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ANNUAL MONITORING REPORT
INDIAN BASIN REMEDIATION PROJECT
NEW MEXICO
JANUARY - DECEMBER 1997

VOLUME I OF III

May 21, 1998

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ANNUAL MONITORING REPORT
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EXECUTIVE SUMMARY

In accordance with the New Mexico Oil Conservation Division (OCD)'s correspondence dated March 12, 1997, Fluor Daniel GTI, Inc. (Fluor Daniel GTI) has prepared an Annual Report for the Indian Basin Remediation Project (IBRP) on behalf of Marathon Oil Company (Marathon). The purpose of this document is to document site activities performed at the site between January and December 1997.

Fluid-level measurements were collected from 37 Shallow Zone wells and 40 Lower Queen wells on an approximate quarterly basis during 1997. Depth to water in the Shallow Zone ranged from 16.93 to 88.75 feet below top of casing. Groundwater gradient in the Shallow Zone is to the southeast at a gradient of approximately 0.076 ft/ft. Depth to water in the Lower Queen ranged from 103.69 to 229.54 feet below top of casing. Groundwater gradient in the Lower Queen is to the north-northeast at a gradient of approximately 2.3×10^{-3} ft/ft. Mounding is observed near the infiltration wells and depressions are noted in the vicinity of the recovery wells. Based on measurements taken from a rain gauge at the Indian Basin Gas Plant, the site received 10.65 inches of rainfall in 1997.

Condensate was measured at the site in two Shallow Zone wells and 19 Lower Queen wells in 1997. Apparent condensate thickness ranged from 0.01 foot to 3.24 feet in the Shallow Zone wells and 0.01 foot and 6.71 feet in the Lower Queen wells.

Groundwater samples were collected from 27 Shallow Zone wells and 25 Lower Queen wells in 1997. Major sampling events occurred in February, May, July, and October 1997. Groundwater samples from select wells were analyzed for benzene, toluene, ethylbenzene, xylene (BTEX), volatile organic compounds (VOCs), semi-volatile organics (SVOCs), polychlorinated biphenyls (PCBs), metals, and other general chemistry parameters (fluoride, chloride, bromide, sulfate, nitrate, ammonia, Kjeldahl nitrogen, orthophosphate, total alkalinity, carbonate alkalinity, bicarbonate alkalinity, carbon dioxide, hydroxide, total dissolved solids (TDS), specific conductivity, and pH).

In the Shallow Zone during 1997, maximum benzene and BTEX concentrations were detected in well MW-046 in July 1997 with concentrations of 6,100 and 8,400 micrograms per liter (ug/l), respectively. In the Lower Queen, maximum benzene and BTEX concentrations were detected in well MW-068 in October 1997 with concentrations of 740 and 5,130 ug/l, respectively.

Remedial activities at the site in 1997, consisted of groundwater pumping, treatment and infiltration, condensate removal and vapor extraction (VE). In 1997, an estimated 2,026,274 barrels of total fluids were recovered from Lower Queen wells and approximately 760 barrels have been recovered from Shallow Zone wells. Cumulatively, an estimated 5,019,699 and 24,186 barrels of total fluids have been recovered from the Lower Queen and Shallow Zone, respectively. In 1997, approximately 1,947,766 barrels of treated groundwater was infiltrated into the Lower Queen, and 14,766 barrels were infiltrated into the Shallow Zone. Cumulatively, 2,316,988 and 15,852 barrels, respectively were infiltrated into the Shallow and the Lower Queen aquifers. In 1997, approximately 266 barrels of condensate were removed from the Lower Queen wells, 19 barrels were removed from Lower Queen vapor extraction

system (VES), and 9.8 barrels were removed from the Shallow Zone VES. Cumulatively, an estimated 9,994 barrels of condensate have been removed from the site.

In 1997, vapor extraction activities at the site have consisted of VE in the Lower Queen from Blower Station #1 from January-June 1997 and from Blower Station #4 from June-December 1997. In the Shallow Zone, a VE system (designated SZ Blower Station #1) operated from August-December 1997 from four wells. Approximately 13 barrel equivalents of hydrocarbon were removed from the Lower Queen from January-June 1997; 6 barrel equivalents were removed from the Lower Queen between June and December 1997; and 10 barrel equivalents were removed from the Shallow Zone between August and December 1997.

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1.0 INTRODUCTION

Fluor Daniel GTI, Inc. (Fluor Daniel GTI) was contracted by Marathon Oil Company (Marathon) to prepare an Annual Report for the Indian Basin Remediation Project (IBRP). This report is submitted in accordance with the New Mexico Oil Conservation Division (OCD)'s correspondence dated March 12, 1997 regarding the proposed groundwater monitoring plan modification submitted by Marathon for the IBRP. The purpose of this document is to document site activities performed at the site between January and December 1997.

This document is organized in the following manner: The remainder of Section 1.0 discusses the site location; Section 2.0 discusses the site hydrology; Sections 3.0 and 4.0 describe the distribution of dissolved-phase and separate-phase condensate beneath the IBRP based on the investigation activities and include detailed information obtained during the reporting period; Section 5.0 discusses ongoing remedial activities at the IBRP; Section 6.0 presents conclusions and Section 7.0 includes a reference list for the document. Supporting information is provided in tables, figures, and appendices.

1.1 Site Location

The IBRP is located approximately 18 miles northwest of Carlsbad, New Mexico and is located in portions of Sections 13, 23, 24, 25 and 26 of Township 21 South, Range 23 East; in parts of Section 19 and Section 30 of Township 21 South, Range 24 East, in Eddy County, New Mexico. The IBRP is defined as the Marathon-operated Indian Basin Gas Plant (Plant) and the area surrounding the Plant within the limits of the defined extent of hydrocarbons in subsurface soil and groundwater. The site definition includes upgradient and downgradient monitoring, recovery, and infiltration wells installed for assessment, remediation, and water supply purposes.

2.0 GROUNDWATER ELEVATION DATA / HYDROLOGY

Historical fluid-level data from May 1991 - December 1997 are included in Appendix A. Figures 2-1 through 2-8 depict quarterly groundwater gradient maps for the Shallow Zone and the Lower Queen. Hydrographs that show groundwater elevation versus time plots for individual wells are included in Appendix B.

2.1 Shallow Zone

In the Shallow Zone during 1997:

- Fluid-level measurements were collected from 37 Shallow Zone wells on an approximate quarterly basis;
- Depth to water ranged from 16.93 feet (MW-046) to 88.75 feet (MW-106) below top of casing;
- Thirteen of the measured wells were dry one month or more during 1997;
- The water table in the Shallow Zone dropped between 0.06 foot and 6.30 feet (MW-078) in many of the wells, and rose between 0.03 and 3.35 feet (MW-077) in others during the past year; and
- Groundwater flow direction in the Shallow Zone is generally to the southeast at an approximate gradient 0.076 ft/ft.

2.2 Lower Queen Aquifer

In the Lower Queen Aquifer during 1997:

- Fluid-level measurements were collected from 40 Lower Queen wells on an approximate quarterly basis;
- Excluding infiltration well IW-02, depth to water ranged from 103.69 feet (MW-087A) to 229.54 feet (MW-072) below top of casing;
- In non-recovery wells, the water table in the Lower Queen dropped between 0.75 foot and 2.43 feet (MW-067) in all but one well, and rose 1.44 feet in MW-104 during the past year. In the recovery wells, the water table dropped in most wells between 1.59 feet and 15.98 feet (MW-072), and rose between 1.65 and 6.90 feet (MW-058) during the same time period; and
- Groundwater flow direction in the Lower Queen is generally to the north-northeast at a gradient of approximately 2.3×10^{-3} ft/ft. Mounding is observed near infiltration well IW-02 and depressions are noted in the vicinity of the recovery wells.

2.3 Groundwater Recharge (Rainfall)

Historically, the site receives the highest precipitation between June and October. From the rain gauge monitored at the Plant, in 1997, the highest precipitation occurred in May when 3.6 inches fell. Figure 2.9 illustrates weekly rainfall at the site. Total measured precipitation for 1997 was 10.65 inches.

3.0 1997 SEPARATE-PHASE CONDENSATE DISTRIBUTION

Figures 3-1 through 3-7 illustrate condensate distribution with benzene concentrations at the site in February, April, July, and October 1997 in the Shallow Zone and Lower Queen aquifers. No shallow map was generated for October 1997 as no measurable free-phase condensate was present and no groundwater samples were taken in the Shallow Zone. Apparent condensate thickness is summarized with the historical fluid-level measurements in Appendix A. During 1997 in the Shallow Zone, measurable condensate thicknesses ranged from 0.01 foot (MW-091) to 3.24 feet (MW-069). During 1997 in the Lower Queen, measurable condensate thicknesses ranged from 0.01 foot to 6.71 feet (MW-072).

4.0 1997 DISSOLVED-PHASE HYDROCARBON DISTRIBUTION

Quarterly dissolved-phase benzene distribution maps with condensate thickness are included as Figures 3-1 through 3-7. Tables 4-1 through 4-11 summarize data collected in 1997. Laboratory Certificates of Analysis, QA/QC data, and chain-of-custody information for 1997 data are included in Appendix C. Concentrations versus time plots for BTEX for individual wells are included in Appendix C and tables summarizing all historical dissolved-phase data collected at the site are included in Appendix E.

During 1997, groundwater samples were collected from 27 Shallow Zone and 25 Lower Queen wells. Major sampling events occurred in February, May, July and October 1997. Analytical methods include BTEX using EPA methods 8020 or 8240 (Tables 4-1 and 4-2), volatile organic compounds (VOCs) using EPA method 8240 (Tables 4-3 and 4-4), semi-volatile organic compounds (SVOCs) using EPA methods 8310 and 8270 (Tables 4-5 and 4-6), polychlorinated biphenyls (PCBs) using EPA method 8080 (Table 4-7) and, dissolved metals using EPA methods 245. 1 and 200.7 (Table 4-8 and 4-9). Selected general chemistry parameters (Table 4-10 and 4-11) were also analyzed including: fluoride (EPA method 340.2); chloride (EPA method 325.3); sulfate (EPA method 375.2); nitrate (EPA method 353.2); bromide (EPA method 300.0); alkalinity as CaCo3, carbonate alkalinity, bicarbonate alkalinity, carbon dioxide free as $CaCo_3$, and hydroxide as $CaCo_3$ (method 2330B); ammonia as nitrogen (EPA method 350.3); Kjeldahl nitrogen (EPA 351.2); orthophosphate (EPA method 365.3); total dissolved solids (TDS) (EPA method 160.1); specific conductivity (EPA method 120.1/2510B); and pH (EPA method 150.1).

Trip blanks were collected during quarterly sampling events and analyzed for VOCs (typically BTEX). A rinsate blank was collected during the February sampling event and analyzed for BTEX. All constituents tested for in the blanks were not detected.

4.1 Shallow Zone Dissolved-Phase BTEX Distribution

In 1997, groundwater samples were collected from 27 Shallow Zone wells. The primary sampling events were in February and July. The maximum BTEX concentrations were: benzene (6,100 ug/l) and toluene (1,900 ug/l) in well MW-046 in July 1997, and ethylbenzene (1,100 ug/l) and total xylenes (5,600 ug/l) in MW-019 in February 1997 (Table 4-1). In other wells detected benzene concentrations ranged from 0.7 to 5,000 ug/l (Table 4-1). No other VOCs were detected in Shallow Zone wells in 1997 (Table 4-3).

4.2 Lower Queen Dissolved-Phase BTEX Distribution

In 1997, groundwater samples were collected from 25 Lower Queen wells. The primary sampling events were in February, April, July, and October. The maximum BTEX concentrations detected were: 740 ug/l benzene in well MW-068 in October; 360 ug/l toluene, and 580 ug/l ethylbenzene in well MW-086 in October; and 3,800 ug/l total xylene in well MW-068 in October. In other wells detected benzene concentrations ranged from 0.9 to 510 ug/l (Table 4-2). No other VOCs were detected in sampled Lower Queen wells (SW-01) in 1997 (Table 4-4).

5.0 REMEDIATION SYSTEM OPERATION AND MAINTENANCE

Remedial activities have been ongoing at the IBRP since April 1991. The purpose of the remediation is to remove condensate and contain dissolved-phase compounds from further downgradient migration. From April 1991 through December 1997, the remedial actions have consisted of the following:

- Emergency excavation and pumping in Rocky Arroyo sumps, open excavations, and shallow zone wells;
- Condensate recovery via pneumatic pump skimmer in well MW-069;
- Condensate recovery and groundwater containment in up to 20 Lower Queen wells via total fluids pumps and up to 7 pneumatic top-loading condensate pumps;
- Vapor extraction in the Shallow Zone; and
- Vapor extraction in the Lower Queen bedrock Barrier Vapor Extraction System (BVES).

Figure 5-1 illustrates the various remediation systems on site. Remedial activities conducted in 1997 are summarized in the following sections.

5.1 1997 Groundwater Pumping, Treatment, and Infiltration

5.1.1 1997 Groundwater Pumping System Activities

The pumping rates for the recovery wells for 1997 ranged from 94 to 275 gallons per minute (gpm). The cumulative groundwater recovery rate is approximately 160 gpm from all active Lower Queen recovery wells. Groundwater recovery wells are permitted by the New Mexico State Engineer's Office (NMSEO). Wells are metered and monthly reports of Shallow Zone and Lower Queen groundwater withdrawal and infiltration volumes are provided to the NMSEO. Because the volume of water withdrawn is strictly regulated, treated groundwater is infiltrated into upgradient wells in both aquifers. Infiltration serves additional benefits of oxygenating the aquifer for enhanced biodegradation of hydrocarbons and of pushing separate-phase hydrocarbons toward recovery wells.

During 1997, approximately 2,026,274 barrels of total fluids were recovered from Lower Queen wells and approximately 760 barrels were recovered from Shallow Zone wells. Since 1991, an estimated total of 5,019,699 barrels of total fluids have been recovered from up to 19 wells in the Lower Queen and estimated 24,186 barrels of total fluids have been removed from up to seven Shallow Zone wells. Table 5-1 summarizes quarterly total fluid recovery by well and lists cumulative totals. Figures 5-2 and 5-3 illustrate total fluid recoveries in the Shallow Zone and Lower Queen, respectively.

5.1.2 1997 Groundwater Infiltration Activities

During 1997, groundwater removed during pumping was treated and infiltrated into Lower Queen wells IW-01 (after October 1997) and IW-02, and into Shallow Zone wells MW-045 and MW-051. During 1997, an estimated 1,947,766 barrels of treated water were infiltrated in to the Lower Queen Aquifer and approximately 14,776 barrels were infiltrated into the Shallow Zone. Table 5-2 summarizes quarterly and cumulative infiltrated data for the site.

5.2 1997 Condensate Recovery

During 1997, approximately 266 barrels of condensate were removed by Lower Queen wells (MW-064, MW-072, MW-075, MW-081, MW-084, MW-085, and VE-19) and 19 barrels were removed by the Lower Queen VES. In the Shallow Zone, 9.8 barrels of condensate were removed by the VES. Cumulatively through December 1997, in the Lower Queen, an estimated 836 barrels of condensate have been removed by wells and 19 barrels have been removed by the VES. In the Shallow Zone, approximately 355 barrels of condensate have been removed by wells and sumps, and 146 barrels by the VES. Through December 1997, estimated total condensate removed is 9,980 barrels, or 28.3% of the total estimated spill volume (34,877 barrels). Table 5-3 summarizes 1997 quarterly and cumulative condensate removed.

5.3 1997 Vapor Extraction System

Vapor extraction (VE) pilot testing has been conducted at the IBRP on the Shallow Zone (1991, 1995, and 1997) and Lower Queen (1995). Results of the Shallow Zone testing indicated a radius of influence of approximately 70 feet at a flow rate of 160-170 standard cubic feet per minute (SCFM) and 14-25 inches of water applied vacuum. Results of the Lower Queen pilot testing indicated a radius of influence of 400-2,000 feet at flow rates of 95-150 SCFM and 2-9.5 inches of mercury applied vacuum. Since the extent of hydrocarbon impacts is limited to the area of the release in the Shallow Zone, VE in this zone has limited applicability for overall site remediation. In the Lower Queen, VE has been demonstrated to be diffusion-limited, therefore, its applicability for mass removal and plume containment is limited in the overall site remediation strategy.

5.3.1 Lower Queen Vapor Extraction

In late 1996, Blower Station #1 was installed at the northernmost portion downgradient of the condensate plume. Vapor extraction wells VE-1 through VE-5 and existing well MW-61A were connected to the VE system, which consisted of a trailer-mounted, Suterbilt 6L, 25 horsepower, 460 V blower with an 88-gallon moisture knockout, an outlet silencer, inlet filter, and a vacuum relief valve.

Blower Station #1 was started up in January 1997, tested, and balanced. The system operated continuously from January-June 1997, with six wells connected: VE-1, VE-2, VE-3, VE-4, VE-5, and MW-61A. The system was monitored and balanced routinely with the other remediation systems at the site. Monthly air samples were collected and analyzed in accordance with the requirements of the New Mexico Environment Department (NMED) Air Quality Permit No. 1859. The first quarterly air permit report for the period of January, February, and March 1997 reported 6.162 barrel equivalents removed from the subsurface by Blower Station #1. The second quarterly air permit report for the period of April, May, and June 1997 reported 6.362 barrel equivalents removed from the subsurface by Blower Station #1.

Based on the low removal volume, it was decided to discontinue operation of Blower Station #1 and move the system to Blower Station #4, located along the northern edge of Rocky Arroyo. Vapor extraction wells VE-16 through VE-20 were installed in May-June 1997 and connected to the system. Blower Station #4 was started up in June 1997, tested, and balanced. Testing included a long-term

test on VE-20, short-term tests of individual extraction wells, air injection test and vacuum step tests, a full system balance, and a respirometry test on VE-20 (August 1997).

Testing of Blower Station #4 achieved higher condensate recovery rates and higher air flow rates near the original release location than along the northern edge of the plume (Blower Station #1). Results of testing indicated that the Lower Queen vapor extraction wells have a low overall permeability to air. Air injection would be beneficial to sustain mass removal rates during vapor extraction. The VE radius of influence was measured to be up to 300 feet in the Lower Queen. Declining hydrocarbon removal rates after the first three weeks indicated that vapor extraction in the Lower Queen is diffusion-limited.

Blower Station #4 has continued to operate since the June 1997 testing, with five wells connected: VE-16, VE-17, VE-18, VE-19 and VE-20. The system is monitored routinely. A chart recorder was not hooked up for Blower Station #4 until July 11, so some early July flow rates were derived from an average of the later July data. Since the chart recorder was installed, daily flow rates are automatically recorded. Monthly air samples were collected and analyzed in accordance with the requirements of Air Quality Permit No. 1859. The third quarterly air permit report for the period of July, August and September 1997 reported 5.385 barrel equivalents removed from the subsurface by Blower Station #4. The fourth quarterly air permit report for the period of October, November, and December 1997 reported 0.958 barrel equivalents removed from the subsurface by Blower Station #4.

5.3.2 Shallow Zone Vapor Extraction

A portable Shallow Zone VE system was operated from March 1992 to May 1994 to remove residual hydrocarbons in the Shallow Zone alluvium. The system consisted of a trailer-mounted 100 SCFM blower capable of 50 inches of water vacuum. The system was operated on Shallow Zone wells MW-19, MW-20, MW-21, MW-35, and MW-56, located downgradient of the Plant and north of Rocky Arroyo. During 1992-1994, 135 barrels of condensate, as calculated from effluent vapor concentrations and flow rates, were removed by volatilization and discharged.

On August 15, 1997, an additional Shallow Zone VE test was conducted in the vicinity of the original natural gas condensate pipeline release. The trailer-mounted VE system was first connected individually to each of five Shallow Zone wells (MW-011, MW-013, MW-019, MW-026, and MW-041) until conditions stabilized. A sample was collected from the well with the highest hydrocarbon concentration (MW-11). At the conclusion of the individual tests, several wells (MW-011, MW-013, and MW-019) were opened to maximize mass removal rates, and an air sample of the total system effluent was collected. The results of air sample analyses indicated that benzene was no longer present in the Shallow Zone soil gas, presumably due to volatilization and degradation.

The Shallow Zone VE system (designated SZ Blower Station #1) has continued to operate since the August 15, 1997 testing, with wells (MW-011, MW-019, MW-026 and MW-041) connected. The system was monitored routinely. A chart recorder was not hooked up for SZ Blower Station #1 until October, so the September flow rate was derived from an average of the October data. Since the chart recorder was installed, daily flow rates are automatically recorded. Monthly air samples were collected and analyzed in accordance with the requirements of Air Quality Permit No. 1859. The third quarterly air permit report for the period of July, August, and September 1997 reported 9.611 barrel equivalents

removed from the subsurface by SZ Blower Station #1. The fourth quarterly air permit report for the period of October, November, and December 1997 reported 0.193 barrel equivalents removed from the subsurface by SZ Blower Station #1, indicating a dramatic reduction in hydrocarbon removal from the Shallow Zone.

5.3.3 1997 Operational Summary

Figure 5-1 depicts the current remediation system layout, including the VE blower stations. Table 5-3 summarizes condensate recovery from remediation systems during 1997 and cumulative recovery. Blower Station #1 operated at the Lower Queen wells VE-1 through VE-5 and MW-61A from January-June 1997, removing approximately 13 barrel equivalents of hydrocarbons. Blower Station #1 was then relocated to Blower Station #4 which operated at Lower Queen wells VE-16 through VE-20 from June-December 1997 (and ongoing), removing over 6 barrel equivalents during this period. Shallow Zone SZ Blower Station #1 operated from August-December 1997 at four wells (MW-011, MW-019, MW-026, and MW-041) and removed almost 10 barrel equivalents during this period. Thus, a total of approximately 29 barrel equivalents of hydrocarbons were removed from the subsurface at the IBRP using VE in 1997.

6.0 CONCLUSIONS

This report provides a summary of remedial activities conducted at the IBRP during 1997, which included: quarterly groundwater monitoring and sampling; operation of the groundwater recovery, treatment and reinjection system; condensate recovery program; and pilot testing, data analysis, and operation of soil vapor extraction systems. Marathon has controlled migration of the condensate and dissolved plumes at the site using the groundwater recovery and infiltration system. Routine operation and maintenance of remediation system, compliance monitoring and reporting, and quarterly groundwater monitoring will continue at the IBRP in 1998. The next Annual Report will summarize all the activities completed during 1998, and will provide graphical representations of the condensate and dissolved plumes from data collected.

7.0 REFERENCES

Fluor Daniel GTI, Inc., April 2, 1997. Barrier Vapor Extraction System Startup Testing, Indian Basin Remediation Project, New Mexico.

Fluor Daniel GTI, Inc., July 31, 1997. Vapor Extraction System Blower Station No. 4 Startup Testing, Indian Basin Remediation Project, Eddy County, New Mexico.

Fluor Daniel GTI, Inc., September 19, 1997. Shallow Vapor Extraction System and Lower Queen Respirometry Testing, Indian Basin Remediation Project, Eddy County, New Mexico.

Groundwater Technology, Inc., March 31, 1995. Soil Vapor Extraction Pilot Test Report, Marathon Oil Company, Indian Basin Remediation Project, 18 miles Northwest of Carlsbad, New Mexico, December 1994-January 1995.

New Mexico Oil Conservation Division, March 12, 1997, Correspondence to Marathon regarding annual reporting requirements.

TABLE 1-1: WELL COMPLETION DETAILS (Completed)

LOWER QUEEN WELLS									
Well	Well Type	TOC Elev. (ft AMSL)	Top of 1.25-inch piezometer piping Elev. (ft AMSL)	Total Depth (ft TOC)	Well Casing ID (in)	Surface Casing Depth (ft TOC)	Well Screen Slot (in)	Well Screen Interval Top (ft TOC)	Well Screen Interval Bottom (ft TOC)
MW-57	monitoring	3787.70		179.30	4	47.00	0.02	157.10	176.54
MW-58	recovery	3824.07		234.10	7.875	**	OH	NA	NA
MW-59	recovery	3819.59		211.29	4	30.18	0.02	182.52	208.30
MW-60	monitoring	3815.28		226.08	4	29.62	0.02	172.86	222.34
MW-61A	recovery	3819.97		214.00	4	69.95	0.02	173.50	213.30
MW-62	recovery	3819.90		224.69	4	30.00	0.02	177.00	222.50
MW-63	monitoring	3826.16		221.68	4	40.00	0.02	175.39	219.79
MW-64	monitoring	3798.57		204.36	4	40.00	0.02	156.68	201.13
MW-65A	recovery	3763.26		168.56	4	70.00	0.02	115.34	166.00
MW-66	monitoring	3828.98		237.86	4	40.00	0.02	184.81	234.52
MW-67	monitoring	3765.87		168.54	4	40.00	0.02	114.78	165.11
MW-68	recovery	3797.83		200.00	4	120.00	0.02	148.38	199.69
MW-70	monitoring	3822.57		228.14	4	112.00	0.02	175.32	224.37
MW-71	monitoring	3778.05		235.41	4	69.20	0.02	167.07	234.75
MW-72	dual recovery	3819.32		236.55	8	39.50	0.02	177.32	235.38
MW-73	monitoring	3820.09		222.5	7.875	10.00	OH	NA	NA
MW-74	monitoring	3820.82		222.5	7.875	10.00	OH	NA	NA
MW-75	dual recovery	3816.12		222.5	7.875	12.25	OH	NA	NA
MW-76	recovery	3796.01		222.5	7.875	9.00	OH	NA	NA
MW-81	dual recovery	3817.03	3817.03	228.5	7.875	73.50	OH	NA	NA
MW-82	recovery	3825.07	3825.07	252.5	7.875	68.75	OH	NA	NA
MW-83	recovery	3794.12	3794.12	205.8	7.875	41.50	OH	NA	NA
MW-84	recovery	-	3759.60	172.5	7.875	67.50	OH	NA	NA
MW-85	dual recovery	-	3824.93	237.5	7.875	77.50	OH	NA	NA
MW-86	recovery	3823.99		227.5	7.875	77.50	OH	NA	NA
MW-87	monitoring	3740.50		173.1	4	NA	0.04	148.10	168.10
MW-87A	monitoring	3739.53		132.0	7.875	12.00	OH	NA	NA
MW-88	monitoring	3789.70		177.65	7.875	62.00	0.04	142.00	176.75
MW-89	monitoring	3827.68		232.53	4	NA	0.04	189.75	230.00
MW-94	recovery	-	3821.48	230.1	7.875	67.50	OH	NA	NA
MW-95	monitoring	3746.26		147.5	4	33.50	0.04	111.00	141.00
MW-96	monitoring	3739.80		137.5	4	12.50	0.04	97.50	127.50
MW-97	monitoring	3750.16		150.5	4	12.50	0.04	107.50	137.50
MW-98	monitoring	3770.15		142.5	4	12.50	0.04	128.00	158.00
MW-104	monitoring	3793.64	NA	222.5	8	37.50	OH	NA	NA
MW-108	monitoring	3747.13	NA	172.5	8	42.00	OH	NA	NA
IW-1	injection	3808.55		232.5	11	75.50	OH	NA	NA
IW-2	injection	3835.86		302.5	11	161.50	OH	NA	NA
SW-1	recovery	3808.19	NA	255.0	10		OH	NA	NA
SW-2	monitoring	3808.79	NA	292.0	10		OH	163.00	292.00
SW-3	recovery	3842.29		232.7	7.875	84.00	OH	NA	NA
VE-1	vapor extraction	***	NA	214.0	7.875	80.00	OH	NA	NA
VE-2	vapor extraction	***	NA	210.0	7.875	75.00	OH	NA	NA
VE-3	vapor extraction	***	NA	184.0	7.875	72.50	OH	NA	NA
VE-4	vapor extraction	***	NA	183.0	7.875	57.50	OH	NA	NA
VE-5	vapor extraction	***	NA	168.0	7.875	57.50	OH	NA	NA
VE-16	vapor extraction	3750.96	NA	152.5	7.875	45.00	OH	NA	NA
VE-17	vapor extraction	3756.73	NA	132.5	7.875	42.50	OH	NA	NA
VE-18	vapor extraction	3756.82	NA	165.5	7.875	40.00	OH	NA	NA
VE-19	vapor extraction	3761.18	NA	152.5	7.875	40.00	OH	NA	NA
VE-20	vapor extraction	3768.41	NA	162.5	7.875	40.00	OH	NA	NA

*** these wells have not been surveyed.
AMSL = above mean sea level
TOC = top of casing datum
OH = open hole
NA = not applicable

moc-05/wellcomp.xls(lower queen)

TABLE 1-1: WELL COMPLETION DETAILS

SHALLOW ZONE WELLS							
Well ID	Well Type	TOC Elev. (ft AMSL)	Total Depth (ft TOC)	Well Casing ID (in)	Well Screen Slot (in)	Well Screen Interval Top (ft TOC)	Well Screen Interval Bottom (ft TOC)
MW-1	monitoring	3792.50	16.10	2	0.01	10.06	14.66
MW-2	monitoring	3788.72	15.52	2	0.01	5.61	15.24
MW-3	monitoring	3787.50	16.90	2	0.01	6.87	16.61
MW-4	monitoring	3785.880	18.68	2	0.01	8.65	18.39
MW-5	monitoring	3801.69	12.77	2	0.01	7.86	12.77
MW-6	monitoring	3785.17	13.66	2	0.01	8.69	13.66
MW-7	monitoring	3784.46	17.01	2	0.01	7.23	17.01
MW-8	monitoring	3795.04	16.97	2	0.01	7.19	16.97
MW-9	monitoring	3807.85	13.65	2	0.01	8.74	13.31
MW-10	monitoring	3790.78	19.08	4	0.02	8.97	18.43
MW-11	monitoring	3806.96	24.85	4	0.02	14.68	24.16
MW-12	monitoring	3809.86	25.21	2	0.01	15.13	24.91
MW-13	monitoring	3801.58	22.07	2	0.01	11.64	21.42
MW-14	monitoring	3803.61	24.30	4	0.02	14.18	23.63
MW-15	monitoring	3803.59	19.47	2	0.01	9.39	19.17
MW-16	monitoring	3801.04	22.66	4	0.02	12.71	22.23
MW-17	monitoring	3799.55	19.75	2	0.01	9.71	19.47
MW-18	monitoring	3795.82	17.42	4	0.02	7.21	16.84
MW-19	monitoring	3797.21	19.11	4	0.02	8.96	18.53
MW-20	monitoring	3797.59	16.89	2	0.01	6.89	16.69
MW-21	monitoring	3798.21	23.31	2	0.01	12.74	22.88
MW-22	monitoring	3799.20	17.30	2	0.01	7.29	16.80
MW-23	monitoring	3794.48	12.08	2	0.01	7.04	11.64
MW-24	monitoring	3794.09	14.09	2	0.01	9.05	13.67
MW-25	monitoring	3786.97	10.27	2	0.01	4.94	9.80
MW-26	monitoring	3793.01	21.11	2	0.01	11.11	20.56
MW-27	monitoring	3790.93	18.23	2	0.01	13.16	17.79
MW-28	monitoring	3797.03	18.59	2	0.01	8.74	18.26
MW-29	monitoring	3794.06	14.76	2	0.01	9.68	14.37
MW-30	monitoring	3788.30	14.82	2	0.01	7.8	14.82
MW-31	monitoring	3791.15	19.93	4	0.02	7.945	19.93
MW-32	monitoring	3797.47	16.77	2	0.01	11.87	16.56
MW-33	monitoring	3802.48	20.29	4	0.02	10.14	19.70
MW-34	monitoring	3806.00	19.97	2	0.01	10.12	19.64
MW-35	monitoring	3800.81	20.71	4	0.02	15.78	20.33
MW-36	monitoring	3792.94	8.77	2	0.01	6.96	8.61
MW-37	monitoring	3795.03	20.83	4	0.02	10.24	19.90
MW-38	monitoring	3797.32	20.57	4	0.02	10.4	19.98
MW-39	monitoring	3796.20	20.54	4	0.02	10.17	19.74
MW-40	monitoring	3803.12	12.15	2	0.01	7.02	12.07
MW-41	monitoring	3799.04	24.04	4	0.02	13.87	23.43
MW-42	monitoring	3804.73	22.00	2	0.01	11.53	21.56
MW-43	monitoring	3802.05	24.55	4	0.02	14.40	23.95
MW-44	monitoring	3804.14	25.24	4	0.02	15.09	24.64
MW-45	infiltration	3808.68	26.62	2	0.01	11.58	26.13
MW-46	monitoring	3805.54	20.24	4	0.02	9.69	19.24
MW-47	monitoring	3805.09	21.79	2	0.01	11.75	21.29
MW-48	monitoring	3806.18	19.98	2	0.01	9.94	19.49
MW-49	monitoring	3805.61	25.91	2	0.01	15.82	25.45
MW-50	monitoring	3813.35	37.15	2	0.01	22.11	36.66
MW-51	infiltration	3810.86	20.06	2	0.01	10.02	19.57
MW-52	monitoring	3817.49	21.44	2	0.01	11.4	20.95
MW-53	monitoring	3809.92	15.32	2	0.01	8.59	15.14

TABLE 1-1: WELL COMPLETION DETAILS (continued)

SHALLOW ZONE WELLS (continued)							
Well ID	Well Type	TOC Elev. (ft AMSL)	Total Depth (ft TOC)	Well Casing ID (in)	Well Screen Slot (in)	Well Screen Interval Top (ft TOC)	Well Screen Interval Bottom (ft TOC)
MW-54	monitoring	3823.86	78.15	4	0.02	42.92	77.45
MW-55	monitoring	3794.40	66.32	4	0.02	21.43	66.08
MW-56	monitoring	3782.45	43.76	4	0.02	28.79	43.53
MW-61	monitoring	3816.20	57.97	4	0.02	47.83	57.28
MW-65	monitoring	3763.31	57.69	4	0.02	37.58	57.01
MW-69	recovery	3805.11	51.27	4	0.02	16.56	50.49
MW-77	monitoring	3775.48	82.20	7.875	OH	-	-
MW-78	monitoring	3785.82	86.62	7.875	OH	-	-
MW-79	monitoring	3788.39	82.90	7.875	OH	-	-
MW-80	monitoring	3821.64	91.80	7.875	OH	-	-
MW-90	monitoring	3781.73	62.50	4	0.04	12.50	62.50
MW-91	monitoring	3783.07	72.50	4	0.04	12.50	72.50
MW-92	monitoring	3785.29	72.50	4	0.04	12.50	72.50
MW-93	monitoring	3817.50	72.50	4	0.04	12.50	72.50
MW-99	monitoring	3770.05	72.50	4	0.04	12.50	72.50
MW-100	monitoring	3773.31	72.50	4	0.04	12.50	72.50
MW-101	monitoring	3762.71	72.50	4	0.04	12.50	72.50
MW-102	monitoring	3753.69	82.50	4	0.04	12.50	82.50
MW-103	monitoring	3743.14	72.50	4	0.04	12.50	72.50
MW-105	monitoring	3736.93	82.50	4	0.04	12.50	82.50
MW-106	monitoring	3721.97	94.50	4	0.04	12.50	94.5
MW-107	monitoring	3726.27	72.50	4	0.04	12.50	72.50
Sump A10	monitoring	3800.99	13.42	24	-	-	-
Sump 16A	monitoring	3785.14	17.45	24	-	-	-

AMSL = above mean sea level
TOC = top of casing datum

TABLE 4-1

DISSOLVED-PHASE BTEX CONCENTRATIONS (1997 DATA)
SHALLOW ZONE

Date: 04/28/98

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylene (total) (ug/l)	BTEX (ug/l)
BIEBBLE	02/10/97	<0.5	<0.5	<0.5	<0.5	<0.5
LYMAN	02/10/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-010	02/11/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-011	02/07/97	270	20	81	1400	1771
MW-013	02/07/97	1300	130	690	1000	3120
MW-019	02/07/97	360	980	1100	5600	8040
MW-038	02/07/97	0.7	<0.5	<0.5	0.7	1.4
MW-039	02/07/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-039	07/18/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-041	02/07/97	82	6.2	7.2	9.1	104.5
MW-041	07/18/97	280	6.9	6.9	23	316.8
MW-043	02/07/97	64	8.1	18	28	118.1
MW-043	07/18/97	110	<1.0	4.1	<1.0	114.1
MW-044	02/07/97	270	26	53	48	397
MW-044	07/18/97	750	<10	45	<10	795
MW-046	02/11/97	3300	550	1000	1400	6250
MW-046	05/29/97	5000	1200	230	<100	6430
MW-046	07/18/97	6100	1900	270	130	8400
MW-049	02/07/97	79	66	45	160	350
MW-049	07/18/97	130	<1.0	35	9.8	174.8
MW-050	02/07/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-050	07/18/97	<1.0	<1.0	<1.0	<1.0	<1.0
MW-054	02/10/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-054	07/16/97	0.9	3.2	2.1	17	23.2
MW-055	02/10/97	410	20	230	64	724
MW-055	07/16/97	140	11	110	9.2	270.2
MW-056	02/11/97	370	12	51	51	484
MW-061	02/10/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-061	07/17/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-065	02/11/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-065	05/07/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-069	07/18/97	930	23	410	1100	2463
MW-077	05/07/97	8.4	70	8.3	52	138.7
MW-077	07/18/97	14	30	11	71	126

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL 8020_HIST

TABLE 4-1

DISSOLVED-PHASE BTEX CONCENTRATIONS (1997 DATA)
SHALLOW ZONE

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylene (total) (ug/l)	BTEX (ug/l)
MW-078	02/10/97	41	7.9	7.4	12	68.3
MW-078	05/07/97	20	42	12	23	97
MW-078	07/17/97	8.2	10	6.6	16	40.8
MW-079	02/10/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-079	05/07/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-079	07/17/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-090	02/10/97	17	<0.5	15	1.4	33.4
MW-090	05/07/97	1.1	<0.5	<0.5	<0.5	1.1
MW-090	07/17/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-091	02/11/97	340	14	50	55	459
MW-106	02/11/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-106	05/07/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-106	07/18/97	<0.5	<0.5	<0.5	<0.5	<0.5
UIHS_ARROYO	02/10/97	<0.5	<0.5	<0.5	<0.5	<0.5

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL 8020_HIST

TABLE 4-2

DISSOLVED-PHASE BTEX CONCENTRATIONS (1997 DATA)
LOWER QUEEN

Date: 05/12/98

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylene (total) (ug/l)	BTEX (ug/l)
MW-057	02/10/97	<0.5	0.9	<0.5	<0.5	0.9
MW-057	07/15/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-060	02/09/97	<0.5	<0.5	0.5	0.8	1.3
MW-060	05/06/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-060	07/15/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-060	10/16/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-061A	02/06/97	42	3.4	8.4	46	99.8
MW-061A	05/07/97	330	59	<25	850	1239
MW-061A	06/27/97	22	11	(5.4)	26	64.4
MW-061A	07/15/97	16	<10	10	93	119
MW-061A	10/15/97	35	13	22	95	165
MW-062	07/18/97	20	19	58	210	307
MW-063	02/05/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-063	07/15/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-063	10/15/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-064	07/16/97	84	<25	130	310	524
MW-066	02/05/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-066	05/06/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-066	07/16/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-066	10/15/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-067	02/10/97	15	4.8	1.9	41.0	62.7
MW-067	07/16/97	160	330	110	1200	1800
MW-068	10/17/97	740	100	490	3800	5130
MW-070	02/05/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-070	10/15/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-071	02/09/97	5.2	1.3	0.8	1.3	8.6
MW-071	05/06/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-071	07/17/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-071	10/16/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-074	07/18/97	180	320	180	1900	2580
MW-086	10/17/97	510	360	580	1400	2850
MW-087	02/09/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-087	05/06/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-087	10/16/97	<0.5	<0.5	<0.5	<0.5	<0.5

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

() = Less than Reporting Limit

For RCL 8020_HIST

TABLE 4-2

DISSOLVED-PHASE BTEX CONCENTRATIONS (1997 DATA)
LOWER QUEEN

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylene (total) (ug/l)	BTEX (ug/l)
MW-087A	02/09/97	0.9	<0.5	0.7	1.5	3.1
MW-087A	05/07/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-087A	10/16/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-088	02/05/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-088	04/30/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-088	10/15/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-089	02/05/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-089	04/30/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-089	10/15/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-094	10/17/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-095	04/30/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-096	04/30/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-096	10/16/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-097	04/30/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-097	10/17/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-098	04/30/97	5.8	3.5	1.5	26	36.8
MW-104	07/17/97	<0.5	0.5	<0.5	0.7	1.2
MW-108	07/17/97	<0.5	<0.5	<0.5	<0.5	<0.5
SW-01	02/10/97	<0.5	<0.5	<0.5	<0.5	<0.5
SW-01	12/10/97	<0.1	<0.1	<0.1	<0.1	<0.1

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL 8020_HIST

TABLE 4-2

DISSOLVED-PHASE BTEX CONCENTRATIONS (1997 DATA)
LOWER QUEEN

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylene (total) (ug/l)	BTEX (ug/l)
MW-087A	02/09/97	0.9	<0.5	0.7	1.5	3.1
MW-087A	05/07/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-087A	10/16/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-088	02/05/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-088	04/30/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-088	10/15/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-089	02/05/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-089	04/30/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-089	10/15/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-094	10/17/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-095	04/30/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-096	04/30/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-096	10/16/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-097	04/30/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-097	10/17/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-098	04/30/97	5.8	3.5	1.5	26	36.8
MW-104	07/17/97	<0.5	0.5	<0.5	0.7	1.2
MW-108	07/17/97	<0.5	<0.5	<0.5	<0.5	<0.5
SW-01	02/10/97	<0.5	<0.5	<0.5	<0.5	<0.5
SW-01	12/10/97	<0.1	<0.1	<0.1	<0.1	<0.1

