ns	ns	ns
CONDUCTIVITY, MEASURED	1060	1704	ns	ns	ns	ns
IONIC STRENGTH (MOLAR)	0.027	0.027	ns	ns	ns	ns
ION BALANCE ERROR (%) BY CONC.	-5.49	-2.3	ns	ns	ns	ns

Waste Management chemical report

Chemical Name	Location OWC-07 Samp No. 07 01 MAY 1983
XYLOL	230
ALDRIN	19.4
DIELDRIN	4.2
2,4-D	114
2,4,5-T	48.9
LINDANE	562
ARSENIC	290

Waste Managment chemical report

Chemical Name	Location OWC-08 Samp No. 01 24 FEB 1981	Location OWC-08 Samp No. 02 01 AUG 1981
ALDRIN	4.59	(0.2)
DIELDRIN	1.45	(0.2)
CHLORDANE	(1)	(1)
4,4-DDT	(0.3)	(0.3)
4,4-DDE	(0.2)	(0.2)
4,4-DDD	(0.2)	(0.2)
ENDRIN	(0.4)	(0.4)
HEPTACHLOR	(0.1)	(0.2)
PCB-1242	ns	(10)
PCB-1254	ns	(10)
PCB-1221	ns	(10)
PCB-1232	ns	(10)
PCB-1248	ns	(10)
PCB-1260	ns	(10)
TOXAPHENE	(10)	(10)
2,4-D	87.8	(1)
2,4,5-TP	ns	0.22
2,4,5-T	9.7	ns
CAPTAN	(0.2)	(0.2)
CHLORDBENZILATE	(0.3)	(0.3)
DIAZINON	37.8	0.78
DIFOLATAN	(20)	(20)
GUTHION	(100)	(100)
LINDANE	184	32.6
MALATHION	(2)	(1)
METHOXYCHLOR	(0.8)	(0.8)
MIREX	(0.5)	(0.5)
PARATHION, ETHYL	2.5	(0.5)
PARATHION, METHYL	1.6	(1)
PCB	(10)	ns
PHOSDRIN (MEVINPHOS)	(2)	(1)
SEVIN	#0	ns
TRITHION	#0	(100)
KELTHANE	ns	(10)
ARSENIC	5	12
CADMIUM	1	1.2
COPPER	2.8	0.7
ZINC	59	90
SILICON	14000	ns
TOTAL ORGANIC CARBON	ns	22000
TOTAL ORGANIC CARBON	7500	ns
CALCIUM	146000	171000
IRON	210	160
MAGNESIUM	26000	31000
MANGANESE	180	1490
POTASSIUM	3000	1800
SODIUM	54000	49000
BICARBONATE	438870	450670
CARBONATE	180	360
CHLORIDE	120000	120000
FLUORIDE	210	150
HYDROXIDE	0	0
NITRATE	890	890
PHOSPHATE	0	0
SULFATE	95000	85000
SILICATE	30	50
ORTHOPHOSPHATE	50	ns
SILICA	29960	27820
TOTAL FREE CARBON DIOXIDE	392900	219030
EQUILIBRIUM CARBON DIOXIDE	141340	172590
TOTAL DISSOLVED SOLIDS (CALC)	907330	931990
TOTAL ALKALINITY	359940	369920
CALCIUM ALKALINITY	359940	369920
MAGNESIUM ALKALINITY	0	0
SODIUM ALKALINITY	0	0
TOTAL HARDNESS	471210	554150
CALCIUM HARDNESS	365020	427500
MAGNESIUM HARDNESS	106860	127410
NON-CARBONATE HARDNESS	111270	184230
CALCIUM NON-CARBONATE HARDNESS	5060	57580
MAGNESIUM NON-CARBONATE HARD.	10686	127410
pH	6.6	6.87
EQUILIBRIUM pH	6.87	6.79
STABILITY INDEX	7.13	6.71
SATURATION INDEX	0.27	0.08
TEMPERATURE-FAHRENHEIT	68	68
CONDUCTIVITY, MEASURED	1350	1202
IONIC STRENGTH (MOLAR)	0.018	0.019
ION BALANCE ERROR (%) BY CONC.	2.96	2.87

Waste Managment chemical report

Chemical Name	Location OWC-09 Samp No. 01 26 FEB 1981	Location OWC-09 Samp No. 02 01 AUG 1981
ALDRIN	0.26	(0.2)
DIELDRIN	0.55	0.41
CHLORDANE	(1)	(1)
4,4-DDT	0.53	0.84
4,4-DDE	0.22	0.19
4,4-DDD	1.08	0.91
ENDRIN	(0.4)	(0.4)
HEPTACHLOR	(0.1)	(0.2)
PCB-1242	ns	(10)
PCB-1254	ns	(10)
PCB-1221	ns	(10)
PCB-1232	ns	(10)
PCB-1248	ns	(10)
PCB-1260	ns	(10)
TOXAPHENE	(10)	(10)
2,4-D	(1)	(1)
2,4,5-TP	ns	(0.1)
2,4,5-T	(0.1)	ns
CAPTAN	(0.2)	(0.2)
CHLOROBENZILATE	ns	(0.3)
DIAZINON	ns	(0.5)
DIFOLATAN	(20)	(20)
GUTHION	ns	(100)
LINDANE	0.82	0.45
MALATHION	(2)	(1)
METHOXYCHLOR	(0.8)	(0.8)
MIREX	(0.5)	(0.5)
PARATHION, ETHYL	ns	(0.5)
PARATHION, METHYL	ns	(1)
PCB	(10)	ns
PHOSDRIN (MEVINPHOS)	ns	(1)
SEVIN	80	ns
TRITHION	ns	(100)
KELTHANE	ns	(10)
ARSENIC	5	4
CADMIUM	(0.5)	0.59
COPPER	1.5	0.5
ZINC	40	50
TOTAL ORGANIC CARBON	ns	12000
TOTAL ORGANIC CARBON	2200	ns
CALCIUM	72000	69000
IRON	0	160
MAGNESIUM	20900	23000
MANGANESE	580	530
POTASSIUM	1100	1200
SODIUM	35000	27000
BICARBONATE	365460	341010
CARBONATE	270	290
CHLORIDE	7000	7000
FLUORIDE	520	580
HYDROXIDE	0	0
NITRATE	6200	1060
PHOSPHATE	0	0
SULFATE	35000	20000
SILICATE	30	30
ORTHOPHOSPHATE	(50)	ns
SILICA	12840	14980
TOTAL FREE CARBON DIOXIDE	136650	110260
EQUILIBRIUM CARBON DIOXIDE	52860	44580
TOTAL DISSOLVED SOLIDS (CALC)	550920	500260
TOTAL ALKALINITY	299950	279940
CALCIUM ALKALINITY	180000	172500
MAGNESIUM ALKALINITY	85900	94530
SODIUM ALKALINITY	34350	13180
TOTAL HARDNESS	265600	266750
CALCIUM HARDNESS	180000	172500
MAGNESIUM HARDNESS	85900	94530
NON-CARBONATE HARDNESS	0	0
CALCIUM NON-CARBONATE HARDNESS	0	0
MAGNESIUM NON-CARBONATE HARD.	0	0
pH	6.95	7.01
EQUILIBRIUM pH	7.23	7.27
STABILITY INDEX	7.5	7.53
SATURATION INDEX	0.28	-0.26
TEMPERATURE-FAHRENHEIT	68	68
CONDUCTIVITY, MEASURED	691	568
IONIC STRENGTH (MOLAR)	0.01	0.009
ION BALANCE ERROR (%) BY CONC.	1.21	2.37

Waste Managment chemical report

Chemical Name	Location OWC-10 Samp No. 01 24 FEB 1981	Location OWC-10 Samp No. 02 01 AUG 1981
ALDRIN	12.1	(0.2)
DIELDRIN	(0.2)	1.01
CHLORDANE	(1)	(1)
4,4-DDT	(0.3)	(0.3)
4,4-DDE	(0.2)	(0.2)
4,4-DDD	(0.2)	(0.2)
ENDRIN	(0.4)	(0.4)
HEPTACHLOR	8.56	0.52
PCB-1242	ns	(10)
PCB-1254	ns	(10)
PCB-1221	ns	(10)
PCB-1232	ns	(10)
PCB-1248	ns	(10)
PCB-1260	ns	(10)
TOXAPHENE	(10)	(10)
2,4-D	30.9	(1)
2,4,5-TP	ns	(0.1)
2,4,5-T	15.7	ns
CAPTAN	(0.2)	(0.2)
CHLOROBENZILATE	(0.3)	(0.3)
DIAZINON	377	8.7
DIFOLATAN	(20)	(20)
GUTHION	(100)	(100)
LINDANE	29.8	10
MALATHION	6.6	(1)
METHOXYCHLOR	(0.8)	(0.8)
MIREX	(0.5)	(0.5)
PARATHION, ETHYL	(0.5)	(0.5)
PARATHION, METHYL	26.7	(1)
PCB	(10)	ns
PHOSDRIN (MEVINPHOS)	(2)	(1)
SEVIN	80	ns
TRITHION	80	(100)
KELTHANE	ns	(10)
ARSENIC	6	22
CADMIUM	10	3.4
COPPER	63	11
ZINC	240	130
SILICON	16000	ns
TOTAL ORGANIC CARBON	ns	200000
TOTAL ORGANIC CARBON	110000	ns
CALCIUM	83000	79000
IRON	2430	6500
MAGNESIUM	24000	33000
MANGANESE	3000	4300
POTASSIUM	2600	1500
SODIUM	82000	68000
BICARBONATE	323040	256050
CARBONATE	130	80
CHLORIDE	112000	100000
FLUORIDE	200	250
HYDROXIDE	0	0
NITRATE	0	440
PHOSPHATE	460	4910
SULFATE	115000	95000
SILICATE	30	20
ORTHOPHOSPHATE	150	ns
SILICA	34240	32100
TOTAL FREE CARBON DIOXIDE	269570	287020
EQUILIBRIUM CARBON DIOXIDE	44810	26920
TOTAL DISSOLVED SOLIDS (CALC)	776840	676960
TOTAL ALKALINITY	264930	209950
CALCIUM ALKALINITY	207500	197500
MAGNESIUM ALKALINITY	57430	12450
SODIUM ALKALINITY	0	0
TOTAL HARDNESS	305800	332830
CALCIUM HARDNESS	207500	197500
MAGNESIUM HARDNESS	98640	135630
NON-CARBONATE HARDNESS	40860	122890
CALCIUM NON-CARBONATE HARDNESS	0	0
MAGNESIUM NON-CARBONATE HARD.	41210	123180
pH	6.62	6.49
EQUILIBRIUM pH	7.24	7.36
STABILITY INDEX	7.85	8.22
SATURATION INDEX	0.62	-0.87
TEMPERATURE-FAHRENHEIT	68	68
CONDUCTIVITY, MEASURED	1080	871
IONIC STRENGTH (MOLAR)	0.015	0.014
ION BALANCE ERROR (%) BY CONC.	4.48	-2.16

Chemical Name	Location OWC-11 Samp No. 01 24 FEB 1981	Location OWC-11 Samp No. 02 01 AUG 1981	Location OWC-11 Samp No. 03 26 JUL 1982	Location OWC-11 Samp No. 04 12 OCT 1982	Location OWC-11 Samp No. 05 01 JAN 1983	Location OWC-11 Samp No. 06 01 1983
XYLOL	ns	ns	6000	20000	276000000	3900
CYCLOHEXANONE	ns	ns	(10)	(500)	ns	ns
N-BUTYL ALCOHOL	ns	ns	(10)	(500)	ns	ns
ISOBUTYL ALCOHOL	ns	ns	(10)	(500)	ns	ns
ISOPROPYL ALCOHOL	ns	ns	(10)	(500)	ns	ns
ALDRIN	(0.12)	(0.2)	8.3	989	(0.1)	48.5
DIELDRIN	17.3	22	39.5	6480	(0.1)	677
CHLORDANE	(1)	(1)	ns	ns	ns	ns
4,4-DDT	1.46	0.81	ns	ns	ns	ns
4,4-DDE	(0.2)	(0.2)	ns	ns	ns	ns
4,4-DDD	1.46	2.6	ns	ns	ns	ns
ENDRIN	0.55	(0.4)	ns	ns	ns	ns
HEPTACHLOR	(0.1)	(0.2)	ns	ns	ns	ns
PCB-1242	ns	(10)	ns	ns	ns	ns
PCB-1254	ns	(10)	ns	ns	ns	ns
PCB-1221	ns	(10)	ns	ns	ns	ns
PCB-1232	ns	(10)	ns	ns	ns	ns
PCB-1248	ns	(10)	ns	ns	ns	ns
PCB-1260	ns	(10)	ns	ns	ns	ns
TOXAPHENE	(10)	(10)	ns	ns	ns	ns
2,4-D	2300	1600	490	(5)	146	722
2,4,5-TP	ns	435	248	ns	ns	ns
2,4,5-T	18.8	435	ns	(5)	(0.1)	283
CAPTAN	(0.2)	(0.2)	ns	ns	ns	ns
CHLOROBENZILATE	(0.3)	(0.3)	ns	ns	ns	ns
DIAZINON	11.1	1.6	ns	ns	ns	ns
DICOFOLATAN	(20)	(20)	ns	ns	ns	ns
EDTHION	(100)	(100)	ns	ns	ns	ns
LINDANE	186	64	27.5	2080	1100	135
MALATHION	5.7	(1)	ns	ns	ns	ns
METHOXYCHLOR	(0.8)	(0.8)	ns	ns	ns	ns
MIREX	(0.5)	(0.5)	ns	ns	ns	ns
PARATHION, ETHYL	(0.5)	(0.5)	ns	ns	ns	ns
PARATHION, METHYL	2.5	(1)	ns	ns	ns	ns
PCB	(10)	ns	ns	ns	ns	ns
PHOSDRIN (MEVINPHOS)	(2)	(1)	ns	ns	ns	ns
SEVIN	00	ns	ns	ns	ns	ns
TRITHION	00	(100)	ns	ns	ns	ns
KELTHANE	ns	(10)	ns	ns	ns	ns
ARSENIC	110	18	70	4.4	3.6	2.2
CADMIUM	1	1.4	ns	ns	ns	ns
COPPER	3.4	1.9	ns	ns	ns	ns
ZINC	61	180	ns	ns	ns	ns
SILICON	16000	ns	ns	ns	ns	ns
TOTAL ORGANIC CARBON	ns	19000	ns	ns	ns	ns
TOTAL ORGANIC CARBON	14000	ns	ns	ns	ns	ns
CALCIUM	130000	147000	ns	ns	ns	ns
IRON	110	150	ns	ns	ns	ns
MAGNESIUM	47000	44000	ns	ns	ns	ns
MANGANESE	2170	6900	ns	ns	ns	ns
POTASSIUM	2300	800	ns	ns	ns	ns
SODIUM	65000	68000	ns	ns	ns	ns
BICARBONATE	287250	195130	ns	ns	ns	ns
CARBONATE	70	40	ns	ns	ns	ns
CHLORIDE	264000	290000	ns	ns	ns	ns
FLUORIDE	170	170	ns	ns	ns	ns
HYDROXIDE	0	0	ns	ns	ns	ns
NITRATE	1770	0	ns	ns	ns	ns
PHOSPHATE	310	580	ns	ns	ns	ns
SULFATE	125000	123000	ns	ns	ns	ns
SILICATE	20	10	ns	ns	ns	ns
ORTHOPHOSPHATE	100	ns	ns	ns	ns	ns
SILICA	34240	34240	ns	ns	ns	ns
TOTAL FREE CARBON DIOXIDE	236890	381410	ns	ns	ns	ns
EQUILIBRIUM CARBON DIOXIDE	27560	27400	ns	ns	ns	ns
TOTAL DISSOLVED SOLIDS (CALC)	876010	906830	ns	ns	ns	ns
TOTAL ALKALINITY	169940	159950	ns	ns	ns	ns
CALCIUM ALKALINITY	169940	159950	ns	ns	ns	ns
MAGNESIUM ALKALINITY	0	0	ns	ns	ns	ns
SODIUM ALKALINITY	0	0	ns	ns	ns	ns
TOTAL HARDNESS	517660	547740	ns	ns	ns	ns
CALCIUM HARDNESS	325000	367500	ns	ns	ns	ns
MAGNESIUM HARDNESS	193170	180840	ns	ns	ns	ns
NON-CARBONATE HARDNESS	347720	387790	ns	ns	ns	ns
CALCIUM NON-CARBONATE HARDNESS	155050	207550	ns	ns	ns	ns
MAGNESIUM NON-CARBONATE HARD.	193170	180840	ns	ns	ns	ns
pH	6.5	6.27	ns	ns	ns	ns
EQUILIBRIUM pH	7.25	7.22	ns	ns	ns	ns
STABILITY INDEX	0	0.18	ns	ns	ns	ns
SATURATION INDEX	0.75	-0.95	ns	ns	ns	ns
TEMPERATURE-FAHRENHEIT	68	68	ns	ns	ns	ns
CONDUCTIVITY, MEASURED	1540	1497	ns	ns	ns	ns
IONIC STRENGTH (MOLAR)	0.02	0.021	ns	ns	ns	ns
ION BALANCE ERROR (%) BY CONC.	0.65	0.79	ns	ns	ns	ns

Waste Management chemical report

Chemical Name	Location OWC-11 Samp No. 07 01 MAY 1983
XYLOL	28600
ALDRIN	1030
DIELDRIN	2260
2,4-D	1460
2,4,5-T	13.8
LINDANE	742
ARSENIC	6.6