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL 8020_HIST

TABLE 4-3

DISSOLVED-PHASE VOC CONCENTRATIONS (1997 DATA)
SHALLOW ZONE

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Dichloro difluoromethane (ug/l)	Chloromethane (ug/l)	Vinyl chloride (ug/l)	Bromomethane (ug/l)	Chloroethane (ug/l)	Trichloro fluoromethane (ug/l)	Acetone (ug/l)	1,1-Dichloro ethene (ug/l)
MW-043	07/18/97	<1	<1	<1	<1	<1	<1	<1	<1
MW-044	07/18/97	<10	<10	<10	<10	<10	<10	<100	<10
MW-046	05/29/97	<100	<100	<100	<100	<100	<100	<1000	<100
MW-046	07/18/97	<1	<1	<1	<1	---	---	---	<1
MW-049	07/18/97	<1	<1	<1	<1	<1	<1	<10	<1
MW-050	07/18/97	<1	<1	<1	<1	<1	<1	<10	<1

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL 8240_HIST

TABLE 4-3

DISSOLVED-PHASE VOC CONCENTRATIONS (1997 DATA)
SHALLOW ZONE

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Iodomethane (ug/l)	Methylene chloride (ug/l)	cis-1,2-Dichloroethene (ug/l)	1,1-Dichloroethane (ug/l)	trans-1,2-Dichloroethene (ug/l)	2-Butanone (ug/l)	Carbon disulfide (ug/l)	Chloroform (ug/l)
MW-043	07/18/97	<1	<1	<1	<1	<1	<10	<1	<1
MW-044	07/18/97	<10	<10	<10	<10	<10	<100	<10	<10
MW-046	05/29/97	<100	<100	<100	<100	<100	<1000	<100	<100
MW-046	07/18/97	---	<1	<1	<1	<1	---	---	<1
MW-049	07/18/97	<1	<1	<1	<1	<1	<10	<1	<1
MW-050	07/18/97	<1	<1	<1	<1	<1	<10	<1	<1

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL 8240_HIST

TABLE 4-3

DISSOLVED-PHASE VOC CONCENTRATIONS (1997 DATA)
SHALLOW ZONE

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	1,2-Dichloro ethane (ug/l)	Vinyl acetate (ug/l)	1,1,1-Trichloro ethane (ug/l)	Carbon tetrachloride (ug/l)	1,2-Dichloro propane (ug/l)	Trichloroethene (ug/l)	Bromodichloro methane (ug/l)	2-Chloroethyl vinylether (ug/l)
MW-043	07/18/97	<1	<1	<1	<1	<1	<1	<1	<1
MW-044	07/18/97	<10	<10	<10	<10	<10	<10	<10	<100
MW-046	05/29/97	<100	<100	<100	<100	<100	<100	<100	<1000
MW-046	07/18/97	<1	---	<1	<1	---	<1	<1	---
MW-049	07/18/97	<1	<1	<1	<1	<1	<1	<1	<10
MW-050	07/18/97	<1	<1	<1	<1	<1	<1	<1	<10

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL 8240_HIST

TABLE 4-3

DISSOLVED-PHASE VOC CONCENTRATIONS (1997 DATA)
SHALLOW ZONE

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	cis-1,3, Dichloropropene (ug/l)	Trans-1,3-Dichloropropene (ug/l)	1,1,2-Trichloro ethane (ug/l)	1,2-Dibromoetha (ug/l)	4-Methyl 2-pentanone (ug/l)	2-Hexanone (ug/l)	Dibromochloro methane (ug/l)	Tetrachloro ethene (ug/l)
MW-043	07/18/97	<1	<1	<1	<1	<1	<1	<1	<1
MW-044	07/18/97	<10	<10	<10	<10	<100	<100	<10	<10
MW-046	05/29/97	<100	<100	<100	<100	<1000	<1000	<100	<100
MW-046	07/18/97	---	---	<1	---	---	---	---	<1
MW-049	07/18/97	<1	<1	<1	<1	<10	<1	<1	<1
MW-050	07/18/97	<1	<1	<1	<1	<10	<1	<1	<1

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL 8240_HIST

TABLE 4-3

DISSOLVED-PHASE VOC CONCENTRATIONS (1997 DATA)
SHALLOW ZONE

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Chlorobenzene (ug/l)	Styrene (ug/l)	Bromoform (ug/l)	1,1,2,2-Tetra chloroethane (ug/l)	1,3-Dichloro benzene (ug/l)	1,4-Dichloro benzene (ug/l)	1,2-Dichloro benzene (ug/l)
MW-043	07/18/97	<1	<1	<1	<1	<1	<1	<1
MW-044	07/18/97	<10	<10	<10	<10	<10	<10	<10
MW-046	05/29/97	<100	<100	<100	<100	<100	<100	<100
MW-046	07/18/97	<1	---	<1	<1	---	---	---
MW-049	07/18/97	<1	<1	<1	<1	<1	<1	<1
MW-050	07/18/97	<1	<1	<1	<1	<1	<1	<1

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL 8240_HIST

TABLE 4-4

DISSOLVED-PHASE VOC CONCENTRATIONS (1997 DATA)
LOWER QUEEN

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Dichloro difluoromethane (ug/l)	Chloromethane (ug/l)	Vinyl chloride (ug/l)	Bromomethane (ug/l)	Chloroethane (ug/l)	Trichloro fluoromethane (ug/l)	Acetone (ug/l)	1,1-Dichloro ethene (ug/l)
SW-01	12/10/97	<1	<1	<1	<1	---	---	---	<1

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL 8240_HIST

TABLE 4-4

DISSOLVED-PHASE VOC CONCENTRATIONS (1997 DATA)
LOWER QUEEN

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Iodomethane (ug/l)	Methylene chloride (ug/l)	cis-1,2-Dichloroethene (ug/l)	1,1-Dichloroethane (ug/l)	trans-1,2-Dichloroethene (ug/l)	2-Butanone (ug/l)	Carbon disulfide (ug/l)	Chloroform (ug/l)
SW-01	12/10/97	---	<2	<1	<1	<1	---	---	<1

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL 8240_HIST

TABLE 4-4

DISSOLVED-PHASE VOC CONCENTRATIONS (1997 DATA)
LOWER QUEEN

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	1,2-Dichloro ethane (ug/l)	Vinyl acetate (ug/l)	1,1,1-Trichloro ethane (ug/l)	Carbon tetrachloride (ug/l)	1,2-Dichloro propane (ug/l)	Trichloroethene (ug/l)	Bromodichloro methane (ug/l)	2-Chloroethyl vinylether (ug/l)
SW-01	12/10/97	<1	---	<1	<1	---	<1	<1	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL 8240_HIST

TABLE 4-4

DISSOLVED-PHASE VOC CONCENTRATIONS (1997 DATA)
LOWER QUEEN

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	cis-1,3, Dichloropropene (ug/l)	Trans-1,3- Dichloropropene (ug/l)	1,1,2-Trichloro ethane (ug/l)	1,2-Dibromoetha (ug/l)	4-Methyl 2-pentanone (ug/l)	2-Hexanone (ug/l)	Dibromochloro methane (ug/l)	Tetrachloro ethene (ug/l)
SW-01	12/10/97	---	---	<1	<0.01	---	---	---	<0.5

Values represent total concentrations unless noted < =Not detected at indicated reporting limit --- =Not analyzed

For RCL 8240_HIST

TABLE 4-4

DISSOLVED-PHASE VOC CONCENTRATIONS (1997 DATA)
LOWER QUEEN

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Chlorobenzene (ug/l)	Styrene (ug/l)	Bromoform (ug/l)	1,1,2,2-Tetra chloroethane (ug/l)	1,3-Dichloro benzene (ug/l)	1,4-Dichloro benzene (ug/l)	1,2-Dichloro benzene (ug/l)
SW-01	12/10/97	<1	---	<1	<1	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL 8240_HIST

TABLE 4-5

DISSOLVED-PHASE SVOC CONCENTRATIONS (1997 DATA)
SHALLOW ZONE

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Acenaphthene (ug/l)	Acenaphthylene (ug/l)	Anthracene (ug/l)	Benzo(a) anthracene (ug/l)	Benzo(a)pyrene (ug/l)	Benzo(b) fluoranthene (ug/l)	Benzo(g,h,i) perylene (ug/l)	Benzo(k)fluor anthene (ug/l)
MW-013	03/21/97	---	---	---	---	---	---	---	---
MW-039	07/18/97	<1	<1	<1	<1	<1	<1	<1	<1
MW-041	03/20/97	---	---	---	---	---	---	---	---
MW-041	07/18/97	<1	<1	<1	<1	<1	<1	<1	<1
MW-043	07/18/97	<1	<1	<1	<1	<1	<1	<1	<1
MW-046	05/29/97	58	<1	<1	13	5	6	<1	8
MW-049	03/20/97	---	---	---	---	---	---	---	---
MW-049	07/18/97	<1	<1	<1	<1	<1	<1	<1	<1
MW-050	03/20/97	---	---	---	---	---	---	---	---
MW-050	07/18/97	<1	<1	<1	<1	<1	<1	<1	<1
MW-054	07/16/97	<1	<1	<1	<1	<1	<1	<1	<1
MW-055	07/16/97	<1	<1	<1	<1	<1	<1	<1	<1
MW-056	03/20/97	---	---	---	---	---	---	---	---
MW-069	07/18/97	<1	<1	<1	<1	<1	<1	<1	<1
MW-079	07/17/97	<1	<1	<1	<1	<1	<1	<1	<1
MW-090	02/10/97	<1	<1	<1	<1	<1	<1	<1	<1
MW-091	02/11/97	2	<1	<1	<1	<1	<1	<1	<1
MW-106	02/11/97	<1	<1	<1	<1	<1	<1	<1	<1

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL 8310

TABLE 4-5

DISSOLVED-PHASE SVOC CONCENTRATIONS (1997 DATA)
SHALLOW ZONE

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Chrysene (ug/l)	Dibenzo(a,h) anthracene (ug/l)	Fluoranthene (ug/l)	Fluorene (ug/l)	Indeno (1,2,3-cd) pyrene (ug/l)	Naphthalene (ug/l)	Phenanthrene (ug/l)	Pyrene (ug/l)
MW-013	03/21/97	---	---	---	---	---	---	---	---
MW-039	07/18/97	<1	<1	<1	<1	<1	<1	<1	<1
MW-041	03/20/97	---	---	---	---	---	---	---	---
MW-041	07/18/97	<1	<1	<1	<1	<1	<1	<1	<1
MW-043	07/18/97	<1	<1	<1	<1	<1	<1	<1	<1
MW-046	05/29/97	22	16	<1	<1	2	5	3	<1
MW-049	03/20/97	---	---	---	---	---	---	---	---
MW-049	07/18/97	<1	<1	<1	<1	<1	<1	<1	<1
MW-050	03/20/97	---	---	---	---	---	---	---	---
MW-050	07/18/97	<1	<1	<1	<1	<1	<1	<1	<1
MW-054	07/16/97	<1	<1	<1	<1	<1	<1	<1	<1
MW-055	07/16/97	<1	<1	<1	<1	<1	12	<1	<1
MW-056	03/20/97	---	---	---	---	---	---	---	---
MW-069	07/18/97	<1	<1	<1	<1	<1	<1	<1	<1
MW-079	07/17/97	<1	<1	<1	<1	<1	<1	<1	<1
MW-090	02/10/97	<1	<1	<1	1	<1	<1	<1	<1
MW-091	02/11/97	<1	<1	<1	1	<1	2	<1	<1
MW-106	02/11/97	<1	<1	<1	1	<1	<1	<1	<1

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL 8310

TABLE 4-5

DISSOLVED-PHASE SVOC CONCENTRATIONS (1997 DATA)
SHALLOW ZONE

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	1-Methyl naphthalene (ug/l)	2-Methyl naphthalene (ug/l)	Phenol (ug/l)
MW-013	03/21/97	---	---	<6
MW-039	07/18/97	<1	<1	---
MW-041	03/20/97	---	---	<3
MW-041	07/18/97	<1	<1	---
MW-043	07/18/97	<1	<1	---
MW-046	05/29/97	31	29	---
MW-049	03/20/97	---	---	<3
MW-049	07/18/97	<1	<1	---
MW-050	03/20/97	---	---	<3
MW-050	07/18/97	<1	<1	---
MW-054	07/16/97	<1	<1	---
MW-055	07/16/97	<1	<1	---
MW-056	03/20/97	---	---	<3
MW-069	07/18/97	<1	<1	---
MW-079	07/17/97	<1	<1	---
MW-090	02/10/97	<1	<1	---
MW-091	02/11/97	5	2	---
MW-106	02/11/97	<1	<1	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL 8310

TABLE 4-6

DISSOLVED-PHASE SVOC CONCENTRATIONS (1997 DATA)
LOWER QUEEN

Date: 04/22/98

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Acenaphthene (ug/l)	Acenaphthylene (ug/l)	Anthracene (ug/l)	Benzo(a) anthracene (ug/l)	Benzo(a)pyrene (ug/l)	Benzo(b) fluoranthene (ug/l)	Benzo(g,h,i) perylene (ug/l)	Benzo(k)fluor anthene (ug/l)
MW-060	03/19/97	---	---	---	---	---	---	---	---
MW-061A	02/06/97	<1	<1	<1	<1	<1	<1	1	<1
MW-074	07/18/97	<1	2.5	<1	1.5	<1	<1	<1	<1
MW-087	02/09/97	<1	<1	<1	<1	<1	<1	<1	<1
MW-087A	02/09/97	19	<1	<1	<1	<1	<1	<1	<1
MW-088	02/05/97	<1	<1	<1	<1	<1	<1	<1	<1
MW-089	02/05/97	<1	<1	<1	<1	<1	<1	<1	<1
MW-095	04/30/97	<1	<1	<1	<1	<1	<1	<1	<1
MW-096	04/30/97	<1	<1	<1	<1	<1	<1	<1	<1
MW-097	04/30/97	<1	<1	<1	<1	<1	<1	<1	<1
MW-098	04/30/97	<1	<1	<1	<1	<1	<1	<1	<1
MW-104	07/17/97	<1	<1	<1	<1	<1	<1	<1	<1
MW-108	07/18/97	<1	<1	<1	<1	<1	<1	<1	<1
SW-01	12/10/97	3	<1	<1	<1	<0.7	<1	<1	<1

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL 8310

TABLE 4-6

DISSOLVED-PHASE SVOC CONCENTRATIONS (1997 DATA)
LOWER QUEEN

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Chrysene (ug/l)	Dibenzo(a,h) anthracene (ug/l)	Fluoranthene (ug/l)	Fluorene (ug/l)	Indeno (1,2,3-cd) pyrene (ug/l)	Naphthalene (ug/l)	Phenanthrene (ug/l)	Pyrene (ug/l)
MW-060	03/19/97	---	---	---	---	---	---	---	---
MW-061A	02/06/97	<1	<1	<1	1	<1	<1	<1	<1
MW-074	07/18/97	<1	<1	23	3.8	<1	8.4	5.6	12
MW-087	02/09/97	<1	<1	<1	<1	<1	<1	<1	<1
MW-087A	02/09/97	<1	<1	<1	<1	<1	<1	<1	<1
MW-088	02/05/97	<1	<1	<1	1	<1	1	<1	<1
MW-089	02/05/97	<1	<1	<1	1	<1	<1	<1	<1
MW-095	04/30/97	<1	<1	<1	<1	<1	<1	<1	<1
MW-096	04/30/97	<1	<1	<1	<1	<1	<1	<1	<1
MW-097	04/30/97	<1	<1	<1	<1	<1	<1	<1	<1
MW-098	04/30/97	<1	<1	<1	<1	<1	<1	<1	<1
MW-104	07/17/97	<1	<1	<1	<1	<1	<1	<1	<1
MW-108	07/18/97	<1	<1	<1	<1	<1	<1	<1	<1
SW-01	12/10/97	<1	<1	<1	<1	<1	<1	<1	<1

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL 8310

TABLE 4-6

DISSOLVED-PHASE SVOC CONCENTRATIONS (1997 DATA)
LOWER QUEEN

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	1-Methyl naphthalene (ug/l)	2-Methyl naphthalene (ug/l)	Phenol (ug/l)
MW-060	03/19/97	---	---	<4
MW-061A	02/06/97	<1	<1	---
MW-074	07/18/97	<1	<1	---
MW-087	02/09/97	<1	<1	---
MW-087A	02/09/97	<1	<1	---
MW-088	02/05/97	<1	<1	---
MW-089	02/05/97	<1	<1	---
MW-095	04/30/97	<1	<1	---
MW-096	04/30/97	<1	<1	---
MW-097	04/30/97	<1	<1	---
MW-098	04/30/97	<1	<1	---
MW-104	07/17/97	<1	<1	---
MW-108	07/18/97	<1	<1	---
SW-01	12/10/97	<1	<1	<5

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL 8310

TABLE 4-7

DISSOLVED-PHASE PCB CONCENTRATIONS (1997 DATA)
LOWER QUEEN

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Aroclor 1260 (ug/l)	Aroclor 1254 (ug/l)	Aroclor 1221 (ug/l)	Aroclor 1232 (ug/l)	Aroclor 1248 (ug/l)	Aroclor 1016 (ug/l)	Aroclor 1242 (ug/l)
SW-01	12/10/97	<1	<1	<1	<1	<1	<1	<1

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL 8270-97

TABLE 4-8

DISSOLVED-PHASE METAL CONCENTRATIONS (1997 DATA)
SHALLOW ZONE

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Aluminum (mg/l)	Arsenic (mg/l)	Barium (mg/l)	Boron (mg/l)	Cadmium (mg/l)	Calcium (mg/l)	Chromium (mg/l)	Cobalt (mg/l)
MW-013	03/21/97	---	---	0.37	---	---	---	---	---
MW-041	03/20/97	---	---	0.37	---	---	---	---	---
MW-046	05/29/97	2.6	0.006	0.33	0.22	<0.001	140	0.007	<0.005
MW-049	03/20/97	---	---	0.07	---	---	---	---	---
MW-050	03/20/97	---	---	0.03	---	---	---	---	---
MW-056	03/20/97	---	---	0.66	---	---	---	---	---
PIPELINE_4	05/29/97	---	---	---	---	---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL METALS

TABLE 4-8

DISSOLVED-PHASE METAL CONCENTRATIONS (1997 DATA)
SHALLOW ZONE

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Copper (mg/l)	Iron (mg/l)	Lead (mg/l)	Magnesium (mg/l)	Manganese (mg/l)	Mercury (mg/l)	Molybdenum (mg/l)	Nickel (mg/l)
MW-013	03/21/97	---	29	---	---	0.48	---	---	---
MW-041	03/20/97	---	0.69	---	---	0.11	---	---	---
MW-046	05/29/97	0.013	3.9	<0.003	140	0.16	<0.0002	<0.005	0.009
MW-049	03/20/97	---	6.8	---	---	0.33	---	---	---
MW-050	03/20/97	---	6.5	---	---	0.64	---	---	---
MW-056	03/20/97	---	28	---	---	0.24	---	---	---
PIPELINE_4	05/29/97	---	---	---	---	---	<0.0003	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL METALS

TABLE 4-8

DISSOLVED-PHASE METAL CONCENTRATIONS (1997 DATA)
SHALLOW ZONE

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Potassium (mg/l)	Radium 226,228 (pCi/l)	Selenium (mg/l)	Silicon (mg/l)	Silver (mg/l)	Sodium (mg/l)	Uranium (pCi/l)	Zinc (mg/l)
MW-013	03/21/97	---	---	---	---	---	---	---	---
MW-041	03/20/97	---	---	---	---	---	---	---	---
MW-046	05/29/97	3.6	---	<0.005	20	<0.005	120	---	0.03
MW-049	03/20/97	---	---	---	---	---	---	---	---
MW-050	03/20/97	---	---	---	---	---	---	---	---
MW-056	03/20/97	---	---	---	---	---	---	---	---
PIPELINE_4	05/29/97	---	---	---	---	---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL METALS

TABLE 4-8

DISSOLVED-PHASE METAL CONCENTRATIONS (1997 DATA)
SHALLOW ZONE

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Dissolved Aluminum (mg/l)	Dissolved Arsenic (mg/l)	Dissolved Barium (mg/l)	Dissolved Boron (mg/l)	Dissolved Cadmium (mg/l)	Dissolved Chromium (mg/l)	Dissolved Cobalt (mg/l)	Dissolved Copper (mg/l)
MW-013	03/21/97	---	---	---	---	---	---	---	---
MW-041	03/20/97	---	---	---	---	---	---	---	---
MW-046	05/29/97	<0.1	0.005	0.31	0.23	<0.001	<0.005	<0.005	<0.005
MW-049	03/20/97	---	---	---	---	---	---	---	---
MW-050	03/20/97	---	---	---	---	---	---	---	---
MW-056	03/20/97	---	---	---	---	---	---	---	---
PIPELINE_4	05/29/97	---	---	---	---	---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL METALS

TABLE 4-8

DISSOLVED-PHASE METAL CONCENTRATIONS (1997 DATA)
SHALLOW ZONE

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Dissolved Iron (mg/l)	Dissolved Manganese (mg/l)	Dissolved Mercury (mg/l)	Dissolved Molybdenum (mg/l)	Dissolved Nickel (mg/l)	Dissolved Lead (mg/l)	Dissolved Selenium (mg/l)	Dissolved Silicon (mg/l)
MW-013	03/21/97	---	---	---	---	---	---	---	---
MW-041	03/20/97	---	---	---	---	---	---	---	---
MW-046	05/29/97	<0.05	0.068	<0.0002	<0.005	<0.005	<0.003	<0.005	15
MW-049	03/20/97	---	---	---	---	---	---	---	---
MW-050	03/20/97	---	---	---	---	---	---	---	---
MW-056	03/20/97	---	---	---	---	---	---	---	---
PIPELINE_4	05/29/97	---	---	---	---	---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL METALS

TABLE 4-8

DISSOLVED-PHASE METAL CONCENTRATIONS (1997 DATA)
SHALLOW ZONE

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Dissolved Silver (mg/l)	Dissolved Zinc (mg/l)
MW-013	03/21/97	---	---
MW-041	03/20/97	---	---
MW-046	05/29/97	<0.005	<0.02
MW-049	03/20/97	---	---
MW-050	03/20/97	---	---
MW-056	03/20/97	---	---
PIPELINE_4	05/29/97	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL METALS

TABLE 4-9

DISSOLVED-PHASE METAL CONCENTRATIONS
LOWER QUEEN

Date: 05/21/98

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Aluminum (mg/l)	Arsenic (mg/l)	Barium (mg/l)	Boron (mg/l)	Cadmium (mg/l)	Calcium (mg/l)	Chromium (mg/l)	Cobalt (mg/l)
MW-060	03/19/97	---	---	0.03	---	---	---	---	---
MW-104	07/17/97	---	---	---	---	---	126	---	---
MW-108	07/17/97	---	---	---	---	---	88.7	---	---
SW-01	12/10/97	<0.05	<0.005	0.029	0.044	<0.002	---	<0.005	<0.005

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL TAB4-9 LQ

TABLE 4-9

DISSOLVED-PHASE METAL CONCENTRATIONS
LOWER QUEEN

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Copper (mg/l)	Iron (mg/l)	Lead (mg/l)	Magnesium (mg/l)	Manganese (mg/l)	Mercury (mg/l)	Molybdenum (mg/l)	Nickel (mg/l)
MW-060	03/19/97	---	0.67	---	---	0.03	---	---	---
MW-104	07/17/97	---	---	---	47.6	---	---	---	---
MW-108	07/17/97	---	---	---	34.6	---	---	---	---
SW-01	12/10/97	0.38	0.062	<0.005	---	0.005	<0.0002	<0.005	<0.005

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL TAB4-9 LQ

TABLE 4-9

DISSOLVED-PHASE METAL CONCENTRATIONS
LOWER QUEEN

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Potassium (mg/l)	Radium 226,228 (mg/l)	Selenium (mg/l)	Silicon (mg/l)	Silver (mg/l)	Sodium (mg/l)	Zinc (mg/l)
MW-060	03/19/97	---	---	---	---	---	---	---
MW-104	07/17/97	<1.0	---	---	20.5	---	11.1	---
MW-108	07/17/97	1.5	---	---	23.0	---	4.9	---
SW-01	12/10/97	---	No convert	<0.005	---	<0.005	---	<0.005

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL TAB4-9 LQ

TABLE 4-10

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
SHALLOW ZONE

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Chloride (mg/l)	Fluoride (mg/l)	Bromide (mg/l)	Sulfate (mg/l)	Alkalinity as CaCO3, Total (mg/l)	Carbonate Alkalinity (mg/l)	Bicarbonate Alkalinity (mg/l)	Carbon Dioxide Free as CaCO3 (mg/l)
BIEBBLE	02/10/97	10	---	---	---	---	---	---	---
LYMAN	02/10/97	11	---	---	---	---	---	---	---
MW-010	02/11/97	120	---	---	---	---	---	---	---
MW-011	02/07/97	46	---	---	---	---	---	---	---
MW-013	02/07/97	70	---	---	---	---	---	---	---
MW-013	03/21/97	---	0.4	---	<10	---	---	---	---
MW-019	02/07/97	240	---	---	---	---	---	---	---
MW-038	02/07/97	310	---	---	---	---	---	---	---
MW-039	02/07/97	160	---	---	---	---	---	---	---
MW-039	07/18/97	160	---	---	---	---	---	---	---
MW-041	02/07/97	180	---	---	---	---	---	---	---
MW-041	03/20/97	---	1.5	---	98	---	---	---	---
MW-041	07/18/97	140	---	---	---	---	---	---	---
MW-043	02/07/97	330	---	---	---	---	---	---	---
MW-043	07/18/97	230	---	---	---	---	---	---	---
MW-044	02/07/97	180	---	---	---	---	---	---	---
MW-044	07/18/97	310	---	---	---	---	---	---	---
MW-046	02/11/97	220	---	---	---	---	---	---	---
MW-046	05/29/97	132	1.3	---	106	990	3	987	62
MW-046	07/18/97	180	1.3	---	---	---	---	---	---
MW-046	12/10/97	---	1.3	---	---	---	---	---	---
MW-049	02/07/97	410	---	---	---	---	---	---	---
MW-049	03/20/97	---	1.4	---	1000	---	---	---	---
MW-049	07/18/97	350	---	---	---	---	---	---	---
MW-050	02/07/97	360	---	---	---	---	---	---	---
MW-050	03/20/97	---	1.2	---	3600	---	---	---	---
MW-050	07/18/97	330	---	---	---	---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL TAB4_10

TABLE 4-10

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
SHALLOW ZONE

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Hydroxide as CaCO3 (mg/l)	Total dissolved solids (TDS) (mg/l)	Specific Conductivity (umh/c)	Hydrogen ion
BIEBBLE	02/10/97	---	---	---	---
LYMAN	02/10/97	---	---	---	---
MW-010	02/11/97	---	---	---	---
MW-011	02/07/97	---	---	---	---
MW-013	02/07/97	---	---	---	---
MW-013	03/21/97	---	770	---	---
MW-019	02/07/97	---	---	---	---
MW-038	02/07/97	---	---	---	---
MW-039	02/07/97	---	---	---	---
MW-039	07/18/97	---	---	---	---
MW-041	02/07/97	---	---	---	---
MW-041	03/20/97	---	1500	---	---
MW-041	07/18/97	---	---	---	---
MW-043	02/07/97	---	---	---	---
MW-043	07/18/97	---	---	---	---
MW-044	02/07/97	---	---	---	---
MW-044	07/18/97	---	---	---	---
MW-046	02/11/97	---	---	---	---
MW-046	05/29/97	<1	1300	1200	7.5
MW-046	07/18/97	---	---	---	---
MW-046	12/10/97	---	---	---	---
MW-049	02/07/97	---	---	---	---
MW-049	03/20/97	---	3100	---	---
MW-049	07/18/97	---	---	---	---
MW-050	02/07/97	---	---	---	---
MW-050	03/20/97	---	5900	---	---
MW-050	07/18/97	---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL TAB4_10

TABLE 4-10

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
SHALLOW ZONE

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Chloride (mg/l)	Fluoride (mg/l)	Bromide (mg/l)	Sulfate (mg/l)	Alkalinity as CaCO3, Total (mg/l)	Carbonate Alkalinity (mg/l)	Bicarbonate Alkalinity (mg/l)	Carbon Dioxide Free as CaCO3 (mg/l)
MW-054	02/10/97	180	---	---	---	---	---	---	---
MW-054	07/16/97	160	---	---	---	---	---	---	---
MW-055	02/10/97	270	---	---	---	---	---	---	---
MW-055	07/16/97	300	---	---	---	---	---	---	---
MW-056	02/11/97	170	---	---	---	---	---	---	---
MW-056	03/20/97	---	1.5	---	<10	---	---	---	---
MW-061	02/10/97	410	---	---	---	---	---	---	---
MW-061	07/17/97	390	---	---	---	---	---	---	---
MW-065	02/11/97	1.3	---	---	---	---	---	---	---
MW-065	05/07/97	2	---	---	---	---	---	---	---
MW-069	02/07/97	70	---	---	---	---	---	---	---
MW-069	07/18/97	64	---	---	---	---	---	---	---
MW-077	05/07/97	150	---	---	---	---	---	---	---
MW-077	07/18/97	150	---	---	---	---	---	---	---
MW-078	02/10/97	75	---	---	---	---	---	---	---
MW-078	05/07/97	59	---	---	---	---	---	---	---
MW-078	07/17/97	48	---	---	---	---	---	---	---
MW-079	02/10/97	24	---	---	---	---	---	---	---
MW-079	05/07/97	24	---	---	---	---	---	---	---
MW-079	07/17/97	24	---	---	---	---	---	---	---
MW-090	02/10/97	26	0.36	---	25	370	<1	370	---
MW-090	05/07/97	25	---	---	---	---	---	---	---
MW-090	07/17/97	19	---	---	---	---	---	---	---
MW-091	02/11/97	80	0.19	0.5	<5	510	<1	510	---
MW-106	02/11/97	10	0.24	<0.3	37	315	<1	315	---
MW-106	05/07/97	4	---	---	---	---	---	---	---
MW-106	07/18/97	5	---	---	---	---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL TAB4_10

TABLE 4-10

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
SHALLOW ZONE

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Hydroxide as CaCO3 (mg/l)	Total dissolved solids (TDS) (mg/l)	Specific Conductivity (umh/c)	Hydrogen ion
MW-054	02/10/97	---	---	---	---
MW-054	07/16/97	---	---	---	---
MW-055	02/10/97	---	---	---	---
MW-055	07/16/97	---	---	---	---
MW-056	02/11/97	---	---	---	---
MW-056	03/20/97	---	1200	---	---
MW-061	02/10/97	---	---	---	---
MW-061	07/17/97	---	---	---	---
MW-065	02/11/97	---	---	---	---
MW-065	05/07/97	---	---	---	---
MW-069	02/07/97	---	---	---	---
MW-069	07/18/97	---	---	---	---
MW-077	05/07/97	---	---	---	---
MW-077	07/18/97	---	---	---	---
MW-078	02/10/97	---	---	---	---
MW-078	05/07/97	---	---	---	---
MW-078	07/17/97	---	---	---	---
MW-079	02/10/97	---	---	---	---
MW-079	05/07/97	---	---	---	---
MW-079	07/17/97	---	---	---	---
MW-090	02/10/97	<1	460	749	7.4
MW-090	05/07/97	---	---	---	---
MW-090	07/17/97	---	---	---	---
MW-091	02/11/97	<1	590	1010	7.6
MW-106	02/11/97	<1	430	636	7.4
MW-106	05/07/97	---	---	---	---
MW-106	07/18/97	---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL TAB4_10

TABLE 4-10

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
SHALLOW ZONE

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Chloride (mg/l)	Fluoride (mg/l)	Bromide (mg/l)	Sulfate (mg/l)	Alkalinity as CaCO3, Total (mg/l)	Carbonate Alkalinity (mg/l)	Bicarbonate Alkalinity (mg/l)	Carbon Dioxide Free as CaCO3 (mg/l)
UIHS_ARROYO	02/10/97	11	---	---	---	---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL TAB4_10

TABLE 4-10

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
SHALLOW ZONE

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Hydroxide as CaCO3 (mg/l)	Total dissolved solids (TDS) (mg/l)	Specific Conductivity (umh/c)	Hydrogen ion
UIHS_ARROYO	02/10/97	---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL TAB4_10

TABLE 4-11

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS (1997 DATA)
LOWER QUEEN

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Chloride (mg/l)	Fluoride (mg/l)	Bromide (mg/l)	Sulfate (mg/l)	Nitrate (mg/l)	Ammonia (as N) (mg/l)	Nitrogen Kjeldahl, total (as N) (mg/l)	Orthophosphate (mg/l)
MW-057	02/10/97	32	---	---	---	---	---	---	---
MW-057	07/15/97	36	---	---	---	---	---	---	---
MW-059	02/09/97	29	---	---	---	---	---	---	---
MW-060	02/09/97	9	---	---	---	---	---	---	---
MW-060	03/19/97	---	0.8	---	280	---	---	---	---
MW-060	05/06/97	10	---	---	---	---	---	---	---
MW-060	07/15/97	11	---	---	---	---	---	---	---
MW-060	10/16/97	---	---	---	---	0.28	0.07	<0.2	0.06
MW-061A	02/06/97	13	0.85	<0.3	340	---	---	---	---
MW-061A	05/07/97	11	---	---	---	---	---	---	---
MW-061A	06/26/97	12	---	---	---	---	---	---	---
MW-061A	07/15/97	10	---	---	---	---	---	---	---
MW-061A	10/15/97	---	---	---	---	<0.06	0.08	0.4	<2.5
MW-062	02/11/97	150	---	---	---	---	---	---	---
MW-062	07/18/97	100	---	---	---	---	---	---	---
MW-063	02/05/97	7	---	---	---	---	---	---	---
MW-063	07/15/97	9	---	---	---	---	---	---	---
MW-063	10/15/97	---	---	---	---	6.6	<0.03	<0.2	0.25
MW-064	02/11/97	11	---	---	---	---	---	---	---
MW-064	07/16/97	12	---	---	---	---	---	---	---
MW-066	02/05/97	9	---	---	---	---	---	---	---
MW-066	05/06/97	9	---	---	---	---	---	---	---
MW-066	07/16/97	8	---	---	---	---	---	---	---
MW-066	10/15/97	---	---	---	---	0.33	<0.03	<0.2	0.22
MW-067	02/10/97	9	---	---	---	---	---	---	---
MW-067	07/16/97	7	---	---	---	---	---	---	---
MW-068	10/17/97	---	---	---	---	0.08	<0.03	1.8	0.41

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For RCL GENCHEM

TABLE 4-11

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS (1997 DATA)
LOWER QUEEN

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Alkalinity as CaCO3, Total (mg/l)	Carbonate Alkalinity (mg/l)	Bicarbonate Alkalinity (mg/l)	Carbon Dioxide Free as CaCO3 (mg/l)	Hydroxide as CaCO3 (mg/l)	Total dissolved solids (TDS) (mg/l)	Specific Conductivity (umh/c)	pH
MW-057	02/10/97	---	---	---	---	---	---	---	---
MW-057	07/15/97	---	---	---	---	---	---	---	---
MW-059	02/09/97	---	---	---	---	---	---	---	---
MW-060	02/09/97	---	---	---	---	---	---	---	---
MW-060	03/19/97	---	---	---	---	---	760	---	---
MW-060	05/06/97	---	---	---	---	---	---	---	---
MW-060	07/15/97	---	---	---	---	---	---	---	---
MW-060	10/16/97	---	---	---	---	---	---	---	---
MW-061A	02/06/97	266	<1	266	---	<1	840	1020	7.5
MW-061A	05/07/97	---	---	---	---	---	---	---	---
MW-061A	06/26/97	---	---	---	---	---	---	---	---
MW-061A	07/15/97	---	---	---	---	---	---	---	---
MW-061A	10/15/97	---	---	---	---	---	---	---	---
MW-062	02/11/97	---	---	---	---	---	---	---	---
MW-062	07/18/97	---	---	---	---	---	---	---	---
MW-063	02/05/97	---	---	---	---	---	---	---	---
MW-063	07/15/97	---	---	---	---	---	---	---	---
MW-063	10/15/97	---	---	---	---	---	---	---	---
MW-064	02/11/97	---	---	---	---	---	---	---	---
MW-064	07/16/97	---	---	---	---	---	---	---	---
MW-066	02/05/97	---	---	---	---	---	---	---	---
MW-066	05/06/97	---	---	---	---	---	---	---	---
MW-066	07/16/97	---	---	---	---	---	---	---	---
MW-066	10/15/97	---	---	---	---	---	---	---	---
MW-067	02/10/97	---	---	---	---	---	---	---	---
MW-067	07/16/97	---	---	---	---	---	---	---	---
MW-068	10/17/97	---	---	---	---	---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL GENCHEM

TABLE 4-11

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS (1997 DATA)
LOWER QUEEN

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Chloride (mg/l)	Fluoride (mg/l)	Bromide (mg/l)	Sulfate (mg/l)	Nitrate (mg/l)	Ammonia (as N) (mg/l)	Nitrogen Kjeldahl, total (as N) (mg/l)	Orthophosphate (mg/l)
MW-070	02/05/97	10	---	---	---	---	---	---	---
MW-070	10/15/97	---	---	---	---	2.7	<0.03	<0.2	0.30
MW-071	02/09/97	24	---	---	---	---	---	---	---
MW-071	05/06/97	17	---	---	---	---	---	---	---
MW-071	07/17/97	16	---	---	---	---	---	---	---
MW-071	10/16/97	---	---	---	---	0.06	0.63	0.6	0.18
MW-074	07/18/97	260	---	---	---	---	---	---	---
MW-086	10/17/97	---	---	---	---	1.91	2.77	14	0.5
MW-087	02/09/97	11	0.63	<0.3	230	---	---	---	---
MW-087	05/06/97	13	---	---	---	---	---	---	---
MW-087	10/16/97	---	---	---	---	0.52	<0.03	<0.2	0.06
MW-087A	02/09/97	150	1.9	1.2	1900	---	---	---	---
MW-087A	05/07/97	140	---	---	---	---	---	---	---
MW-087A	10/16/97	---	---	---	---	<0.06	0.17	0.9	0.09
MW-088	02/05/97	30	1.13	---	390	---	---	---	---
MW-088	04/30/97	26	---	---	---	---	---	---	---
MW-088	10/15/97	---	---	---	---	<0.06	1.20	1.1	<0.5
MW-089	02/05/97	60	0.8	---	250	---	---	---	---
MW-089	04/30/97	58	---	---	---	---	---	---	---
MW-089	10/15/97	---	---	---	---	<0.06	<0.03	<0.2	0.24
MW-094	10/17/97	---	---	---	---	2.4	<0.03	<0.2	<0.05
MW-095	04/30/97	---	0.4	<0.3	19	---	---	---	---
MW-096	04/30/97	---	0.8	<0.3	160	---	---	---	---
MW-096	10/16/97	---	---	---	---	0.38	<0.03	<0.2	0.08
MW-097	04/30/97	---	0.5	<0.3	150	---	---	---	---
MW-097	10/17/97	---	---	---	---	1.71	<0.03	<0.2	0.43
MW-098	04/30/97	---	0.4	<0.3	25	---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL GENCHEM

TABLE 4-11

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS (1997 DATA)
LOWER QUEEN

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Alkalinity as CaCO3, Total (mg/l)	Carbonate Alkalinity (mg/l)	Bicarbonate Alkalinity (mg/l)	Carbon Dioxide Free as CaCO3 (mg/l)	Hydroxide as CaCO3 (mg/l)	Total dissolved solids (TDS) (mg/l)	Specific Conductivity (umh/c)	pH
MW-070	02/05/97	---	---	---	---	---	---	---	---
MW-070	10/15/97	---	---	---	---	---	---	---	---
MW-071	02/09/97	---	---	---	---	---	---	---	---
MW-071	05/06/97	---	---	---	---	---	---	---	---
MW-071	07/17/97	---	---	---	---	---	---	---	---
MW-071	10/16/97	---	---	---	---	---	---	---	---
MW-074	07/18/97	---	---	---	---	---	---	---	---
MW-086	10/17/97	---	---	---	---	---	---	---	---
MW-087	02/09/97	222	<1	222	---	<1	580	814	7.8
MW-087	05/06/97	---	---	---	---	---	---	---	---
MW-087	10/16/97	---	---	---	---	---	---	---	---
MW-087A	02/09/97	352	<1	352	---	<1	3200	3350	7.2
MW-087A	05/07/97	---	---	---	---	---	---	---	---
MW-087A	10/16/97	---	---	---	---	---	---	---	---
MW-088	02/05/97	---	---	---	---	---	970	---	---
MW-088	04/30/97	---	---	---	---	---	---	---	---
MW-088	10/15/97	---	---	---	---	---	---	---	---
MW-089	02/05/97	---	---	---	---	---	840	---	---
MW-089	04/30/97	---	---	---	---	---	---	---	---
MW-089	10/15/97	---	---	---	---	---	---	---	---
MW-094	10/17/97	---	---	---	---	---	---	---	---
MW-095	04/30/97	310	1	310	31	<1	370	---	7.3
MW-096	04/30/97	300	<1	300	48	<1	560	---	7.1
MW-096	10/16/97	---	---	---	---	---	---	---	---
MW-097	04/30/97	270	1	270	27	<1	550	---	7.3
MW-097	10/17/97	---	---	---	---	---	---	---	---
MW-098	04/30/97	240	1	240	19	<1	330	---	7.4

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL GENCHEM

TABLE 4-11

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS (1997 DATA)
LOWER QUEEN

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Chloride (mg/l)	Fluoride (mg/l)	Bromide (mg/l)	Sulfate (mg/l)	Nitrate (mg/l)	Ammonia (as N) (mg/l)	Nitrogen Kjeldahl, total (as N) (mg/l)	Orthophosphate (mg/l)
MW-104	07/17/97	11.6	0.8	<0.3	200	0.72	---	---	---
MW-108	07/17/97	3.2	0.4	<0.3	33	2.6	---	---	---
SW-01	02/10/97	21	0.54	<0.3	140	---	---	---	---
SW-01	12/10/97	21	0.6	---	190	2.5	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL GENCHEM