Waste Management chemical report

Chemical Name	Location DWC-12 Samp No. 01 26 FEB 1981	Location DWC-12 Samp No. 02 01 AUG 1981	Location DWC-12 Samp No. 03 26 JUL 1982	Location DWC-12 Samp No. 04 12 OCT 1982	Location DWC-12 Samp No. 05 01 JAN 1983	Location DWC-12 Samp No. 07 01 MAY 1983
XYLOL	ns	ns	1200	500	ns	2920
CYCLO-HEXANONE	ns	ns	(10)	(500)	ns	ns
N-BUTYL ALCOHOL	ns	ns	(10)	(500)	ns	ns
ISOBUTYL ALCOHOL	ns	ns	(10)	(500)	ns	ns
ISOPROPYL ALCOHOL	ns	ns	(10)	(500)	ns	ns
ALDRIN	17.7	2.3	17.5	93.1	ns	3780
DIELDRIN	7.8	1.51	2.65	22.7	ns	798
CHLORDANE	(1)	(1)	ns	ns	ns	ns
4,4-DDT	4.8	8.65	ns	ns	ns	ns
4,4-DDE	(0.2)	(0.2)	ns	ns	ns	ns
4,4-DDD	(0.2)	(0.2)	ns	ns	ns	ns
ENDRIN	4.3	(0.4)	ns	ns	ns	ns
HEPTACHLOR	(0.1)	0.25	ns	ns	ns	ns
PCB-1242	ns	(10)	ns	ns	ns	ns
PCB-1254	ns	(10)	ns	ns	ns	ns
PCB-1221	ns	(10)	ns	ns	ns	ns
PCB-1232	ns	(10)	ns	ns	ns	ns
PCB-1248	ns	(10)	ns	ns	ns	ns
PCB-1260	ns	(10)	ns	ns	ns	ns
TOXAPHENE	(10)	(10)	ns	ns	ns	ns
2,4-D	(1)	67	52	(5)	ns	670
2,4,5-TP	ns	5.1	7	ns	ns	ns
2,4,5-T	1.2	5.1	ns	(5)	ns	56.5
CAPTAN	(0.2)	(0.2)	ns	ns	ns	ns
CHLOROBENZILATE	(0.3)	(0.3)	ns	ns	ns	ns
DIAZINON	4.3	(0.5)	ns	ns	ns	ns
DICOLATAN	(20)	(20)	ns	ns	ns	ns
EDTHION	(100)	(100)	ns	ns	ns	ns
LINDANE	417	32	55.3	276	ns	711
MALATHION	223	(1)	ns	ns	ns	ns
METHOXYCHLOR	417	(0.8)	ns	ns	ns	ns
MIREX	(0.5)	(0.5)	ns	ns	ns	ns
PARATHION, ETHYL	53.2	48	ns	ns	ns	ns
PARATHION, METHYL	10.9	(1)	ns	ns	ns	ns
PCB	(10)	ns	ns	ns	ns	ns
PHOSDRIN (MEVINPHOS)	(2)	0.88	ns	ns	ns	ns
SEVIN	80	ns	ns	ns	ns	ns
TRITHION	80	(100)	ns	ns	ns	ns
KELTHANE	ns	(10)	ns	ns	ns	ns
ARSENIC	(1)	19	1.4	0.81	ns	1.4
CADMIUM	1	198	ns	ns	ns	ns
COPPER	5.5	0.69	ns	ns	ns	ns
ZINC	30	6.1	ns	ns	ns	ns
SILICON	ns	ns	13300	ns	ns	ns
TOTAL ORGANIC CARBON	ns	105000	ns	ns	ns	ns
TOTAL ORGANIC CARBON	5500	ns	ns	ns	ns	ns
CALCIUM	88200	91000	81000	ns	ns	ns
IRON	120	490	1030	ns	ns	ns
MAGNESIUM	17700	11600	11000	ns	ns	ns
MANGANESE	100	3300	2130	ns	ns	ns
POTASSIUM	2400	900	700	ns	ns	ns
SODIUM	36200	38000	27000	ns	ns	ns
BICARBONATE	322240	279650	332590	ns	ns	ns
CARBONATE	460	370	170	ns	ns	ns
CHLORIDE	20000	16000	16000	ns	ns	ns
FLUORIDE	340	280	270	ns	ns	ns
HYDROXIDE	0	0	0	ns	ns	ns
NITRATE	1330	0	0	ns	ns	ns
PHOSPHATE	150	0	ns	ns	ns	ns
SULFATE	125000	85000	40000	ns	ns	ns
SILICATE	90	120	40	ns	ns	ns
NITRATE/NITRITE	ns	ns	(100)	ns	ns	ns
ORTHOPHOSPHATE	50	ns	(100)	ns	ns	ns
SILICA	25680	34240	28460	ns	ns	ns
TOTAL FREE CARBON DIOXIDE	69260	60670	174680	ns	ns	ns
EQUILIBRIUM CARBON DIOXIDE	48790	38720	49670	ns	ns	ns
TOTAL DISSOLVED SOLIDS (CALC)	634330	556370	535250	ns	ns	ns
TOTAL ALKALINITY	364840	229820	273000	ns	ns	ns
CALCIUM ALKALINITY	220200	227500	202520	ns	ns	ns
MAGNESIUM ALKALINITY	44840	2300	45210	ns	ns	ns
SODIUM ALKALINITY	0	0	25590	ns	ns	ns
TOTAL HARDNESS	292360	274760	247340	ns	ns	ns
CALCIUM HARDNESS	220000	227500	202500	ns	ns	ns
MAGNESIUM HARDNESS	72750	47680	45210	ns	ns	ns
NON-CARBONATE HARDNESS	27520	44960	0	ns	ns	ns
CALCIUM NON-CARBONATE HARDNESS	0	0	0	ns	ns	ns
MAGNESIUM NON-CARBONATE HARD.	27900	45380	0	ns	ns	ns
pH	7.2	7.19	6.8	ns	ns	ns
EQUILIBRIUM pH	7.2	7.24	7.21	ns	ns	ns
STABILITY INDEX	7.21	7.3	7.63	ns	ns	ns
SATURATION INDEX	0	-0.05	-0.41	ns	ns	ns
TEMPERATURE-FAHRENHEIT	68	68	68	ns	ns	ns
CONDUCTIVITY, MEASURED	859	1298	617	ns	ns	ns
IONIC STRENGTH (MOLAR)	0.212	0.211	0.209	ns	ns	ns
ION BALANCE ERROR (%) BY CONC.	-6.42	3.36	-3.87	ns	ns	ns
FECAL COLIFORM(COLONIES/100ml)	ns	ns	(1)	ns	ns	ns

Waste Management chemical report

Chemical Name	Location OWC-12 Samp No. 21 15 1985	Location OWC-12 Samp No. 22 24 1986
XYLOL	1010	120
ALDRIN	(0.1)	0.18
DIELDRIN	(1.44)	3.13
CHLORDANE	(0.1)	(0.1)
4,4-DDT	(0.1)	1.55
4,4-DDE	0.47	(0.1)
4,4-DDD	(0.1)	0.55
ENDRIN	(0.1)	(0.1)
HEPTACHLOR	(0.1)	(0.1)
TOXAPHENE	(5)	(5)
2,4-D	22.4	(1)
2,4,5-T	(1)	(1)
LINDANE	146	57.6
METHOXYCHLOR	(5)	(5)
ARSENIC	(0.001)	(0.001)

Waste Management chemical report

Chemical Name	Location OWC-12A Samp No. 11 15 NOV 1983	Location OWC-12A Samp No. 11A 15 NOV 1983	Location OWC-12A Samp No. 13 05 JAN 1984	Location OWC-12A Samp No. 14 16 MAR 1984	Location OWC-12A Samp No. 14A 16 MAR 1984	Location OWC-12A Samp No. 16 08 MAY 1984
XYLOL	5310	5010	759	2070	2450	1500
ALDRIN	-0	71.6	660	62.5	63.3	12.3
DIELDRIN	24.8	22.1	131	37	27.1	4.87
CHLORDANE	(5)	(5)	(5)	(5)	(5)	(5)
4,4-DDT	104	90.2	670	82.8	67.6	9.89
4,4-DDE	(1)	(1)	28.2	52.8	53.3	(0.1)
4,4-DDD	24.2	22.1	180	15.5	15.8	4.86
ENDRIN	8.3	7.7	(0.1)	(0.1)	(0.1)	(0.1)
HEPTACHLOR	2.3	0.3	45.6	9.15	9.4	(0.1)
TOXAPHENE	(5)	(5)	(5)	(5)	(5)	(5)
2,4-D	42.7	35.8	14.3	28.2	21.2	26.7
2,4,5-T	(5)	(5)	(5)	3.26	2.17	3.6
LINDANE	153	-0	420	494	483	575
METHOXYCHLOR	(5)	(5)	(5)	(5)	(5)	(5)
ARSENIC	1.2	0.82	0.7	0.5	0.7	0.4
pH	ns	ns	7.5	ns	ns	ns
CONDUCTIVITY, MEASURED	ns	ns	527	ns	ns	ns

Waste Management chemical report

Chemical Name	Location OWC-12A Samp No. 17 14 SEP 1984	Location OWC-12A Samp No. 18 18 1984	Location OWC-12A Samp No. 20 03 MAY 1985	Location OWC-12A Samp No. 19 15 AUG 1985
XYLOL	1440	1250	1060	1360
ALDRIN	19.1	13.6	8.92	12.4
DIELDRIN	6.04	4.66	4.87	1.9
CHLORDANE	(5)	(5)	(5)	(0.1
4,4-DDT	4.76	7.27	3.38	(0.1)
4,4-DDE	1.41	(0.1)	2.14	1.1
4,4-DDD	(0.1)	3.44	2.1	(0.1)
ENDRIN	(0.1)	(0.1)	(0.1)	(0.1)
HEPTACHLOR	(0.1)	(0.1)	(0.1)	(0.1
TOXAPHENE	(5)	(5)	(5)	(0.1)
2,4-D	63.5	113	23	16.1
2,4,5-T	6.85	6.2	(1)	(1
LINDANE	393	353	325	248
METHOXYCHLOR	(5)	(5)	(5)	(0.1)
ARSENIC	0.8	0.9	0.003	3