TABLE 4-11

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS (1997 DATA)
LOWER QUEEN

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Alkalinity as CaCO3, Total (mg/l)	Carbonate Alkalinity (mg/l)	Bicarbonate Alkalinity (mg/l)	Carbon Dioxide Free as CaCO3 (mg/l)	Hydroxide as CaCO3 (mg/l)	Total dissolved solids (TDS) (mg/l)	Specific Conductivity (umh/c)	pH
MW-104	07/17/97	268	<1	268	---	<1	580	815	7.6
MW-108	07/17/97	297	<1	297	---	<1	360	585	7.6
SW-01	02/10/97	275	<1	275	---	<1	520	<796	7.6
SW-01	12/10/97	---	---	---	---	---	500	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL GENCHEM

TABLE 5-1
TOTAL FLUID RECOVERY
1997 QUARTERLY AND CUMMULATIVE DATA

Well ID	Cummulative Total Fluid Removal Through 12/96 (Bbls)	1997 Total Fluid Removal (Bbls) Q1 Jan - Mar	Q2 Apr - Jun	Q3 Jul - Sep	Q4 Oct - Dec	Total Q1-Q4 for 1997	Cummulative Total Fluid Removal Through 12/97 (Bbls)
Lower Queen							
MW-58	183,433.2	40,670.2	30,368.4	24,694.3	0.0	95,732.9	279,166.1
MW-61A	340,787.1	3,994.3	0.0	0.0	0.0	3,994.3	344,781.4
MW-59	161,641.8	0.0	0.0	0.0	0.0	0.0	161,641.8
MW-62	173,260.7	0.0	0.0	0.0	0.0	0.0	173,260.7
MW-65A	325,268.4	17,171.6	15,734.8	15,586.3	28,630.2	77,122.9	402,391.3
MW-68	230,944.1	13,965.9	10,224.3	9,199.5	1,043.9	34,433.6	265,377.7
MW-72	588,410.7	65,202.2	41,819.8	42,253.0	43,776.2	193,051.2	781,461.9
MW-75	185,088.5	45,166.8	50,759.8	45,471.4	44,928.0	186,326.0	371,414.5
MW-76	45,960.0	54,346.0	43,988.0	54,986.0	34,311.0	187,631.0	233,591.0
MW-81	252,851.8	63,672.1	52,557.0	50,783.1	48,876.4	215,888.6	468,740.4
MW-82	66,581.1	39,915.0	27,374.0	32,251.0	39,650.5	139,190.5	205,771.6
MW-83	204,678.6	53,198.1	33,548.2	33,631.1	49,857.7	170,235.1	374,913.7
MW-84	68,081.0	54,436.1	53,351.0	52,376.0	89,414.0	249,577.1	317,658.1
MW-85	66,068.0	34,465.0	49,883.0	48,454.0	56,105.0	188,907.0	254,975.0
MW-86	2,119.9	8,968.9	12,507.7	12,518.8	17,851.1	51,846.5	53,966.4
MW-94	70,790.7	57,208.0	52,889.1	53,653.0	6,518.0	170,268.1	241,058.8
IW-1	27,459.5	19,751.3	21,847.7	18,680.0	1,790.5	62,069.5	89,529.0
Subtotals:	2,993,425.0	572,131.5	496,852.8	494,537.5	462,752.5	2,026,274.3	5,019,699.3
Shallow Zone							
MW-1	160.0	0.0	0.0	0.0	0.0	0.0	160.0
MW-14	9,351.0	0.0	0.0	0.0	0.0	0.0	9,351.0
MW-21	5.0	0.0	0.0	0.0	0.0	0.0	5.0
MW-13	5,797.4	0.0	0.0	0.0	0.0	0.0	5,797.4
MW-35	2,229.0	0.0	0.0	0.0	0.0	0.0	2,229.0
MW-69	3,164.9	76.7	348.6	317.6	16.7	759.6	3,924.5
MW-86	2,680.1	0.0	0.0	0.0	0.0	0.0	2,680.1
VE System	39.5	0.0	0.0	0.0	0.0	0.0	39.5
Subtotals:	23,426.9	76.7	348.6	317.6	16.7	759.6	24,186.5
		Total Fluid Recovery Through 12/97 (Bbls):					5,043,885.8

Bbls = barrels

TABLE 5-2
TREATED WATER INFILTRATION DATA
1997 QUARTERLY AND CUMMULATIVE DATA

Cummulative Infiltrated Treated Water Through 12/96 (Bbls)	1997 Infiltrated Treated Water (Bbls)					Cummulative Infiltrated Treated Water Through 12/97 (Bbls)
	Q1 Jan-Mar	Q2 Apr-Jun	Q3 Jul-Sep	Q4 Oct-Dec	Total Q1-Q4 for 1997	
Lower Queen Aquifer						
369,222.0	496,887.0	477,673.0	505,387.0	467,819.0	1,947,766.0	2,316,988.0
Shallow Zone						
1,076.7	3,124.8	3,735.0	2,537.5	5,378.8	14,776.1	15,852.8
					Total Q1-Q4 for 1997:	1,962,542.1
					Total Cummulative Infiltrated (Bbls):	2,332,840.8

Bbls = Barrels

TABLE 5-3
CONDENSATE REMOVED
1997 QUARTERLY AND CUMMULATIVE DATA

Source	Cummulative Condensate Removed Through 12/96 (Bbls)	1997 Condensate Removed (Bbls)					Cummulative Condensate Removed Through 12/97 (Bbls)
		Q1 Jan-Mar	Q2 Apr-Jun	Q3 Jul-Sep	Q4 Oct-Dec	Total Q1-Q4 for 1997	
Lower Queen Aquifer							
Wells	570.7	40.6	75.8	70.5	78.7	265.6	836.3
VES	0.0	6.2	6.8	5.4	1.0	19.4	19.4
Shallow Zone							
Wells/Sumps	354.8	0.0	0.0	0.0	0.0	0.0	354.8
VES	136.1	0.0	0.0	9.6	0.20	9.8	145.9
Other (Emergency Response, Vacuum Truck Recovery, Open Pit and Frac Tank Volatilization, in 1991)							
	8,637.3	0.0	0.0	0.0	0.0	0.0	8,637.3
						Total Q1 - Q4 for 1997:	294.8
						Total Condensate Removed (Bbls):	9,993.7

Bbls = Barrels

ANNUAL MONITORING REPORT
INDIAN BASIN REMEDIATION PROJECT
NEW MEXICO
JANUARY - DECEMBER 1997

VOLUME II OF III

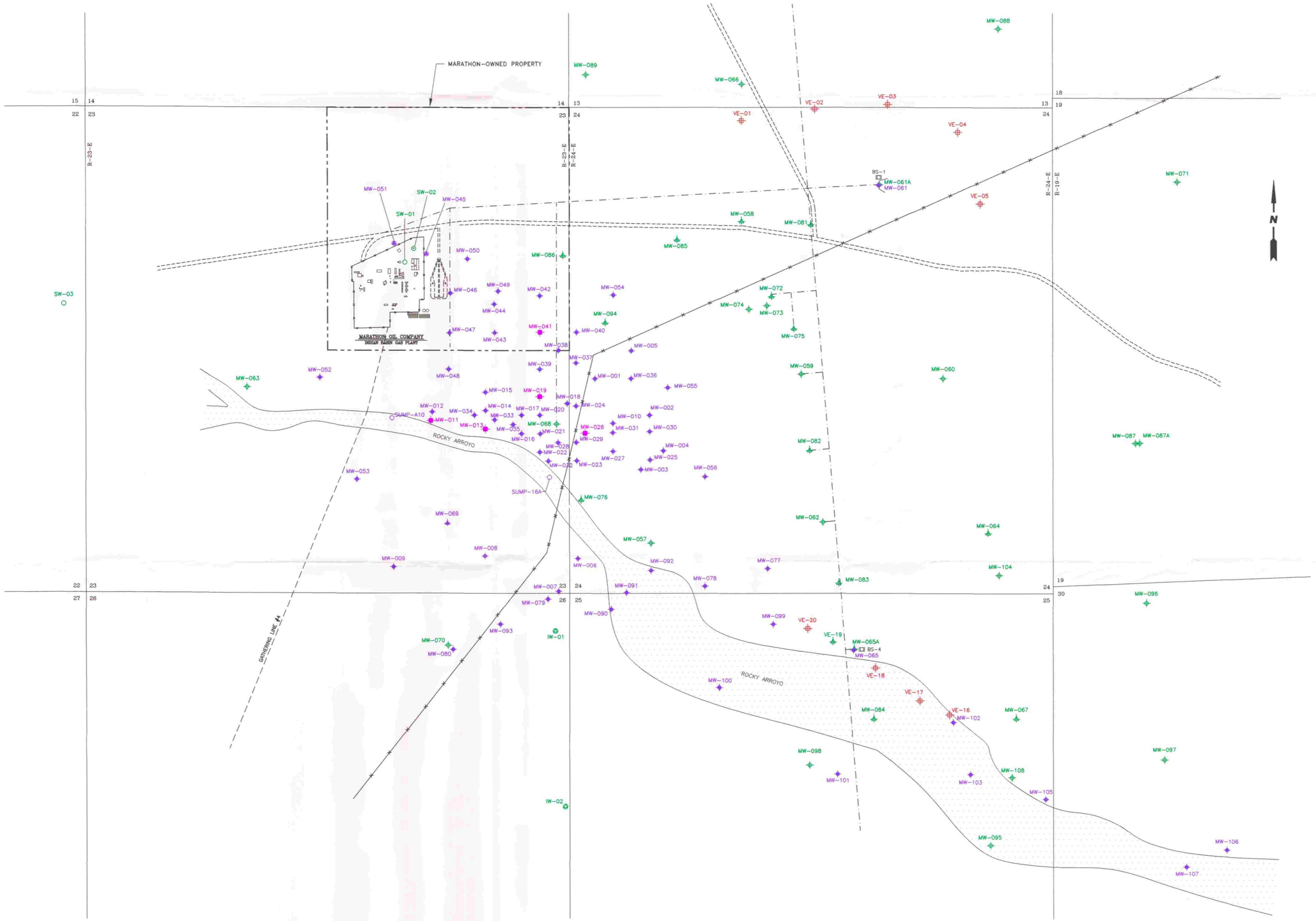
May 21, 1998

Prepared for:

Marathon Oil Company
P.O. Box 552
Midland, Texas 79702

Prepared by:

Fluor Daniel GTI, Inc.
2501 Yale Boulevard S.E., Suite 204
Albuquerque, New Mexico 87106
(505) 242-3113



LEGEND

- MONITORING WELL (SHALLOW ZONE)
- INFILTRATION WELL (SHALLOW ZONE)
- RECOVERY SUMP (SHALLOW ZONE)
- RECOVERY WELL (SHALLOW ZONE)
- VAPOR EXTRACTION WELL (SHALLOW GROUNDWATER)
- MONITORING WELL (LOWER QUEEN)
- INFILTRATION WELL (LOWER QUEEN)
- INDUSTRIAL SUPPLY WELL (LOWER QUEEN)
- RECOVERY WELL (LOWER QUEEN)
- VAPOR EXTRACTION WELL (LOWER QUEEN)

BLOWER STATION
FENCE
POWER LINES

500 0 500 1000
SCALE FEET

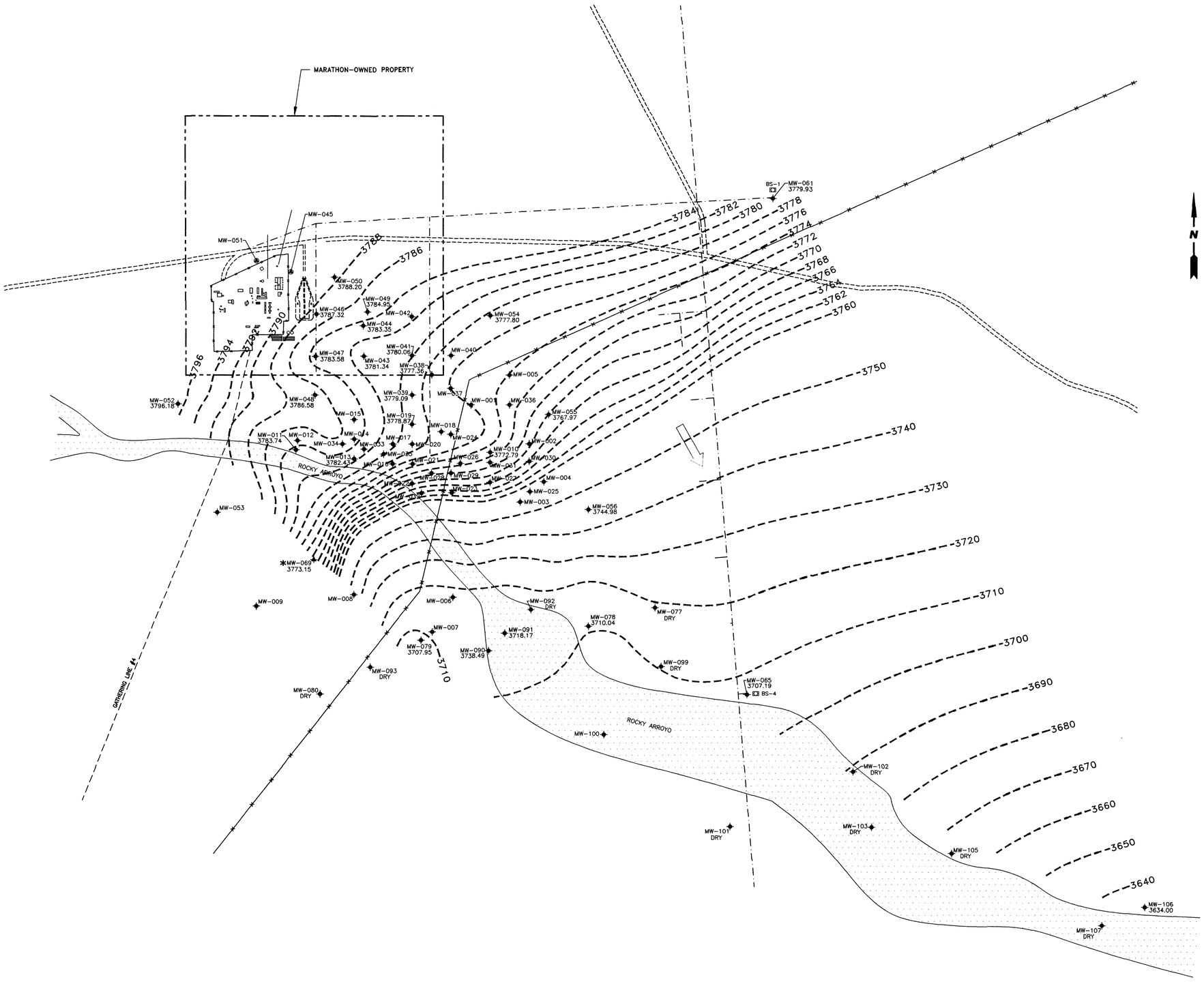
FLUOR DANIEL GTI
2501 YALE BLVD. SE, SUITE 204
ALBUQUERQUE, NM 87106 (505) 242-3113

MARATHON OIL COMPANY
INDIAN BASIN
REMEDIATION PROJECT
EDDY COUNTY, NEW MEXICO

SITE MAP

DESIGNED BY:	DETAILED BY:	CHECKED BY:
	SWL/DMR	ELS
DRAWING DATE: 5/13/98	ACAD FILE: SITEMAP	
PROJECT NO.: 104519	NOTES:	

FIGURE 1-1



LEGEND

- BORE HOLE / TEST HOLE
- INFILTRATION WELL (SHALLOW GROUNDWATER)
- RECOVERY WELL (SHALLOW GROUNDWATER)
- MONITORING WELL (LOWER QUEEN)
- INFILTRATION WELL (LOWER QUEEN)
- INDUSTRIAL SUPPLY WELL (LOWER QUEEN)
- RECOVERY WELL (LOWER QUEEN)
- VAPOR EXTRACTION WELL
- MONITORING WELL (SHALLOW GROUNDWATER)
  EX.: MW-050 – WELL IDENTIFICATION
  3788.20 – GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL

* – CORRECTED FOR PRODUCT THICKNESS USING SPECIFIC GRAVITY OF 0.73

GROUNDWATER ELEVATION CONTOUR
CONTOUR INTERVAL = 10 FEET UNLESS OTHERWISE NOTED

GROUNDWATER FLOW DIRECTION

BLOWER STATION
FENCE
POWER LINES

500 0 500 1000
SCALE FEET

FLUOR DANIEL GTI
2501 YALE BLVD. SE, SUITE 204
ALBUQUERQUE, NM 87106 (505) 242-3113

MARATHON OIL COMPANY
INDIAN BASIN REMEDIATION PROJECT
EDDY COUNTY, NEW MEXICO

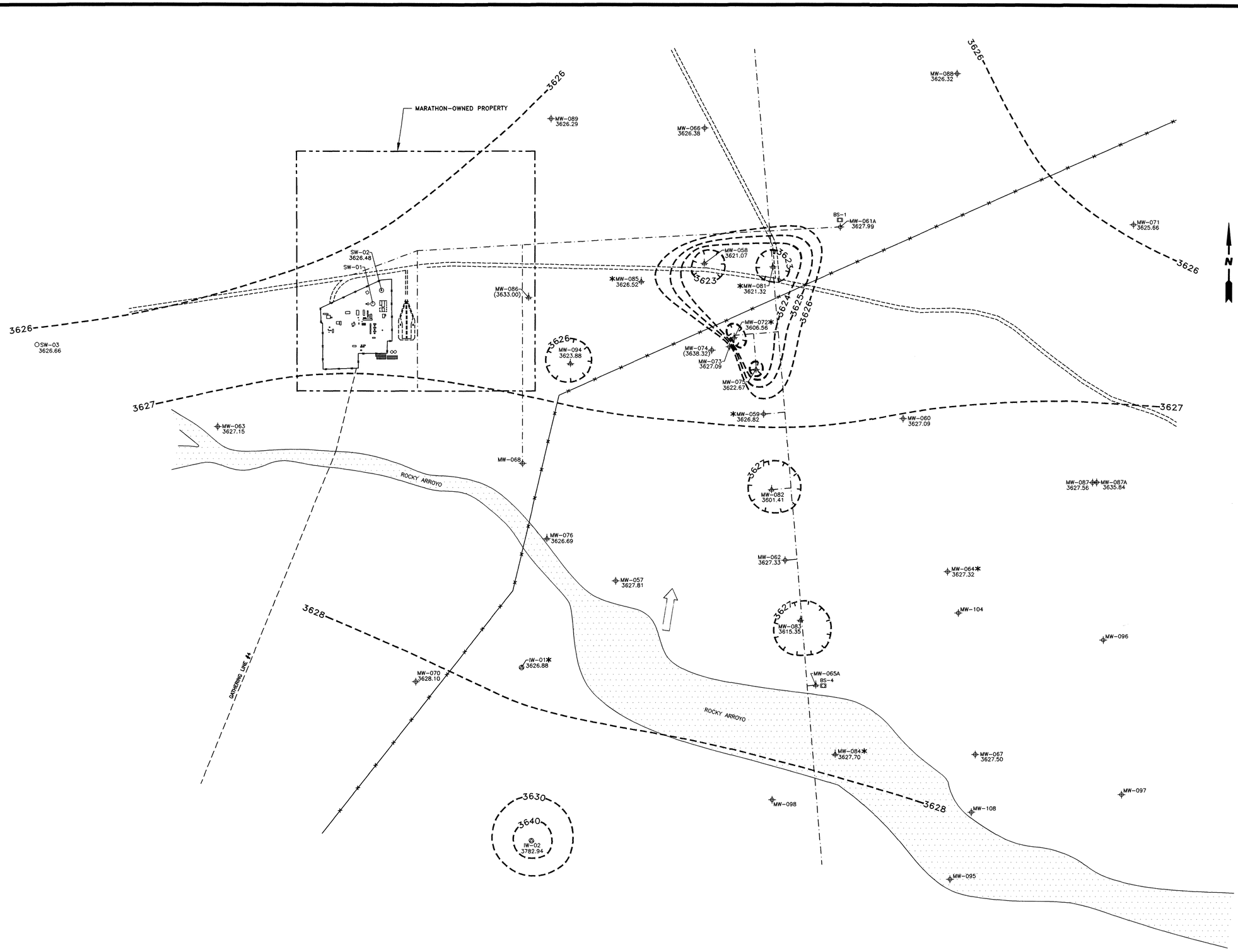
CORRECTED SHALLOW ZONE GROUNDWATER ELEVATION CONTOUR MAP FEBRUARY 3-4 1997

DESIGNED BY:	DETAILED BY:	CHECKED BY:
	SWL/DMR	EJS

DRAWING DATE:	ACAD FILE:
04/22/98	SHWT2_97

PROJECT NO.:	NOTES:
104519	

FIGURE 2-1



LEGEND

- BORE HOLE / TEST HOLE
- INFILTRATION WELL (SHALLOW GROUNDWATER)
- RECOVERY WELL (SHALLOW GROUNDWATER)
- MONITORING WELL (SHALLOW GROUNDWATER)
- INFILTRATION WELL (LOWER QUEEN)
- INDUSTRIAL SUPPLY WELL (LOWER QUEEN)
- RECOVERY WELL (LOWER QUEEN)
- VAPOR EXTRACTION WELL
- MONITORING WELL (LOWER QUEEN)
  EX.: MW-085 – WELL IDENTIFICATION
  3625.54 – GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- ( ) – DATA NOT USED IN CONTOUR INTERPOLATION
- * – CORRECTED FOR PRODUCT THICKNESS USING SPECIFIC GRAVITY OF 0.73
- GROUNDWATER ELEVATION CONTOUR CONTOUR INTERVAL = 10 FEET UNLESS OTHERWISE NOTED
- GROUNDWATER FLOW DIRECTION
- BLOWER STATION
- FENCE
- POWER LINES

500 0 500 1000
SCALE FEET

FLUOR DANIEL GTI
2501 YALE BLVD. SE, SUITE 204
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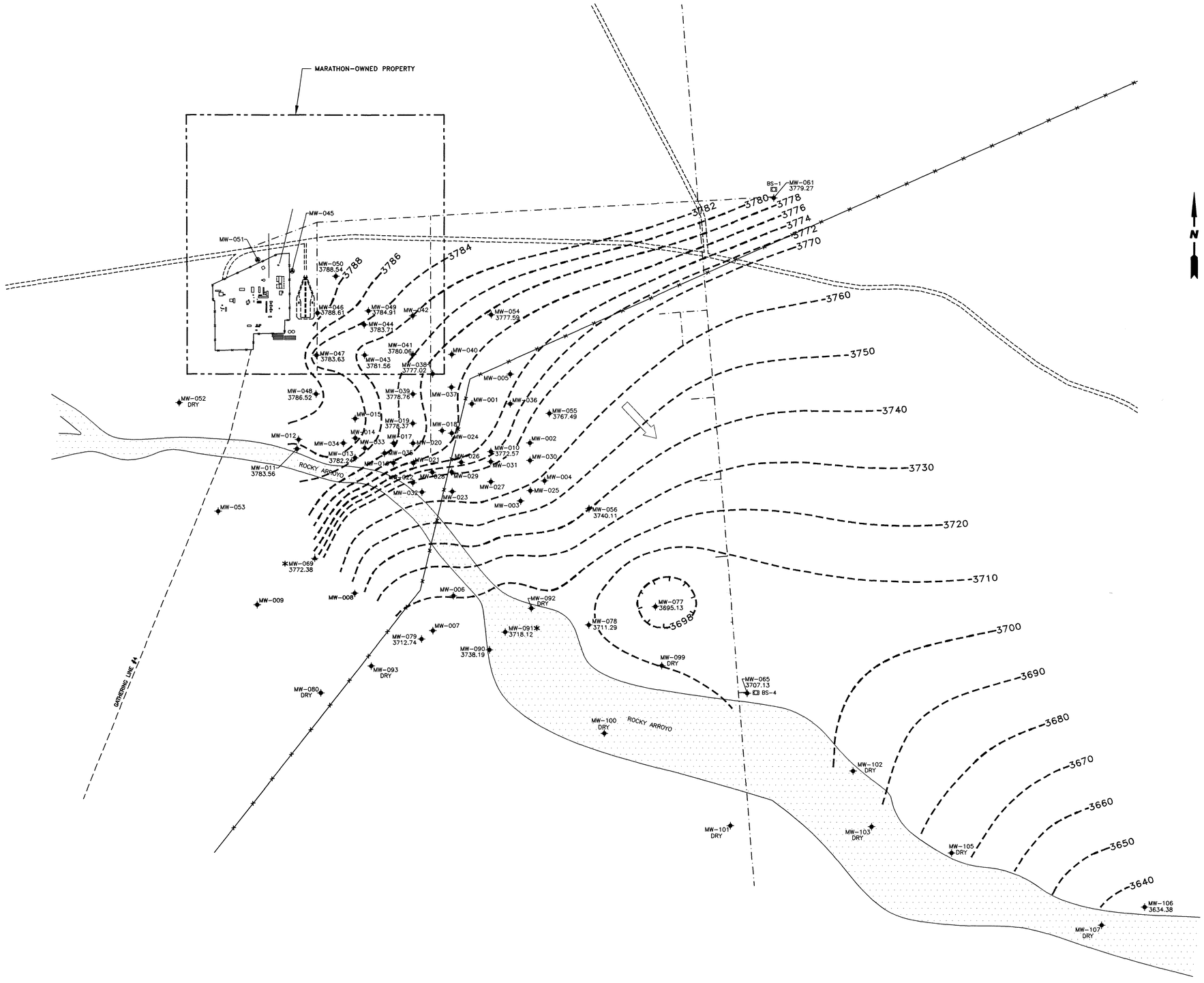
MARATHON OIL COMPANY
INDIAN BASIN REMEDIATION PROJECT
EDDY COUNTY, NEW MEXICO

CORRECTED LOWER QUEEN GROUNDWATER ELEVATION CONTOUR MAP FEBRUARY 3-4, 1997

DESIGNED BY:	DETAILED BY:	CHECKED BY:
	SWL/DMR	ES
DRAWING DATE: 04/22/98	ACAD FILE: LQWT2_97	
PROJECT NO.: 104519	NOTES:	

FIGURE 2-2



LEGEND

- BORE HOLE / TEST HOLE
- INFILTRATION WELL (SHALLOW GROUNDWATER)
- RECOVERY WELL (SHALLOW GROUNDWATER)
- MONITORING WELL (LOWER QUEEN)
- INFILTRATION WELL (LOWER QUEEN)
- INDUSTRIAL SUPPLY WELL (LOWER QUEEN)
- RECOVERY WELL (LOWER QUEEN)
- VAPOR EXTRACTION WELL
- MONITORING WELL (SHALLOW GROUNDWATER)
  EX.: MW-050 – WELL IDENTIFICATION
  3788.20 – GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL

* – CORRECTED FOR PRODUCT THICKNESS USING SPECIFIC GRAVITY OF 0.73

GROUNDWATER ELEVATION CONTOUR
CONTOUR INTERVAL = 10 FEET
UNLESS OTHERWISE NOTED

GROUNDWATER FLOW DIRECTION

BLOWER STATION
FENCE
POWER LINES

500 0 500 1000
SCALE FEET

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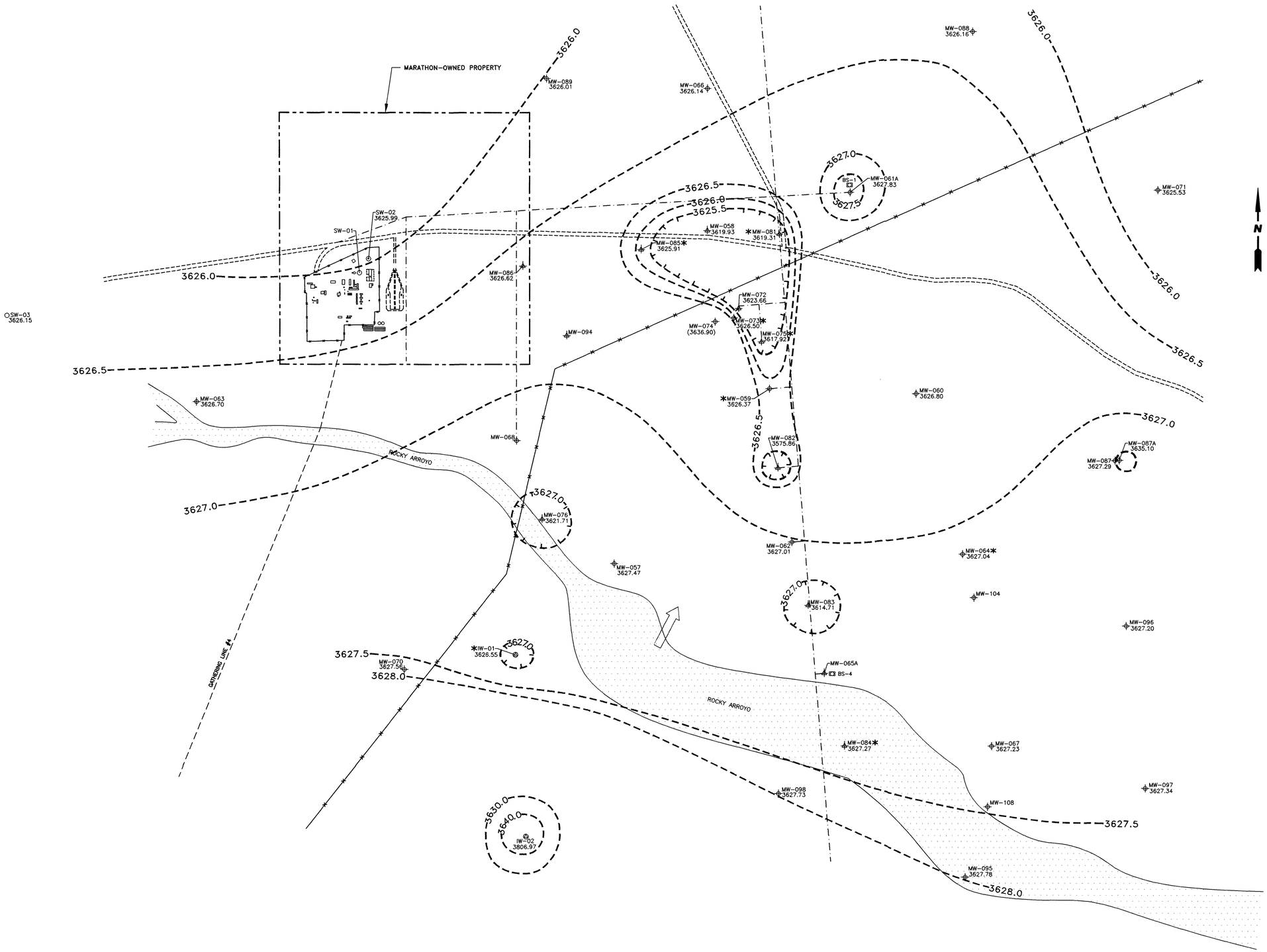
MARATHON OIL COMPANY
INDIAN BASIN
REMEDIATION PROJECT
EDDY COUNTY, NEW MEXICO

CORRECTED SHALLOW ZONE GROUNDWATER ELEVATION CONTOUR MAP APRIL 28-29, 1997

DESIGNED BY:	DETAILED BY:	CHECKED BY:
	SWL/DMR	ES
DRAWING DATE: 04/22/98		ACAD FILE: SHWT4_97
PROJECT NO.: 104519		NOTES:

FIGURE 2-3



LEGEND

- BORE HOLE / TEST HOLE
- INFILTRATION WELL (SHALLOW GROUNDWATER)
- RECOVERY WELL (SHALLOW GROUNDWATER)
- MONITORING WELL (SHALLOW GROUNDWATER)
- INFILTRATION WELL (LOWER QUEEN)
- INDUSTRIAL SUPPLY WELL (LOWER QUEEN)
- RECOVERY WELL (LOWER QUEEN)
- VAPOR EXTRACTION WELL
- MONITORING WELL (LOWER QUEEN)
  EX.: MW-085 – WELL IDENTIFICATION
  3625.91 – GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- ( ) – DATA NOT USED IN CONTOUR INTERPOLATION
- * – CORRECTED FOR PRODUCT THICKNESS USING SPECIFIC GRAVITY OF 0.73
- GROUNDWATER ELEVATION CONTOUR CONTOUR INTERVAL = 10 FEET UNLESS OTHERWISE NOTED
- GROUNDWATER FLOW DIRECTION
- BLOWER STATION
- FENCE
- POWER LINES

500 0 500 1000
SCALE FEET

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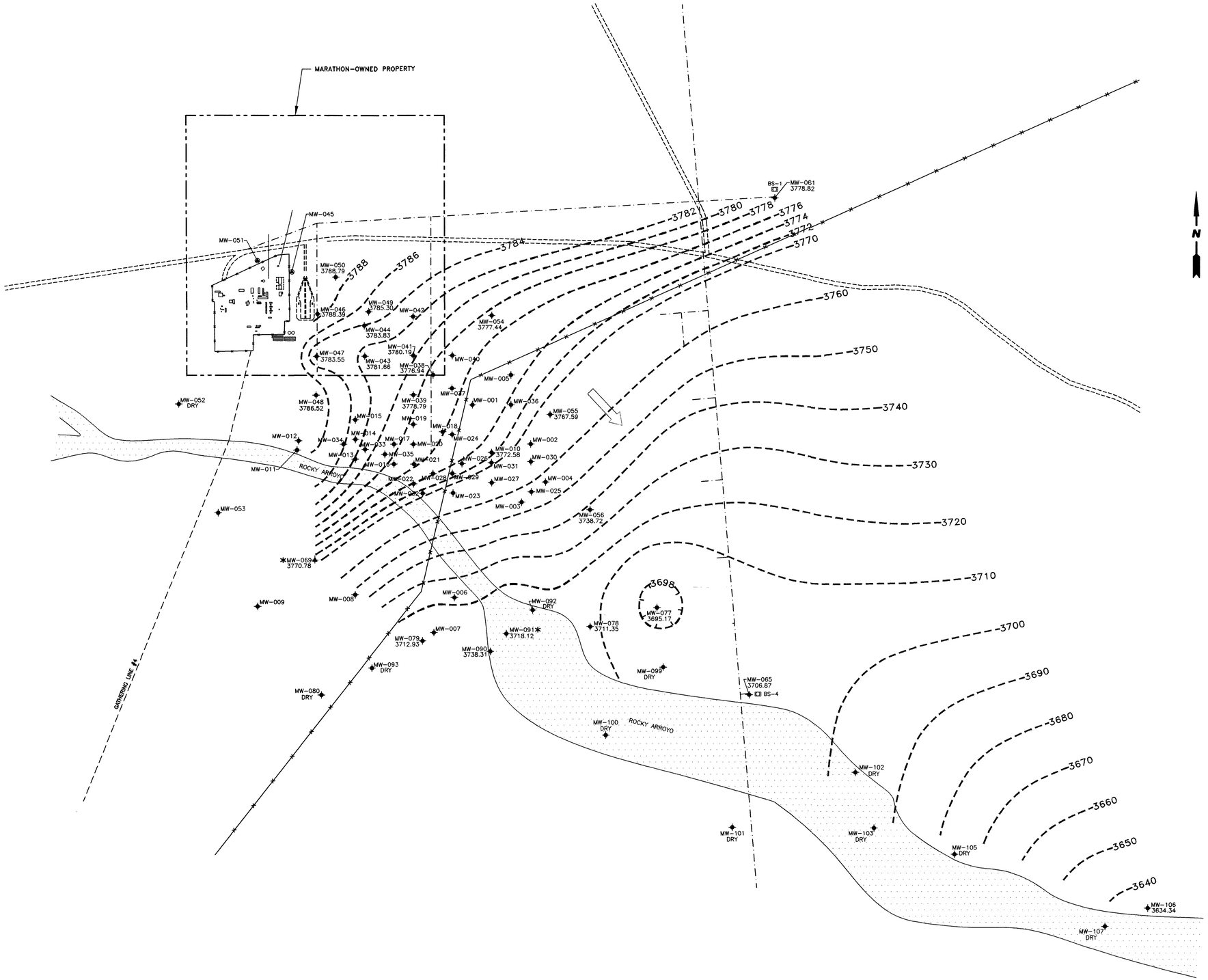
ALBUQUERQUE, NM 87106 (505) 242-3113

MARATHON OIL COMPANY
INDIAN BASIN REMEDIATION PROJECT
EDDY COUNTY, NEW MEXICO

CORRECTED LOWER QUEEN GROUNDWATER ELEVATION CONTOUR MAP APRIL 28-29, 1997

DESIGNED BY:	DETAILED BY:	CHECKED BY:
	SWL/DMR	EJS
DRAWING DATE: 04/22/98		ACAD FILE: LQWT4_97
PROJECT NO.: 104519		NOTES:

FIGURE 2-4



LEGEND

- BORE HOLE / TEST HOLE
- INFILTRATION WELL (SHALLOW GROUNDWATER)
- RECOVERY WELL (SHALLOW GROUNDWATER)
- MONITORING WELL (LOWER QUEEN)
- INFILTRATION WELL (LOWER QUEEN)
- INDUSTRIAL SUPPLY WELL (LOWER QUEEN)
- RECOVERY WELL (LOWER QUEEN)
- VAPOR EXTRACTION WELL
- MONITORING WELL (SHALLOW GROUNDWATER)
  EX.: MW-050 – WELL IDENTIFICATION
  3788.79 – GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL

* – CORRECTED FOR PRODUCT THICKNESS USING SPECIFIC GRAVITY OF 0.73

GROUNDWATER ELEVATION CONTOUR
CONTOUR INTERVAL = 10 FEET
UNLESS OTHERWISE NOTED

GROUNDWATER FLOW DIRECTION

BLOWER STATION
FENCE
POWER LINES

500 0 500 1000
SCALE FEET

FLUOR DANIEL GTI

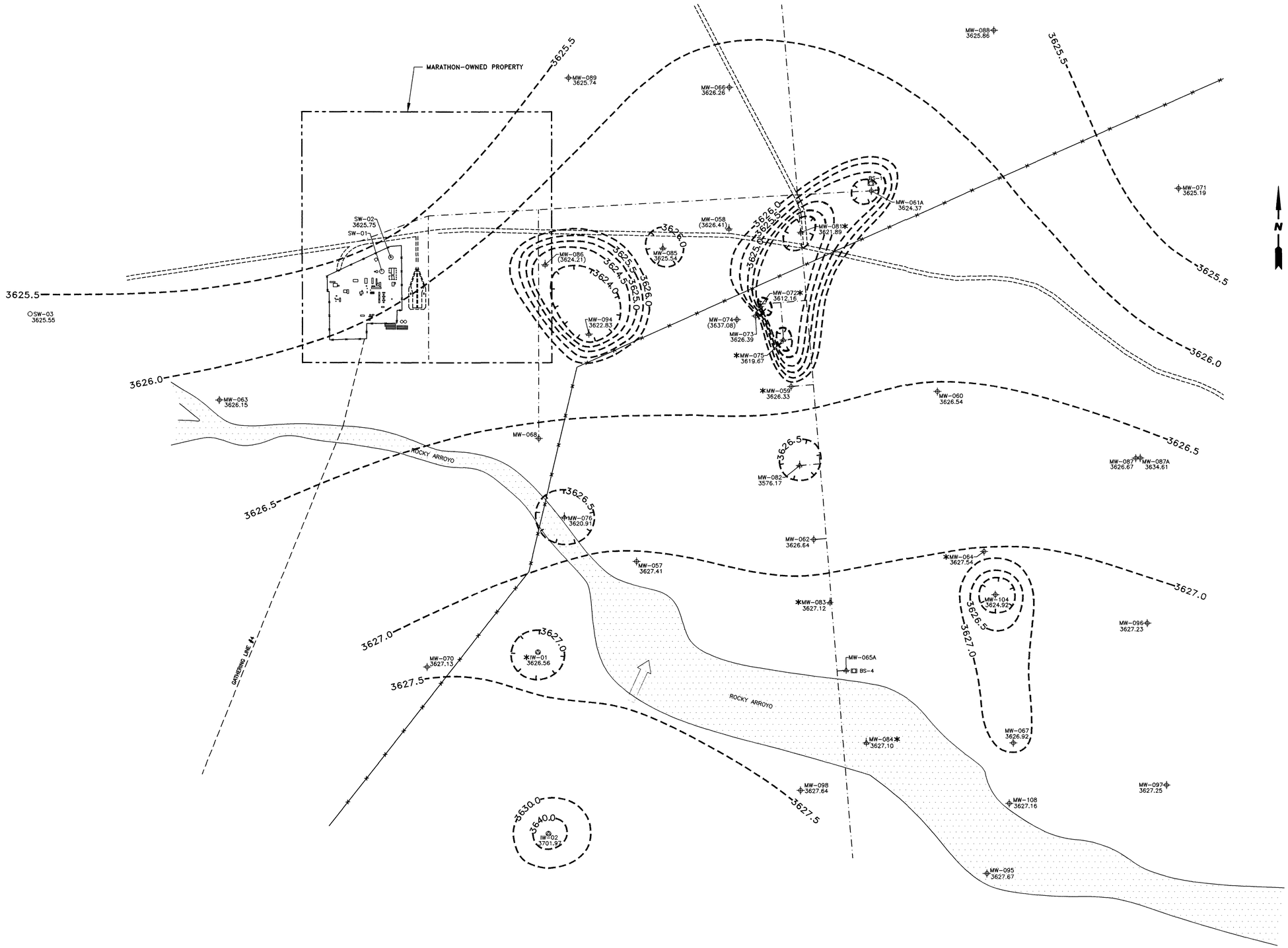
2501 YALE BLVD. SE, SUITE 204
ALBUQUERQUE, NM 87106 (505) 242-3113

MARATHON OIL COMPANY
INDIAN BASIN
REMEDIATION PROJECT
EDDY COUNTY, NEW MEXICO

CORRECTED SHALLOW ZONE GROUNDWATER ELEVATION CONTOUR MAP JULY 14-15, 1997

DESIGNED BY:	DETAILED BY:	CHECKED BY:
	SWL/DMR	GLS
DRAWING DATE: 04/22/98		ACAD FILE: SHWT7_97
PROJECT NO.: 104519		NOTES:

FIGURE 2-5



LEGEND

- BORE HOLE / TEST HOLE
- INFILTRATION WELL (SHALLOW GROUNDWATER)
- RECOVERY WELL (SHALLOW GROUNDWATER)
- MONITORING WELL (SHALLOW GROUNDWATER)
- INFILTRATION WELL (LOWER QUEEN)
- INDUSTRIAL SUPPLY WELL (LOWER QUEEN)
- RECOVERY WELL (LOWER QUEEN)
- VAPOR EXTRACTION WELL
- MONITORING WELL (LOWER QUEEN)
  EX.: MW-085 – WELL IDENTIFICATION
  3625.54 – GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- ( ) – DATA NOT USED IN CONTOUR INTERPOLATION
- * – CORRECTED FOR PRODUCT THICKNESS USING SPECIFIC GRAVITY OF 0.73
- GROUNDWATER ELEVATION CONTOUR CONTOUR INTERVAL = 10 FEET UNLESS OTHERWISE NOTED
- GROUNDWATER FLOW DIRECTION
- BLOWER STATION
- FENCE
- POWER LINES

500 0 500 1000
SCALE FEET

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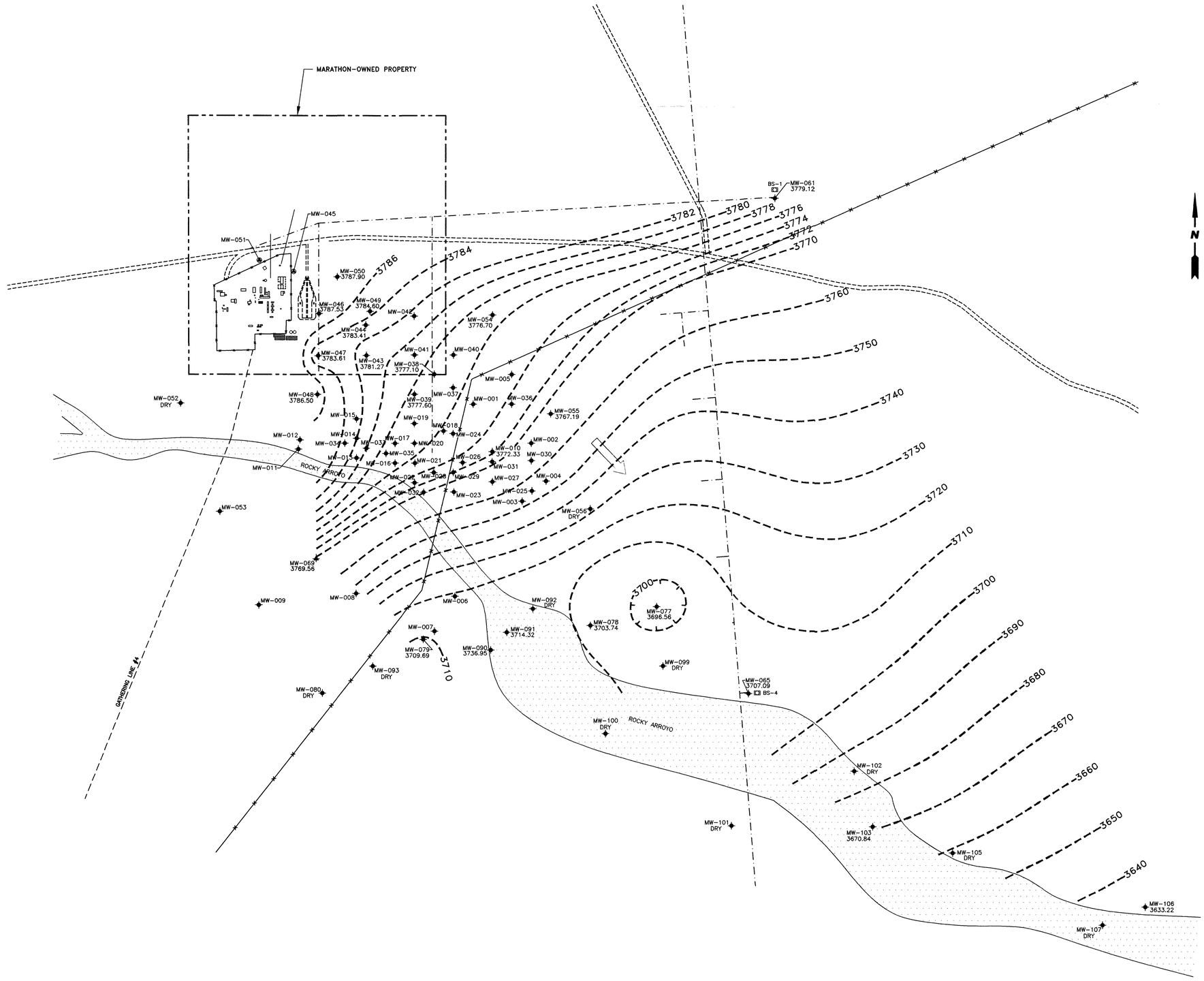
ALBUQUERQUE, NM 87106 (505) 242-3113

MARATHON OIL COMPANY
INDIAN BASIN REMEDIATION PROJECT
EDDY COUNTY, NEW MEXICO

CORRECTED LOWER QUEEN GROUNDWATER ELEVATION CONTOUR MAP JULY 14-15, 1997

DESIGNED BY:	DETAILED BY:	CHECKED BY:
	SWL/DMR	ELS
DRAWING DATE: 04/21/98	ACAD FILE: LQWT7_97	
PROJECT NO.: 104519	NOTES:	

FIGURE 2-6



LEGEND

- BORE HOLE / TEST HOLE
- INFILTRATION WELL (SHALLOW GROUNDWATER)
- RECOVERY WELL (SHALLOW GROUNDWATER)
- MONITORING WELL (LOWER QUEEN)
- INFILTRATION WELL (LOWER QUEEN)
- INDUSTRIAL SUPPLY WELL (LOWER QUEEN)
- RECOVERY WELL (LOWER QUEEN)
- VAPOR EXTRACTION WELL
- MONITORING WELL (SHALLOW GROUNDWATER)
  EX.: MW-050 – WELL IDENTIFICATION
  3787.90 – GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL

GROUNDWATER ELEVATION CONTOUR
CONTOUR INTERVAL = 10 FEET
UNLESS OTHERWISE NOTED

GROUNDWATER FLOW DIRECTION

BLOWER STATION
FENCE
POWER LINES

500 0 500 1000
SCALE FEET

FLUOR DANIEL GTI
2501 YALE BLVD. SE, SUITE 204
ALBUQUERQUE, NM 87106 (505) 242-3113

MARATHON OIL COMPANY
INDIAN BASIN REMEDIATION PROJECT
EDDY COUNTY, NEW MEXICO

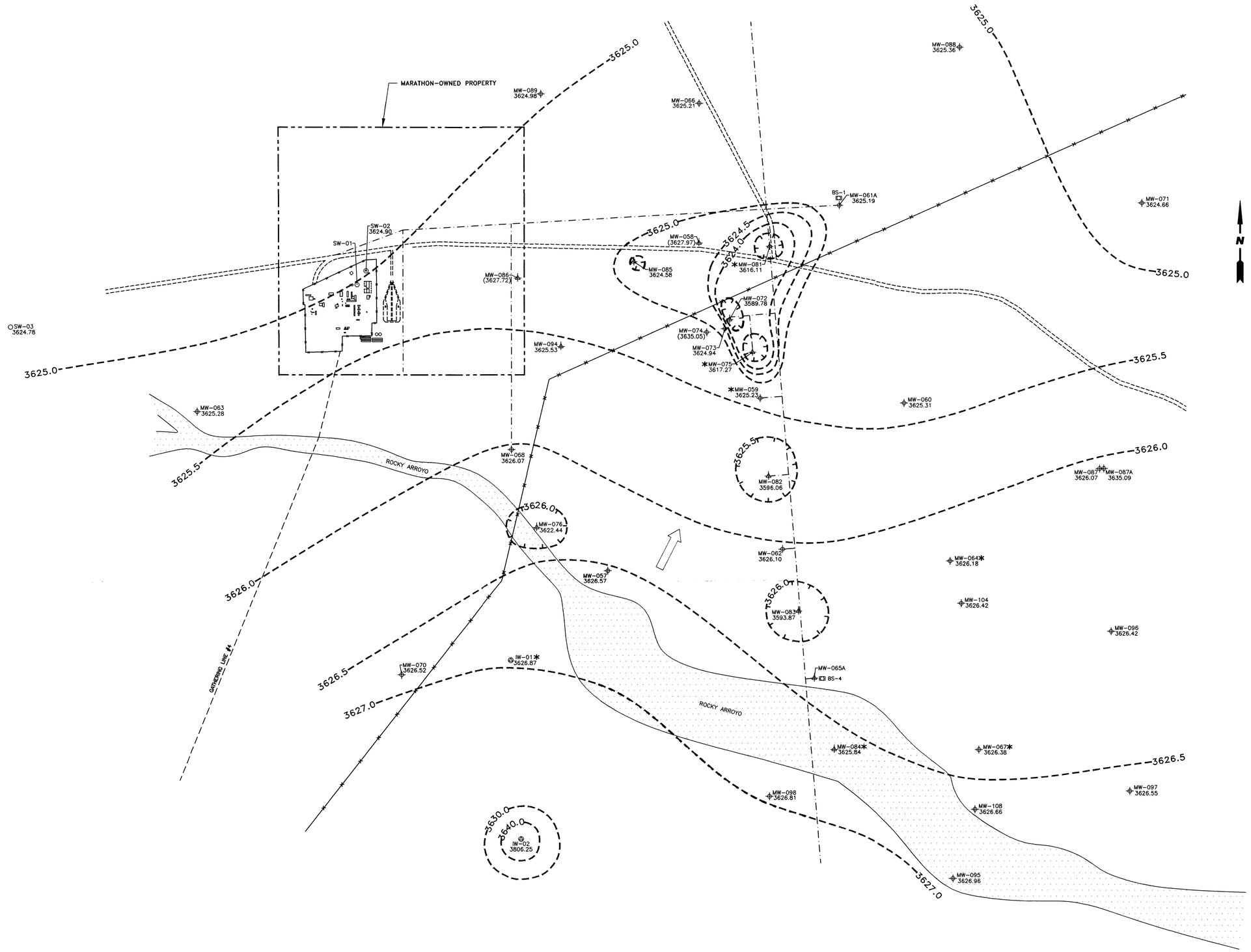
CORRECTED SHALLOW ZONE GROUNDWATER ELEVATION CONTOUR MAP OCTOBER 13-14, 1997

DESIGNED BY:	DETAILED BY:	CHECKED BY:
	SWL/DMR	

DRAWING DATE:	ACAD FILE:
04/22/98	SHWT10~1

PROJECT NO.:	NOTES:
104519	

FIGURE 2-7



LEGEND

- BORE HOLE / TEST HOLE
- INFILTRATION WELL (SHALLOW GROUNDWATER)
- RECOVERY WELL (SHALLOW GROUNDWATER)
- MONITORING WELL (SHALLOW GROUNDWATER)
- INFILTRATION WELL (LOWER QUEEN)
- INDUSTRIAL SUPPLY WELL (LOWER QUEEN)
- RECOVERY WELL (LOWER QUEEN)
- VAPOR EXTRACTION WELL
- MONITORING WELL (LOWER QUEEN)
  EX.: MW-085 – WELL IDENTIFICATION
  3624.58 – GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- ( ) – DATA NOT USED IN CONTOUR INTERPOLATION
- * – CORRECTED FOR PRODUCT THICKNESS USING SPECIFIC GRAVITY OF 0.73
- GROUNDWATER ELEVATION CONTOUR CONTOUR INTERVAL = 10 FEET UNLESS OTHERWISE NOTED
- GROUNDWATER FLOW DIRECTION
- BLOWER STATION
- FENCE
- POWER LINES

SCALE: 500 0 500 1000 FEET

FLUOR DANIEL GTI

2501 YALE BLVD. SE, SUITE 204
ALBUQUERQUE, NM 87106 (505) 242-3113

MARATHON OIL COMPANY
INDIAN BASIN REMEDIATION PROJECT
EDDY COUNTY, NEW MEXICO

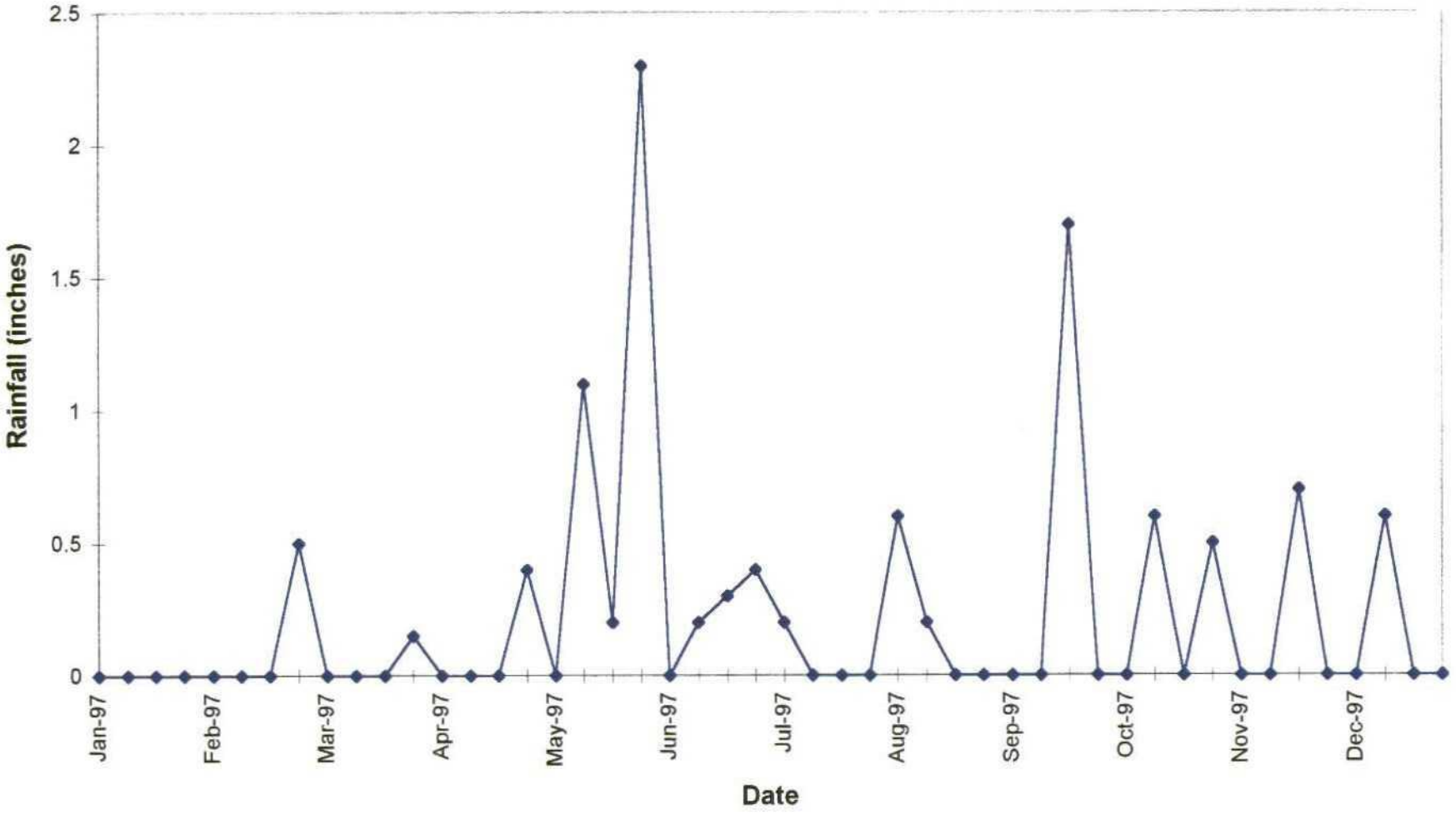
CORRECTED LOWER QUEEN GROUNDWATER ELEVATION CONTOUR MAP OCTOBER 13-14, 1997

DESIGNED BY:	DETAILED BY:	CHECKED BY:
	SWL/DMR	ELS

DRAWING DATE:	ACAD FILE:
04/22/98	LQWT10~1
PROJECT NO.:	**NOTES:**
104519	

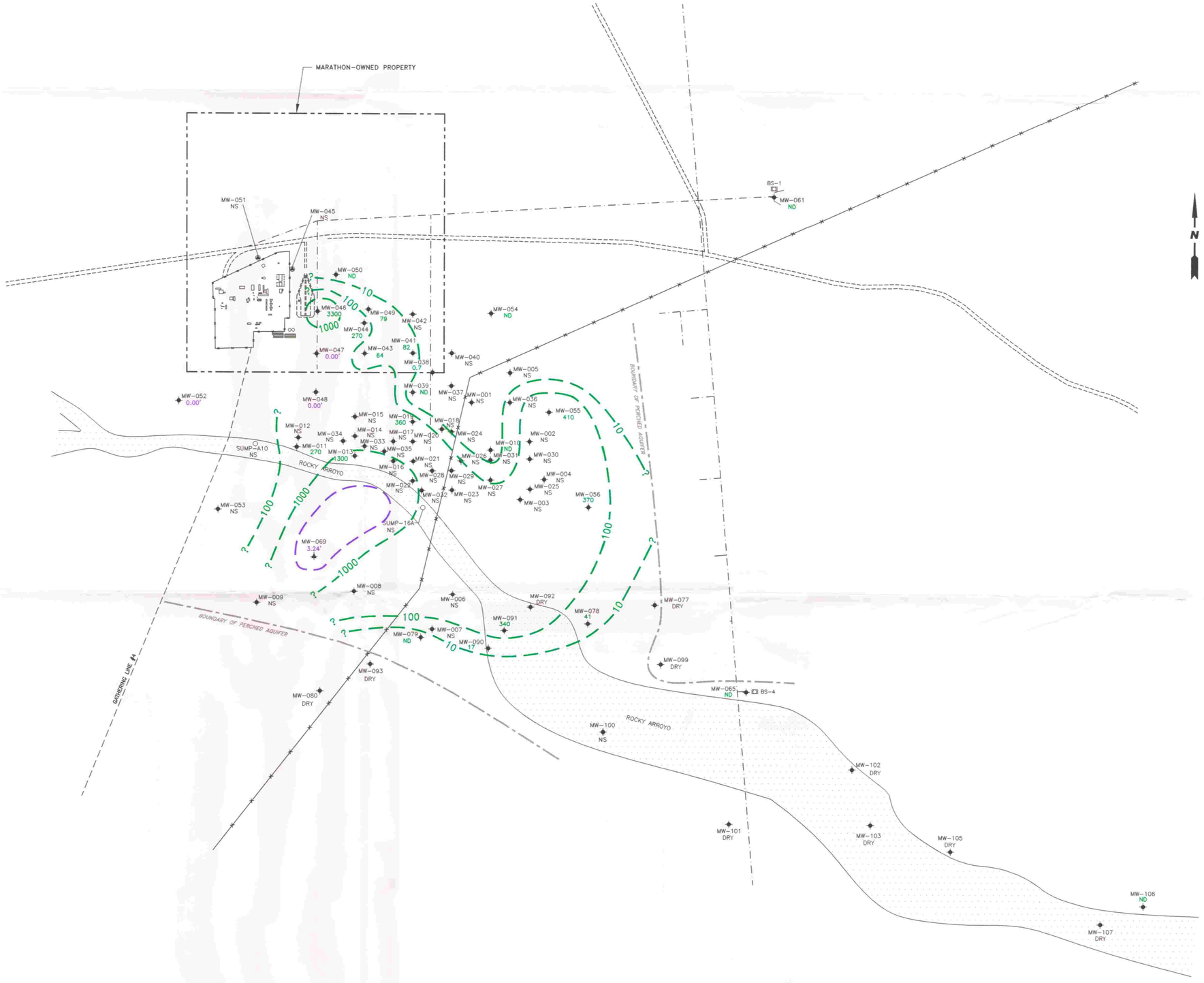
FIGURE 2-8

Figure 2-9
1997 Rainfall Data
Marathon IBRP



RAINFALL.XLS

FLUOR DANIEL GTI



LEGEND

- MONITORING WELL (SHALLOW GROUNDWATER)
- INFILTRATION WELL (SHALLOW GROUNDWATER)
- RECOVERY WELL (SHALLOW GROUNDWATER)

EX.: MW-069 – WELL IDENTIFICATION
3.24' – APPARENT CONDENSATE THICKNESS (FEET) IN SHALLOW ZONE WELL

EX.: MW-078 – WELL IDENTIFICATION
41 – BENZENE (ug/L) IN SHALLOW ZONE WELL

– CONDENSATE PLUME
– INTERPRETED CONCENTRATION ISOPLETH FOR BENZENE IN ug/L

COP – CONDENSATE ON PROBE
ND – NOT DETECTED
NI – NOT INSTALLED
NS – NOT SAMPLED

BLOWER STATION
FENCE
POWER LINES

500 0 500 1000
SCALE FEET

FLUOR DANIEL GTI
2501 YALE BLVD. SE, SUITE 204
ALBUQUERQUE, NM 87106 (505) 242-3113

MARATHON OIL COMPANY
INDIAN BASIN REMEDIATION PROJECT
EDDY COUNTY, NEW MEXICO

SHALLOW ZONE CONDENSATE AND BENZENE DISTRIBUTION MAP FEBRUARY 3-11, 1997

DESIGNED BY:	DETAILED BY:	CHECKED BY:
	SWL/DMR	ELS
DRAWING DATE: 5/14/98	ACAD FILE: SHBZ2_97	
PROJECT NO.: 104519	NOTES:	

FIGURE 3-1

LEGEND

- MONITORING WELL (LOWER QUEEN)
- INFILTRATION WELL (LOWER QUEEN)
- INDUSTRIAL SUPPLY WELL (LOWER QUEEN)
- RECOVERY WELL (LOWER QUEEN)

EX.: MW-059 – WELL IDENTIFICATION
1.28' – APPARENT CONDENSATE THICKNESS (FEET) IN LOWER QUEEN WELL

EX.: MW-071 – WELL IDENTIFICATION
5.2 – BENZENE (ug/L) IN LOWER QUEEN WELL

– CONDENSATE PLUME

– INTERPRETED CONCENTRATION ISOPLETH FOR BENZENE IN ug/L

COP – CONDENSATE ON PROBE
ND – NOT DETECTED
NI – NOT INSTALLED
NS – NOT SAMPLED

BLOWER STATION
FENCE
POWER LINES

500 0 500 1000
SCALE FEET

FLUOR DANIEL GTI
2501 YALE BLVD. SE, SUITE 204
ALBUQUERQUE, NM 87106 (505) 242-3113

MARATHON OIL COMPANY
INDIAN BASIN REMEDIATION PROJECT
EDDY COUNTY, NEW MEXICO

LOWER QUEEN CONDENSATE AND BENZENE DISTRIBUTION MAP FEBRUARY 3-11, 1997

DESIGNED BY:	DETAILED BY:	CHECKED BY:
	SWL/DMR	ECS
DRAWING DATE: 5/14/98		ACAD FILE: LQBZ2_97
PROJECT NO.: 104519		NOTES:

FIGURE 3-2

LEGEND

- MONITORING WELL (SHALLOW GROUNDWATER)
- INFILTRATION WELL (SHALLOW GROUNDWATER)
- RECOVERY WELL (SHALLOW GROUNDWATER)

EX.: MW-091 – WELL IDENTIFICATION
0.01' – APPARENT CONDENSATE THICKNESS (FEET) IN SHALLOW ZONE WELL

EX.: MW-077 – WELL IDENTIFICATION
8.4 – BENZENE (ug/L) IN SHALLOW ZONE WELL

– CONDENSATE PLUME

– INTERPRETED CONCENTRATION ISOPLETH FOR BENZENE IN ug/L

COP – CONDENSATE ON PROBE
ND – NOT DETECTED
NI – NOT INSTALLED
NS – NOT SAMPLED

BLOWER STATION
FENCE
POWER LINES

500 0 500 1000
SCALE FEET

FLUOR DANIEL GTI
2501 YALE BLVD. SE, SUITE 204
ALBUQUERQUE, NM 87106 (505) 242-3113

MARATHON OIL COMPANY
INDIAN BASIN REMEDIATION PROJECT
EDDY COUNTY, NEW MEXICO

SHALLOW ZONE CONDENSATE AND BENZENE DISTRIBUTION MAP APRIL 28 - MAY 7, 1997

DESIGNED BY:	DETAILED BY:	CHECKED BY:
	SWL/DMR	ELS
DRAWING DATE: 5/14/98	ACAD FILE: SHBZ4_97	
PROJECT NO.: 104519	NOTES:	

FIGURE 3-3

LEGEND

- MONITORING WELL (LOWER QUEEN)
- INFILTRATION WELL (LOWER QUEEN)
- INDUSTRIAL SUPPLY WELL (LOWER QUEEN)
- RECOVERY WELL (LOWER QUEEN)

EX.: MW-059 – WELL IDENTIFICATION
1.14' – APPARENT CONDENSATE THICKNESS (FEET) IN LOWER QUEEN WELL

EX.: MW-098 – WELL IDENTIFICATION
5.8 – BENZENE (ug/L) IN LOWER QUEEN WELL

– CONDENSATE PLUME

– INTERPRETED CONCENTRATION ISOPLETH FOR BENZENE IN ug/L

COP – CONDENSATE ON PROBE
ND – NOT DETECTED
NI – NOT INSTALLED
NS – NOT SAMPLED

BLOWER STATION
FENCE
POWER LINES

500 0 500 1000
SCALE FEET

FLUOR DANIEL GTI
2501 YALE BLVD. SE, SUITE 204
ALBUQUERQUE, NM 87106 (505) 242-3113

MARATHON OIL COMPANY
INDIAN BASIN REMEDIATION PROJECT
EDDY COUNTY, NEW MEXICO

LOWER QUEEN CONDENSATE AND BENZENE DISTRIBUTION MAP APRIL 28-MAY 7, 1997

DESIGNED BY:	DETAILED BY:	CHECKED BY:
	SWL/DMR	ES
DRAWING DATE: 5/14/98	ACAD FILE: LQBZ4_97	
PROJECT NO.: 104519	NOTES:	

FIGURE 3-4

LEGEND

- MONITORING WELL (SHALLOW GROUNDWATER)
- INFILTRATION WELL (SHALLOW GROUNDWATER)
- RECOVERY WELL (SHALLOW GROUNDWATER)

EX.: MW-091 – WELL IDENTIFICATION
0.02' – APPARENT CONDENSATE THICKNESS (FEET) IN SHALLOW ZONE WELL

EX.: MW-077 – WELL IDENTIFICATION
14 – BENZENE (ug/L) IN SHALLOW ZONE WELL

– CONDENSATE PLUME

– INTERPRETED CONCENTRATION ISOPLETH FOR BENZENE IN ug/L

COP – CONDENSATE ON PROBE
ND – NOT DETECTED
NI – NOT INSTALLED
NS – NOT SAMPLED

BLOWER STATION
FENCE
POWER LINES

500 0 500 1000
SCALE FEET

FLUOR DANIEL GTI
2501 YALE BLVD. SE, SUITE 204
ALBUQUERQUE, NM 87106 (505) 242-3113

MARATHON OIL COMPANY
INDIAN BASIN REMEDIATION PROJECT
EDDY COUNTY, NEW MEXICO

SHALLOW ZONE CONDENSATE AND BENZENE DISTRIBUTION MAP JULY 14-18, 1997

DESIGNED BY:	DETAILED BY:	CHECKED BY:
	SWL/DMR	ELS
DRAWING DATE: 5/14/98		ACAD FILE: SHBZ7_97
PROJECT NO.: 104519		NOTES:

FIGURE 3-5

LEGEND

- MONITORING WELL (LOWER QUEEN)
- INFILTRATION WELL (LOWER QUEEN)
- INDUSTRIAL SUPPLY WELL (LOWER QUEEN)
- RECOVERY WELL (LOWER QUEEN)

EX.: MW-083 – WELL IDENTIFICATION
1.62' – APPARENT CONDENSATE THICKNESS (FEET) IN LOWER QUEEN WELL

EX.: MW-061A – WELL IDENTIFICATION
16 – BENZENE (ug/L) IN LOWER QUEEN WELL

– CONDENSATE PLUME

– INTERPRETED CONCENTRATION ISOPLETH FOR BENZENE IN ug/L

COP – CONDENSATE ON PROBE
ND – NOT DETECTED
NI – NOT INSTALLED
NS – NOT SAMPLED

BLOWER STATION
FENCE
POWER LINES

500 0 500 1000
SCALE FEET

FLUOR DANIEL GTI
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ALBUQUERQUE, NM 87106 (505) 242-3113

MARATHON OIL COMPANY
INDIAN BASIN
REMEDIATION PROJECT
EDDY COUNTY, NEW MEXICO

LOWER QUEEN CONDENSATE AND BENZENE DISTRIBUTION MAP JULY 14-18, 1997

DESIGNED BY:	DETAILED BY:	CHECKED BY:
	SWL/DMR	EJS
DRAWING DATE: 5/18/98	ACAD FILE: LQBZ7_97	
PROJECT NO.: 104519	NOTES:	

FIGURE 3-6

LEGEND

- MONITORING WELL (LOWER QUEEN)
- INFILTRATION WELL (LOWER QUEEN)
- INDUSTRIAL SUPPLY WELL (LOWER QUEEN)
- RECOVERY WELL (LOWER QUEEN)

EX.: MW-067 – WELL IDENTIFICATION
0.67' – APPARENT CONDENSATE THICKNESS (FEET) IN LOWER QUEEN WELL

EX.: MW-061A – WELL IDENTIFICATION
35 – BENZENE (ug/L) IN LOWER QUEEN WELL

– CONDENSATE PLUME

– INTERPRETED CONCENTRATION ISOPLETH FOR BENZENE IN ug/L

COP – CONDENSATE ON PROBE
ND – NOT DETECTED
NI – NOT INSTALLED
NS – NOT SAMPLED

BLOWER STATION
FENCE
POWER LINES

500 0 500 1000
SCALE FEET

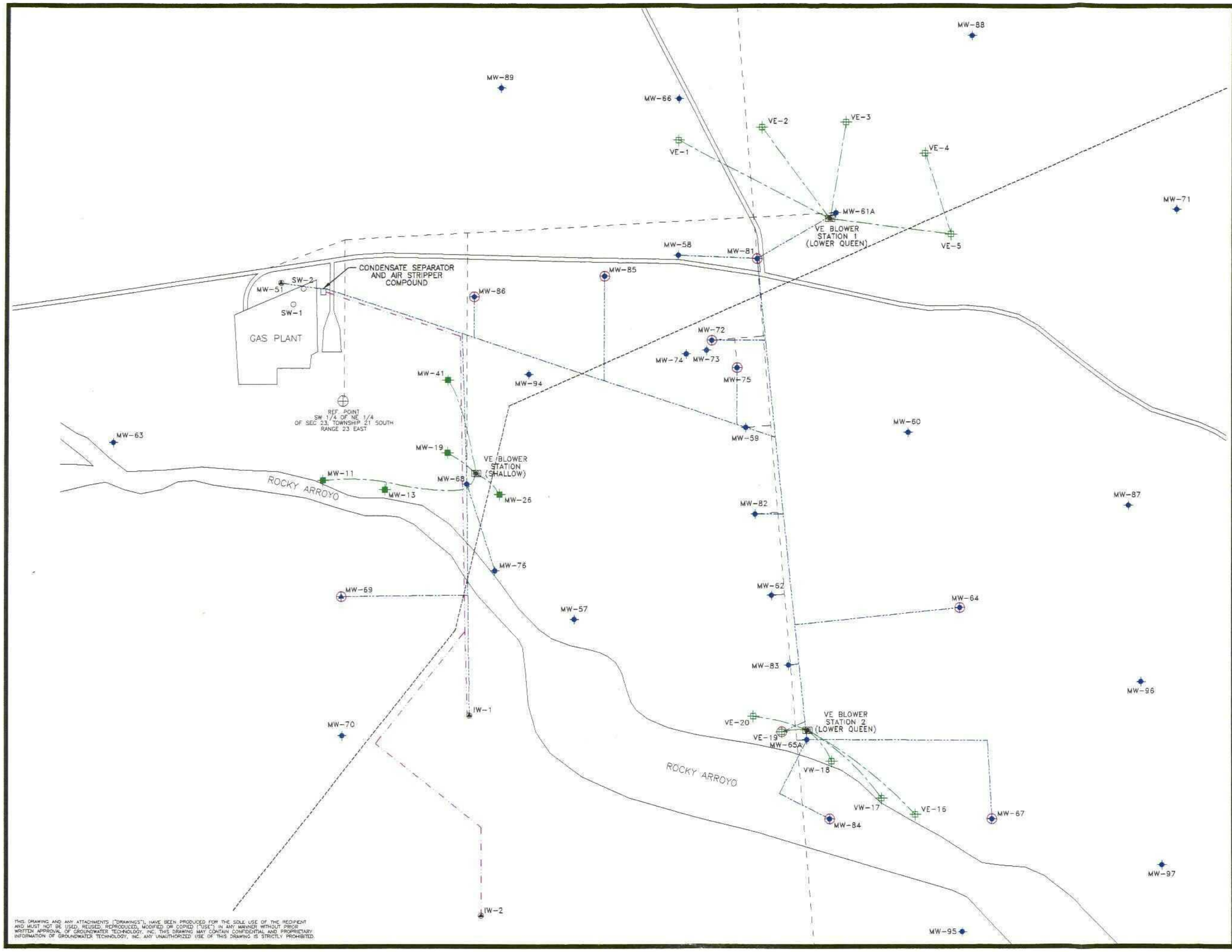
FLUOR DANIEL GTI
2501 YALE BLVD. SE, SUITE 204
ALBUQUERQUE, NM 87106 (505) 242-3113

MARATHON OIL COMPANY
INDIAN BASIN REMEDIATION PROJECT
EDDY COUNTY, NEW MEXICO

LOWER QUEEN CONDENSATE AND BENZENE DISTRIBUTION MAP OCTOBER 13-17, 1997

DESIGNED BY:	DETAILED BY:	CHECKED BY:
	SWL/DMR	ES
DRAWING DATE: 5/18/98	ACAD FILE: LQBZ1097	
PROJECT NO.: 104519	NOTES:	

FIGURE 3-7



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NO.	DATE	BY	REVISION

EXPLANATION

- MONITORING OR RECOVERY WELL (LOWER QUEEN)
- RECOVERY WELL (SHALLOW)
- VAPOR EXTRACTION WELL (SHALLOW)
- VAPOR EXTRACTION WELL (LOWER QUEEN)
- INDUSTRIAL SUPPLY WELL (LOWER QUEEN)
- INFILTRATION WELL
- WELL CONTAINS PRODUCT SKIMMER PUMP
- VAPOR EXTRACTION BLOWER STATION
- FENCING
- OVERHEAD ELECTRIC LINE
- 4" OR 6" SDR-17 POLY-ETHYLENE ABOVE GRADE VAPOR EXTRACTION PIPING
- GROUNDWATER CONDENSATE AND GATHERING LINE
- TREATED GROUNDWATER DISCHARGE LINE

N

400 0 400 800
SCALE FEET

SIGNATURE	DATE
REVIEW ENGR:	
PROJECT ENGR:	
PROJECT MGR:	
CLIENT:	

FLUOR DANIEL GTI
1100 EAST UNIVERSITY DRIVE SUITE 116
TEMPE, ARIZONA (602) 966-0808

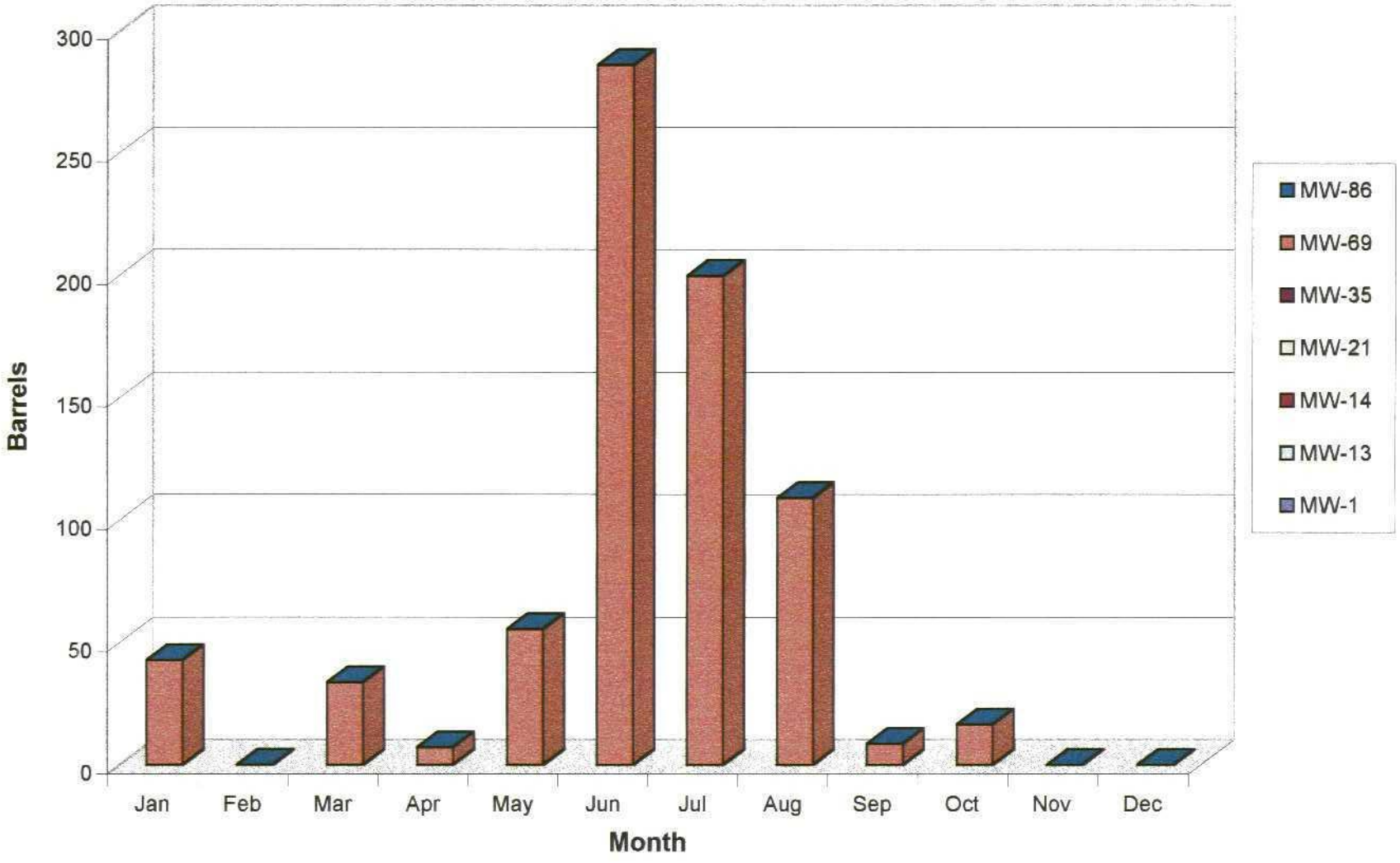
MARATHON OIL COMPANY
INDIAN BASIN
REMEDIATION PROJECT
EDDY COUNTY, NEW MEXICO

REMEDIATION SYSTEM LAYOUT

DESIGNED BY:	DETAILED BY:	CHECKED BY:
C. WRIGHT	DH/DMR	GS
DRAWING DATE: 5/13/98	ACAD FILE: 0232-Y2	
PROJECT NO.: 023350232	CONTRACT:	

FIGURE 5-1

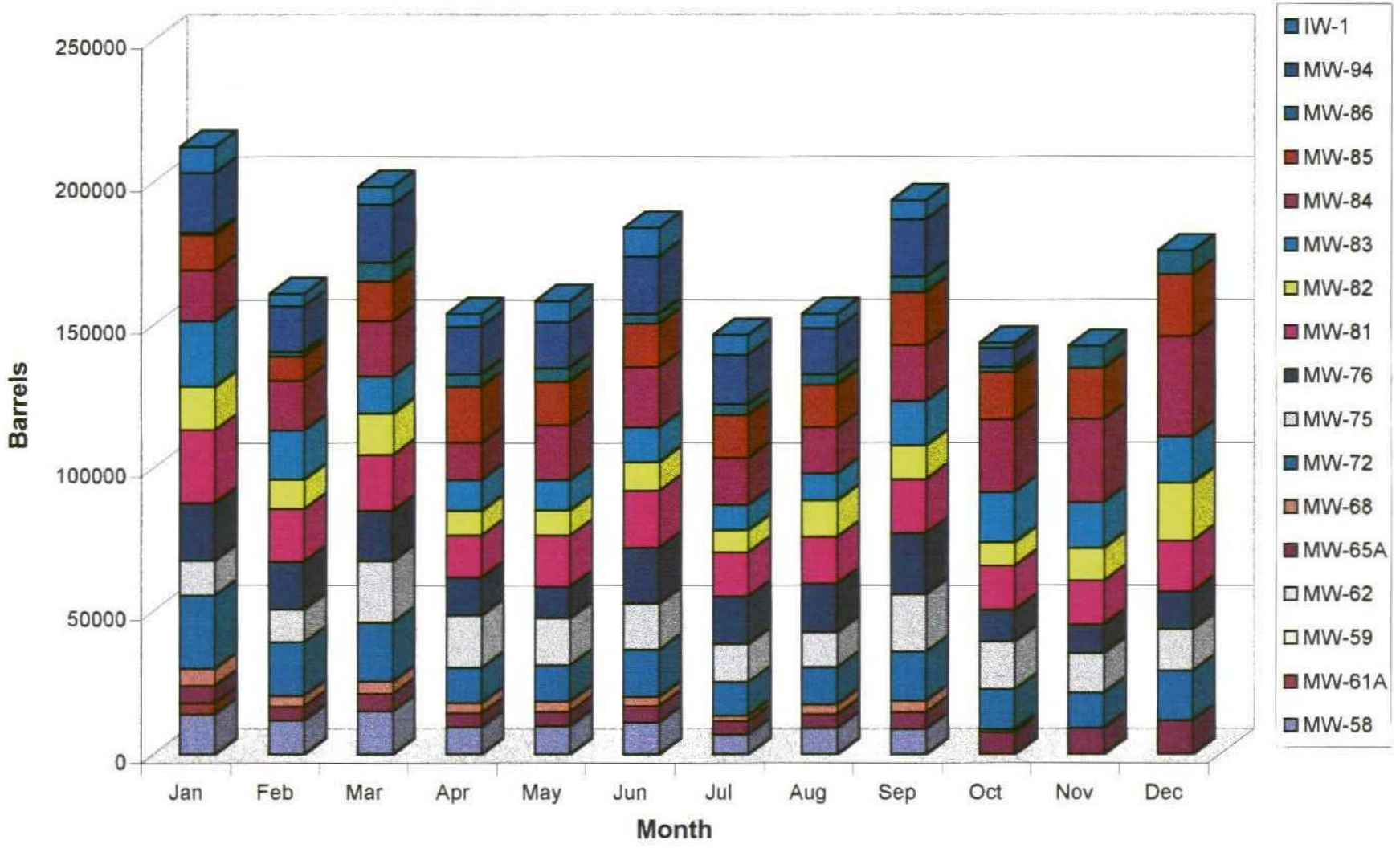
Figure 5-2
Monthly Shallow Zone Total Fluid Recovery
1997



BARGRP.XLS

FLUOR DANIEL GTI

Figure 5-3
Monthly Lower Queen Total Fluid Recovery
1997



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FLUOR DANIEL GTI

ANNUAL MONITORING REPORT
INDIAN BASIN REMEDIATION PROJECT
NEW MEXICO
JANUARY - DECEMBER 1997

VOLUME III OF III

May 21, 1998

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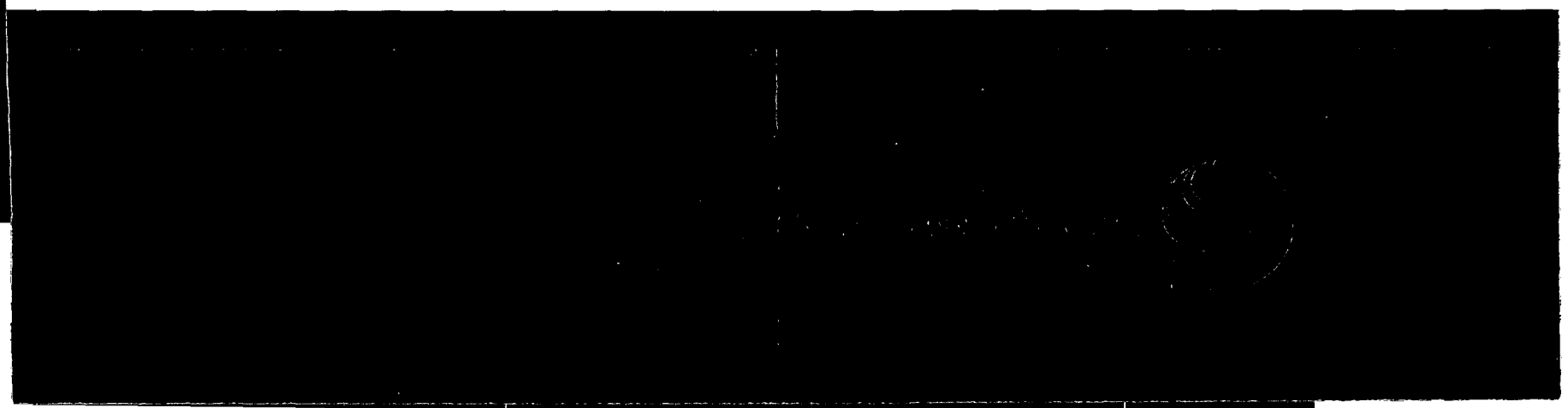

APPENDIX A

FLUID-LEVEL TABLE
MAY 1991 - DECEMBER 1997

CORRECTED GROUNDWATER ELEVATIONS
SHALLOW ZONE
(05/28/91-12/10/97)

Indian Basin Remediation Project
Eddy County, New Mexico

Location	Date	Reference Elevation (Feet)	Depth to Water (Feet)	Depth to Condensate (Feet)	Condensate Thickness (Feet)	Condensate Density (Feet)	Groundwater Elevation (Feet)	Change in Water Table Elevation
MW-001	12/01/91	3792.50	9.68	--	--	--	3782.82	NA
MW-001	04/01/96	3792.50	Dry	--	--	--	NA	NA
MW-003	01/16/96	NA	Dry	--	--	--	NA	NA
MW-003	04/19/96	NA	Dry	--	--	--	NA	NA
MW-003	07/16/96	NA	Dry	--	--	--	NA	NA
MW-003	10/13/96	NA	Dry	--	--	--	NA	NA
MW-004	04/15/92	3785.88	18.58	--	--	--	3767.30	NA
MW-004	07/01/92	3785.88	17.74	--	--	--	3768.14	0.84
MW-004	10/01/92	3785.88	18.54	--	--	--	3767.34	-0.80
MW-004	01/01/93	3785.88	18.57	--	--	--	3767.31	-0.03
MW-004	04/01/93	3785.88	18.57	--	--	--	3767.31	0.00
MW-005	01/16/96	NA	Dry	--	--	--	NA	NA
MW-005	04/19/96	NA	Dry	--	--	--	NA	NA
MW-005	07/15/96	NA	Dry	--	--	--	NA	NA
MW-005	10/13/96	NA	Dry	--	--	--	NA	NA
MW-006	01/16/96	NA	Dry	--	--	--	NA	NA
MW-007	01/16/96	NA	Dry	--	--	--	NA	NA
MW-007	04/17/96	NA	Dry	--	--	--	NA	NA
MW-007	07/15/96	NA	Dry	--	--	--	NA	NA
MW-007	10/13/96	NA	Dry	--	--	--	NA	NA
MW-008	01/16/96	NA	Dry	--	--	--	NA	NA
MW-008	04/17/96	NA	Dry	--	--	--	NA	NA
MW-008	10/13/96	NA	Dry	--	--	--	NA	NA
MW-009	01/16/96	NA	Dry	--	--	--	NA	NA
MW-009	04/17/96	NA	Dry	--	--	--	NA	NA
MW-009	07/15/96	NA	Dry	--	--	--	NA	NA
MW-009	10/13/96	NA	Dry	--	--	--	NA	NA
MW-010	12/01/91	3790.78	16.68	--	--	--	3774.10	NA
MW-010	04/15/92	3790.78	16.70	--	--	--	3774.08	-0.02
MW-010	07/01/92	3790.78	16.02	--	--	--	3774.76	0.68
MW-010	10/01/92	3790.78	16.97	--	--	--	3773.81	-0.95
MW-010	01/01/93	3790.78	17.74	--	--	--	3773.04	-0.77
MW-010	04/01/93	3790.78	18.31	--	--	--	3772.47	-0.57
MW-010	01/01/94	3790.78	18.21	--	--	--	3772.57	0.10
MW-010	01/16/96	3790.78	Dry	--	--	--	NA	NA
MW-010	04/17/96	3790.78	Dry	--	--	--	NA	NA
MW-010	07/16/96	3790.78	Dry	--	--	--	NA	NA
MW-010	10/13/96	3790.78	17.00	--	--	--	3773.78	1.21
MW-010	02/04/97	3790.78	17.99	--	--	--	3772.79	-0.99
MW-010	03/18/97	3790.78	17.88	--	--	--	3772.90	0.11
MW-010	04/29/97	3790.78	18.21	--	--	--	3772.57	-0.33

Notes:

1) Groundwater elevations are in feet Above Mean Sea Level (AMSL) based on survey data supplied by Marathon.

NA = Not Available
Obstructed= Well Obstructed
Dry= Well Dry
NM = Not Measured

CORRECTED GROUNDWATER ELEVATIONS
SHALLOW ZONE
(05/28/91-12/10/97)
(Continued)

Indian Basin Remediation Project
Eddy County, New Mexico

Location	Date	Reference Elevation (Feet)	Depth to Water (Feet)	Depth to Condensate (Feet)	Condensate Thickness (Feet)	Condensate Density (Feet)	Groundwater Elevation (Feet)	Change in Water Table Elevation
MW-010	07/15/97	3790.78	18.20	--	--	--	3772.58	0.01
MW-010	10/14/97	3790.78	18.45	--	--	--	3772.33	-0.25
MW-011	12/01/91	3806.96	22.08	--	--	--	3784.88	NA
MW-011	04/15/92	3806.96	22.73	--	--	--	3784.23	-0.65
MW-011	07/01/92	3806.96	18.00	--	--	--	3788.96	4.73
MW-011	10/01/92	3806.96	22.47	--	--	--	3784.49	-4.47
MW-011	01/01/93	3806.96	24.03	--	--	--	3782.93	-1.56
MW-011	04/01/93	3806.96	24.38	--	--	--	3782.58	-0.35
MW-011	10/01/93	3806.96	24.43	--	--	--	3782.53	-0.05
MW-011	01/01/94	3806.96	24.30	--	--	--	3782.66	0.13
MW-011	04/01/94	3806.96	24.38	--	--	--	3782.58	-0.08
MW-011	07/01/94	3806.96	24.34	--	--	--	3782.62	0.04
MW-011	10/01/94	3806.96	22.23	--	--	--	3784.73	2.11
MW-011	04/01/95	3806.96	24.23	--	--	--	3782.73	-2.00
MW-011	07/01/95	3806.96	23.80	--	--	--	3783.16	0.43
MW-011	10/01/95	3806.96	22.01	--	--	--	3784.95	1.79
MW-011	01/16/96	3806.96	23.91	--	--	--	3783.05	-1.90
MW-011	04/19/96	3806.96	23.97	--	--	--	3782.99	-0.06
MW-011	07/15/96	3806.96	20.05	--	--	--	3786.91	3.92
MW-011	10/13/96	3806.96	20.46	--	--	--	3786.50	-0.41
MW-011	02/04/97	3806.96	23.22	--	--	--	3783.74	-2.76
MW-011	04/28/97	3806.96	23.40	--	--	--	3783.56	-0.18
MW-013	12/01/91	3801.58	18.14	--	--	--	3783.44	NA
MW-013	04/15/92	3801.58	18.92	--	--	--	3782.66	-0.78
MW-013	01/01/95	3801.58	19.76	--	--	--	3781.82	-0.84
MW-013	04/01/95	3801.58	20.34	--	--	--	3781.24	-0.58
MW-013	07/01/95	3801.58	20.36	--	--	--	3781.22	-0.02
MW-013	10/01/95	3801.58	18.41	--	--	--	3783.17	1.95
MW-013	01/16/96	3801.58	19.83	19.75	0.08	0.73	3781.81	-1.36
MW-013	04/19/96	3801.58	19.89	19.80	0.09	0.00	3781.69	-0.12
MW-013	07/15/96	3801.58	17.15	17.07	0.08	0.73	3784.49	2.80
MW-013	10/13/96	3801.58	17.39	--	--	--	3784.19	-0.30
MW-013	02/04/97	3801.58	19.15	--	--	--	3782.43	-1.76
MW-013	03/18/97	3801.58	19.31	--	--	--	3782.27	-0.16
MW-013	04/28/97	3801.58	19.34	--	--	--	3782.24	-0.03
MW-014	12/01/91	3803.61	9.68	--	--	--	3793.93	NA
MW-014	10/01/93	3803.61	22.55	--	--	--	3781.06	-12.87
MW-014	01/01/94	3803.61	22.78	--	--	--	3780.83	-0.23
MW-015	12/01/91	3803.59	9.68	--	--	--	3793.91	NA
MW-016	12/01/91	3801.04	9.68	--	--	--	3791.36	NA
MW-016	04/01/93	3801.04	22.32	--	--	--	3778.72	-12.64
MW-016	07/01/93	3801.04	22.25	--	--	--	3778.79	0.07

Notes:

1) Groundwater elevations are in feet Above Mean Sea Level (AMSL) based on survey data supplied by Marathon.

NA = Not Available
Obstructed= Well Obstructed
Dry= Well Dry
NM = Not Measured

CORRECTED GROUNDWATER ELEVATIONS
SHALLOW ZONE
(05/28/91-12/10/97)
(Continued)

Indian Basin Remediation Project
Eddy County, New Mexico

Location	Date	Reference Elevation (Feet)	Depth to Water (Feet)	Depth to Condensate (Feet)	Condensate Thickness (Feet)	Condensate Density (Feet)	Groundwater Elevation (Feet)	Change in Water Table Elevation
MW-017	12/01/91	3799.55	9.68	--	--	--	3789.87	NA
MW-017	04/01/93	3799.55	18.68	--	--	--	3780.87	-9.00
MW-017	07/01/93	3799.55	19.13	--	--	--	3780.42	-0.45
MW-017	10/01/93	3799.55	19.11	--	--	--	3780.44	0.02
MW-017	01/01/94	3799.55	19.27	--	--	--	3780.28	-0.16
MW-018	12/01/91	3795.82	9.68	--	--	--	3786.14	NA
MW-018	04/15/92	3795.82	15.25	--	--	--	3780.57	-5.57
MW-018	07/01/92	3795.82	11.08	--	--	--	3784.74	4.17
MW-018	10/01/92	3795.82	15.89	--	--	--	3779.93	-4.81
MW-018	01/01/93	3795.82	17.05	--	--	--	3778.77	-1.16
MW-018	04/01/93	3795.82	17.13	--	--	--	3778.69	-0.08
MW-019	04/15/92	3797.21	16.50	--	--	--	3780.71	NA
MW-019	07/01/92	3797.21	12.15	--	--	--	3785.06	4.35
MW-019	10/01/92	3797.21	17.16	--	--	--	3780.05	-5.01
MW-019	01/01/93	3797.21	18.85	--	--	--	3778.36	-1.69
MW-019	04/01/93	3797.21	18.93	--	--	--	3778.28	-0.08
MW-019	01/16/96	3797.21	19.04	--	--	--	3778.17	-0.11
MW-019	04/19/96	3797.21	19.06	--	--	--	3778.15	-0.02
MW-019	07/16/96	3797.21	19.04	--	--	--	3778.17	0.02
MW-019	10/13/96	3797.21	16.09	--	--	--	3781.12	2.95
MW-019	02/04/97	3797.21	18.34	--	--	--	3778.87	-2.25
MW-019	03/18/97	3797.21	18.50	--	--	--	3778.71	-0.16
MW-019	04/28/97	3797.21	18.84	--	--	--	3778.37	-0.34
MW-020	12/01/91	3797.59	9.68	--	--	--	3787.91	NA
MW-021	12/01/91	3798.21	9.68	--	--	--	3788.53	NA
MW-021	04/01/93	3798.21	22.63	--	--	--	3775.58	-12.95
MW-021	07/01/93	3798.21	22.88	--	--	--	3775.33	-0.25
MW-021	10/01/93	3798.21	23.13	--	--	--	3775.08	-0.25
MW-022	12/01/91	3799.20	9.68	--	--	--	3789.52	NA
MW-022	04/15/92	3799.20	17.16	--	--	--	3782.04	-7.48
MW-022	07/01/92	3799.20	17.07	--	--	--	3782.13	0.09
MW-022	10/01/92	3799.20	17.29	--	--	--	3781.91	-0.22
MW-022	01/01/93	3799.20	17.29	--	--	--	3781.91	0.00
MW-022	04/01/93	3799.20	17.29	--	--	--	3781.91	0.00
MW-024	12/01/91	3794.09	9.68	--	--	--	3784.41	NA
MW-024	04/15/92	3794.09	12.90	--	--	--	3781.19	-3.22
MW-024	07/01/92	3794.09	14.09	--	--	--	3780.00	-1.19
MW-024	10/01/92	3794.09	12.92	--	--	--	3781.17	1.17
MW-024	01/16/96	3794.09	Dry	--	--	--	NA	NA
MW-024	04/19/96	3794.09	Dry	--	--	--	NA	NA
MW-024	07/16/96	3794.09	Dry	--	--	--	NA	NA
MW-024	10/13/96	3794.09	Dry	--	--	--	NA	NA

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CORRECTED GROUNDWATER ELEVATIONS
SHALLOW ZONE
(05/28/91-12/10/97)
(Continued)

Indian Basin Remediation Project
Eddy County, New Mexico

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MW-026	12/01/91	3793.01	9.68	--	--	--	3783.33	NA
MW-026	07/01/92	3793.01	16.37	--	--	--	3776.64	-6.69
MW-026	10/01/92	3793.01	19.66	--	--	--	3773.35	-3.29
MW-026	01/01/93	3793.01	20.41	--	--	--	3772.60	-0.75
MW-026	04/01/93	3793.01	20.72	--	--	--	3772.29	-0.31
MW-026	07/01/93	3793.01	20.77	--	--	--	3772.24	-0.05
MW-026	10/01/93	3793.01	20.78	--	--	--	3772.23	-0.01
MW-026	01/01/94	3793.01	20.77	--	--	--	3772.24	0.01
MW-028	12/01/91	3797.03	19.23	--	--	--	3777.80	NA
MW-029	01/16/96	NA	Dry	--	--	--	NA	NA
MW-029	04/19/96	NA	Dry	--	--	--	NA	NA
MW-029	07/16/96	NA	Dry	--	--	--	NA	NA
MW-029	10/13/96	NA	Dry	--	--	--	NA	NA
MW-030	12/01/91	3788.30	14.75	--	--	--	3773.55	NA
MW-031	12/01/91	3791.15	18.85	--	--	--	3772.30	NA
MW-031	04/15/92	3791.15	19.00	--	--	--	3772.15	-0.15
MW-031	07/01/92	3791.15	18.50	--	--	--	3772.65	0.50
MW-031	10/01/92	3791.15	19.00	--	--	--	3772.15	-0.50
MW-031	01/01/93	3791.15	19.44	--	--	--	3771.71	-0.44
MW-031	04/01/93	3791.15	19.64	--	--	--	3771.51	-0.20
MW-032	07/01/92	3797.47	15.35	--	--	--	3782.12	NA
MW-032	01/16/96	3797.47	Dry	--	--	--	NA	NA
MW-032	04/19/96	3797.47	Dry	--	--	--	NA	NA
MW-032	07/15/96	3797.47	Dry	--	--	--	NA	NA
MW-032	10/13/96	3797.47	Dry	--	--	--	NA	NA
MW-033	12/01/91	3802.48	19.02	--	--	--	3783.46	NA
MW-033	01/01/93	3802.48	19.91	--	--	--	3782.57	-0.89
MW-033	07/01/93	3802.48	19.91	--	--	--	3782.57	0.00
MW-034	12/01/91	3806.00	19.72	--	--	--	3786.28	NA
MW-035	12/01/91	3800.81	18.24	--	--	--	3782.57	NA
MW-035	07/01/93	3800.81	19.77	--	--	--	3781.04	-1.53
MW-035	10/01/93	3800.81	19.81	--	--	--	3781.00	-0.04
MW-035	01/01/94	3800.81	20.09	--	--	--	3780.72	-0.28
MW-037	12/01/91	3795.03	11.72	--	--	--	3783.31	NA
MW-037	04/01/93	3795.03	19.96	--	--	--	3775.07	-8.24
MW-037	07/01/93	3795.03	20.11	--	--	--	3774.92	-0.15
MW-037	10/01/93	3795.03	20.19	--	--	--	3774.84	-0.08
MW-037	01/01/94	3795.03	20.21	--	--	--	3774.82	-0.02

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(Continued)

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MW-038	12/01/91	3797.32	13.48	--	--	--	3783.84	NA
MW-038	04/15/92	3797.32	16.54	--	--	--	3780.78	-3.06
MW-038	07/01/92	3797.32	12.42	--	--	--	3784.90	4.12
MW-038	10/01/92	3797.32	17.66	--	--	--	3779.66	-5.24
MW-038	01/01/93	3797.32	20.24	--	--	--	3777.08	-2.58
MW-038	04/01/93	3797.32	20.42	--	--	--	3776.90	-0.18
MW-038	07/01/93	3797.32	20.23	--	--	--	3777.09	0.19
MW-038	10/01/93	3797.32	20.30	--	--	--	3777.02	-0.07
MW-038	01/16/96	3797.32	Dry	--	--	--	NA	NA
MW-038	04/19/96	3797.32	Dry	--	--	--	NA	NA
MW-038	07/15/96	3797.32	Dry	--	--	--	NA	NA
MW-038	10/13/96	3797.32	16.54	--	--	--	3780.78	3.76
MW-038	02/03/97	3797.32	19.96	--	--	--	3777.36	-3.42
MW-038	04/28/97	3797.32	20.30	--	--	--	3777.02	-0.34
MW-038	07/15/97	3797.32	20.38	--	--	--	3776.94	-0.08
MW-038	10/13/97	3797.32	20.22	--	--	--	3777.10	0.16
MW-039	12/01/91	3796.20	13.05	--	--	--	3783.15	NA
MW-039	01/01/93	3796.20	17.15	--	--	--	3779.05	-4.10
MW-039	04/01/93	3796.20	22.32	--	--	--	3773.88	-5.17
MW-039	07/01/93	3796.20	17.78	--	--	--	3778.42	4.54
MW-039	10/01/93	3796.20	18.10	--	--	--	3778.10	-0.32
MW-039	01/01/94	3796.20	18.72	--	--	--	3777.48	-0.62
MW-039	04/01/94	3796.20	19.07	--	--	--	3777.13	-0.35
MW-039	07/01/94	3796.20	19.29	--	--	--	3776.91	-0.22
MW-039	10/01/94	3796.20	19.23	--	--	--	3776.97	0.06
MW-039	01/01/95	3796.20	19.57	--	--	--	3776.63	-0.34
MW-039	04/01/95	3796.20	19.84	--	--	--	3776.36	-0.27
MW-039	07/01/95	3796.20	19.84	--	--	--	3776.36	0.00
MW-039	10/01/95	3796.20	20.03	--	--	--	3776.17	-0.19
MW-039	01/16/96	3796.20	20.29	--	--	--	3775.91	-0.26
MW-039	04/19/96	3796.20	20.32	--	--	--	3775.88	-0.03
MW-039	07/15/96	3796.20	20.30	--	--	--	3775.90	0.02
MW-039	10/13/96	3796.20	15.70	--	--	--	3780.50	4.60
MW-039	02/03/97	3796.20	17.11	--	--	--	3779.09	-1.41
MW-039	04/28/97	3796.20	17.44	--	--	--	3778.76	-0.33
MW-039	07/14/97	3796.20	17.41	--	--	--	3778.79	0.03
MW-039	10/13/97	3796.20	18.60	--	--	--	3777.60	-1.19
MW-040	04/01/93	3803.12	18.68	--	--	--	3784.44	NA
MW-041	12/01/91	3799.04	14.61	--	--	--	3784.43	NA
MW-041	01/01/93	3799.04	19.18	--	--	--	3779.86	-4.57
MW-041	07/01/93	3799.04	19.28	--	--	--	3779.76	-0.10
MW-041	10/01/93	3799.04	19.74	--	--	--	3779.30	-0.46
MW-041	01/01/94	3799.04	19.82	--	--	--	3779.22	-0.08

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MW-041	04/01/94	3799.04	21.19	--	--	--	3777.85	-1.37
MW-041	07/01/94	3799.04	20.52	--	--	--	3778.52	0.67
MW-041	10/01/94	3799.04	19.60	--	--	--	3779.44	0.92
MW-041	01/01/95	3799.04	19.87	--	--	--	3779.17	-0.27
MW-041	04/01/95	3799.04	19.82	--	--	--	3779.22	0.05
MW-041	07/01/95	3799.04	19.82	--	--	--	3779.22	0.00
MW-041	10/01/95	3799.04	20.58	--	--	--	3778.46	-0.76
MW-041	01/16/96	3799.04	20.06	--	--	--	3778.98	0.52
MW-041	04/19/96	3799.04	20.10	--	--	--	3778.94	-0.04
MW-041	07/15/96	3799.04	20.06	--	--	--	3778.98	0.04
MW-041	10/13/96	3799.04	19.02	--	--	--	3780.02	1.04
MW-041	02/03/97	3799.04	18.98	--	--	--	3780.06	0.04
MW-041	03/18/97	3799.04	19.09	--	--	--	3779.95	-0.11
MW-041	04/28/97	3799.04	18.98	--	--	--	3780.06	0.11
MW-041	07/14/97	3799.04	18.85	--	--	--	3780.19	0.13
MW-042	12/01/91	3804.73	19.98	--	--	--	3784.75	NA
MW-042	07/01/93	3804.73	22.63	--	--	--	3782.10	-2.65
MW-042	10/01/93	3804.73	22.89	--	--	--	3781.84	-0.26
MW-042	01/01/94	3804.73	23.13	--	--	--	3781.60	-0.24
MW-043	12/01/91	3802.05	17.38	--	--	--	3784.67	NA
MW-043	07/01/93	3802.05	21.33	--	--	--	3780.72	-3.95
MW-043	10/01/93	3802.05	21.18	--	--	--	3780.87	0.15
MW-043	01/01/94	3802.05	21.27	--	--	--	3780.78	-0.09
MW-043	04/01/94	3802.05	22.38	--	--	--	3779.67	-1.11
MW-043	07/01/94	3802.05	21.41	--	--	--	3780.64	0.97
MW-043	10/01/94	3802.05	21.41	--	--	--	3780.64	0.00
MW-043	01/01/95	3802.05	21.44	--	--	--	3780.61	-0.03
MW-043	04/01/95	3802.05	21.53	--	--	--	3780.52	-0.09
MW-043	07/01/95	3802.05	21.53	--	--	--	3780.52	0.00
MW-043	10/01/95	3802.05	21.80	--	--	--	3780.25	-0.27
MW-043	01/16/96	3802.05	21.75	--	--	--	3780.30	0.05
MW-043	04/19/96	3802.05	21.70	--	--	--	3780.35	0.05
MW-043	07/15/96	3802.05	21.44	--	--	--	3780.61	0.26
MW-043	10/13/96	3802.05	20.13	--	--	--	3781.92	1.31
MW-043	02/03/97	3802.05	20.71	--	--	--	3781.34	-0.58
MW-043	04/28/97	3802.05	20.49	--	--	--	3781.56	0.22
MW-043	07/14/97	3802.05	20.39	--	--	--	3781.66	0.10
MW-043	10/13/97	3802.05	20.78	--	--	--	3781.27	-0.39
MW-044	12/01/91	3804.14	17.85	--	--	--	3786.29	NA
MW-044	04/15/92	3804.14	19.40	--	--	--	3784.74	-1.55
MW-044	07/01/92	3804.14	17.27	--	--	--	3786.87	2.13
MW-044	10/01/92	3804.14	20.28	--	--	--	3783.86	-3.01
MW-044	01/01/93	3804.14	21.20	--	--	--	3782.94	-0.92

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MW-044	04/01/93	3804.14	21.48	--	--	--	3782.66	-0.28
MW-044	07/01/93	3804.14	21.63	--	--	--	3782.51	-0.15
MW-044	10/01/93	3804.14	21.58	--	--	--	3782.56	0.05
MW-044	01/01/94	3804.14	21.68	--	--	--	3782.46	-0.10
MW-044	04/01/94	3804.14	22.02	--	--	--	3782.12	-0.34
MW-044	07/01/94	3804.14	22.13	--	--	--	3782.01	-0.11
MW-044	10/01/94	3804.14	21.58	--	--	--	3782.56	0.55
MW-044	01/01/95	3804.14	21.88	--	--	--	3782.26	-0.30
MW-044	04/01/95	3804.14	22.26	--	--	--	3781.88	-0.38
MW-044	07/01/95	3804.14	22.26	--	--	--	3781.88	0.00
MW-044	10/01/95	3804.14	21.84	--	--	--	3782.30	0.42
MW-044	01/16/96	3804.14	21.86	--	--	--	3782.28	-0.02
MW-044	04/19/96	3804.14	21.88	--	--	--	3782.26	-0.02
MW-044	07/15/96	3804.14	21.75	--	--	--	3782.39	0.13
MW-044	10/13/96	3804.14	19.32	--	--	--	3784.82	2.43
MW-044	02/03/97	3804.14	20.79	--	--	--	3783.35	-1.47
MW-044	04/28/97	3804.14	20.43	--	--	--	3783.71	0.36
MW-044	07/14/97	3804.14	20.31	--	--	--	3783.83	0.12
MW-044	10/13/97	3804.14	20.73	--	--	--	3783.41	-0.42
MW-045	12/01/91	3808.68	13.91	--	--	--	3794.77	NA
MW-045	07/01/93	3808.68	21.49	--	--	--	3787.19	-7.58
MW-045	10/01/93	3808.68	21.47	--	--	--	3787.21	0.02
MW-045	01/01/94	3808.68	21.54	--	--	--	3787.14	-0.07
MW-045	04/01/94	3808.68	22.64	--	--	--	3786.04	-1.10
MW-045	07/01/94	3808.68	21.85	--	--	--	3786.83	0.79
MW-045	10/01/94	3808.68	21.52	--	--	--	3787.16	0.33
MW-045	01/01/95	3808.68	21.78	--	--	--	3786.90	-0.26
MW-045	04/01/95	3808.68	22.13	--	--	--	3786.55	-0.35
MW-045	07/01/95	3808.68	22.13	--	--	--	3786.55	0.00
MW-046	10/01/93	3805.54	19.87	--	--	--	3785.67	NA
MW-046	01/01/94	3805.54	19.42	--	--	--	3786.12	0.45
MW-046	04/01/94	3805.54	19.59	--	--	--	3785.95	-0.17
MW-046	10/01/94	3805.54	19.20	--	--	--	3786.34	0.39
MW-046	04/01/95	3805.54	19.55	--	--	--	3785.99	-0.35
MW-046	07/01/95	3805.54	19.55	--	--	--	3785.99	0.00
MW-046	01/16/96	3805.54	19.48	--	--	--	3786.06	0.07
MW-046	04/19/96	3805.54	19.52	--	--	--	3786.02	-0.04
MW-046	07/15/96	3805.54	19.41	--	--	--	3786.13	0.11
MW-046	10/13/96	3805.54	15.73	--	--	--	3789.81	3.68
MW-046	02/04/97	3805.54	18.22	--	--	--	3787.32	-2.49
MW-046	04/28/97	3805.54	16.93	--	--	--	3788.61	1.29
MW-046	07/14/97	3805.54	17.15	--	--	--	3788.39	-0.22
MW-046	10/13/97	3805.54	18.01	--	--	--	3787.53	-0.86

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MW-047	12/01/91	3805.09	18.49	--	--	--	3786.60	NA
MW-047	07/01/93	3805.09	21.37	--	--	--	3783.72	-2.88
MW-047	01/16/96	3805.09	Dry	--	--	--	NA	NA
MW-047	04/19/96	3805.09	Dry	--	--	--	NA	NA
MW-047	07/15/96	3805.09	Dry	--	--	--	NA	NA
MW-047	10/13/96	3805.09	19.66	--	--	--	3785.43	1.71
MW-047	02/04/97	3805.09	21.51	--	--	--	3783.58	-1.85
MW-047	04/28/97	3805.09	21.46	--	--	--	3783.63	0.05
MW-047	07/14/97	3805.09	21.54	--	--	--	3783.55	-0.08
MW-047	10/13/97	3805.09	21.48	--	--	--	3783.61	0.06
MW-048	12/01/91	3806.18	18.05	--	--	--	3788.13	NA
MW-048	04/15/92	3806.18	19.44	--	--	--	3786.74	-1.39
MW-048	07/01/92	3806.18	17.25	--	--	--	3788.93	2.19
MW-048	10/01/92	3806.18	18.87	--	--	--	3787.31	-1.62
MW-048	01/01/93	3806.18	19.58	--	--	--	3786.60	-0.71
MW-048	01/16/96	3806.18	Dry	--	--	--	NA	NA
MW-048	04/19/96	3806.18	Dry	--	--	--	NA	NA
MW-048	07/15/96	3806.18	Dry	--	--	--	NA	NA
MW-048	10/13/96	3806.18	17.88	--	--	--	3788.30	1.70
MW-048	02/04/97	3806.18	19.60	--	--	--	3786.58	-1.72
MW-048	04/28/97	3806.18	19.66	--	--	--	3786.52	-0.06
MW-048	07/14/97	3806.18	19.66	--	--	--	3786.52	0.00
MW-048	10/13/97	3806.18	19.68	--	--	--	3786.50	-0.02
MW-049	12/01/91	3805.61	16.60	--	--	--	3789.01	NA
MW-049	07/01/93	3805.61	21.98	--	--	--	3783.63	-5.38
MW-049	10/01/93	3805.61	21.93	--	--	--	3783.68	0.05
MW-049	01/01/94	3805.61	22.27	--	--	--	3783.34	-0.34
MW-049	04/01/94	3805.61	22.64	--	--	--	3782.97	-0.37
MW-049	07/01/94	3805.61	22.73	--	--	--	3782.88	-0.09
MW-049	10/01/94	3805.61	22.30	--	--	--	3783.31	0.43
MW-049	01/01/95	3805.61	22.56	--	--	--	3783.05	-0.26
MW-049	04/01/95	3805.61	22.94	--	--	--	3782.67	-0.38
MW-049	07/01/95	3805.61	22.94	--	--	--	3782.67	0.00
MW-049	10/01/95	3805.61	22.68	--	--	--	3782.93	0.26
MW-049	01/16/96	3805.61	22.55	--	--	--	3783.06	0.13
MW-049	04/19/96	3805.61	22.59	--	--	--	3783.02	-0.04
MW-049	07/15/96	3805.61	22.76	--	--	--	3782.85	-0.17
MW-049	10/13/96	3805.61	19.54	--	--	--	3786.07	3.22
MW-049	02/03/97	3805.61	20.66	--	--	--	3784.95	-1.12
MW-049	03/18/97	3805.61	20.99	--	--	--	3784.62	-0.33
MW-049	04/28/97	3805.61	20.70	--	--	--	3784.91	0.29
MW-049	07/14/97	3805.61	20.31	--	--	--	3785.30	0.39
MW-049	10/13/97	3805.61	21.01	--	--	--	3784.60	-0.70

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MW-050	12/01/91	3813.35	20.74	--	--	--	3792.61	NA
MW-050	04/15/92	3813.35	22.83	--	--	--	3790.52	-2.09
MW-050	07/01/92	3813.35	15.91	--	--	--	3797.44	6.92
MW-050	10/01/92	3813.35	23.77	--	--	--	3789.58	-7.86
MW-050	01/01/93	3813.35	25.52	--	--	--	3787.83	-1.75
MW-050	04/01/93	3813.35	26.16	--	--	--	3787.19	-0.64
MW-050	07/01/93	3813.35	26.43	--	--	--	3786.92	-0.27
MW-050	10/01/93	3813.35	26.43	--	--	--	3786.92	0.00
MW-050	01/01/94	3813.35	26.83	--	--	--	3786.52	-0.40
MW-050	04/01/94	3813.35	27.04	--	--	--	3786.31	-0.21
MW-050	07/01/94	3813.35	27.16	--	--	--	3786.19	-0.12
MW-050	10/01/94	3813.35	26.87	--	--	--	3786.48	0.29
MW-050	01/01/95	3813.35	27.03	--	--	--	3786.32	-0.16
MW-050	04/01/95	3813.35	27.37	--	--	--	3785.98	-0.34
MW-050	07/01/95	3813.35	27.37	--	--	--	3785.98	0.00
MW-050	10/01/95	3813.35	26.85	--	--	--	3786.50	0.52
MW-050	01/16/96	3813.35	27.20	--	--	--	3786.15	-0.35
MW-050	04/19/96	3813.35	27.22	--	--	--	3786.13	-0.02
MW-050	07/15/96	3813.35	27.04	--	--	--	3786.31	0.18
MW-050	10/13/96	3813.35	25.89	--	--	--	3787.46	1.15
MW-050	02/03/97	3813.35	25.15	--	--	--	3788.20	0.74
MW-050	03/18/97	3813.35	25.18	--	--	--	3788.17	-0.03
MW-050	04/28/97	3813.35	24.81	--	--	--	3788.54	0.37
MW-050	07/14/97	3813.35	24.56	--	--	--	3788.79	0.25
MW-050	10/13/97	3813.35	25.45	--	--	--	3787.90	-0.89
MW-051	12/01/91	3810.86	17.77	--	--	--	3793.09	NA
MW-052	07/01/92	3817.49	19.00	--	--	--	3798.49	NA
MW-052	01/16/96	3817.49	Dry	--	--	--	NA	NA
MW-052	04/19/96	3817.49	Dry	--	--	--	NA	NA
MW-052	07/15/96	3817.49	Dry	--	--	--	NA	NA
MW-052	10/13/96	3817.49	20.97	--	--	--	3796.52	-1.97
MW-052	02/04/97	3817.49	21.31	--	--	--	3796.18	-0.34
MW-052	04/28/97	3817.49	Dry	--	--	--	NA	NA
MW-052	07/14/97	3817.49	Dry	--	--	--	NA	NA
MW-052	10/13/97	3817.49	Dry	--	--	--	NA	NA
MW-053	01/16/96	NA	Dry	--	--	--	NA	NA
MW-053	04/19/96	NA	Dry	--	--	--	NA	NA
MW-053	07/15/96	NA	Dry	--	--	--	NA	NA
MW-053	10/13/96	NA	Dry	--	--	--	NA	NA
MW-054	12/01/91	3823.86	43.80	--	--	--	3780.06	NA
MW-054	04/15/92	3823.86	44.77	--	--	--	3779.09	-0.97
MW-054	07/01/92	3823.86	44.16	--	--	--	3779.70	0.61

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MW-054	10/01/92	3823.86	44.66	--	--	--	3779.20	-0.50
MW-054	01/01/93	3823.86	45.54	--	--	--	3778.32	-0.88
MW-054	04/01/93	3823.86	46.11	--	--	--	3777.75	-0.57
MW-054	07/01/93	3823.86	46.61	--	--	--	3777.25	-0.50
MW-054	10/01/93	3823.86	46.73	--	--	--	3777.13	-0.12
MW-054	01/01/94	3823.86	46.34	--	--	--	3777.52	0.39
MW-054	04/01/94	3823.86	47.45	--	--	--	3776.41	-1.11
MW-054	07/01/94	3823.86	47.12	--	--	--	3776.74	0.33
MW-054	10/01/94	3823.86	46.65	--	--	--	3777.21	0.47
MW-054	01/01/95	3823.86	46.59	--	--	--	3777.27	0.06
MW-054	04/01/95	3823.86	46.96	--	--	--	3776.90	-0.37
MW-054	07/01/95	3823.86	46.96	--	--	--	3776.90	0.00
MW-054	10/01/95	3823.86	47.40	--	--	--	3776.46	-0.44
MW-054	01/16/96	3823.86	46.79	--	--	--	3777.07	0.61
MW-054	04/17/96	3823.86	48.97	--	--	--	3774.89	-2.18
MW-054	07/15/96	3823.86	48.74	--	--	--	3775.12	0.23
MW-054	10/13/96	3823.86	46.14	--	--	--	3777.72	2.60
MW-054	02/04/97	3823.86	46.06	--	--	--	3777.80	0.08
MW-054	04/28/97	3823.86	46.27	--	--	--	3777.59	-0.21
MW-054	07/14/97	3823.86	46.42	--	--	--	3777.44	-0.15
MW-054	10/14/97	3823.86	47.16	--	--	--	3776.70	-0.74
MW-055	12/01/91	3794.40	24.43	--	--	--	3769.97	NA
MW-055	04/15/92	3794.40	24.77	--	--	--	3769.63	-0.34
MW-055	07/01/92	3794.40	21.89	--	--	--	3772.51	2.88
MW-055	10/01/92	3794.40	24.47	--	--	--	3769.93	-2.58
MW-055	01/01/93	3794.40	26.57	--	--	--	3767.83	-2.10
MW-055	04/01/93	3794.40	28.70	--	--	--	3765.70	-2.13
MW-055	07/01/93	3794.40	30.02	--	--	--	3764.38	-1.32
MW-055	10/01/93	3794.40	30.76	--	--	--	3763.64	-0.74
MW-055	01/01/94	3794.40	31.15	--	--	--	3763.25	-0.39
MW-055	04/01/94	3794.40	32.30	--	--	--	3762.10	-1.15
MW-055	07/01/94	3794.40	31.90	--	--	--	3762.50	0.40
MW-055	10/01/94	3794.40	28.61	--	--	--	3765.79	3.29
MW-055	01/01/95	3794.40	29.50	--	--	--	3764.90	-0.89
MW-055	04/01/95	3794.40	30.65	--	--	--	3763.75	-1.15
MW-055	07/01/95	3794.40	30.65	--	--	--	3763.75	0.00
MW-055	10/01/95	3794.40	32.20	--	--	--	3762.20	-1.55
MW-055	01/16/96	3794.40	30.74	--	--	--	3763.66	1.46
MW-055	04/17/96	3794.40	33.03	--	--	--	3761.37	-2.29
MW-055	07/16/96	3794.40	28.85	--	--	--	3765.55	4.18
MW-055	10/13/96	3794.40	28.02	--	--	--	3766.38	0.83
MW-055	02/04/97	3794.40	26.43	--	--	--	3767.97	1.59
MW-055	04/29/97	3794.40	26.91	--	--	--	3767.49	-0.48