Chemical Name	Location OWC-13 Samp No. 01 25 FEB 1981	Location OWC-13 Samp No. 02 01 AUG 1981	Location OWC-13 Samp No. 03 26 JUL 1982	Location OWC-13 Samp No. 04 12 OCT 1982	Location OWC-13 Samp No. 05 01 JAN 1983	Location OWC-13 Samp No. 06 01 1983
XYLOL	ns	ns	(10)	ns	(1)	(1)
CYCLOHEXANONE	ns	ns	(10)	ns	ns	ns
N-BUTYL ALCOHOL	ns	ns	(10)	ns	ns	ns
ISOBUTYL ALCOHOL	ns	ns	(10)	ns	ns	ns
ISOPROPYL ALCOHOL	ns	ns	(10)	ns	ns	ns
ALDRIN	16.3	(0.2)	(0.1)	(0.1)	(0.1)	0.77
DIELDRIN	1.06	(0.2)	(0.1)	2.7	1.45	(0.1)
CHLORDANE	(1)	(1)	ns	ns	ns	ns
4,4-DDT	(0.3)	(0.3)	ns	ns	ns	ns
4,4-DDE	0.35	(0.2)	ns	ns	ns	ns
4,4-DDD	0.3	1.4	ns	ns	ns	ns
ENDRIN	(0.4)	(0.2)	ns	ns	ns	ns
HEPTACHLOR	(0.1)	2.43	ns	ns	ns	ns
PCB-1242	ns	(10)	ns	ns	ns	ns
PCB-1254	ns	(10)	ns	ns	ns	ns
PCB-1221	ns	(10)	ns	ns	ns	ns
PCB-1232	ns	(10)	ns	ns	ns	ns
PCB-1248	ns	(10)	ns	ns	ns	ns
PCB-1260	ns	(10)	ns	ns	ns	ns
TOXAPHENE	(10)	(10)	ns	ns	ns	ns
2,4-D	1.3	3.7	(5)	(5)	(0.1)	1.11
2,4,5-TP	ns	2.1	(1)	ns	ns	ns
2,4,5-T	0.8	2.1	ns	(5)	(0.1)	1.62
CARBAX	(0.2)	(0.2)	ns	ns	ns	ns
CHLOROBENZILATE	(0.3)	(0.3)	ns	ns	ns	ns
DIAZINON	(0.5)	(0.5)	ns	ns	ns	ns
DIFOLATAN	(20)	(20)	ns	ns	ns	ns
EUTHION	(100)	(100)	ns	ns	ns	ns
LINDANE	2300	234	54.7	306	268	22.9
MALATHION	(2)	(1)	ns	ns	ns	ns
METHOXYCHLOR	(0.8)	(0.8)	ns	ns	ns	ns
MIREX	(0.5)	(0.5)	ns	ns	ns	ns
PARATHION, ETHYL	(0.5)	(0.5)	ns	ns	ns	ns
PARATHION, METHYL	(2)	(1)	ns	ns	ns	ns
PCB	(10)	ns	ns	ns	ns	ns
PHOSDRIN (MEVINPHOS)	(2)	3.1	ns	ns	ns	ns
SEVIN	00	ns	ns	ns	ns	ns
TRITHION	00	(100)	ns	ns	ns	ns
KELTHANE	ns	(10)	ns	ns	ns	ns
ARSENIC	(1)	2	1.4	1.3	1.6	1.5
CADMIUM	0.6	70	ns	ns	ns	ns
COPPER	3.2	0.47	ns	ns	ns	ns
ZINC	50	0.5	ns	ns	ns	ns
TOTAL ORGANIC CARBON	ns	11000	ns	ns	ns	ns
TOTAL ORGANIC CARBON	7800	ns	ns	ns	ns	ns
CALCIUM	232000	158000	ns	ns	ns	ns
IRON	0	160	ns	ns	ns	ns
MAGNESIUM	42900	34000	ns	ns	ns	ns
MANGANESE	1300	1370	ns	ns	ns	ns
POTASSIUM	1200	400	ns	ns	ns	ns
SODIUM	52000	57000	ns	ns	ns	ns
BICARBONATE	219500	176830	ns	ns	ns	ns
CARBONATE	60	40	ns	ns	ns	ns
CHLORIDE	232000	190000	ns	ns	ns	ns
FLUORIDE	140	170	ns	ns	ns	ns
HYDROXIDE	0	0	ns	ns	ns	ns
NITRATE	0	0	ns	ns	ns	ns
PHOSPHATE	0	0	ns	ns	ns	ns
SULFATE	20000	205000	ns	ns	ns	ns
SILICATE	10	10	ns	ns	ns	ns
ORTHOPHOSPHATE	50	ns	ns	ns	ns	ns
SILICA	23540	25680	ns	ns	ns	ns
TOTAL FREE CARBON DIOXIDE	367190	306830	ns	ns	ns	ns
EQUILIBRIUM CARBON DIOXIDE	53140	24300	ns	ns	ns	ns
TOTAL DISSOLVED SOLIDS (CALC)	1001060	845760	ns	ns	ns	ns
TOTAL ALKALINITY	179960	144960	ns	ns	ns	ns
CALCIUM ALKALINITY	179960	144960	ns	ns	ns	ns
MAGNESIUM ALKALINITY	0	0	ns	ns	ns	ns
SODIUM ALKALINITY	0	0	ns	ns	ns	ns
TOTAL HARDNESS	755290	534050	ns	ns	ns	ns
CALCIUM HARDNESS	580232	395032	ns	ns	ns	ns
MAGNESIUM HARDNESS	176322	139740	ns	ns	ns	ns
NON-CARBONATE HARDNESS	575330	389100	ns	ns	ns	ns
CALCIUM NON-CARBONATE HARDNESS	400240	250340	ns	ns	ns	ns
MAGNESIUM NON-CARBONATE HARD.	176320	139740	ns	ns	ns	ns
pH	6.35	6.32	ns	ns	ns	ns
EQUILIBRIUM pH	6.98	7.23	ns	ns	ns	ns
STABILITY INDEX	7.61	8.15	ns	ns	ns	ns
SATURATION INDEX	0.63	-0.91	ns	ns	ns	ns
TEMPERATURE-FAHRENHEIT	68	68	ns	ns	ns	ns
CONDUCTIVITY, MEASURED	1560	1344	ns	ns	ns	ns
IONIC STRENGTH (MOLAR)	0.025	0.02	ns	ns	ns	ns
ION BALANCE ERROR (%) BY CONC.	-1.28	2.68	ns	ns	ns	ns

Waste Management chemical report

Chemical Name	Location OWC-13 Samp No. 07 01 MAY 1983	Location OWC-13 Samp No. 09 05 JUL 1983
XYLOL	23	108
ALDRIN	19.5	63.6
DIELDRIN	(0.1)	2.37
2,4-D	105	2.59
2,4,5-TP	ns	1.91
2,4,5-T	172	1.64
DIAZINON	ns	(25)
LINDANE	393	88
ARSENIC	1.1	3.7
pH	ns	6.1
CONDUCTIVITY, MEASURED	ns	1205

Waste Management chemical report

Chemical Name	Location OWC-14 Samp No. 01 25 FEB 1981	Location OWC-14 Samp No. 02 01 AUG 1981	Location OWC-14 Samp No. 09 05 JUL 1983	Location OWC-14 Samp No. 12 21 DEC 1983	Location OWC-14 Samp No. 16 08 MAY 1984	Location OWC-14 Samp No. 17 14 1984
XYLOL	ns	ns	(1)	(1)	(1)	(1)
ALDRIN	0.88	(0.2)	0.25	(0.1)	(0.1)	0.63
DIELDRIN	0.65	(0.2)	1.2	(1)	0.97	0.49
CHLORDANE	(1)	(1)	ns	(5)	(5)	(5)
4,4-DDT	(0.3)	(0.3)	ns	(1)	0.34	(0.1)
4,4-DDE	(0.2)	0.2	ns	(1)	(0.1)	(0.1)
4,4-DDD	0.5	(0.2)	ns	(1)	0.74	(0.1)
ENDRIN	(0.4)	(0.4)	ns	(0.1)	(0.1)	(0.1)
HEPTACHLOR	(0.1)	(0.2)	ns	(0.1)	(0.1)	(0.1)
PCB-1242	ns	(10)	ns	ns	ns	ns
PCB-1254	ns	(10)	ns	ns	ns	ns
PCB-1221	ns	(10)	ns	ns	ns	ns
PCB-1232	ns	(10)	ns	ns	ns	ns
PCB-1248	ns	(10)	ns	ns	ns	ns
PCB-1260	ns	(10)	ns	ns	ns	ns
TOXAPHENE	(10)	(10)	ns	(5)	(5)	(5)
2,4-D	(1)	(1)	1.27	(5)	50.9	(1)
2,4,5-TP	ns	(0.1)	1	ns	ns	ns
2,4,5-T	(0.1)	ns	(1)	(5)	42	(1)
DALAPON	(0.2)	(0.2)	ns	ns	ns	ns
CHLORBENZILATE	(0.3)	(0.3)	ns	ns	ns	ns
DIAZINON	(0.5)	(0.5)	(25)	ns	ns	ns
DIFOLATAN	(20)	(20)	ns	ns	ns	ns
EDTHION	(100)	(100)	ns	ns	ns	ns
LINDANE	0.93	3.56	1.2	3.9	1.75	2.2
MALATHION	(2)	(1)	ns	ns	ns	ns
METHOXYCHLOR	(0.8)	(0.8)	ns	(5)	(5)	(5)
MIREX	(0.5)	(0.5)	ns	ns	ns	ns
PARATHION, ETHYL	(0.5)	(0.5)	ns	ns	ns	ns
PARATHION, METHYL	(2)	(1)	ns	ns	ns	ns
PCB	(10)	ns	ns	ns	ns	ns
PHOSDRIN (MEVINPHOS)	(2)	(1)	ns	ns	ns	ns
SEVIN	00	ns	ns	ns	ns	ns
TRITHION	00	(100)	ns	ns	ns	ns
KELTHANE	ns	(10)	ns	ns	ns	ns
ARSENIC	0	(1)	2.7	3.5	2.3	0.5
CADMIUM	1.0	60	ns	ns	ns	ns
COPPER	20	1.3	ns	ns	ns	ns
ZINC	00	2.9	ns	ns	ns	ns
TOTAL ORGANIC CARBON	ns	5900	ns	ns	ns	ns
TOTAL ORGANIC CARBON	5600	ns	ns	ns	ns	ns
CALCIUM	104000	96000	ns	ns	ns	ns
IRON	00	60	ns	ns	ns	ns
MAGNESIUM	25100	19100	ns	ns	ns	ns
MANGANESE	0	430	ns	ns	ns	ns
POTASSIUM	2100	4000	ns	ns	ns	ns
SODIUM	58000	55000	ns	ns	ns	ns
BICARBONATE	365400	365320	ns	ns	ns	ns
CARBONATE	250	310	ns	ns	ns	ns
CHLORIDE	74000	51000	ns	ns	ns	ns
FLUORIDE	170	190	ns	ns	ns	ns
HYDROXIDE	0	0	ns	ns	ns	ns
NITRATE	4430	1200	ns	ns	ns	ns
PHOSPHATE	310	340	ns	ns	ns	ns
SULFATE	100000	80000	ns	ns	ns	ns
SILICATE	40	60	ns	ns	ns	ns
ORTHOPHOSPHATE	100	ns	ns	ns	ns	ns
SILICA	27820	27820	ns	ns	ns	ns
TOTAL FREE CARBON DIOXIDE	179560	134250	ns	ns	ns	ns
EQUILIBRIUM CARBON DIOXIDE	72000	67670	ns	ns	ns	ns
TOTAL DISSOLVED SOLIDS (CALC)	735780	694920	ns	ns	ns	ns
TOTAL ALKALINITY	299930	299900	ns	ns	ns	ns
CALCIUM ALKALINITY	260000	240000	ns	ns	ns	ns
MAGNESIUM ALKALINITY	39930	59900	ns	ns	ns	ns
SODIUM ALKALINITY	0	0	ns	ns	ns	ns
TOTAL HARDNESS	362720	318080	ns	ns	ns	ns
CALCIUM HARDNESS	260000	240000	ns	ns	ns	ns
MAGNESIUM HARDNESS	103160	78500	ns	ns	ns	ns
NON-CARBONATE HARDNESS	62800	18100	ns	ns	ns	ns
CALCIUM NON-CARBONATE HARDNESS	0	0	ns	ns	ns	ns
MAGNESIUM NON-CARBONATE HARD.	63240	18600	ns	ns	ns	ns
pH	6.85	6.97	7	6.6	ns	ns
EQUILIBRIUM pH	7.08	7.11	ns	ns	ns	ns
STABILITY INDEX	7.32	7.26	ns	ns	ns	ns
SATURATION INDEX	-0.23	-0.14	ns	ns	ns	ns
TEMPERATURE-FAHRENHEIT	68	68	ns	ns	ns	ns
CONDUCTIVITY, MEASURED	1050	842	480	825	ns	ns
IONIC STRENGTH (MOLAR)	0.015	0.013	ns	ns	ns	ns
ION BALANCE ERROR (%) BY CONC.	-2.11	-1.5	ns	ns	ns	ns