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MW-055	07/15/97	3794.40	26.81	--	--	--	3767.59	0.10
MW-055	10/14/97	3794.40	27.21	--	--	--	3767.19	-0.40
MW-056	12/01/91	3782.45	32.58	--	--	--	3749.87	NA
MW-056	04/15/92	3782.45	9.26	--	--	--	3773.19	23.32
MW-056	07/01/92	3782.45	31.37	--	--	--	3751.08	-22.11
MW-056	10/01/92	3782.45	34.68	--	--	--	3747.77	-3.31
MW-056	01/01/93	3782.45	40.40	--	--	--	3742.05	-5.72
MW-056	01/16/96	3782.45	Dry	--	--	--	NA	NA
MW-056	04/19/96	3782.45	Dry	--	--	--	NA	NA
MW-056	07/16/96	3782.45	Dry	--	--	--	NA	NA
MW-056	10/14/96	3782.45	34.34	--	--	--	3748.11	6.06
MW-056	02/04/97	3782.45	37.47	--	--	--	3744.98	-3.13
MW-056	03/18/97	3782.45	40.26	--	--	--	3742.19	-2.79
MW-056	04/29/97	3782.45	42.34	--	--	--	3740.11	-2.08
MW-056	07/15/97	3782.45	43.73	--	--	--	3738.72	-1.39
MW-056	10/14/97	3782.45	Dry	--	--	--	NA	NA
MW-061	12/01/91	3816.20	35.62	--	--	--	3780.58	NA
MW-061	07/01/93	3816.20	36.66	--	--	--	3779.54	-1.04
MW-061	01/01/94	3816.20	35.49	--	--	--	3780.71	1.17
MW-061	04/01/94	3816.20	37.04	--	--	--	3779.16	-1.55
MW-061	07/01/94	3816.20	37.43	--	--	--	3778.77	-0.39
MW-061	10/01/94	3816.20	36.96	--	--	--	3779.24	0.47
MW-061	01/01/95	3816.20	36.03	--	--	--	3780.17	0.93
MW-061	04/01/95	3816.20	36.72	--	--	--	3779.48	-0.69
MW-061	07/01/95	3816.20	36.72	--	--	--	3779.48	0.00
MW-061	10/01/95	3816.20	37.38	--	--	--	3778.82	-0.66
MW-061	01/16/96	3816.20	36.26	--	--	--	3779.94	1.12
MW-061	04/17/96	3816.20	37.18	--	--	--	3779.02	-0.92
MW-061	07/16/96	3816.20	37.90	--	--	--	3778.30	-0.72
MW-061	10/13/96	3816.20	36.24	--	--	--	3779.96	1.66
MW-061	02/04/97	3816.20	36.27	--	--	--	3779.93	-0.03
MW-061	04/28/97	3816.20	36.93	--	--	--	3779.27	-0.66
MW-061	07/14/97	3816.20	37.38	--	--	--	3778.82	-0.45
MW-061	10/13/97	3816.20	37.08	--	--	--	3779.12	0.30
MW-065	12/01/91	3763.31	55.90	--	--	--	3707.41	NA
MW-065	07/01/93	3763.31	56.34	--	--	--	3706.97	-0.44
MW-065	10/01/93	3763.31	56.81	--	--	--	3706.50	-0.47
MW-065	01/01/94	3763.31	56.67	--	--	--	3706.64	0.14
MW-065	07/01/94	3763.31	56.70	--	--	--	3706.61	-0.03
MW-065	10/01/94	3763.31	56.20	--	--	--	3707.11	0.50
MW-065	01/01/95	3763.31	56.58	--	--	--	3706.73	-0.38
MW-065	04/01/95	3763.31	57.14	--	--	--	3706.17	-0.56
MW-065	07/01/95	3763.31	57.14	--	--	--	3706.17	0.00

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MW-065	10/01/95	3763.31	57.07	--	--	--	3706.24	0.07
MW-065	01/16/96	3763.31	57.25	--	--	--	3706.06	-0.18
MW-065	04/17/96	3763.31	57.35	--	--	--	3705.96	-0.10
MW-065	07/16/96	3763.31	56.01	--	--	--	3707.30	1.34
MW-065	10/14/96	3763.31	56.92	--	--	--	3706.39	-0.91
MW-065	02/04/97	3763.31	56.12	--	--	--	3707.19	0.80
MW-065	04/28/97	3763.31	56.18	--	--	--	3707.13	-0.06
MW-065	07/15/97	3763.31	56.44	--	--	--	3706.87	-0.26
MW-065	10/14/97	3763.31	56.22	--	--	--	3707.09	0.22
MW-069	12/01/91	3805.11	29.38	--	--	--	3775.73	NA
MW-069	04/15/92	3805.11	31.63	--	--	--	3773.48	-2.25
MW-069	07/01/92	3805.11	24.71	--	--	--	3780.40	6.92
MW-069	10/01/92	3805.11	31.37	--	--	--	3773.74	-6.66
MW-069	01/01/93	3805.11	33.61	--	--	--	3771.50	-2.24
MW-069	04/01/93	3805.11	39.58	--	--	--	3765.53	-5.97
MW-069	07/01/93	3805.11	41.96	--	--	--	3763.15	-2.38
MW-069	10/01/93	3805.11	41.26	--	--	--	3763.85	0.70
MW-069	10/01/95	3805.11	32.51	--	--	--	3772.60	8.75
MW-069	01/20/96	3805.11	37.54	33.35	4.19	0.00	3767.57	-5.03
MW-069	04/17/96	3805.11	36.60	36.34	0.26	0.00	3768.51	0.94
MW-069	07/15/96	3805.11	31.26	30.90	0.36	0.00	3773.85	5.34
MW-069	02/03/97	3805.11	34.33	31.09	3.24	0.73	3773.15	-0.70
MW-069	04/28/97	3805.11	32.74	32.72	0.02	0.73	3772.38	-0.77
MW-069	07/14/97	3805.11	34.34	34.32	0.02	0.73	3770.78	-1.60
MW-069	10/13/97	3805.11	35.55	--	--	--	3769.56	-1.22
MW-077	01/01/95	3775.48	80.03	--	--	--	3695.45	NA
MW-077	04/01/95	3775.48	80.04	--	--	--	3695.44	-0.01
MW-077	07/01/95	3775.48	80.04	--	--	--	3695.44	0.00
MW-077	10/01/95	3775.48	79.70	--	--	--	3695.78	0.34
MW-077	01/16/96	3775.48	79.84	--	--	--	3695.64	-0.14
MW-077	04/17/96	3775.48	78.95	--	--	--	3696.53	0.89
MW-077	07/16/96	3775.48	79.42	--	--	--	3696.06	-0.47
MW-077	10/14/96	3775.48	80.02	--	--	--	3695.46	-0.60
MW-077	02/04/97	3775.48	Dry	--	--	--	NA	NA
MW-077	04/29/97	3775.48	80.35	--	--	--	3695.13	-0.33
MW-077	07/15/97	3775.48	80.31	--	--	--	3695.17	0.04
MW-077	10/14/97	3775.48	78.92	--	--	--	3696.56	1.39
MW-078	01/01/95	3785.82	86.51	--	--	--	3699.31	NA
MW-078	04/01/95	3785.82	86.32	--	--	--	3699.50	0.19
MW-078	07/01/95	3785.82	86.32	--	--	--	3699.50	0.00
MW-078	10/01/95	3785.82	86.19	--	--	--	3699.63	0.13
MW-078	01/16/96	3785.82	86.22	--	--	--	3699.60	-0.03
MW-078	04/17/96	3785.82	86.29	--	--	--	3699.53	-0.07

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MW-078	07/16/96	3785.82	86.41	--	--	--	3699.41	-0.12
MW-078	10/14/96	3785.82	59.39	--	--	--	3726.43	27.02
MW-078	02/04/97	3785.82	75.78	--	--	--	3710.04	-16.39
MW-078	04/29/97	3785.82	74.53	--	--	--	3711.29	1.25
MW-078	07/15/97	3785.82	74.47	--	--	--	3711.35	0.06
MW-078	10/14/97	3785.82	82.08	--	--	--	3703.74	-7.61
MW-079	01/01/95	3788.39	76.29	--	--	--	3712.10	NA
MW-079	04/01/95	3788.39	77.32	--	--	--	3711.07	-1.03
MW-079	07/01/95	3788.39	77.32	--	--	--	3711.07	0.00
MW-079	10/01/95	3788.39	79.57	--	--	--	3708.82	-2.25
MW-079	01/16/96	3788.39	78.31	--	--	--	3710.08	1.26
MW-079	04/17/96	3788.39	78.36	--	--	--	3710.03	-0.05
MW-079	07/15/96	3788.39	81.09	--	--	--	3707.30	-2.73
MW-079	10/13/96	3788.39	80.08	--	--	--	3708.31	1.01
MW-079	02/03/97	3788.39	80.44	--	--	--	3707.95	-0.36
MW-079	04/28/97	3788.39	75.65	--	--	--	3712.74	4.79
MW-079	07/14/97	3788.39	75.46	--	--	--	3712.93	0.19
MW-079	10/13/97	3788.39	78.70	--	--	--	3709.69	-3.24
MW-080	01/16/96	3821.64	Dry	--	--	--	NA	NA
MW-080	04/19/96	3821.64	Dry	--	--	--	NA	NA
MW-080	07/15/96	3821.64	Dry	--	--	--	NA	NA
MW-080	10/13/96	3821.64	Dry	--	--	--	NA	NA
MW-080	02/03/97	3821.64	Dry	--	--	--	NA	NA
MW-080	04/28/97	3821.64	Dry	--	--	--	NA	NA
MW-080	07/14/97	3821.64	Dry	--	--	--	NA	NA
MW-080	10/13/97	3821.64	Dry	--	--	--	NA	NA
MW-090	02/04/97	3781.73	43.24	--	--	--	3738.49	NA
MW-090	04/28/97	3781.73	43.54	--	--	--	3738.19	-0.30
MW-090	07/14/97	3781.73	43.42	--	--	--	3738.31	0.12
MW-090	10/13/97	3781.73	44.78	--	--	--	3736.95	-1.36
MW-091	02/04/97	3783.07	64.90	--	--	--	3718.17	NA
MW-091	04/29/97	3783.07	64.96	64.95	0.01	0.73	3718.12	-0.05
MW-091	07/15/97	3783.07	64.96	64.94	0.02	0.73	3718.12	0.00
MW-091	10/14/97	3783.07	68.75	--	--	--	3714.32	-3.80
MW-092	02/04/97	3785.29	Dry	--	--	--	NA	NA
MW-092	04/29/97	3785.29	Dry	--	--	--	NA	NA
MW-092	07/15/97	3785.29	Dry	--	--	--	NA	NA
MW-092	10/14/97	3785.29	Dry	--	--	--	NA	NA
MW-093	02/03/97	3817.50	Dry	--	--	--	NA	NA
MW-093	04/29/97	3817.50	Dry	--	--	--	NA	NA
MW-093	07/14/97	3817.50	Dry	--	--	--	NA	NA
MW-093	10/13/97	3817.50	Dry	--	--	--	NA	NA

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SHALLOW ZONE
(05/28/91-12/10/97)
(Continued)

Indian Basin Remediation Project
Eddy County, New Mexico

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MW-099	02/04/97	3770.05	Dry	--	--	--	NA	NA
MW-099	04/29/97	3770.05	Dry	--	--	--	NA	NA
MW-099	07/15/97	3770.05	Dry	--	--	--	NA	NA
MW-099	10/14/97	3770.05	Dry	--	--	--	NA	NA
MW-100	04/29/97	3773.31	Dry	--	--	--	NA	NA
MW-100	07/15/97	3773.31	Dry	--	--	--	NA	NA
MW-100	10/14/97	3773.31	Dry	--	--	--	NA	NA
MW-101	02/04/97	3762.71	Dry	--	--	--	NA	NA
MW-101	04/29/97	3762.71	Dry	--	--	--	NA	NA
MW-101	07/15/97	3762.71	Dry	--	--	--	NA	NA
MW-101	10/14/97	3762.71	Dry	--	--	--	NA	NA
MW-102	02/04/97	3753.69	Dry	--	--	--	NA	NA
MW-102	04/28/97	3753.69	Dry	--	--	--	NA	NA
MW-102	07/15/97	3753.69	Dry	--	--	--	NA	NA
MW-102	10/13/97	3753.69	Dry	--	--	--	NA	NA
MW-103	02/04/97	3743.14	Dry	--	--	--	NA	NA
MW-103	04/29/97	3743.14	Dry	--	--	--	NA	NA
MW-103	07/15/97	3743.14	Dry	--	--	--	NA	NA
MW-103	10/14/97	3743.14	72.30	--	--	--	3670.84	3670.84
MW-105	02/04/97	3736.93	Dry	--	--	--	NA	NA
MW-105	04/28/97	3736.93	Dry	--	--	--	NA	NA
MW-105	07/15/97	3736.93	Dry	--	--	--	NA	NA
MW-105	10/13/97	3736.93	Dry	--	--	--	NA	NA
MW-106	02/04/97	3721.97	87.97	--	--	--	3634.00	NA
MW-106	04/28/97	3721.97	87.59	--	--	--	3634.38	0.38
MW-106	07/15/97	3721.97	87.63	--	--	--	3634.34	-0.04
MW-106	10/13/97	3721.97	88.75	--	--	--	3633.22	-1.12
MW-107	02/04/97	3726.27	Dry	--	--	--	NA	NA
MW-107	04/29/97	3726.27	Dry	--	--	--	NA	NA
MW-107	07/15/97	3726.27	Dry	--	--	--	NA	NA
MW-107	10/13/97	3726.27	Dry	--	--	--	NA	NA
SUMP-16A	12/01/91	3785.14	11.65	--	--	--	3773.49	NA
SUMP-16A	04/15/92	3785.14	12.02	--	--	--	3773.12	-0.37
SUMP-16A	07/01/92	3785.14	4.87	--	--	--	3780.27	7.15
SUMP-16A	10/01/92	3785.14	12.00	--	--	--	3773.14	-7.13
SUMP-16A	01/01/93	3785.14	13.00	--	--	--	3772.14	-1.00
SUMP-16A	04/01/93	3785.14	14.15	--	--	--	3770.99	-1.15
SUMP-16A	10/01/94	3785.14	11.25	--	--	--	3773.89	2.90
SUMP-16A	01/01/95	3785.14	16.34	--	--	--	3768.80	-5.09
SUMP-16A	04/01/95	3785.14	17.32	--	--	--	3767.82	-0.98

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SHALLOW ZONE
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(Continued)

Indian Basin Remediation Project
Eddy County, New Mexico

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SUMP-16A	10/01/95	3785.14	14.60	--	--	--	3770.54	2.72
SUMP-16A	01/16/96	3785.14	16.30	--	--	--	3768.84	-1.70
SUMP-16A	04/19/96	3785.14	17.45	--	--	--	3767.69	-1.15
SUMP-16A	07/15/96	3785.14	16.85	--	--	--	3768.29	0.60
SUMP-16A	10/13/96	3785.14	15.99	--	--	--	3769.15	0.86
SUMP-A10	01/16/96	3800.99	Dry	--	--	--	NA	NA
SUMP-A10	04/19/96	3800.99	Dry	--	--	--	NA	NA
SUMP-A10	07/15/96	3800.99	Dry	--	--	--	NA	NA
SUMP-A10	10/13/96	3800.99	11.62	--	--	--	3789.37	3789.37

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LOWER QUEEN
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IW-01	07/16/96	3808.55	185.32	182.41	2.91	0.73	3625.35	NA
IW-01	10/13/96	3808.55	181.83	179.02	2.81	0.73	3628.77	3.42
IW-01	02/03/97	3808.55	185.60	180.22	5.38	0.73	3626.88	-1.89
IW-01	04/28/97	3808.55	183.12	181.59	1.53	0.73	3626.55	-0.33
IW-01	07/14/97	3808.55	182.27	181.89	0.38	0.73	3626.56	0.01
IW-01	10/13/97	3808.55	181.80	181.64	0.16	0.73	3626.87	0.31
IW-01	11/04/97	3808.55	52.65	--	--	--	3755.90	129.03
IW-01	11/12/97	3808.55	55.85	--	--	--	3752.70	-3.20
IW-01	11/19/97	3808.55	41.80	--	--	--	3766.75	14.05
IW-01	11/24/97	3808.55	70.90	--	--	--	3737.65	-29.10
IW-01	12/10/97	3808.55	4.00	--	--	--	3804.55	66.90
IW-02	08/01/96	3835.86	207.22	--	--	--	3628.64	NA
IW-02	10/13/96	3835.86	205.52	--	--	--	3630.34	1.70
IW-02	02/03/97	3835.86	52.92	--	--	--	3782.94	152.60
IW-02	04/28/97	3835.86	28.89	--	--	--	3806.97	24.03
IW-02	07/14/97	3835.86	133.89	--	--	--	3701.97	-105.00
IW-02	10/13/97	3835.86	29.61	--	<.01	--	3806.25	104.28
IW-02	11/04/97	3835.86	208.50	--	--	--	3627.36	-178.89
IW-02	11/12/97	3835.86	208.70	--	--	--	3627.16	-0.20
IW-02	11/19/97	3835.86	208.78	--	--	--	3627.08	-0.08
IW-02	11/24/97	3835.86	208.95	--	--	--	3626.91	-0.17
IW-02	12/10/97	3835.86	175.58	--	--	--	3660.28	33.37
MW-057	05/28/91	3787.70	160.25	--	--	--	3627.45	NA
MW-057	06/01/91	3787.70	160.25	--	--	--	3627.45	0.00
MW-057	07/16/91	3787.70	160.29	--	--	--	3627.41	-0.04
MW-057	08/21/91	3787.70	155.50	--	--	--	3632.20	4.79
MW-057	09/18/91	3787.70	154.29	--	--	--	3633.41	1.21
MW-057	10/22/91	3787.70	157.11	--	--	--	3630.59	-2.82
MW-057	11/15/91	3787.70	157.50	--	--	--	3630.20	-0.39
MW-057	03/01/92	3787.70	157.92	--	--	--	3629.78	-0.42
MW-057	04/01/92	3787.70	157.59	--	--	--	3630.11	0.33
MW-057	05/01/92	3787.70	148.00	--	--	--	3639.70	9.59
MW-057	06/01/92	3787.70	151.21	--	--	--	3636.49	-3.21
MW-057	07/01/92	3787.70	154.07	--	--	--	3633.63	-2.86
MW-057	08/01/92	3787.70	155.24	--	--	--	3632.46	-1.17
MW-057	09/01/92	3787.70	155.67	--	--	--	3632.03	-0.43
MW-057	10/01/92	3787.70	156.01	--	--	--	3631.69	-0.34
MW-057	11/01/92	3787.70	156.31	--	--	--	3631.39	-0.30
MW-057	12/01/92	3787.70	156.55	--	--	--	3631.15	-0.24
MW-057	01/01/93	3787.70	156.68	--	--	--	3631.02	-0.13
MW-057	02/01/93	3787.70	156.79	--	--	--	3630.91	-0.11
MW-057	03/01/93	3787.70	157.00	--	--	--	3630.70	-0.21
MW-057	04/01/93	3787.70	156.95	--	--	--	3630.75	0.05

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LOWER QUEEN
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MW-057	05/01/93	3787.70	157.23	--	--	--	3630.47	-0.28
MW-057	06/01/93	3787.70	157.13	--	--	--	3630.57	0.10
MW-057	07/01/93	3787.70	157.42	--	--	--	3630.28	-0.29
MW-057	08/01/93	3787.70	157.28	--	--	--	3630.42	0.14
MW-057	09/01/93	3787.70	157.57	--	--	--	3630.13	-0.29
MW-057	10/01/93	3787.70	157.65	--	--	--	3630.05	-0.08
MW-057	11/01/93	3787.70	157.89	--	--	--	3629.81	-0.24
MW-057	12/01/93	3787.70	157.96	--	--	--	3629.74	-0.07
MW-057	01/01/94	3787.70	157.91	--	--	--	3629.79	0.05
MW-057	02/01/94	3787.70	158.78	--	--	--	3628.92	-0.87
MW-057	03/01/94	3787.70	158.92	--	--	--	3628.78	-0.14
MW-057	04/01/94	3787.70	158.96	--	--	--	3628.74	-0.04
MW-057	05/01/94	3787.70	158.74	--	--	--	3628.96	0.22
MW-057	07/01/94	3787.70	158.49	--	--	--	3629.21	0.25
MW-057	08/01/94	3787.70	158.16	--	--	--	3629.54	0.33
MW-057	09/01/94	3787.70	158.14	--	--	--	3629.56	0.02
MW-057	10/01/94	3787.70	158.31	--	--	--	3629.39	-0.17
MW-057	12/01/94	3787.70	159.51	--	--	--	3628.19	-1.20
MW-057	01/01/95	3787.70	158.77	--	--	--	3628.93	0.74
MW-057	04/01/95	3787.70	158.96	--	--	--	3628.74	-0.19
MW-057	07/01/95	3787.70	158.06	--	--	--	3629.64	0.90
MW-057	10/01/95	3787.70	159.23	--	--	--	3628.47	-1.17
MW-057	01/16/96	3787.70	159.67	--	--	--	3628.03	-0.44
MW-057	04/17/96	3787.70	161.95	--	--	--	3625.75	-2.28
MW-057	07/16/96	3787.70	162.02	--	--	--	3625.68	-0.07
MW-057	10/14/96	3787.70	158.83	--	--	--	3628.87	3.19
MW-057	02/04/97	3787.70	159.89	--	--	--	3627.81	-1.06
MW-057	04/29/97	3787.70	160.23	--	--	--	3627.47	-0.34
MW-057	07/15/97	3787.70	160.29	--	--	--	3627.41	-0.06
MW-057	09/30/97	3787.70	161.30	--	--	--	3626.40	-1.01
MW-057	10/09/97	3787.70	161.33	--	--	--	3626.37	-0.03
MW-057	10/14/97	3787.70	161.13	--	--	--	3626.57	0.20
MW-057	10/29/97	3787.70	161.04	161.03	0.01	0.73	3626.67	0.10
MW-057	11/04/97	3787.70	161.23	161.22	0.01	0.73	3626.48	-0.19
MW-057	11/12/97	3787.70	161.26	161.25	0.01	0.73	3626.45	-0.03
MW-057	11/19/97	3787.70	161.34	161.33	0.01	0.73	3626.37	-0.08
MW-057	11/24/97	3787.70	161.33	--	--	--	3626.37	0.00
MW-057	12/10/97	3787.70	161.30	--	--	--	3626.40	0.03
MW-058	07/16/91	3824.07	197.91	--	--	--	3626.16	NA
MW-058	08/21/91	3824.07	193.76	--	--	--	3630.31	4.15
MW-058	09/18/91	3824.07	193.26	--	--	--	3630.81	0.50
MW-058	10/22/91	3824.07	194.45	--	--	--	3629.62	-1.19
MW-058	11/15/91	3824.07	194.77	--	--	--	3629.30	-0.32

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MW-058	01/16/96	3824.07	Dry	--	--	--	NA	NA
MW-058	07/16/96	3824.07	Dry	--	--	--	NA	NA
MW-058	10/14/96	3824.07	196.01	196.00	0.01	0.73	3628.07	-1.23
MW-058	02/04/97	3824.07	203.00	--	--	--	3621.07	-7.00
MW-058	04/28/97	3824.07	204.14	--	--	--	3619.93	-1.14
MW-058	07/15/97	3824.07	197.66	--	<.01	--	3626.41	6.48
MW-058	10/01/97	3824.07	199.20	198.90	0.30	0.73	3625.09	-1.32
MW-058	10/09/97	3824.07	199.52	198.85	0.67	0.73	3625.04	-0.05
MW-058	10/14/97	3824.07	196.10	--	<.01	--	3627.97	2.93
MW-059	07/16/91	3819.59	193.98	--	--	--	3625.61	NA
MW-059	08/21/91	3819.59	189.84	--	--	--	3629.75	4.14
MW-059	09/18/91	3819.59	189.38	--	--	--	3630.21	0.46
MW-059	10/22/91	3819.59	190.65	--	--	--	3628.94	-1.27
MW-059	11/15/91	3819.59	190.00	--	--	--	3629.59	0.65
MW-059	01/16/96	3819.59	192.56	192.49	0.07	0.73	3627.08	-2.51
MW-059	04/17/96	3819.59	193.37	192.00	1.37	0.73	3627.22	0.14
MW-059	07/16/96	3819.59	193.40	191.98	1.42	0.73	3627.23	0.01
MW-059	10/14/96	3819.59	192.43	191.21	1.22	0.73	3628.05	0.82
MW-059	02/04/97	3819.59	193.70	192.42	1.28	0.73	3626.82	-1.23
MW-059	04/29/97	3819.59	194.09	192.95	1.14	0.73	3626.33	-0.49
MW-059	07/15/97	3819.59	194.11	192.94	1.17	0.73	3626.33	0.00
MW-059	09/30/97	3819.59	195.30	194.10	1.20	0.73	3625.17	-1.16
MW-059	10/09/97	3819.59	194.05	--	--	--	3625.54	0.37
MW-059	10/14/97	3819.59	195.81	193.82	1.99	0.73	3625.23	-0.31
MW-060	07/16/91	3815.28	188.22	--	--	--	3627.06	NA
MW-060	08/21/91	3815.28	184.81	--	--	--	3630.47	3.41
MW-060	09/18/91	3815.28	184.32	--	--	--	3630.96	0.49
MW-060	10/22/91	3815.28	185.50	--	--	--	3629.78	-1.18
MW-060	11/15/91	3815.28	185.43	--	--	--	3629.85	0.07
MW-060	03/01/92	3815.28	186.00	--	--	--	3629.28	-0.57
MW-060	04/01/92	3815.28	185.79	--	--	--	3629.49	0.21
MW-060	05/01/92	3815.28	180.10	--	--	--	3635.18	5.69
MW-060	06/01/92	3815.28	181.67	--	--	--	3633.61	-1.57
MW-060	07/01/92	3815.28	183.21	--	--	--	3632.07	-1.54
MW-060	08/01/92	3815.28	183.61	--	--	--	3631.67	-0.40
MW-060	09/01/92	3815.28	183.94	--	--	--	3631.34	-0.33
MW-060	10/01/92	3815.28	184.18	--	--	--	3631.10	-0.24
MW-060	11/01/92	3815.28	184.44	--	--	--	3630.84	-0.26
MW-060	12/01/92	3815.28	184.67	--	--	--	3630.61	-0.23
MW-060	01/01/93	3815.28	184.75	--	--	--	3630.53	-0.08
MW-060	02/01/93	3815.28	184.86	--	--	--	3630.42	-0.11
MW-060	03/01/93	3815.28	185.08	--	--	--	3630.20	-0.22
MW-060	04/01/93	3815.28	185.02	--	--	--	3630.26	0.06

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CORRECTED GROUNDWATER ELEVATIONS
LOWER QUEEN
(05/28/91-12/10/97)
(Continued)

Indian Basin Remediation Project
Eddy County, New Mexico

Location	Date	Reference Elevation (Feet)	Depth to Water (Feet)	Depth to Condensate (Feet)	Condensate Thickness (Feet)	Condensate Density (Feet)	Groundwater Elevation (Feet)	Change in Water Table Elevation
MW-060	05/01/93	3815.28	185.29	--	--	--	3629.99	-0.27
MW-060	06/01/93	3815.28	185.23	--	--	--	3630.05	0.06
MW-060	07/01/93	3815.28	185.47	--	--	--	3629.81	-0.24
MW-060	08/01/93	3815.28	185.41	--	--	--	3629.87	0.06
MW-060	09/01/93	3815.28	185.66	--	--	--	3629.62	-0.25
MW-060	10/01/93	3815.28	185.70	--	--	--	3629.58	-0.04
MW-060	11/01/93	3815.28	185.96	--	--	--	3629.32	-0.26
MW-060	12/01/93	3815.28	185.98	--	--	--	3629.30	-0.02
MW-060	01/01/94	3815.28	185.93	--	--	--	3629.35	0.05
MW-060	02/01/94	3815.28	186.79	--	--	--	3628.49	-0.86
MW-060	03/01/94	3815.28	184.91	--	--	--	3630.37	1.88
MW-060	04/01/94	3815.28	186.91	--	--	--	3628.37	-2.00
MW-060	05/01/94	3815.28	186.71	--	--	--	3628.57	0.20
MW-060	07/01/94	3815.28	186.54	--	--	--	3628.74	0.17
MW-060	08/01/94	3815.28	185.34	--	--	--	3629.94	1.20
MW-060	09/01/94	3815.28	186.24	--	--	--	3629.04	-0.90
MW-060	10/01/94	3815.28	186.44	--	--	--	3628.84	-0.20
MW-060	12/01/94	3815.28	187.54	--	--	--	3627.74	-1.10
MW-060	01/01/95	3815.28	186.81	--	--	--	3628.47	0.73
MW-060	04/01/95	3815.28	187.01	--	--	--	3628.27	-0.20
MW-060	07/01/95	3815.28	187.09	--	--	--	3628.19	-0.08
MW-060	10/01/95	3815.28	187.29	--	--	--	3627.99	-0.20
MW-060	01/19/96	3815.28	187.76	--	--	--	3627.52	-0.47
MW-060	04/17/96	3815.28	187.83	--	--	--	3627.45	-0.07
MW-060	07/16/96	3815.28	188.04	--	--	--	3627.24	-0.21
MW-060	10/13/96	3815.28	187.89	--	--	--	3627.39	0.15
MW-060	02/04/97	3815.28	188.19	--	--	--	3627.09	-0.30
MW-060	03/18/97	3815.28	188.40	--	--	--	3626.88	-0.21
MW-060	04/28/97	3815.28	188.48	--	--	--	3626.80	-0.08
MW-060	07/14/97	3815.28	188.74	--	--	--	3626.54	-0.26
MW-060	10/01/97	3815.28	189.70	--	--	--	3625.58	-0.96
MW-060	10/09/97	3815.28	189.65	--	--	--	3625.63	0.05
MW-060	10/13/97	3815.28	189.97	--	--	--	3625.31	-0.32
MW-061A	07/16/91	3815.97	189.06	--	--	--	3626.91	NA
MW-061A	08/21/91	3815.97	186.85	--	--	--	3629.12	2.21
MW-061A	09/18/91	3815.97	186.92	--	--	--	3629.05	-0.07
MW-061A	10/22/91	3815.97	187.99	--	--	--	3627.98	-1.07
MW-061A	11/15/91	3815.97	187.00	--	--	--	3628.97	0.99
MW-061A	10/01/94	3815.97	187.26	--	--	--	3628.71	-0.26
MW-061A	12/01/94	3815.97	188.24	--	--	--	3627.73	-0.98
MW-061A	01/01/95	3815.97	187.57	--	--	--	3628.40	0.67
MW-061A	02/04/97	3815.97	187.98	--	--	--	3627.99	-0.41
MW-061A	04/28/97	3815.97	188.14	--	--	--	3627.83	-0.16

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(Continued)

Indian Basin Remediation Project
Eddy County, New Mexico

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MW-061A	07/14/97	3815.97	191.60	--	--	--	3624.37	-3.46
MW-061A	09/30/97	3815.97	191.10	--	--	--	3624.87	0.50
MW-061A	10/09/97	3815.97	192.16	192.15	0.01	0.73	3623.82	-1.05
MW-061A	10/13/97	3815.97	190.78	--	--	--	3625.19	1.37
MW-062	08/21/91	3819.90	189.51	--	--	--	3630.39	NA
MW-062	09/18/91	3819.90	189.11	--	--	--	3630.79	0.40
MW-062	10/22/91	3819.90	190.80	--	--	--	3629.10	-1.69
MW-062	11/15/91	3819.90	189.60	--	--	--	3630.30	1.20
MW-062	01/16/96	3819.90	192.04	192.03	0.01	0.73	3627.87	-2.43
MW-062	04/17/96	3819.90	192.39	192.38	0.01	0.73	3627.52	-0.35
MW-062	07/16/96	3819.90	192.34	--	--	--	3627.56	0.04
MW-062	10/14/96	3819.90	191.45	191.44	0.01	0.73	3628.46	0.90
MW-062	02/04/97	3819.90	192.57	--	<.01	--	3627.33	-1.13
MW-062	04/28/97	3819.90	192.89	--	--	--	3627.01	-0.32
MW-062	07/15/97	3819.90	193.26	--	<.01	--	3626.64	-0.37
MW-062	09/30/97	3819.90	194.20	--	--	--	3625.70	-0.94
MW-062	10/09/97	3819.90	194.20	--	--	--	3625.70	0.00
MW-062	10/14/97	3819.90	193.80	--	<.01	--	3626.10	0.40
MW-062	10/29/97	3819.90	194.22	194.21	0.01	0.73	3625.69	-0.41
MW-062	11/04/97	3819.90	194.18	--	--	--	3625.72	0.03
MW-062	11/12/97	3819.90	194.14	194.12	0.02	0.73	3625.77	0.05
MW-062	11/19/97	3819.90	194.30	194.29	0.01	0.73	3625.61	-0.16
MW-062	11/24/97	3819.90	194.24	194.23	0.01	0.73	3625.67	0.06
MW-062	12/10/97	3819.90	194.33	--	--	--	3625.57	-0.10
MW-063	08/21/91	3826.16	193.73	--	--	--	3632.43	NA
MW-063	09/18/91	3826.16	190.65	--	--	--	3635.51	3.08
MW-063	10/22/91	3826.16	194.29	--	--	--	3631.87	-3.64
MW-063	11/15/91	3826.16	195.34	--	--	--	3630.82	-1.05
MW-063	03/01/92	3826.16	196.82	--	--	--	3629.34	-1.48
MW-063	04/01/92	3826.16	197.02	--	--	--	3629.14	-0.20
MW-063	05/01/92	3826.16	183.25	--	--	--	3642.91	13.77
MW-063	06/01/92	3826.16	187.21	--	--	--	3638.95	-3.96
MW-063	07/01/92	3826.16	189.00	--	--	--	3637.16	-1.79
MW-063	08/01/92	3826.16	192.73	--	--	--	3633.43	-3.73
MW-063	09/01/92	3826.16	193.65	--	--	--	3632.51	-0.92
MW-063	10/01/92	3826.16	194.24	--	--	--	3631.92	-0.59
MW-063	11/01/92	3826.16	194.90	--	--	--	3631.26	-0.66
MW-063	12/01/92	3826.16	195.32	--	--	--	3630.84	-0.42
MW-063	01/01/93	3826.16	195.55	--	--	--	3630.61	-0.23
MW-063	02/01/93	3826.16	195.84	--	--	--	3630.32	-0.29
MW-063	03/01/93	3826.16	196.14	--	--	--	3630.02	-0.30
MW-063	04/01/93	3826.16	195.99	--	--	--	3630.17	0.15
MW-063	05/01/93	3826.16	196.34	--	--	--	3629.82	-0.35

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LOWER QUEEN
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MW-063	06/01/93	3826.16	196.43	--	--	--	3629.73	-0.09
MW-063	07/01/93	3826.16	196.62	--	--	--	3629.54	-0.19
MW-063	08/01/93	3826.16	196.69	--	--	--	3629.47	-0.07
MW-063	09/01/93	3826.16	196.93	--	--	--	3629.23	-0.24
MW-063	10/01/93	3826.16	196.89	--	--	--	3629.27	0.04
MW-063	11/01/93	3826.16	197.32	--	--	--	3628.84	-0.43
MW-063	12/01/93	3826.16	197.43	--	--	--	3628.73	-0.11
MW-063	01/01/94	3826.16	197.33	--	--	--	3628.83	0.10
MW-063	02/01/94	3826.16	198.42	--	--	--	3627.74	-1.09
MW-063	03/01/94	3826.16	198.37	--	--	--	3627.79	0.05
MW-063	04/01/94	3826.16	197.47	--	--	--	3628.69	0.90
MW-063	05/01/94	3826.16	198.28	--	--	--	3627.88	-0.81
MW-063	07/01/94	3826.16	197.98	--	--	--	3628.18	0.30
MW-063	08/01/94	3826.16	197.12	--	--	--	3629.04	0.86
MW-063	09/01/94	3826.16	197.33	--	--	--	3628.83	-0.21
MW-063	10/01/94	3826.16	197.74	--	--	--	3628.42	-0.41
MW-063	12/01/94	3826.16	199.00	--	--	--	3627.16	-1.26
MW-063	01/01/95	3826.16	198.20	--	--	--	3627.96	0.80
MW-063	04/01/95	3826.16	198.46	--	--	--	3627.70	-0.26
MW-063	07/01/95	3826.16	198.49	--	--	--	3627.67	-0.03
MW-063	10/01/95	3826.16	198.57	--	--	--	3627.59	-0.08
MW-063	01/16/96	3826.16	198.90	--	--	--	3627.26	-0.33
MW-063	04/17/96	3826.16	199.23	--	--	--	3626.93	-0.33
MW-063	07/16/96	3826.16	198.91	--	--	--	3627.25	0.32
MW-063	10/13/96	3826.16	194.89	--	--	--	3631.27	4.02
MW-063	02/04/97	3826.16	199.01	--	--	--	3627.15	-4.12
MW-063	04/28/97	3826.16	199.46	--	--	--	3626.70	-0.45
MW-063	07/14/97	3826.16	200.01	--	--	--	3626.15	-0.55
MW-063	10/01/97	3826.16	200.80	--	<.01	--	3625.36	-0.79
MW-063	10/09/97	3826.16	209.05	--	--	--	3617.11	-8.25
MW-063	10/13/97	3826.16	200.88	--	--	--	3625.28	8.17
MW-064	08/21/91	3798.57	167.43	--	--	--	3631.14	NA
MW-064	09/18/91	3798.57	167.21	--	--	--	3631.36	0.22
MW-064	10/22/91	3798.57	168.66	--	--	--	3629.91	-1.45
MW-064	11/15/91	3798.57	168.90	--	--	--	3629.67	-0.24
MW-064	03/01/92	3798.57	169.20	--	--	--	3629.37	-0.30
MW-064	04/01/92	3798.57	169.00	--	--	--	3629.57	0.20
MW-064	05/01/92	3798.57	161.58	--	--	--	3636.99	7.42
MW-064	06/01/92	3798.57	164.25	--	--	--	3634.32	-2.67
MW-064	07/01/92	3798.57	166.36	--	--	--	3632.21	-2.11
MW-064	08/01/92	3798.57	166.82	--	--	--	3631.75	-0.46
MW-064	09/01/92	3798.57	167.17	--	--	--	3631.40	-0.35
MW-064	10/01/92	3798.57	167.45	--	--	--	3631.12	-0.28

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MW-064	11/01/92	3798.57	167.63	--	--	--	3630.94	-0.18
MW-064	12/01/92	3798.57	167.85	--	--	--	3630.72	-0.22
MW-064	01/01/93	3798.57	167.99	--	--	--	3630.58	-0.14
MW-064	02/01/93	3798.57	168.08	--	--	--	3630.49	-0.09
MW-064	03/01/93	3798.57	168.26	--	--	--	3630.31	-0.18
MW-064	04/01/93	3798.57	168.22	--	--	--	3630.35	0.04
MW-064	05/01/93	3798.57	168.52	--	--	--	3630.05	-0.30
MW-064	06/01/93	3798.57	168.46	--	--	--	3630.11	0.06
MW-064	07/01/93	3798.57	168.70	--	--	--	3629.87	-0.24
MW-064	08/01/93	3798.57	168.59	--	--	--	3629.98	0.11
MW-064	09/01/93	3798.57	168.83	--	--	--	3629.74	-0.24
MW-064	10/01/93	3798.57	168.88	--	--	--	3629.69	-0.05
MW-064	11/01/93	3798.57	169.09	--	--	--	3629.48	-0.21
MW-064	12/01/93	3798.57	169.13	--	--	--	3629.44	-0.04
MW-064	01/01/94	3798.57	169.12	--	--	--	3629.45	0.01
MW-064	02/01/94	3798.57	169.92	--	--	--	3628.65	-0.80
MW-064	03/01/94	3798.57	170.05	--	--	--	3628.52	-0.13
MW-064	04/01/94	3798.57	170.03	--	--	--	3628.54	0.02
MW-064	05/01/94	3798.57	169.89	--	--	--	3628.68	0.14
MW-064	07/01/94	3798.57	169.65	--	--	--	3628.92	0.24
MW-064	08/01/94	3798.57	168.39	--	--	--	3630.18	1.26
MW-064	09/01/94	3798.57	169.32	--	--	--	3629.25	-0.93
MW-064	10/01/94	3798.57	169.56	--	--	--	3629.01	-0.24
MW-064	12/01/94	3798.57	170.71	--	--	--	3627.86	-1.15
MW-064	01/01/95	3798.57	169.94	--	--	--	3628.63	0.77
MW-064	04/01/95	3798.57	170.13	--	--	--	3628.44	-0.19
MW-064	07/01/95	3798.57	170.24	--	--	--	3628.33	-0.11
MW-064	10/01/95	3798.57	170.33	--	--	--	3628.24	-0.09
MW-064	01/19/96	3798.57	170.87	--	--	--	3627.70	-0.54
MW-064	04/17/96	3798.57	170.98	--	--	--	3627.59	-0.11
MW-064	07/16/96	3798.57	171.27	170.94	0.33	0.73	3627.54	-0.05
MW-064	10/13/96	3798.57	170.69	170.40	0.29	0.73	3628.09	0.55
MW-064	02/04/97	3798.57	171.53	171.15	0.38	0.73	3627.32	-0.77
MW-064	03/18/97	3798.57	171.95	171.40	0.55	0.73	3627.02	-0.30
MW-064	04/28/97	3798.57	171.93	171.38	0.55	0.73	3627.04	0.02
MW-064	07/15/97	3798.57	171.41	170.88	0.53	0.73	3627.55	0.51
MW-064	10/01/97	3798.57	173.70	172.30	1.40	0.73	3625.89	-1.66
MW-064	10/09/97	3798.57	173.58	172.30	1.28	0.73	3625.92	0.03
MW-064	10/13/97	3798.57	173.33	172.04	1.29	0.73	3626.18	0.26
MW-064	10/21/97	3798.57	173.34	172.17	1.17	0.73	3626.08	-0.10
MW-064	11/12/97	3798.57	176.15	--	--	--	3622.42	-3.66
MW-064	11/19/97	3798.57	173.02	--	--	--	3625.55	3.13
MW-064	11/24/97	3798.57	174.56	--	--	--	3624.01	-1.54
MW-064	12/10/97	3798.57	174.50	--	--	--	3624.07	0.06

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MW-065A	08/21/91	3763.26	131.36	--	--	--	3631.90	NA
MW-065A	09/18/91	3763.26	130.91	--	--	--	3632.35	0.45
MW-065A	10/22/91	3763.26	133.09	--	--	--	3630.17	-2.18
MW-065A	11/15/91	3763.26	133.70	--	--	--	3629.56	-0.61
MW-065A	01/16/96	3763.26	136.11	134.81	1.30	0.73	3628.10	-1.46
MW-066	08/21/91	3828.98	196.77	--	--	--	3632.21	NA
MW-066	09/18/91	3828.98	198.73	--	--	--	3630.25	-1.96
MW-066	10/22/91	3828.98	199.70	--	--	--	3629.28	-0.97
MW-066	11/15/91	3828.98	199.88	--	--	--	3629.10	-0.18
MW-066	03/01/92	3828.98	200.37	--	--	--	3628.61	-0.49
MW-066	04/01/92	3828.98	200.25	--	--	--	3628.73	0.12
MW-066	05/01/92	3828.98	195.25	--	--	--	3633.73	5.00
MW-066	06/01/92	3828.98	196.08	--	--	--	3632.90	-0.83
MW-066	07/01/92	3828.98	197.35	--	--	--	3631.63	-1.27
MW-066	08/01/92	3828.98	197.77	--	--	--	3631.21	-0.42
MW-066	09/01/92	3828.98	198.17	--	--	--	3630.81	-0.40
MW-066	10/01/92	3828.98	198.40	--	--	--	3630.58	-0.23
MW-066	11/01/92	3828.98	198.76	--	--	--	3630.22	-0.36
MW-066	12/01/92	3828.98	198.98	--	--	--	3630.00	-0.22
MW-066	01/01/93	3828.98	199.10	--	--	--	3629.88	-0.12
MW-066	02/01/93	3828.98	199.23	--	--	--	3629.75	-0.13
MW-066	03/01/93	3828.98	199.49	--	--	--	3629.49	-0.26
MW-066	04/01/93	3828.98	199.38	--	--	--	3629.60	0.11
MW-066	05/01/93	3828.98	199.63	--	--	--	3629.35	-0.25
MW-066	06/01/93	3828.98	199.59	--	--	--	3629.39	0.04
MW-066	07/01/93	3828.98	199.82	--	--	--	3629.16	-0.23
MW-066	08/01/93	3828.98	199.78	--	--	--	3629.20	0.04
MW-066	09/01/93	3828.98	200.01	--	--	--	3628.97	-0.23
MW-066	10/01/93	3828.98	200.09	--	--	--	3628.89	-0.08
MW-066	11/01/93	3828.98	200.35	--	--	--	3628.63	-0.26
MW-066	12/01/93	3828.98	200.42	--	--	--	3628.56	-0.07
MW-066	01/01/94	3828.98	200.33	--	--	--	3628.65	0.09
MW-066	02/01/94	3828.98	201.39	--	--	--	3627.59	-1.06
MW-066	03/01/94	3828.98	201.44	--	--	--	3627.54	-0.05
MW-066	04/01/94	3828.98	201.36	--	--	--	3627.62	0.08
MW-066	05/01/94	3828.98	201.26	--	--	--	3627.72	0.10
MW-066	07/01/94	3828.98	200.91	--	--	--	3628.07	0.35
MW-066	08/01/94	3828.98	199.86	--	--	--	3629.12	1.05
MW-066	09/01/94	3828.98	200.66	--	--	--	3628.32	-0.80
MW-066	10/01/94	3828.98	200.83	--	--	--	3628.15	-0.17
MW-066	12/01/94	3828.98	201.96	--	--	--	3627.02	-1.13
MW-066	01/01/95	3828.98	201.04	--	--	--	3627.94	0.92
MW-066	04/01/95	3828.98	202.26	--	--	--	3626.72	-1.22

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(Continued)

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Eddy County, New Mexico

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MW-066	07/01/95	3828.98	201.59	--	--	--	3627.39	0.67
MW-066	10/01/95	3828.98	201.62	--	--	--	3627.36	-0.03
MW-066	01/16/96	3828.98	200.89	--	--	--	3628.09	0.73
MW-066	04/17/96	3828.98	202.29	--	--	--	3626.69	-1.40
MW-066	07/16/96	3828.98	202.45	--	--	--	3626.53	-0.16
MW-066	10/13/96	3828.98	200.80	--	--	--	3628.18	1.65
MW-066	02/04/97	3828.98	202.60	--	--	--	3626.38	-1.80
MW-066	04/28/97	3828.98	202.84	--	--	--	3626.14	-0.24
MW-066	07/14/97	3828.98	202.72	--	--	--	3626.26	0.12
MW-066	09/30/97	3828.98	204.00	--	--	--	3624.98	-1.28
MW-066	10/09/97	3828.98	204.20	--	--	--	3624.78	-0.20
MW-066	10/13/97	3828.98	203.77	--	--	--	3625.21	0.43
MW-067	09/18/91	3765.87	133.99	--	--	--	3631.88	NA
MW-067	10/22/91	3765.87	135.74	--	--	--	3630.13	-1.75
MW-067	11/15/91	3765.87	136.00	--	--	--	3629.87	-0.26
MW-067	03/01/92	3765.87	136.35	--	--	--	3629.52	-0.35
MW-067	04/01/92	3765.87	136.25	--	--	--	3629.62	0.10
MW-067	05/01/92	3765.87	127.66	--	--	--	3638.21	8.59
MW-067	06/01/92	3765.87	131.08	--	--	--	3634.79	-3.42
MW-067	07/01/92	3765.87	133.24	--	--	--	3632.63	-2.16
MW-067	08/01/92	3765.87	133.89	--	--	--	3631.98	-0.65
MW-067	09/01/92	3765.87	134.24	--	--	--	3631.63	-0.35
MW-067	10/01/92	3765.87	134.33	--	--	--	3631.54	-0.09
MW-067	11/01/92	3765.87	134.76	--	--	--	3631.11	-0.43
MW-067	12/01/92	3765.87	135.00	--	--	--	3630.87	-0.24
MW-067	01/01/93	3765.87	135.10	--	--	--	3630.77	-0.10
MW-067	02/01/93	3765.87	135.19	--	--	--	3630.68	-0.09
MW-067	03/01/93	3765.87	135.39	--	--	--	3630.48	-0.20
MW-067	04/01/93	3765.87	135.37	--	--	--	3630.50	0.02
MW-067	05/01/93	3765.87	135.63	--	--	--	3630.24	-0.26
MW-067	06/01/93	3765.87	135.58	--	--	--	3630.29	0.05
MW-067	07/01/93	3765.87	135.81	--	--	--	3630.06	-0.23
MW-067	08/01/93	3765.87	135.69	--	--	--	3630.18	0.12
MW-067	09/01/93	3765.87	135.99	--	--	--	3629.88	-0.30
MW-067	10/01/93	3765.87	136.04	--	--	--	3629.83	-0.05
MW-067	11/01/93	3765.87	136.26	--	--	--	3629.61	-0.22
MW-067	12/01/93	3765.87	136.31	--	--	--	3629.56	-0.05
MW-067	01/01/94	3765.87	136.25	--	--	--	3629.62	0.06
MW-067	02/01/94	3765.87	137.16	--	--	--	3628.71	-0.91
MW-067	03/01/94	3765.87	137.22	--	--	--	3628.65	-0.06
MW-067	04/01/94	3765.87	137.31	--	--	--	3628.56	-0.09
MW-067	05/01/94	3765.87	137.14	--	--	--	3628.73	0.17
MW-067	07/01/94	3765.87	136.82	--	--	--	3629.05	0.32

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MW-067	08/01/94	3765.87	135.55	--	--	--	3630.32	1.27
MW-067	09/01/94	3765.87	136.58	--	--	--	3629.29	-1.03
MW-067	10/01/94	3765.87	136.71	--	--	--	3629.16	-0.13
MW-067	12/01/94	3765.87	137.89	--	--	--	3627.98	-1.18
MW-067	01/01/95	3765.87	137.09	--	--	--	3628.78	0.80
MW-067	04/01/95	3765.87	137.29	--	--	--	3628.58	-0.20
MW-067	07/01/95	3765.87	137.40	--	--	--	3628.47	-0.11
MW-067	10/01/95	3765.87	137.54	--	--	--	3628.33	-0.14
MW-067	01/19/96	3765.87	138.02	--	--	--	3627.85	-0.48
MW-067	04/17/96	3765.87	138.13	--	--	--	3627.74	-0.11
MW-067	07/16/96	3765.87	138.14	--	--	--	3627.73	-0.01
MW-067	10/14/96	3765.87	137.53	--	<.01	--	3628.34	0.61
MW-067	02/04/97	3765.87	138.37	--	--	--	3627.50	-0.84
MW-067	04/28/97	3765.87	138.64	--	--	--	3627.23	-0.27
MW-067	07/15/97	3765.87	138.95	--	--	--	3626.92	-0.31
MW-067	10/01/97	3765.87	140.50	139.70	0.80	0.73	3625.95	-0.97
MW-067	10/09/97	3765.87	144.05	139.70	4.35	0.73	3625.00	-0.95
MW-067	10/13/97	3765.87	139.98	139.31	0.67	0.73	3626.38	1.38
MW-067	10/21/97	3765.87	140.55	139.80	0.75	0.73	3625.87	-0.51
MW-067	10/29/97	3765.87	140.54	139.71	0.83	0.73	3625.94	0.07
MW-067	11/04/97	3765.87	140.43	139.68	0.75	0.73	3625.99	0.05
MW-067	11/12/97	3765.87	140.52	139.65	0.87	0.73	3625.99	0.00
MW-067	11/19/97	3765.87	140.55	139.78	0.77	0.73	3625.88	-0.11
MW-067	11/24/97	3765.87	140.70	139.75	0.95	0.73	3625.86	-0.02
MW-067	12/10/97	3765.87	140.57	139.72	0.85	0.73	3625.92	0.06
MW-068	09/18/91	3797.83	166.68	--	--	--	3631.15	NA
MW-068	10/22/91	3797.83	169.37	--	--	--	3628.46	-2.69
MW-068	11/15/91	3797.83	167.30	--	--	--	3630.53	2.07
MW-068	10/14/97	3797.83	171.76	--	<.01	--	3626.07	-4.46
MW-070	09/18/91	3822.57	191.59	--	--	--	3630.98	NA
MW-070	10/22/91	3822.57	191.68	--	--	--	3630.89	-0.09
MW-070	11/15/91	3822.57	192.20	--	--	--	3630.37	-0.52
MW-070	03/01/92	3822.57	192.74	--	--	--	3629.83	-0.54
MW-070	04/01/92	3822.57	192.62	--	--	--	3629.95	0.12
MW-070	05/01/92	3822.57	189.97	--	--	--	3632.60	2.65
MW-070	06/01/92	3822.57	188.42	--	--	--	3634.15	1.55
MW-070	07/01/92	3822.57	188.87	--	--	--	3633.70	-0.45
MW-070	08/01/92	3822.57	189.54	--	--	--	3633.03	-0.67
MW-070	09/01/92	3822.57	190.02	--	--	--	3632.55	-0.48
MW-070	10/01/92	3822.57	190.48	--	--	--	3632.09	-0.46
MW-070	11/01/92	3822.57	190.86	--	--	--	3631.71	-0.38
MW-070	12/01/92	3822.57	191.17	--	--	--	3631.40	-0.31
MW-070	01/01/93	3822.57	191.39	--	--	--	3631.18	-0.22

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MW-070	02/01/93	3822.57	191.54	--	--	--	3631.03	-0.15
MW-070	03/01/93	3822.57	191.77	--	--	--	3630.80	-0.23
MW-070	04/01/93	3822.57	191.80	--	--	--	3630.77	-0.03
MW-070	05/01/93	3822.57	192.09	--	--	--	3630.48	-0.29
MW-070	06/01/93	3822.57	192.18	--	--	--	3630.39	-0.09
MW-070	07/01/93	3822.57	192.32	--	--	--	3630.25	-0.14
MW-070	08/01/93	3822.57	192.30	--	--	--	3630.27	0.02
MW-070	09/01/93	3822.57	192.53	--	--	--	3630.04	-0.23
MW-070	10/01/93	3822.57	192.65	--	--	--	3629.92	-0.12
MW-070	11/01/93	3822.57	192.91	--	--	--	3629.66	-0.26
MW-070	12/01/93	3822.57	192.96	--	--	--	3629.61	-0.05
MW-070	01/01/94	3822.57	192.99	--	--	--	3629.58	-0.03
MW-070	02/01/94	3822.57	194.02	--	--	--	3628.55	-1.03
MW-070	03/01/94	3822.57	194.00	--	--	--	3628.57	0.02
MW-070	04/01/94	3822.57	193.19	--	--	--	3629.38	0.81
MW-070	05/01/94	3822.57	193.86	--	--	--	3628.71	-0.67
MW-070	07/01/94	3822.57	193.59	--	--	--	3628.98	0.27
MW-070	08/01/94	3822.57	193.09	--	--	--	3629.48	0.50
MW-070	09/01/94	3822.57	193.17	--	--	--	3629.40	-0.08
MW-070	10/01/94	3822.57	193.38	--	--	--	3629.19	-0.21
MW-070	12/01/94	3822.57	194.58	--	--	--	3627.99	-1.20
MW-070	01/01/95	3822.57	192.83	--	--	--	3629.74	1.75
MW-070	04/01/95	3822.57	194.11	--	--	--	3628.46	-1.28
MW-070	07/01/95	3822.57	194.19	--	--	--	3628.38	-0.08
MW-070	10/01/95	3822.57	194.19	--	--	--	3628.38	0.00
MW-070	01/16/96	3822.57	194.68	--	--	--	3627.89	-0.49
MW-070	04/17/96	3822.57	194.94	--	--	--	3627.63	-0.26
MW-070	07/15/96	3822.57	194.70	--	--	--	3627.87	0.24
MW-070	10/13/96	3822.57	193.98	--	--	--	3628.59	0.72
MW-070	02/03/97	3822.57	194.47	--	--	--	3628.10	-0.49
MW-070	04/28/97	3822.57	195.01	--	--	--	3627.56	-0.54
MW-070	07/14/97	3822.57	195.44	--	--	--	3627.13	-0.43
MW-070	10/01/97	3822.57	196.20	--	--	--	3626.37	-0.76
MW-070	10/13/97	3822.57	196.05	--	--	--	3626.52	0.15
MW-070	10/29/97	3822.57	196.24	196.23	0.01	0.73	3626.34	-0.18
MW-070	11/04/97	3822.57	196.35	--	--	--	3626.22	-0.12
MW-070	11/12/97	3822.57	196.34	--	--	--	3626.23	0.01
MW-070	11/19/97	3822.57	196.36	196.35	0.01	0.73	3626.22	-0.01
MW-070	11/24/97	3822.57	196.36	--	--	--	3626.21	-0.01
MW-070	12/10/97	3822.57	196.47	--	--	--	3626.10	-0.11
MW-071	10/01/93	3778.05	149.68	--	--	--	3628.37	NA
MW-071	11/01/93	3778.05	149.90	--	--	--	3628.15	-0.22
MW-071	12/01/93	3778.05	149.93	--	--	--	3628.12	-0.03

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MW-071	01/01/94	3778.05	149.92	--	--	--	3628.13	0.01
MW-071	02/01/94	3778.05	150.94	--	--	--	3627.11	-1.02
MW-071	03/01/94	3778.05	150.90	--	--	--	3627.15	0.04
MW-071	04/01/94	3778.05	149.98	--	--	--	3628.07	0.92
MW-071	05/01/94	3778.05	150.64	--	--	--	3627.41	-0.66
MW-071	07/01/94	3778.05	150.37	--	--	--	3627.68	0.27
MW-071	08/01/94	3778.05	149.35	--	--	--	3628.70	1.02
MW-071	09/01/94	3778.05	150.19	--	--	--	3627.86	-0.84
MW-071	10/01/94	3778.05	150.41	--	--	--	3627.64	-0.22
MW-071	12/01/94	3778.05	151.41	--	--	--	3626.64	-1.00
MW-071	01/01/95	3778.05	150.65	--	--	--	3627.40	0.76
MW-071	04/01/95	3778.05	150.88	--	--	--	3627.17	-0.23
MW-071	07/01/95	3778.05	150.84	--	--	--	3627.21	0.04
MW-071	10/01/95	3778.05	151.15	--	--	--	3626.90	-0.31
MW-071	01/16/96	3778.05	151.36	--	--	--	3626.69	-0.21
MW-071	04/17/96	3778.05	151.74	--	--	--	3626.31	-0.38
MW-071	07/16/96	3778.05	151.69	--	--	--	3626.36	0.05
MW-071	10/13/96	3778.05	149.72	--	--	--	3628.33	1.97
MW-071	02/04/97	3778.05	152.39	--	--	--	3625.66	-2.67
MW-071	04/28/97	3778.05	152.52	--	--	--	3625.53	-0.13
MW-071	07/14/97	3778.05	152.86	--	--	--	3625.19	-0.34
MW-071	10/01/97	3778.05	153.40	--	--	--	3624.65	-0.54
MW-071	10/09/97	3778.05	153.41	153.40	0.01	0.73	3624.65	0.00
MW-071	10/13/97	3778.05	153.39	--	--	--	3624.66	0.01
MW-072	10/01/93	3819.32	190.55	190.05	0.50	0.73	3629.14	NA
MW-072	11/01/93	3819.32	189.91	--	--	--	3629.41	0.27
MW-072	12/01/93	3819.32	196.73	193.01	3.72	0.73	3625.31	-4.10
MW-072	01/16/96	3819.32	216.76	200.26	16.50	0.73	3614.61	-10.70
MW-072	04/17/96	3819.32	214.60	198.25	16.35	0.73	3616.66	2.05
MW-072	07/16/96	3819.32	201.95	190.10	11.85	0.73	3626.02	9.36
MW-072	10/14/96	3819.32	211.05	205.21	5.84	0.73	3612.53	-13.49
MW-072	02/04/97	3819.32	213.65	212.43	1.22	0.73	3606.56	-5.97
MW-072	04/29/97	3819.32	197.65	194.93	2.72	0.73	3623.66	17.10
MW-072	07/15/97	3819.32	212.06	205.35	6.71	0.73	3612.16	-11.50
MW-072	10/09/97	3819.32	228.35	--	--	--	3590.97	-21.19
MW-072	10/14/97	3819.32	229.54	--	--	--	3589.78	-1.19
MW-072	10/29/97	3819.32	229.55	--	--	--	3589.77	-0.01
MW-072	11/04/97	3819.32	227.75	--	--	--	3591.57	1.80
MW-072	11/12/97	3819.32	227.83	--	--	--	3591.49	-0.08
MW-072	11/19/97	3819.32	206.30	206.04	0.26	0.73	3613.21	21.72
MW-072	11/24/97	3819.32	227.73	--	--	--	3591.59	-21.62
MW-072	12/10/97	3819.32	228.74	--	--	--	3590.58	-1.01

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MW-073	12/01/94	3820.09	202.90	196.78	6.12	0.73	3621.66	NA
MW-073	01/01/95	3820.09	195.75	194.07	1.68	0.73	3625.57	3.91
MW-073	04/01/95	3820.09	207.07	198.55	8.52	0.73	3619.24	-6.33
MW-073	07/01/95	3820.09	204.48	197.76	6.72	0.73	3620.52	1.28
MW-073	10/01/95	3820.09	192.35	--	--	--	3627.74	7.22
MW-073	01/16/96	3820.09	192.66	--	<.01	--	3627.43	-0.31
MW-073	04/17/96	3820.09	204.10	202.24	1.86	0.73	3617.35	-10.08
MW-073	07/16/96	3820.09	193.91	192.30	1.61	0.73	3627.36	10.01
MW-073	10/14/96	3820.09	191.42	191.41	0.01	0.73	3628.68	1.32
MW-073	02/04/97	3820.09	193.00	--	<.01	--	3627.09	-1.59
MW-073	04/29/97	3820.09	194.09	193.41	0.68	0.73	3626.50	-0.59
MW-073	07/15/97	3820.09	193.70	--	<.01	--	3626.39	-0.11
MW-073	09/30/97	3820.09	195.00	194.10	0.90	0.73	3625.75	-0.64
MW-073	10/09/97	3820.09	194.92	194.20	0.72	0.73	3625.70	-0.05
MW-073	10/14/97	3820.09	195.15	--	<.01	--	3624.94	-0.76
MW-074	12/01/94	3820.82	192.31	--	--	--	3628.51	NA
MW-074	01/01/95	3820.82	193.88	192.44	1.44	0.73	3627.99	-0.52
MW-074	04/01/95	3820.82	189.31	188.83	0.48	0.73	3631.86	3.87
MW-074	07/01/95	3820.82	188.07	--	<.01	--	3632.75	0.89
MW-074	01/16/96	3820.82	188.65	--	<.01	--	3632.17	-0.58
MW-074	04/17/96	3820.82	187.30	--	<.01	--	3633.52	1.35
MW-074	07/16/96	3820.82	186.52	--	<.01	--	3634.30	0.78
MW-074	10/14/96	3820.82	178.77	--	--	--	3642.05	7.75
MW-074	02/04/97	3820.82	182.50	--	<.01	--	3638.32	-3.73
MW-074	04/29/97	3820.82	183.92	--	--	--	3636.90	-1.42
MW-074	07/15/97	3820.82	183.74	--	<.01	--	3637.08	0.18
MW-074	09/30/97	3820.82	185.30	--	--	--	3635.52	-1.56
MW-074	10/09/97	3820.82	185.25	--	--	--	3635.57	0.05
MW-074	10/14/97	3820.82	185.77	--	<.01	--	3635.05	-0.52
MW-075	12/01/94	3816.12	228.96	205.92	23.04	0.73	3603.98	NA
MW-075	01/01/95	3816.12	209.93	197.21	12.72	0.73	3615.48	11.50
MW-075	04/01/95	3816.12	251.13	215.73	35.40	0.73	3590.83	-24.65
MW-075	07/01/95	3816.12	295.32	235.80	59.52	0.73	3564.25	-26.58
MW-075	01/18/96	3816.12	197.10	194.00	3.10	0.73	3621.28	57.03
MW-075	04/17/96	3816.12	189.17	189.13	0.04	0.73	3626.98	5.70
MW-075	07/16/96	3816.12	190.40	188.64	1.76	0.73	3627.00	0.02
MW-075	10/14/96	3816.12	190.01	188.22	1.79	0.73	3627.42	0.42
MW-075	02/04/97	3816.12	193.45	--	--	--	3622.67	-4.75
MW-075	04/29/97	3816.12	200.64	197.30	3.34	0.73	3617.92	-4.75
MW-075	07/15/97	3816.12	200.95	194.78	6.17	0.73	3619.67	1.75
MW-075	10/09/97	3816.12	200.87	196.28	4.59	0.73	3618.60	-1.07
MW-075	10/14/97	3816.12	200.86	198.10	2.76	0.73	3617.27	-1.33
MW-075	10/29/97	3816.12	200.62	200.08	0.54	0.73	3615.89	-1.38

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MW-075	11/04/97	3816.12	200.76	197.24	3.52	0.73	3617.93	2.04
MW-075	11/12/97	3816.12	196.10	--	--	--	3620.02	2.09
MW-075	11/19/97	3816.12	199.10	196.35	2.75	0.73	3619.03	-0.99
MW-075	11/24/97	3816.12	200.42	194.85	5.57	0.73	3619.77	0.74
MW-075	12/10/97	3816.12	195.43	--	--	--	3620.69	0.92
MW-076	12/01/94	3796.01	167.36	--	--	--	3628.65	NA
MW-076	01/01/95	3796.01	169.05	167.01	2.04	0.73	3628.45	-0.20
MW-076	07/01/95	3796.01	180.14	173.30	6.84	0.73	3620.86	-7.59
MW-076	10/01/95	3796.01	168.22	167.81	0.41	0.73	3628.09	7.23
MW-076	01/16/96	3796.01	168.85	167.90	0.95	0.73	3627.85	-0.24
MW-076	04/17/96	3796.01	169.59	168.60	0.99	0.73	3627.14	-0.71
MW-076	07/16/96	3796.01	167.04	--	--	--	3628.97	1.83
MW-076	10/14/96	3796.01	171.86	--	--	--	3624.15	-4.82
MW-076	02/04/97	3796.01	169.32	--	--	--	3626.69	2.54
MW-076	04/29/97	3796.01	174.30	--	--	--	3621.71	-4.98
MW-076	07/15/97	3796.01	175.10	--	<.01	--	3620.91	-0.80
MW-076	09/30/97	3796.01	176.20	--	--	--	3619.81	-1.10
MW-076	10/14/97	3796.01	173.57	--	<.01	--	3622.44	2.63
MW-081	10/01/95	3817.03	195.77	193.03	2.74	0.73	3623.26	NA
MW-081	01/16/96	3817.03	199.04	194.75	4.29	0.73	3621.12	-2.14
MW-081	04/17/96	3817.03	204.35	194.40	9.95	0.73	3619.94	-1.18
MW-081	07/16/96	3817.03	204.26	194.89	9.37	0.73	3619.61	-0.33
MW-081	10/13/96	3817.03	202.11	193.62	8.49	0.73	3621.12	1.51
MW-081	02/04/97	3817.03	197.25	195.14	2.11	0.73	3621.32	0.20
MW-081	04/28/97	3817.03	204.40	195.25	9.15	0.73	3619.31	-2.01
MW-081	07/14/97	3817.03	196.19	194.74	1.45	0.73	3621.90	2.59
MW-081	10/09/97	3817.03	200.02	200.00	0.02	0.73	3617.02	-4.88
MW-081	10/14/97	3817.03	200.96	200.90	0.06	0.73	3616.11	-0.91
MW-081	10/29/97	3817.03	202.44	201.00	1.44	0.73	3615.64	-0.47
MW-081	11/04/97	3817.03	200.92	--	--	--	3616.11	0.47
MW-081	11/12/97	3817.03	200.95	200.70	0.25	0.73	3616.26	0.15
MW-081	11/19/97	3817.03	200.94	200.93	0.01	0.73	3616.10	-0.16
MW-081	11/24/97	3817.03	200.81	--	--	--	3616.22	0.12
MW-081	12/10/97	3817.03	200.85	--	--	--	3616.18	-0.04
MW-082	10/01/95	3825.07	196.65	--	--	--	3628.42	NA
MW-082	01/18/96	3825.07	209.62	--	--	--	3615.45	-12.97
MW-082	04/17/96	3825.07	209.12	--	--	--	3615.95	0.50
MW-082	07/16/96	3825.07	222.80	--	--	--	3602.27	-13.68
MW-082	10/14/96	3825.07	196.33	196.31	0.02	0.73	3628.75	26.48
MW-082	02/04/97	3825.07	223.66	--	--	--	3601.41	-27.34
MW-082	04/28/97	3825.07	249.21	--	--	--	3575.86	-25.55
MW-082	07/15/97	3825.07	248.90	--	<.01	--	3576.17	0.31
MW-082	09/30/97	3825.07	249.20	--	--	--	3575.87	-0.30

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MW-082	10/09/97	3825.07	197.07	--	--	--	3628.00	52.13
MW-082	10/14/97	3825.07	229.01	--	<.01	--	3596.06	-31.94
MW-082	10/29/97	3825.07	200.15	--	--	--	3624.92	28.86
MW-082	11/04/97	3825.07	209.26	--	--	--	3615.81	-9.11
MW-082	11/12/97	3825.07	211.36	208.74	2.62	0.73	3615.62	-0.19
MW-082	11/19/97	3825.07	213.86	208.58	5.28	0.73	3615.06	-0.56
MW-082	11/24/97	3825.07	213.96	--	--	--	3611.11	-3.95
MW-082	12/10/97	3825.07	212.95	--	--	--	3612.12	1.01
MW-083	10/01/95	3794.12	169.47	167.80	1.67	0.73	3625.87	NA
MW-083	01/18/96	3794.12	189.30	172.50	16.80	0.73	3617.08	-8.79
MW-083	04/17/96	3794.12	179.40	179.20	0.20	0.73	3614.87	-2.21
MW-083	07/16/96	3794.12	176.36	175.80	0.56	0.73	3618.17	3.30
MW-083	10/14/96	3794.12	176.25	176.07	0.18	0.73	3618.00	-0.17
MW-083	02/04/97	3794.12	178.77	--	<.01	--	3615.35	-2.65
MW-083	04/28/97	3794.12	179.41	--	--	--	3614.71	-0.64
MW-083	07/15/97	3794.12	168.18	166.56	1.62	0.73	3627.12	12.41
MW-083	09/30/97	3794.12	202.70	--	--	--	3591.42	-35.70
MW-083	10/09/97	3794.12	202.70	--	--	--	3591.42	0.00
MW-083	10/14/97	3794.12	200.25	--	<.01	--	3593.87	2.45
MW-083	10/21/97	3794.12	202.55	--	--	--	3591.57	-2.30
MW-083	10/29/97	3794.12	200.20	--	--	--	3593.92	2.35
MW-083	11/04/97	3794.12	200.17	--	--	--	3593.95	0.03
MW-083	11/12/97	3794.12	200.20	--	--	--	3593.92	-0.03
MW-083	11/19/97	3794.12	194.44	193.86	0.58	0.73	3600.10	6.18
MW-083	11/24/97	3794.12	193.52	--	--	--	3600.60	0.50
MW-083	12/10/97	3794.12	187.51	--	--	--	3606.61	6.01
MW-084	07/16/96	3759.60	131.50	131.11	0.39	0.73	3628.38	NA
MW-084	10/14/96	3759.60	131.79	130.74	1.05	0.73	3628.58	0.20
MW-084	02/04/97	3759.60	132.84	131.55	1.29	0.73	3627.70	-0.88
MW-084	04/29/97	3759.60	133.64	131.85	1.79	0.73	3627.27	-0.43
MW-084	07/15/97	3759.60	133.89	131.99	1.90	0.73	3627.10	-0.17
MW-084	09/30/97	3759.60	134.90	132.60	2.30	0.73	3626.38	-0.72
MW-084	10/14/97	3759.60	136.64	132.70	3.94	0.73	3625.84	-0.54
MW-084	10/21/97	3759.60	137.06	132.74	4.32	0.73	3625.69	-0.15
MW-084	10/29/97	3759.60	133.35	132.63	0.72	0.73	3626.78	1.09
MW-084	11/04/97	3759.60	133.72	--	--	--	3625.88	-0.90
MW-084	11/12/97	3759.60	132.70	132.65	0.05	0.73	3626.94	1.06
MW-084	11/19/97	3759.60	136.38	132.72	3.66	0.73	3625.89	-1.05
MW-084	11/24/97	3759.60	136.00	132.77	3.23	0.73	3625.96	0.07
MW-084	12/10/97	3759.60	134.60	132.95	1.65	0.73	3626.20	0.24
MW-085	07/16/96	3824.93	200.62	196.98	3.64	0.73	3626.97	NA
MW-085	10/13/96	3824.93	201.10	196.24	4.86	0.73	3627.38	0.41
MW-085	02/04/97	3824.93	200.85	197.51	3.34	0.73	3626.52	-0.86

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MW-085	04/29/97	3824.93	199.89	198.70	1.19	0.73	3625.91	-0.61
MW-085	07/14/97	3824.93	199.39	--	--	--	3625.54	-0.37
MW-085	10/09/97	3824.93	200.15	200.00	0.15	0.73	3624.89	-0.65
MW-085	10/14/97	3824.93	200.35	--	<.01	--	3624.58	-0.31
MW-085	10/29/97	3824.93	199.31	--	--	--	3625.62	1.04
MW-085	11/04/97	3824.93	200.16	200.06	0.10	0.73	3624.84	-0.78
MW-085	11/12/97	3824.93	200.00	--	--	--	3624.93	0.09
MW-085	11/19/97	3824.93	199.28	199.27	0.01	0.73	3625.66	0.73
MW-085	11/24/97	3824.93	200.07	--	--	--	3624.86	-0.80
MW-085	12/10/97	3824.93	200.12	--	--	--	3624.81	-0.05
MW-086	10/14/96	3823.99	193.32	--	--	--	3630.67	NA
MW-086	02/04/97	3823.99	190.99	--	--	--	3633.00	2.33
MW-086	04/28/97	3823.99	197.37	--	--	--	3626.62	-6.38
MW-086	07/14/97	3823.99	199.78	--	<.01	--	3624.21	-2.41
MW-086	09/30/97	3823.99	188.10	--	<.01	--	3635.89	11.68
MW-086	10/09/97	3823.99	198.76	--	--	--	3625.23	-10.66
MW-086	10/14/97	3823.99	196.27	--	<.01	--	3627.72	2.49
MW-087	08/01/96	3740.50	113.11	--	--	--	3627.39	NA
MW-087	10/14/96	3740.50	112.19	--	--	--	3628.31	0.92
MW-087	02/04/97	3740.50	112.94	--	--	--	3627.56	-0.75
MW-087	04/28/97	3740.50	113.21	--	--	--	3627.29	-0.27
MW-087	07/14/97	3740.50	113.83	--	--	--	3626.67	-0.62
MW-087	10/09/97	3740.50	114.20	--	--	--	3626.30	-0.37
MW-087	10/13/97	3740.50	114.43	--	--	--	3626.07	-0.23
MW-087	10/29/97	3740.50	113.95	--	--	--	3626.55	0.48
MW-087	11/04/97	3740.50	114.30	--	--	--	3626.20	-0.35
MW-087	11/12/97	3740.50	114.22	--	--	--	3626.28	0.08
MW-087	11/19/97	3740.50	114.35	--	--	--	3626.15	-0.13
MW-087	11/24/97	3740.50	114.25	--	--	--	3626.25	0.10
MW-087	12/10/97	3740.50	114.32	--	--	--	3626.18	-0.07
MW-087A	08/01/96	3739.53	124.91	--	--	--	3614.62	NA
MW-087A	10/14/96	3739.53	104.75	--	--	--	3634.78	20.16
MW-087A	02/04/97	3739.53	103.69	--	--	--	3635.84	1.06
MW-087A	04/28/97	3739.53	104.43	--	--	--	3635.10	-0.74
MW-087A	07/14/97	3739.53	104.92	--	--	--	3634.61	-0.49
MW-087A	10/13/97	3739.53	104.44	--	--	--	3635.09	0.48
MW-088	08/01/96	3789.70	163.59	--	--	--	3626.11	NA
MW-088	10/13/96	3789.70	162.22	--	--	--	3627.48	1.37
MW-088	02/04/97	3789.70	163.38	--	--	--	3626.32	-1.16
MW-088	04/28/97	3789.70	163.54	--	--	--	3626.16	-0.16
MW-088	07/14/97	3789.70	163.84	--	--	--	3625.86	-0.30
MW-088	10/01/97	3789.70	164.40	--	--	--	3625.30	-0.56

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MW-088	10/09/97	3789.70	164.38	--	--	--	3625.32	0.02
MW-088	10/13/97	3789.70	164.34	--	--	--	3625.36	0.04
MW-089	08/01/96	3827.68	201.41	--	--	--	3626.27	NA
MW-089	10/14/96	3827.68	199.95	--	--	--	3627.73	1.46
MW-089	02/04/97	3827.68	201.39	--	--	--	3626.29	-1.44
MW-089	04/28/97	3827.68	201.67	--	--	--	3626.01	-0.28
MW-089	07/14/97	3827.68	201.94	--	--	--	3625.74	-0.27
MW-089	10/01/97	3827.68	202.80	--	<.01	--	3624.88	-0.86
MW-089	10/09/97	3827.68	202.70	--	--	--	3624.98	0.10
MW-089	10/13/97	3827.68	202.70	--	--	--	3624.98	0.00
MW-094	07/15/96	3821.48	194.15	--	--	--	3627.33	NA
MW-094	10/13/96	3821.48	196.21	--	--	--	3625.27	-2.06
MW-094	02/04/97	3821.48	197.60	--	--	--	3623.88	-1.39
MW-094	07/14/97	3821.48	198.65	--	--	--	3622.83	-1.05
MW-094	09/30/97	3821.48	199.70	--	--	--	3621.78	-1.05
MW-094	10/09/97	3821.48	196.04	--	--	--	3625.44	3.66
MW-094	10/14/97	3821.48	195.95	--	<.01	--	3625.53	0.09
MW-095	04/29/97	3746.26	118.48	--	--	--	3627.78	NA
MW-095	07/15/97	3746.26	118.59	--	--	--	3627.67	-0.11
MW-095	10/14/97	3746.26	119.30	--	--	--	3626.96	-0.71
MW-095	10/29/97	3746.26	119.31	--	--	--	3626.95	-0.01
MW-095	11/04/97	3746.26	119.35	--	--	--	3626.91	-0.04
MW-095	11/12/97	3746.26	119.30	--	--	--	3626.96	0.05
MW-095	11/19/97	3746.26	119.41	--	--	--	3626.85	-0.11
MW-095	11/24/97	3746.26	119.45	--	--	--	3626.81	-0.04
MW-095	12/10/97	3746.26	119.42	--	--	--	3626.84	0.03
MW-096	04/29/97	3739.80	112.60	--	--	--	3627.20	NA
MW-096	07/15/97	3739.80	112.57	--	--	--	3627.23	0.03
MW-096	10/01/97	3739.80	113.40	--	--	--	3626.40	-0.83
MW-096	10/09/97	3739.80	113.34	--	--	--	3626.46	0.06
MW-096	10/13/97	3739.80	113.38	--	--	--	3626.42	-0.04
MW-096	10/29/97	3739.80	113.38	--	--	--	3626.42	0.00
MW-096	11/04/97	3739.80	113.35	--	--	--	3626.45	0.03
MW-096	11/12/97	3739.80	113.31	--	--	--	3626.49	0.04
MW-096	11/19/97	3739.80	113.45	--	--	--	3626.35	-0.14
MW-096	11/24/97	3739.80	113.58	--	--	--	3626.22	-0.13
MW-096	12/10/97	3739.80	113.47	--	--	--	3626.33	0.11
MW-097	04/29/97	3750.16	122.82	--	--	--	3627.34	NA
MW-097	07/15/97	3750.16	122.91	--	--	--	3627.25	-0.09
MW-097	10/01/97	3750.16	123.80	--	--	--	3626.36	-0.89
MW-097	10/09/97	3750.16	123.75	--	--	--	3626.41	0.05
MW-097	10/13/97	3750.16	123.61	--	--	--	3626.55	0.14

Notes:

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CORRECTED GROUNDWATER ELEVATIONS
LOWER QUEEN
(05/28/91-12/10/97)
(Continued)

Indian Basin Remediation Project
Eddy County, New Mexico

Location	Date	Reference Elevation (Feet)	Depth to Water (Feet)	Depth to Condensate (Feet)	Condensate Thickness (Feet)	Condensate Density (Feet)	Groundwater Elevation (Feet)	Change in Water Table Elevation
MW-097	10/29/97	3750.16	123.62	--	--	--	3626.54	-0.01
MW-097	11/04/97	3750.16	123.74	--	--	--	3626.42	-0.12
MW-097	11/12/97	3750.16	123.70	--	--	--	3626.46	0.04
MW-097	11/19/97	3750.16	123.85	--	--	--	3626.31	-0.15
MW-097	11/24/97	3750.16	123.80	--	--	--	3626.36	0.05
MW-097	12/10/97	3750.16	123.90	--	--	--	3626.26	-0.10
MW-098	04/29/97	3770.15	142.42	--	--	--	3627.73	NA
MW-098	07/15/97	3770.15	142.51	--	--	--	3627.64	-0.09
MW-098	10/14/97	3770.15	143.55	143.26	0.29	0.73	3626.81	-0.83
MW-098	10/29/97	3770.15	143.43	143.20	0.23	0.73	3626.89	0.08
MW-098	11/04/97	3770.15	143.50	143.25	0.25	0.73	3626.83	-0.06
MW-098	11/12/97	3770.15	143.35	143.18	0.17	0.73	3626.92	0.09
MW-098	11/19/97	3770.15	143.48	143.26	0.22	0.73	3626.83	-0.09
MW-098	11/24/97	3770.15	143.54	143.28	0.26	0.73	3626.80	-0.03
MW-098	12/10/97	3770.15	143.52	143.40	0.12	0.73	3626.72	-0.08
MW-104	07/15/97	3793.64	168.72	--	--	--	3624.92	NA
MW-104	10/13/97	3793.64	167.22	--	--	--	3626.42	1.50
MW-104	10/29/97	3793.64	167.25	--	--	--	3626.39	-0.03
MW-104	11/04/97	3793.64	167.30	--	--	--	3626.34	-0.05
MW-104	11/12/97	3793.64	167.20	--	--	--	3626.44	0.10
MW-104	11/19/97	3793.64	167.30	--	--	--	3626.34	-0.10
MW-104	11/24/97	3793.64	167.30	--	--	--	3626.34	0.00
MW-104	12/10/97	3793.64	167.28	--	--	--	3626.36	0.02
MW-108	07/15/97	3747.13	119.97	--	--	--	3627.16	NA
MW-108	10/13/97	3747.13	120.47	--	--	--	3626.66	-0.50
MW-108	10/29/97	3747.13	120.45	--	--	--	3626.68	0.02
MW-108	11/04/97	3747.13	120.42	--	--	--	3626.71	0.03
MW-108	11/12/97	3747.13	124.40	--	--	--	3622.73	-3.98
MW-108	11/19/97	3747.13	120.55	--	--	--	3626.58	3.85
MW-108	11/24/97	3747.13	120.54	--	--	--	3626.59	0.01
MW-108	12/10/97	3747.13	120.55	--	--	--	3626.58	-0.01
SW-01	02/04/97	3808.19	Dry	--	--	--	NA	NA
SW-02	08/21/91	3808.79	180.53	--	--	--	3628.26	NA
SW-02	09/18/91	3808.79	180.53	--	--	--	3628.26	0.00
SW-02	10/22/91	3808.79	179.74	--	--	--	3629.05	0.79
SW-02	11/15/91	3808.79	179.44	--	--	--	3629.35	0.30
SW-02	03/01/92	3808.79	180.12	--	--	--	3628.67	-0.68
SW-02	04/01/92	3808.79	180.00	--	--	--	3628.79	0.12
SW-02	05/01/92	3808.79	176.52	--	--	--	3632.27	3.48
SW-02	06/01/92	3808.79	176.06	--	--	--	3632.73	0.46
SW-02	07/01/92	3808.79	176.06	--	--	--	3632.73	0.00
SW-02	08/01/92	3808.79	176.99	--	--	--	3631.80	-0.93

Notes:

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CORRECTED GROUNDWATER ELEVATIONS
LOWER QUEEN
(05/28/91-12/10/97)
(Continued)