Waste Management chemical report

Chemical Name	Location OWC-14 Samp No. 18 18 DEC 1984	Location OWC-14 Samp No. 20 03 MAY 1985	Location OWC-14 Samp No. 19 15 1985	Location OWC-14 Samp No. 21 15 NOV 1985	Location OWC-14 Samp No. 22 24 FEB 1986
XYLOL	(1)	3.4	(1)	(1)	(1)
ALDRIN	(0.1)	0.12	(0.1)	(0.1)	(0.1)
DIELDRIN	0.4	0.56	0.32	0.35	(0.1)
CHLORDANE	(5)	(5)	(0.1)	(0.1)	(0.1)
4,4-DDT	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)
4,4-DDE	0.21	(0.1)	(0.1)	0.1	(0.1)
4,4-DDD	0.13	(0.1)	(0.1)	(0.1)	(0.1)
ENDRIN	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)
HEPTACHLOR	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)
TOXAPHENE	(5)	(5)	(5)	(5)	(5)
2,4-D	(1)	(1)	(1)	(1)	(1)
2,4,5-T	(1)	(1)	(1)	(1)	1.5
LINDANE	1.07	1.28	1.08	0.73	0.82
METHOXYCHLOR	(5)	(5)	(5)	(5)	(5)
ARSENIC	1.3	0.003	2	0.004	0.002

Waste Managment chemical report

Chemical Name	Location OWC-15 Samp No. 01 25 FEB 1981	Location OWC-15 Samp No. 02 01 AUG 1981	Location OWC-15 Samp No. 09 05 JUL 1983
XYLOL	ns	ns	(1)
ALDRIN	(0.12)	(0.2)	(0.1)
DIELDRIN	0.21	(0.2)	0.34
CHLORDANE	(1)	(1)	ns
4,4-DDT	(0.2)	(0.3)	ns
4,4-DDE	(0.2)	(0.2)	ns
4,4-DDD	(0.2)	(0.2)	ns
ENDRIN	(0.4)	(0.2)	ns
HEPTACHLOR	(0.1)	(0.2)	ns
PCB-1242	ns	(10)	ns
PCB-1254	ns	(10)	ns
PCB-1221	ns	(10)	ns
PCB-1232	ns	(10)	ns
PCB-1248	ns	(10)	ns
PCB-1260	ns	(10)	ns
TOXAPHENE	(10)	(10)	ns
2,4-D	(1)	(1)	(1)
2,4,5-TP	ns	(0.1)	(1)
2,4,5-T	(0.1)	ns	(1)
CAPTAN	(0.2)	(0.2)	ns
CHLOROBENZILATE	(0.3)	(0.3)	ns
DIAZINON	(0.5)	(0.5)	(25)
DIFOLATAN	(20)	(20)	ns
SUTHION	(100)	(100)	ns
LINDANE	0.23	0.38	0.43
MALATHION	(2)	(1)	ns
METHOXYCHLOR	(0.8)	(0.8)	ns
MIREX	(0.5)	(0.5)	ns
PARATHION, ETHYL	(0.5)	(0.5)	ns
PARATHION, METHYL	(2)	(1)	ns
PCB	(10)	ns	ns
PHOSDRIN (MEVINPHOS)	(2)	(1)	ns
SEVIN	#0	ns	ns
TRITHION	#0	(100)	ns
KELTHANE	ns	(10)	ns
ARSENIC	1	(1)	0.002
CADMIUM	0.5	30	ns
COPPER	2	0.33	ns
ZINC	30	0.4	ns
TOTAL ORGANIC CARBON	ns	1100	ns
TOTAL ORGANIC CARBON	1900	ns	ns
CALCIUM	39000	32000	ns
IRON	90	530	ns
MAGNESIUM	12400	10600	ns
MANGANESE	70	160	ns
POTASSIUM	700	400	ns
SODIUM	12000	11500	ns
BICARBONATE	79210	36570	ns
CARBONATE	20	0	ns
CHLORIDE	28500	32000	ns
FLUORIDE	140	130	ns
HYDROXIDE	0	0	ns
NITRATE	8420	7970	ns
PHOSPHATE	210	0	ns
SULFATE	60000	55000	ns
SILICATE	30	10	ns
ORTHOPHOSPHATE	70	ns	ns
SILICA	34240	38520	ns
TOTAL FREE CARBON DIOXIDE	62940	67200	ns
EQUILIBRIUM CARBON DIOXIDE	1440	250	ns
TOTAL DISSOLVED SOLIDS (CALC)	273740	224800	ns
TOTAL ALKALINITY	64940	29950	ns
CALCIUM ALKALINITY	64940	29950	ns
MAGNESIUM ALKALINITY	0	0	ns
SODIUM ALKALINITY	0	0	ns
TOTAL HARDNESS	148310	123440	ns
CALCIUM HARDNESS	97500	80000	ns
MAGNESIUM HARDNESS	50960	43570	ns
NON-CARBONATE HARDNESS	83370	93490	ns
CALCIUM NON-CARBONATE HARDNESS	32560	50050	ns
MAGNESIUM NON-CARBONATE HARD.	50960	43570	ns
pH	6.6	6.23	6.1
EQUILIBRIUM pH	8.13	8.54	ns
STABILITY INDEX	9.66	10.86	ns
SATURATION INDEX	1.53	-2.31	ns
TEMPERATURE-FAHRENHEIT	68	68	ns
CONDUCTIVITY, MEASURED	411	338	385
IONIC STRENGTH (MOLAR)	0.006	0.005	ns
ION BALANCE ERROR (%) BY CONC.	0.13	-0.26	ns

Chemical Name	Location OWC-16 Samp No. 02 01 AUG 1981	Location OWC-16 Samp No. 09 05 JUL 1983	Location OWC-16 Samp No. 12 21 DEC 1983	Location OWC-16 Samp No. 16 08 MAY 1984	Location OWC-16 Samp No. 17 14 1984	Location OWC-16 Samp No. 18 18 DEC 1984
KYLOL	ns	(1)	(1)	1.8	(0.1)	(1)
ALDRIN	(0.2)	(0.1)	(0.1)	(0.1)	(0.1)	4.45
DIELDRIN	0.27	0.35	(1)	0.44	(0.1)	0.38
CHLORDANE	(1)	ns	(5)	(5)	(5)	(5)
4,4-DDT	(0.3)	ns	(1)	(0.1)	(0.1)	(0.1)
4,4-DDE	(0.2)	ns	(1)	(0.1)	(0.1)	0.55
4,4-DDD	(0.2)	ns	(1)	(0.1)	(0.1)	(0.1)
ENDRIN	(0.2)	ns	(0.1)	(0.1)	(0.1)	(0.1)
HEPTACHLOR	2	ns	1.59	(0.1)	(0.1)	1.43
PCB-1242	(10)	ns	ns	ns	ns	ns
PCB-1254	(10)	ns	ns	ns	ns	ns
PCB-1221	(10)	ns	ns	ns	ns	ns
PCB-1232	(10)	ns	ns	ns	ns	ns
PCB-1248	(10)	ns	ns	ns	ns	ns
PCB-1260	(10)	ns	ns	ns	ns	ns
TOXAPHENE	(10)	ns	(5)	(5)	(5)	(5)
2,4-D	3.8	(1)	(5)	(1)	(1)	(1)
2,4,5-TP	3.3	7.5	ns	ns	ns	ns
2,4,5-T	ns	(1)	(5)	(1)	(1)	(1)
CAPTAN	(0.2)	ns	ns	ns	ns	ns
CHLOROBENZILATE	(0.3)	ns	ns	ns	ns	ns
DIAZINON	0.63	(25)	ns	ns	ns	ns
DIFOLATAN	(20)	ns	ns	ns	ns	ns
GUTHION	(100)	ns	ns	ns	ns	ns
LINDANE	0.91	0.31	0.5	0.86	0.66	0.9
MALATHION	(1)	ns	ns	ns	ns	ns
METHOXYCHLOR	(0.8)	ns	(5)	(5)	(5)	(5)
MIREX	(0.5)	ns	ns	ns	ns	ns
PARATHION, ETHYL	(0.5)	ns	ns	ns	ns	ns
PARATHION, METHYL	(1)	ns	ns	ns	ns	ns
PHOSDRIN (MEVINPHOS)	(1)	ns	ns	ns	ns	ns
TRITHION	(100)	ns	ns	ns	ns	ns
KELTHANE	(10)	ns	ns	ns	ns	ns
ARSENIC	14	5.9	3.1	1.4	1.2	1.4
CHROMIUM	4.8	ns	ns	ns	ns	ns
COPPER	6.9	ns	ns	ns	ns	ns
ZINC	90	ns	ns	ns	ns	ns
TOTAL ORGANIC CARBON	9600	ns	ns	ns	ns	ns
CALCIUM	144000	ns	ns	ns	ns	ns
IRON	410	ns	ns	ns	ns	ns
MAGNESIUM	41000	ns	ns	ns	ns	ns
MANGANESE	2500	ns	ns	ns	ns	ns
POTASSIUM	2600	ns	ns	ns	ns	ns
SODIUM	72000	ns	ns	ns	ns	ns
BICARBONATE	548270	ns	ns	ns	ns	ns
CARBONATE	380	ns	ns	ns	ns	ns
CHLORIDE	190000	ns	ns	ns	ns	ns
FLUORIDE	0	ns	ns	ns	ns	ns
HYDROXIDE	0	ns	ns	ns	ns	ns
NITRATE	440	ns	ns	ns	ns	ns
PHOSPHATE	310	ns	ns	ns	ns	ns
SULFATE	55000	ns	ns	ns	ns	ns
SILICATE	30	ns	ns	ns	ns	ns
SILICA	23540	ns	ns	ns	ns	ns
TOTAL FREE CARBON DIOXIDE	315620	ns	ns	ns	ns	ns
EQUILIBRIUM CARBON DIOXIDE	213060	ns	ns	ns	ns	ns
TOTAL DISSOLVED SOLIDS (CALC)	1071500	ns	ns	ns	ns	ns
TOTAL ALKALINITY	449940	ns	ns	ns	ns	ns
CALCIUM ALKALINITY	360000	ns	ns	ns	ns	ns
MAGNESIUM ALKALINITY	89940	ns	ns	ns	ns	ns
SODIUM ALKALINITY	0	ns	ns	ns	ns	ns
TOTAL HARDNESS	527910	ns	ns	ns	ns	ns
CALCIUM HARDNESS	360000	ns	ns	ns	ns	ns
MAGNESIUM HARDNESS	168510	ns	ns	ns	ns	ns
NON-CARBONATE HARDNESS	77900	ns	ns	ns	ns	ns
CALCIUM NON-CARBONATE HARDNESS	0	ns	ns	ns	ns	ns
MAGNESIUM NON-CARBONATE HARD.	78570	ns	ns	ns	ns	ns
pH	6.8	6.4	6.5	ns	ns	ns
EQUILIBRIUM pH	6.78	ns	ns	ns	ns	ns
STABILITY INDEX	6.76	ns	ns	ns	ns	ns
SATURATION INDEX	0.02	ns	ns	ns	ns	ns
TEMPERATURE-FAHRENHEIT	68	ns	ns	ns	ns	ns
CONDUCTIVITY, MEASURED	1610	1515	1592	ns	ns	ns
IONIC STRENGTH (MOLAR)	0.021	ns	ns	ns	ns	ns

Waste Management chemical report

Chemical Name	Location OWC-16 Samp No. 20 03 MAY 1985	Location OWC-16 Samp No. 19 15 AUG 1985	Location OWC-16 Samp No. 21 15 NOV 1985	Location OWC-16 Samp No. 22 24 FEB 1986
KYLOL	(1)	(1)	(1)	(1)
ALDRIN	(0.1)	(0.1)	(0.1)	(0.1)
DIELDRIN	(0.1)	(0.1)	(0.1)	1.25
CHLORDANE	(5)	(0.1)	(0.1)	(0.1)
4,4-DDT	(0.1)	(0.1)	(0.1)	1.2
4,4-DDE	(0.1)	0.14	(0.1)	(0.1)
4,4-DDD	(0.1)	(0.1)	(0.1)	(0.1)
ENDRIN	(0.1)	(0.1)	(0.1)	(0.1)
HEPTACHLOR	(0.1)	1.75	0.89	(0.1)
TOXAPHENE	(5)	(5)	(5)	(5)
2,4-D	(1)	(1)	(1)	(1)
2,4,5-T	(1)	(1)	(1)	(1)
LINDANE	0.65	1.15	0.39	0.53
METHOXYCHLOR	(5)	(5)	(5)	(5)
ARSENIC	0.001	(1)	(0.001)	(0.001)

Waste Managment chemical report

Chemical Name	Location OWC-17 Samp No. 02 01 AUG 1981	Location OWC-17 Samp No. 04 12 OCT 1982	Location OWC-17 Samp No. 05 01 JAN 1983	Location OWC-17 Samp No. 06 01 MAR 1983	Location OWC-17 Samp No. 07 01 MAY 1983	Location OWC-17 Samp No. 12 21 DEC 1983
XYLOL	ns	ns	450	390	1080	(1)
ALDRIN	(0.2)	(0.1)	(0.1)	0.27	23.2	2.56
DIELDRIN	1.55	0.4	3.08	(0.1)	5.5	2.3
CHLORDANE	(1)	ns	ns	ns	ns	(5)
4,4-DDT	0.62	ns	ns	ns	ns	1.41
4,4-DDE	1.22	ns	ns	ns	ns	(1)
4,4-DDD	1.66	ns	ns	ns	ns	2.1
ENDRIN	(0.4)	ns	ns	ns	ns	(0.1)
HEPTACHLOR	(0.2)	ns	ns	ns	ns	(0.1)
PCB-1242	(10)	ns	ns	ns	ns	ns
PCB-1254	(10)	ns	ns	ns	ns	ns
PCB-1221	(10)	ns	ns	ns	ns	ns
PCB-1232	(10)	ns	ns	ns	ns	ns
PCB-1248	(10)	ns	ns	ns	ns	ns
PCB-1260	(10)	ns	ns	ns	ns	ns
TOXAPHENE	(10)	ns	ns	ns	ns	(5)
2,4-D	57	(5)	(0.1)	31.4	1.95	(5)
2,4,5-TP	83	ns	ns	ns	ns	ns
2,4,5-T	83	(5)	(0.1)	906	1.57	(5)
CAPTAN	(0.2)	ns	ns	ns	ns	ns
CHLOROBENZILATE	(0.3)	ns	ns	ns	ns	ns
DIAZINON	(0.5)	ns	ns	ns	ns	ns
DIFOLATAN	(20)	ns	ns	ns	ns	ns
GUTHION	(100)	ns	ns	ns	ns	ns
LINDANE	62	207	201	16.5	264	50.3
MALATHION	(1)	ns	ns	ns	ns	ns
METHOXYCHLOR	(0.8)	ns	ns	ns	ns	(5)
MIREX	(0.5)	ns	ns	ns	ns	ns
PARATHION, ETHYL	(0.5)	ns	ns	ns	ns	ns
PARATHION, METHYL	(1)	ns	ns	ns	ns	ns
PHOSDRIN (MEVINPHOS)	(1)	ns	ns	ns	ns	ns
TRITHION	(100)	ns	ns	ns	ns	ns
KELTHANE	(10)	ns	ns	ns	ns	ns
ARSENIC	24	2.4	0.76	2.5	2.1	0.79
CADMIUM	2.1	ns	ns	ns	ns	ns
COPPER	3.5	ns	ns	ns	ns	ns
ZINC	210	ns	ns	ns	ns	ns
TOTAL ORGANIC CARBON	26000	ns	ns	ns	ns	ns
CALCIUM	162000	ns	ns	ns	ns	ns
IRON	5800	ns	ns	ns	ns	ns
MAGNESIUM	38000	ns	ns	ns	ns	ns
MANGANESE	27500	ns	ns	ns	ns	ns
POTASSIUM	3100	ns	ns	ns	ns	ns
SODIUM	106000	ns	ns	ns	ns	ns
BICARBONATE	512060	ns	ns	ns	ns	ns
CARBONATE	190	ns	ns	ns	ns	ns
CHLORIDE	320000	ns	ns	ns	ns	ns
FLUORIDE	0	ns	ns	ns	ns	ns
HYDROXIDE	0	ns	ns	ns	ns	ns
NITRATE	0	ns	ns	ns	ns	ns
PHOSPHATE	0	ns	ns	ns	ns	ns
SULFATE	80000	ns	ns	ns	ns	ns
SILICATE	30	ns	ns	ns	ns	ns
SILICA	38520	ns	ns	ns	ns	ns
TOTAL FREE CARBON DIOXIDE	605050	ns	ns	ns	ns	ns
EQUILIBRIUM CARBON DIOXIDE	202570	ns	ns	ns	ns	ns
TOTAL DISSOLVED SOLIDS (CALC)	1284800	ns	ns	ns	ns	ns
TOTAL ALKALINITY	419940	ns	ns	ns	ns	ns
CALCIUM ALKALINITY	405000	ns	ns	ns	ns	ns
MAGNESIUM ALKALINITY	14940	ns	ns	ns	ns	ns
SODIUM ALKALINITY	0	ns	ns	ns	ns	ns
TOTAL HARDNESS	560480	ns	ns	ns	ns	ns
CALCIUM HARDNESS	405000	ns	ns	ns	ns	ns
MAGNESIUM HARDNESS	156180	ns	ns	ns	ns	ns
NON-CARBONATE HARDNESS	140550	ns	ns	ns	ns	ns
CALCIUM NON-CARBONATE HARDNESS	0	ns	ns	ns	ns	ns
MAGNESIUM NON-CARBONATE HARD.	141240	ns	ns	ns	ns	ns
pH	6.5	ns	ns	ns	ns	6.2
EQUILIBRIUM pH	6.77	ns	ns	ns	ns	ns
STABILITY INDEX	7.04	ns	ns	ns	ns	ns
SATURATION INDEX	-0.27	ns	ns	ns	ns	ns
TEMPERATURE-FAHRENHEIT	68	ns	ns	ns	ns	ns
CONDUCTIVITY, MEASURED	2000	ns	ns	ns	ns	1466
IONIC STRENGTH (MOLAR)	0.025	ns	ns	ns	ns	ns

Waste Managment chemical report

Chemical Name	Location OWC-17 Samp No. 12A 21 DEC 1983	Location OWC-17 Samp No. 1E 06 MAY 1984	Location OWC-17 Samp No. 17 14 1984	Location OWC-17 Samp No. 18 18 DEC 1984	Location OWC-17 Samp No. 16A 18 DEC 1984	Location OWC-17 Samp No. 22 03 MAY 1985
XYLOL	(1)	*9.5	380	(1)	(0.1)	385
ALDRIN	3.08	5.7	7.32	(0.1)	(0.1)	(0.1)
DIELDRIN	3.08	(0.1)	(0.1)	1.27	(0.1)	(0.1)
CHLORDANE	(5)	(5)	(5)	(5)	(5)	(5)
4,4-DDT	4.13	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)
4,4-DDE	(1)	3.5	(0.1)	(0.1)	(0.1)	1.77
4,4-DDD	3.22	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)
ENDRIN	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)
HEPTACHLOR	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)
TOXAPHENE	(5)	(5)	(5)	(5)	(5)	(5)
2,4-D	(5)	(1)	(1)	(1)	(1)	(1)
2,4,5-T	(5)	8.8	(1)	(1)	(1)	(1)
LINDANE	66.3	108	127	81.6	42.8	43.2
METHOXYCHLOR	(5)	(5)	(5)	(5)	(5)	(5)
ARSENIC	1.1	1.9	3.4	21	10	0.023
pH	6.2	ns	ns	ns	ns	ns
CONDUCTIVITY, MEASURED	1386	ns	ns	ns	ns	ns

Waste Managment chemical report

Chemical Name	Location OWC-17 Samp No. 19 15 AUG 1985	Location OWC-17 Samp No. 22 24 1986
XYLOL	(1)	(1)
ALDRIN	7.63	3.94
DIELDRIN	(0.1)	(0.1)
CHLORDANE	(0.1)	(0.1)
4,4-DDT	0.35	(0.1)
4,4-DDE	6.87	(0.1)
4,4-DDD	(0.1)	0.95
ENDRIN	(0.1)	(0.1)
HEPTACHLOR	(0.1)	(0.1)
TOXAPHENE	(5)	(5)
2,4-D	7.3	(1)
2,4,5-T	(1)	4.2
LINDANE	73.4	27.5
METHOXYCHLOR	(5)	(5)
ARSENIC	(1)	(0.001)

Waste Managment chemical report

Chemical Name	Location OWC-18 Samp No. 02 01 AUG 1981	Location OWC-18 Samp No. 03 26 JUL 1982	Location OWC-18 Samp No. 04 12 OCT 1982	Location OWC-18 Samp No. 05 01 JAN 1983	Location OWC-18 Samp No. 06 01 MAR 1983	Location OWC-18 Samp No. 07 01 MAY 1983
XYLOL	ns	(10)	ns	(1)	(1)	9
CYCLOHEXANONE	ns	(10)	ns	ns	ns	ns
N-BUTYL ALCOHOL	ns	(10)	ns	ns	ns	ns
ISOBUTYL ALCOHOL	ns	(10)	ns	ns	ns	ns
ISOPROPYL ALCOHOL	ns	(10)	ns	ns	ns	ns
ALDRIN	0.77	2.7	2.5	(0.1)	1.78	0.19
DIELDRIN	1.2	0.93	(0.1)	(0.1)	(0.1)	0.26
CHLORDANE	(1)	ns	ns	ns	ns	ns
4,4-DDT	0.45	ns	ns	ns	ns	ns
4,4-DDE	(0.2)	ns	ns	ns	ns	ns
4,4-DDD	0.77	ns	ns	ns	ns	ns
ENDRIN	(0.4)	ns	ns	ns	ns	ns
HEPTACHLOR	(0.2)	ns	ns	ns	ns	ns
PCB-1242	(10)	ns	ns	ns	ns	ns
PCB-1254	(10)	ns	ns	ns	ns	ns
PCB-1221	(10)	ns	ns	ns	ns	ns
PCB-1232	(10)	ns	ns	ns	ns	ns
PCB-1248	(10)	ns	ns	ns	ns	ns
PCB-1260	(10)	ns	ns	ns	ns	ns
TOXAPHENE	(10)	ns	ns	ns	ns	ns
2,4-D	1.1	(5)	(5)	(0.1)	(1)	(1)
2,4,5-TP	2.4	(1)	ns	ns	ns	ns
2,4,5-T	2.4	ns	(5)	(0.1)	(1)	(1)
CAPTAN	(0.2)	ns	ns	ns	ns	ns
CHLOROBENZILATE	(0.3)	ns	ns	ns	ns	ns
DIAZINON	0.84	ns	ns	ns	ns	ns
DIFOLATAN	(20)	ns	ns	ns	ns	ns
GUTHION	(100)	ns	ns	ns	ns	ns
LINDANE	58	1.37	8.1	(0.1)	6.34	3.02
MALATHION	(1)	ns	ns	ns	ns	ns
METHOXYCHLOR	(0.8)	ns	ns	ns	ns	ns
MIREX	(0.5)	ns	ns	ns	ns	ns
PARATHION, ETHYL	(0.5)	ns	ns	ns	ns	ns
PARATHION, METHYL	(1)	ns	ns	ns	ns	ns
PHOSDRIN (MEVINPHOS)	(1)	ns	ns	ns	ns	ns
TRITHION	(100)	ns	ns	ns	ns	ns
KELTHANE	(10)	ns	ns	ns	ns	ns
ARSENIC	30	8.4	4.1	46	28	17
CADMIUM	0.5	ns	ns	ns	ns	ns
COPPER	4.7	ns	ns	ns	ns	ns
ZINC	170	ns	ns	ns	ns	ns
SILICON	ns	6700	ns	ns	ns	ns
TOTAL ORGANIC CARBON	2800	ns	ns	ns	ns	ns
CALCIUM	77000	75000	ns	ns	ns	ns
IRON	970	180	ns	ns	ns	ns
MAGNESIUM	15200	14000	ns	ns	ns	ns
MANGANESE	60	1990	ns	ns	ns	ns
POTASSIUM	3700	2000	ns	ns	ns	ns
SODIUM	12800	13100	ns	ns	ns	ns
BICARBONATE	292930	317540	ns	ns	ns	ns
CARBONATE	740	410	ns	ns	ns	ns
CHLORIDE	16000	17000	ns	ns	ns	ns
FLUORIDE	0	450	ns	ns	ns	ns
HYDROXIDE	10	0	ns	ns	ns	ns
NITRATE	0	5320	ns	ns	ns	ns
PHOSPHATE	0	0	ns	ns	ns	ns
SULFATE	33000	35000	ns	ns	ns	ns
SILICATE	200	50	ns	ns	ns	ns
NITRATE/NITRITE	ns	1200	ns	ns	ns	ns
ORTHOPHOSPHATE	ns	(100)	ns	ns	ns	ns
SILICA	27820	14340	ns	ns	ns	ns
TOTAL FREE CARBON DIOXIDE	30310	66050	ns	ns	ns	ns
EQUILIBRIUM CARBON DIOXIDE	36650	42320	ns	ns	ns	ns
TOTAL DISSOLVED SOLIDS (CALC)	473660	491170	ns	ns	ns	ns
TOTAL ALKALINITY	239670	261300	ns	ns	ns	ns
CALCIUM ALKALINITY	192500	187500	ns	ns	ns	ns
MAGNESIUM ALKALINITY	47170	57540	ns	ns	ns	ns
SODIUM ALKALINITY	0	16200	ns	ns	ns	ns
TOTAL HARDNESS	254630	244710	ns	ns	ns	ns
CALCIUM HARDNESS	192500	187500	ns	ns	ns	ns
MAGNESIUM HARDNESS	62470	57540	ns	ns	ns	ns
NON-CARBONATE HARDNESS	14960	0	ns	ns	ns	ns
CALCIUM NON-CARBONATE HARDNESS	0	0	ns	ns	ns	ns
MAGNESIUM NON-CARBONATE HARD.	15300	0	ns	ns	ns	ns
pH	7.5	7.2	ns	ns	ns	ns
EQUILIBRIUM pH	7.29	7.26	ns	ns	ns	ns
STABILITY INDEX	7.08	7.33	ns	ns	ns	ns
SATURATION INDEX	0.21	-0.06	ns	ns	ns	ns
TEMPERATURE-FAHRENHEIT	68	68	ns	ns	ns	ns
CONDUCTIVITY, MEASURED	622	552	ns	ns	ns	ns
IONIC STRENGTH (MOLAR)	0.009	0.009	ns	ns	ns	ns
ION BALANCE ERROR (%) BY CONC.	-1.32	ns	ns	ns	ns	ns
FECAL COLIFORMICOLONIES/100ml)	ns	(1)	ns	ns	ns	ns

Waste Managment chemical report

Chemical Name	Location OWC-18 Samp No. 12 21 DEC 1983	Location OWC-18 Samp No. 14 16 MAR 1984	Location OWC-18 Samp No. 16 08 MAY 1984	Location OWC-18 Samp No. 17 14 1984	Location OWC-18 Samp No. 18 18 DEC 1984	Location OWC-18 Samp No. 20 03 MAY 1985
XYLOL	(1)	42.2	*2	(1)	(1)	15.6
ALDRIN	1.5	0.848	1.15	0.48	1.35	(0.1)
DIELDRIN	2.68	1.35	0.92	0.23	0.76	0.29
CHLORDANE	(5)	(5)	(5)	(5)	(5)	(5)
4,4-DDT	(1)	0.196	0.64	(0.1)	3	(0.1)
4,4-DDE	(1)	0.476	0.42	(0.1)	0.95	0.17
4,4-DDD	1.7	1.06	0.73	(0.1)	2.08	0.5
ENDRIN	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)
HEPTACHLOR	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)
TOXAPHENE	(5)	(5)	(5)	(5)	(5)	(5)
2,4-D	(5)	(1)	(1)	3.1	(1)	(1)
2,4,5-T	(5)	(1)	(1)	(1)	(1)	(1)
LINDANE	4.5	6.32	6.93	3.95	2.29	2.46
METHOXYCHLOR	(5)	(5)	(5)	(5)	(5)	(5)
ARSENIC	22	17	7.3	3.7	5.9	0.005
PH	7	ns	ns	ns	ns	ns
CONDUCTIVITY, MEASURED	596	ns	ns	ns	ns	ns

Waste Managment chemical report

Chemical Name	Location OWC-18 Samp No. 19 15 1985	Location OWC-18 Samp No. 21 15 1985	Location OWC-18 Samp No. 22 24 1986
XYLOL	(1)	(1)	(1)
ALDRIN	(0.1)	(0.1)	0.59
DIELDRIN	0.19	0.19	(0.22)
CHLORDANE	(0.1)	(0.1)	(0.1)
4,4-DDT	(0.1)	0.13	0.77
4,4-DDE	(0.1)	(0.1)	0.16
4,4-DDD	0.16	0.22	0.48
ENDRIN	(0.1)	(0.1)	(0.1)
HEPTACHLOR	(0.1)	(0.1)	(0.1)
TOXAPHENE	(5)	(5)	(5)
2,4-D	(1)	(1)	(1)
2,4,5-T	(1)	(1)	(1)
LINDANE	2.59	3.48	2.63
METHOXYCHLOR	(5)	(5)	(5)
ARSENIC	(1)	0.009	0.005

Waste Management chemical report

Chemical Name	Location OWC-19 Samp No. 11 15 NOV 1983	Location OWC-19 Samp No. 12 21 1983	Location OWC-19 Samp No. 22 24 FEB 1986
XYLOL	30.1	(1)	(1)
ALDRIN	(0.1)	2.94	3.31
DIELDRIN	7.6	9.61	0.63
CHLORDANE	(5)	(5)	(0.1)
4,4-DDT	(1)	5.74	0.26
4,4-DDE	(1)	3.96	(0.1)
4,4-DDD	(1)	2.02	0.19
ENDRIN	1.7	(0.1)	(0.1)
HEPTACHLOR	(0.1)	4.9	(0.1)
TOXAPHENE	(5)	(5)	(5)
2,4-D	(5)	(5)	(1)
2,4,5-T	5.3	7.3	4.2
LINDANE	72.2	47.2	34.8
METHOXYCHLOR	(5)	(5)	(5)
ARSENIC	55800	66700	0.04
pH	ns	6.5	ns
CONDUCTIVITY, MEASURED	ns	2039	ns

Waste Managment chemical report

Chemical Name	Location OWC-20 Samp No. 11 15 NOV 1983	Location OWC-20 Samp No. 12 21 1983	Location OWC-20 Samp No. 16 08 MAY 1984	Location OWC-20 Samp No. 17 14 SEP 1984	Location OWC-20 Samp No. 18 18 1984	Location OWC-20 Samp No. 20 03 MAY 1985
XYLOL	(1)	(1)	(1)	(1)	(1)	(1)
ALDRIN	(0.1)	(0.1)	(0.1)	(0.1)	ns	(0.1)
DIELDRIN	(1)	(1)	0.17	(0.1)	ns	(0.1)
CHLORDANE	(5)	(5)	(5)	(5)	ns	(5)
4,4-DDT	(1)	(1)	0.16	(0.1)	ns	(0.1)
4,4-DDE	(1)	(1)	0.15	(0.1)	ns	(0.1)
4,4-DDD	(1)	(1)	0.13	(0.1)	ns	(0.1)
ENDRIN	(0.1)	(358)	(0.1)	(0.1)	ns	(0.1)
HEPTACHLOR	0.6	(0.1)	(0.1)	(0.1)	ns	(0.1)
TOXAPHENE	(5)	(5)	(5)	(5)	ns	(5)
2,4-D	5.7	(5)	(1)	(1)	ns	(1)
2,4,5-T	(5)	(5)	(1)	(1)	ns	(1)
LINDANE	(1)	(0.1)	0.38	(0.1)	ns	0.41
METHOXYCHLOR	(5)	(5)	(5)	(5)	ns	(5)
ARSENIC	0.012	63	46	9.7	8.9	0.026
pH	ns	10.8	ns	ns	ns	ns
CONDUCTIVITY, MEASURED	ns	4	ns	ns	ns	ns

Waste Managment chemical report

Chemical Name	Location OWC-20 Samp No. 19 15 AUG 1985	Location OWC-20 Samp No. 21 15 NOV 1985	Location OWC-20 Samp No. 22 24 FEB 1986
XYLOL	(1)	(1)	(1)
ALDRIN	(0.1)	(0.1)	(0.1)
DIELDRIN	(0.1)	(0.1)	(0.1)
CHLORDANE	(0.1)	(0.1)	(0.1)
4,4-DDT	(0.1)	(0.1)	(0.1)
4,4-DDE	(0.1)	(0.1)	(0.1)
4,4-DDD	(0.1)	(0.1)	(0.1)
ENDRIN	(0.1)	(0.1)	(0.1)
HEPTACHLOR	(0.1)	(0.1)	(0.1)
TOXAPHENE	(5)	(5)	(5)
2,4-D	(1)	(1)	(1)
2,4,5-T	(1)	(1)	(1)
LINDANE	0.45	(0.28)	0.38
METHOXYCHLOR	(5)	(5)	(5)
ARSENIC	6	0.005	0.011

Waste Managment chemical report

Chemical Name	Location OWC-21 Samp No. 11 15 NOV 1983	Location OWC-21 Samp No. 21 15 NOV 1985
XYLOL	2160	(1)
ALDRIN	(0.1)	(0.1)
DIELDRIN	2	(0.1)
CHLORDANE	(5)	(0.1)
4,4-DDT	(1)	(0.1)
4,4-DDE	(1)	(0.1)
4,4-DDD	(1)	(0.1)
ENDRIN	(0.1)	(0.1)
HEPTACHLOR	(0.1)	(0.1)
TOXAPHENE	(5)	(5)
2,4-D	455	(1)
2,4,5-T	(5)	(1)
LINDANE	(1)	(0.1)
METHOXYCHLOR	(5)	(5)
ARSENIC	520	(0.001)

Waste Managment chemical report

Chemical Name	Location DWC-22 Samp No. 11 15 NOV 1983 1840
XYLOL	(0.1)
ALDRIN	2.2
DIELDRIN	(5)
CHLORDANE	(1)
4,4-DDT	(1)
4,4-DDE	(1)
4,4-DDD	(0.1)
ENDRIN	(0.1)
HEPTACHLOR	(5)
TOXAPHENE	(5)
2,4-D	(5)
2,4,5-T	(1)
LINDANE	(5)
METHOXYCHLOR	1.9
ARSENIC	

Waste Managment chemical report

Chemical Name	Location OWC-23 Samp No. 11 15 NOV 1983	Location OWC-23 Samp No. 19 15 AUG 1985
XYLOL	(1)	(1)
ALDRIN	3	(0.1)
DIELDRIN	4.7	(0.1)
CHLORDANE	(5)	(0.1)
4,4-DDT	(1)	(0.1)
4,4-DDE	(1)	(0.1)
4,4-DDD	2.1	(0.1)
ENDRIN	(0.1)	(0.1)
HEPTACHLOR	(0.1)	(0.1)
TOXAPHENE	(5)	(5)
2,4-D	(5)	(1)
2,4,5-T	(5)	(1)
LINDANE	11.1	0.17
METHOXYCHLOR	(5)	(5)
ARSENIC	9	1