Indian Basin Remediation Project
Eddy County, New Mexico

Location	Date	Reference Elevation (Feet)	Depth to Water (Feet)	Depth to Condensate (Feet)	Condensate Thickness (Feet)	Condensate Density (Feet)	Groundwater Elevation (Feet)	Change in Water Table Elevation
SW-02	09/01/92	3808.79	177.57	--	--	--	3631.22	-0.58
SW-02	10/01/92	3808.79	178.02	--	--	--	3630.77	-0.45
SW-02	11/01/92	3808.79	178.31	--	--	--	3630.48	-0.29
SW-02	12/01/92	3808.79	179.06	--	--	--	3629.73	-0.75
SW-02	01/01/93	3808.79	178.88	--	--	--	3629.91	0.18
SW-02	02/01/93	3808.79	179.08	--	--	--	3629.71	-0.20
SW-02	03/01/93	3808.79	179.31	--	--	--	3629.48	-0.23
SW-02	04/01/93	3808.79	179.04	--	--	--	3629.75	0.27
SW-02	05/01/93	3808.79	179.22	--	--	--	3629.57	-0.18
SW-02	06/01/93	3808.79	179.39	--	--	--	3629.40	-0.17
SW-02	07/01/93	3808.79	179.76	--	--	--	3629.03	-0.37
SW-02	08/01/93	3808.79	179.76	--	--	--	3629.03	0.00
SW-02	09/01/93	3808.79	179.86	--	--	--	3628.93	-0.10
SW-02	10/01/93	3808.79	179.63	--	--	--	3629.16	0.23
SW-02	11/01/93	3808.79	180.39	--	--	--	3628.40	-0.76
SW-02	12/01/93	3808.79	179.62	--	--	--	3629.17	0.77
SW-02	01/01/94	3808.79	180.41	--	--	--	3628.38	-0.79
SW-02	02/01/94	3808.79	181.55	--	--	--	3627.24	-1.14
SW-02	03/01/94	3808.79	180.10	--	--	--	3628.69	1.45
SW-02	04/01/94	3808.79	180.58	--	--	--	3628.21	-0.48
SW-02	05/01/94	3808.79	181.13	--	--	--	3627.66	-0.55
SW-02	07/01/94	3808.79	181.00	--	--	--	3627.79	0.13
SW-02	08/01/94	3808.79	180.61	--	--	--	3628.18	0.39
SW-02	09/01/94	3808.79	180.52	--	--	--	3628.27	0.09
SW-02	10/01/94	3808.79	181.56	--	--	--	3627.23	-1.04
SW-02	12/01/94	3808.79	184.89	--	--	--	3623.90	-3.33
SW-02	01/01/95	3808.79	181.26	--	--	--	3627.53	3.63
SW-02	04/01/95	3808.79	181.50	--	--	--	3627.29	-0.24
SW-02	07/01/95	3808.79	181.62	--	--	--	3627.17	-0.12
SW-02	10/01/95	3808.79	181.70	--	--	--	3627.09	-0.08
SW-02	01/16/96	3808.79	182.21	--	--	--	3626.58	-0.51
SW-02	04/17/96	3808.79	182.25	--	--	--	3626.54	-0.04
SW-02	07/15/96	3808.79	182.24	--	--	--	3626.55	0.01
SW-02	10/01/96	3808.79	180.89	--	--	--	3627.90	1.35
SW-02	01/01/97	3808.79	182.21	--	--	--	3626.58	-1.32
SW-02	02/04/97	3808.79	182.31	--	--	--	3626.48	-0.10
SW-02	04/28/97	3808.79	182.80	--	--	--	3625.99	-0.49
SW-02	07/15/97	3808.79	183.04	--	--	--	3625.75	-0.24
SW-02	10/14/97	3808.79	183.89	--	--	--	3624.90	-0.85
SW-03	07/15/96	3842.29	215.52	--	--	--	3626.77	NA
SW-03	10/01/96	3842.29	213.51	--	--	--	3628.78	2.01
SW-03	02/03/97	3842.29	215.63	--	--	--	3626.66	-2.12
SW-03	04/28/97	3842.29	216.14	--	--	--	3626.15	-0.51

Notes:

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CORRECTED GROUNDWATER ELEVATIONS
LOWER QUEEN
(05/28/91-12/10/97)
(Continued)

Indian Basin Remediation Project
Eddy County, New Mexico

Location	Date	Reference Elevation (Feet)	Depth to Water (Feet)	Depth to Condensate (Feet)	Condensate Thickness (Feet)	Condensate Density (Feet)	Groundwater Elevation (Feet)	Change in Water Table Elevation
SW-03	07/14/97	3842.29	216.74	--	--	--	3625.55	-0.60
SW-03	10/14/97	3842.29	217.51	--	--	--	3624.78	-0.77
VE-16	10/29/97	3750.96	124.27	--	--	--	3626.69	NA
VE-16	11/04/97	3750.96	124.35	--	--	--	3626.61	-0.08
VE-16	11/12/97	3750.96	124.22	--	--	--	3626.74	0.13
VE-16	11/19/97	3750.96	124.33	--	--	--	3626.63	-0.11
VE-16	11/24/97	3750.96	124.33	--	--	--	3626.63	0.00
VE-16	12/10/97	3750.96	124.30	--	--	--	3626.66	0.03
VE-17	10/29/97	3756.73	118.48	--	--	--	3638.25	NA
VE-17	11/04/97	3756.73	117.00	--	--	--	3639.73	1.48
VE-17	11/12/97	3756.73	117.93	--	--	--	3638.80	-0.93
VE-17	11/19/97	3756.73	118.13	--	--	--	3638.60	-0.20
VE-17	11/24/97	3756.73	118.32	--	--	--	3638.41	-0.19
VE-17	12/10/97	3756.73	118.24	--	--	--	3638.49	0.08
VE-19	10/29/97	3761.18	136.05	134.00	2.05	0.73	3626.63	NA
VE-19	11/04/97	3761.18	136.41	133.96	2.45	0.73	3626.56	-0.07
VE-19	11/19/97	3761.18	140.88	138.00	2.88	0.73	3622.40	-4.16
VE-19	11/24/97	3761.18	140.33	138.94	1.39	0.73	3621.86	-0.54
VE-19	12/10/97	3761.18	138.56	--	--	--	3622.62	0.76

Notes:

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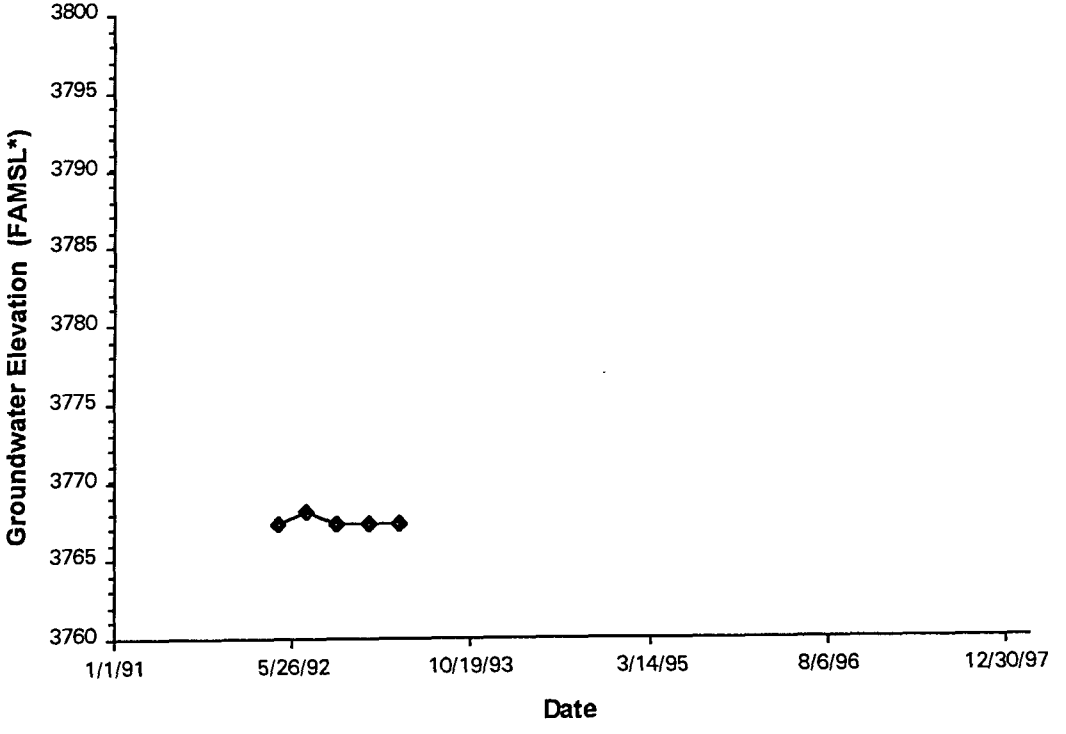
APPENDIX B

HYDROGRAPHS

SHALLOW ZONE HYDROGRAPHS

GROUNDWATER HYDROGRAPH
MW-004

Indian Basin Remediation Project
Eddy County, NM



Note:
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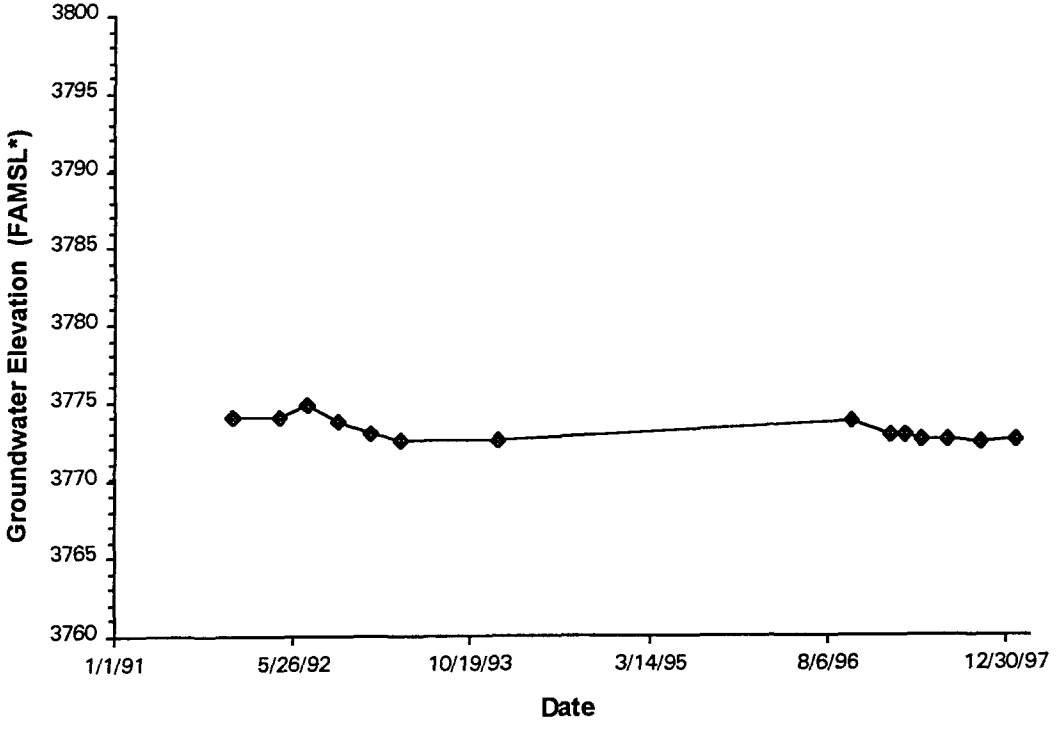
FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-010

Indian Basin Remediation Project
Eddy County, NM



Note:

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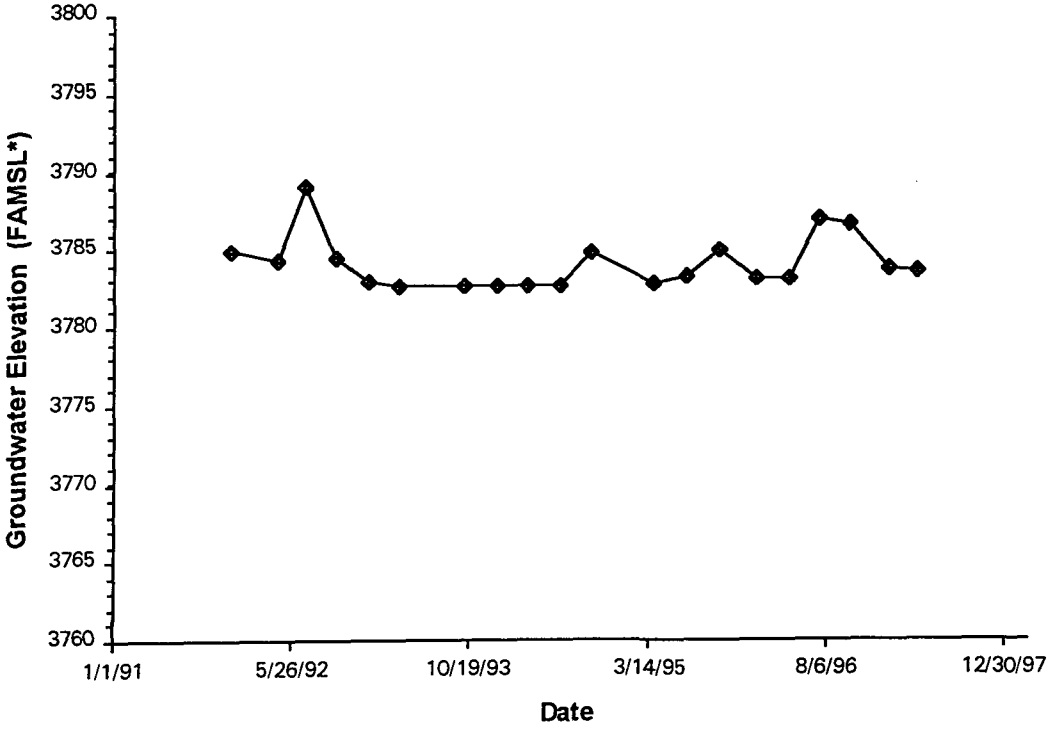
FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-011

Indian Basin Remediation Project
Eddy County, NM



Note:
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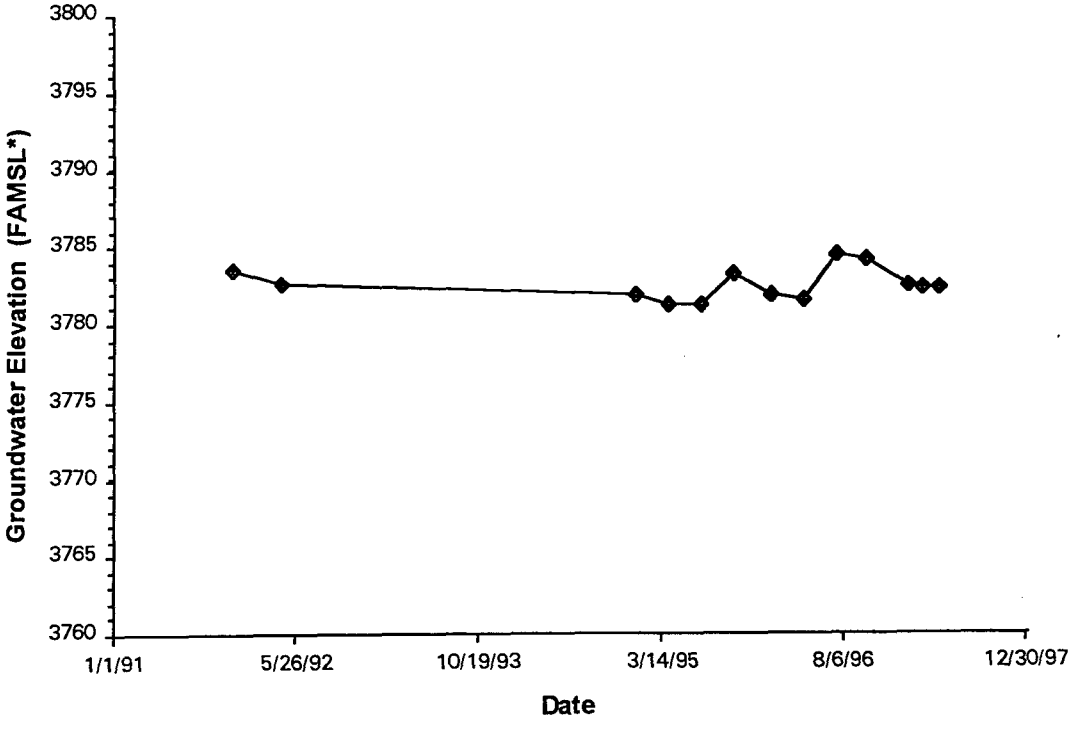
FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-013

Indian Basin Remediation Project
Eddy County, NM



Note:

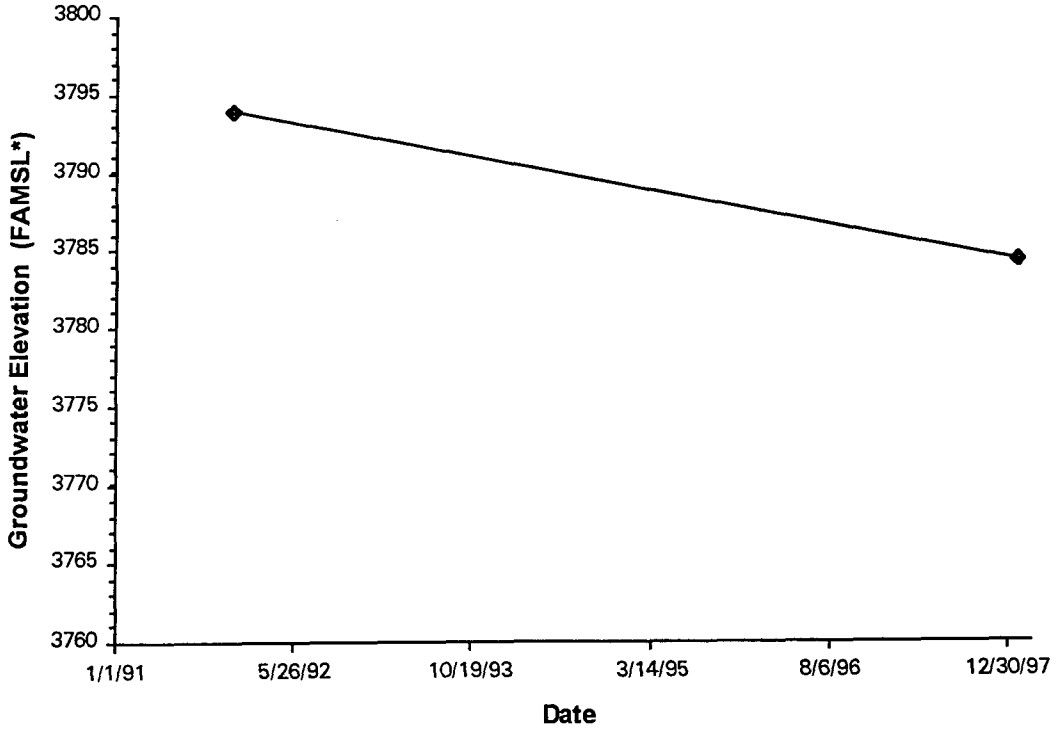
* Calculated groundwater elevations are corrected for measured condensate thickness.

** Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-015

Indian Basin Remediation Project
Eddy County, NM



Note:
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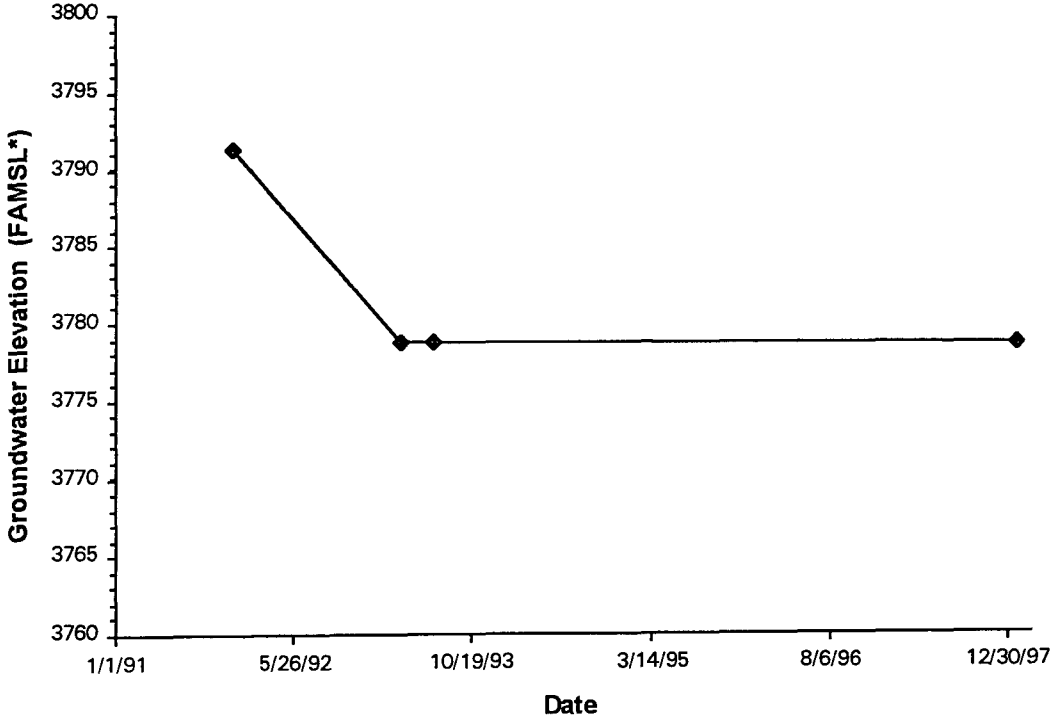
FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-016

Indian Basin Remediation Project
Eddy County, NM



Note:
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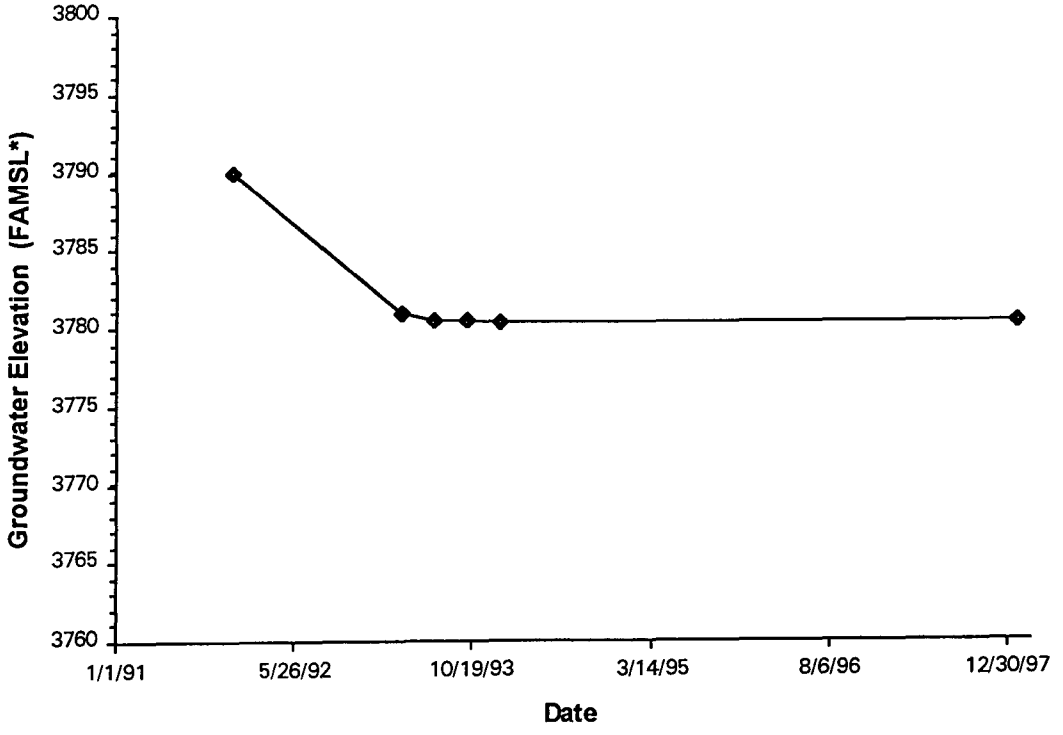
FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-017

Indian Basin Remediation Project
Eddy County, NM



Note:
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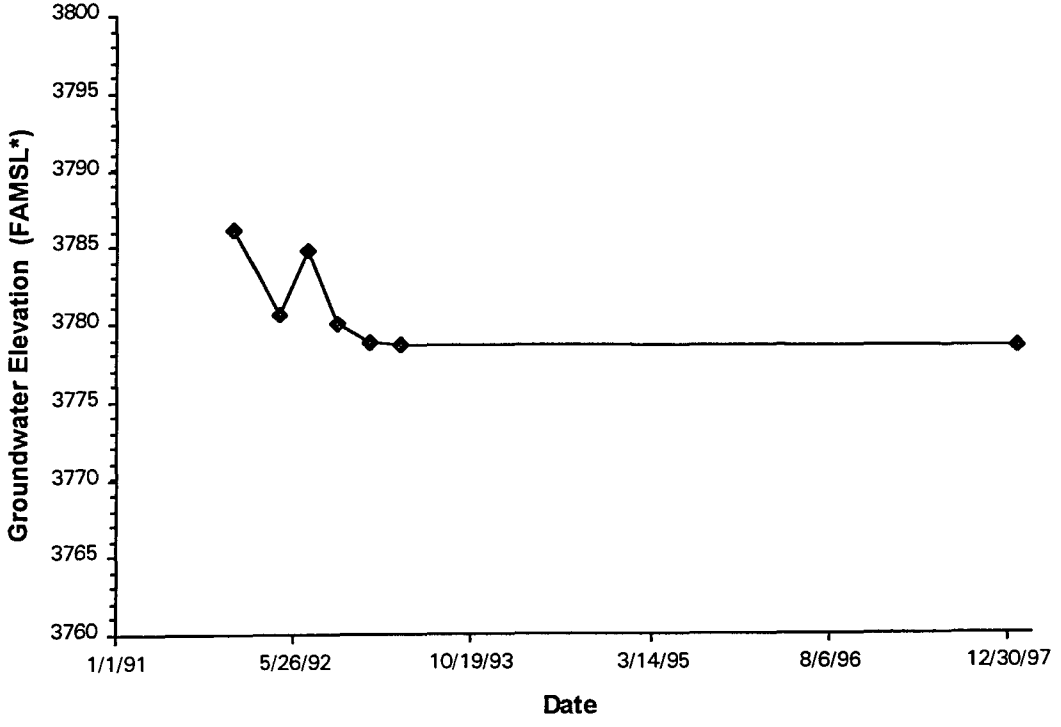
FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-018

Indian Basin Remediation Project
Eddy County, NM



Note:

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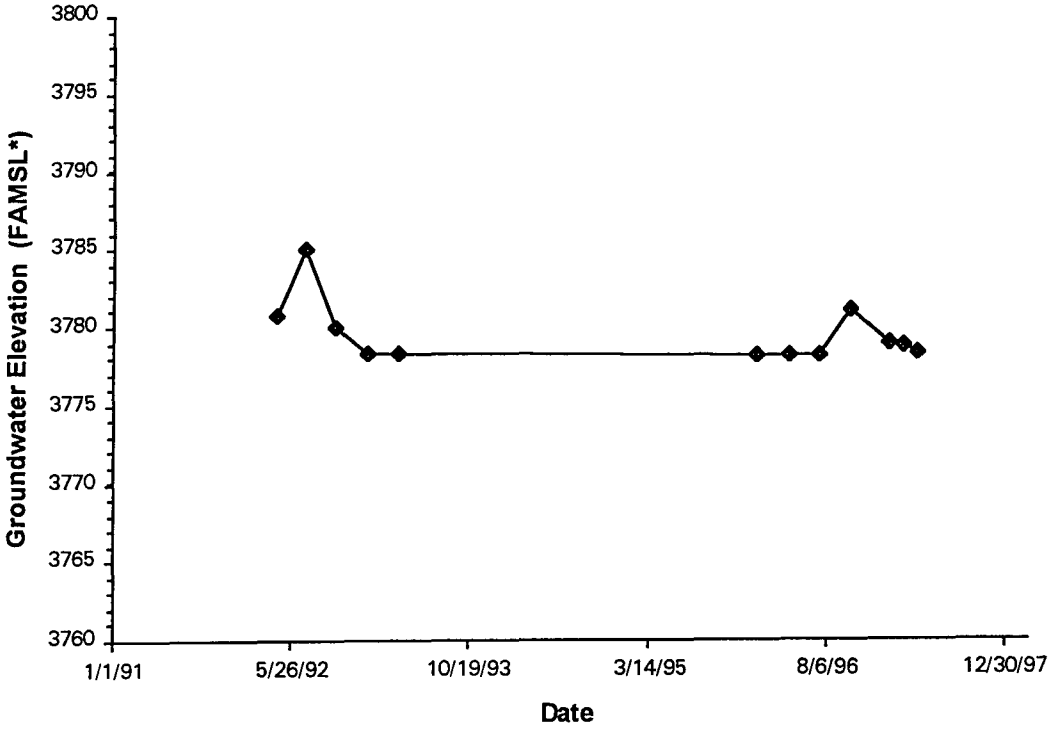
FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-019

Indian Basin Remediation Project
Eddy County, NM



Note:
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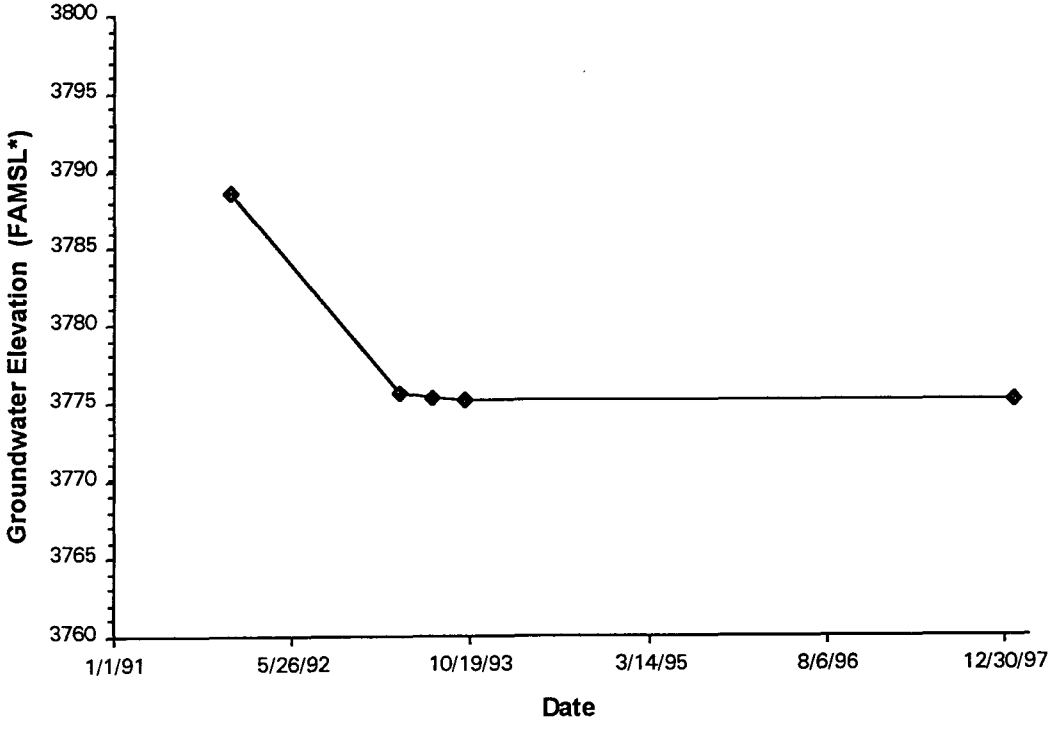
FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-021

Indian Basin Remediation Project
Eddy County, NM



Note:
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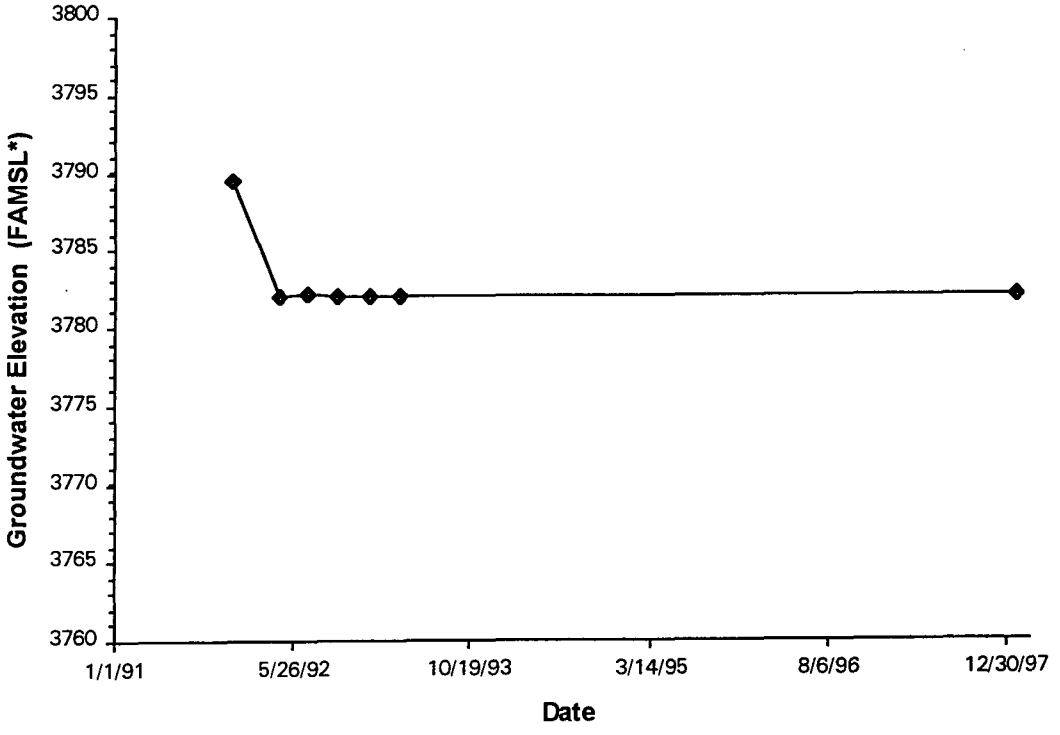
FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-022

Indian Basin Remediation Project
Eddy County, NM



Note:

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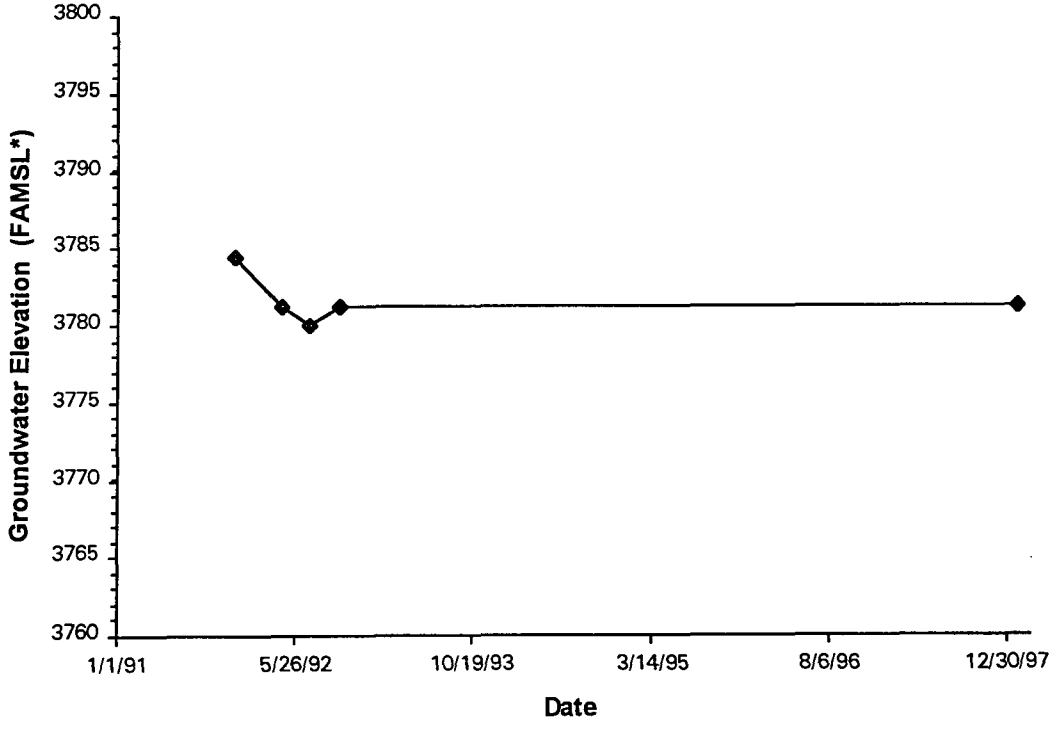
FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-024

Indian Basin Remediation Project
Eddy County, NM



Note:

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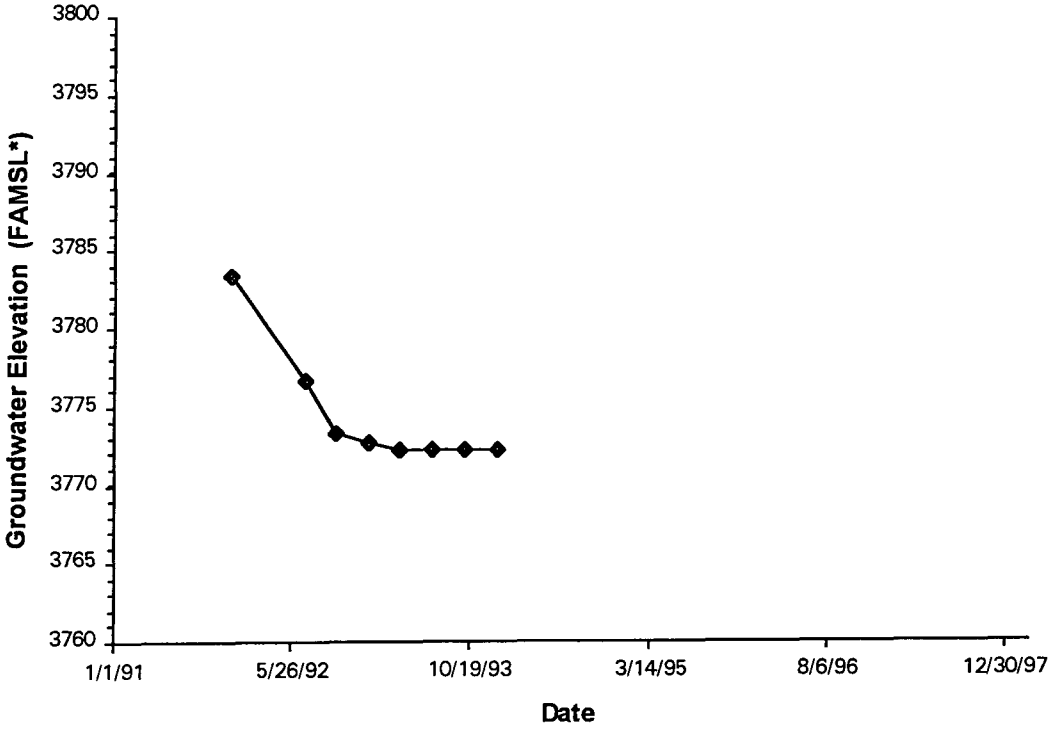
FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-026

Indian Basin Remediation Project
Eddy County, NM

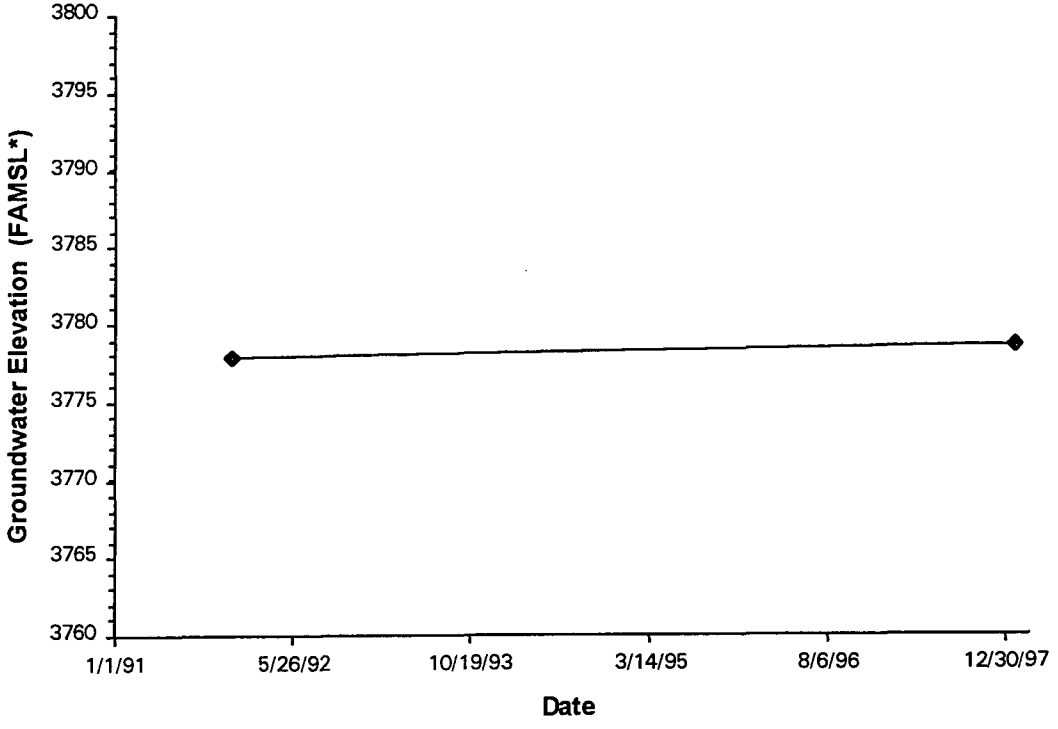


Note:
* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-028

Indian Basin Remediation Project
Eddy County, NM



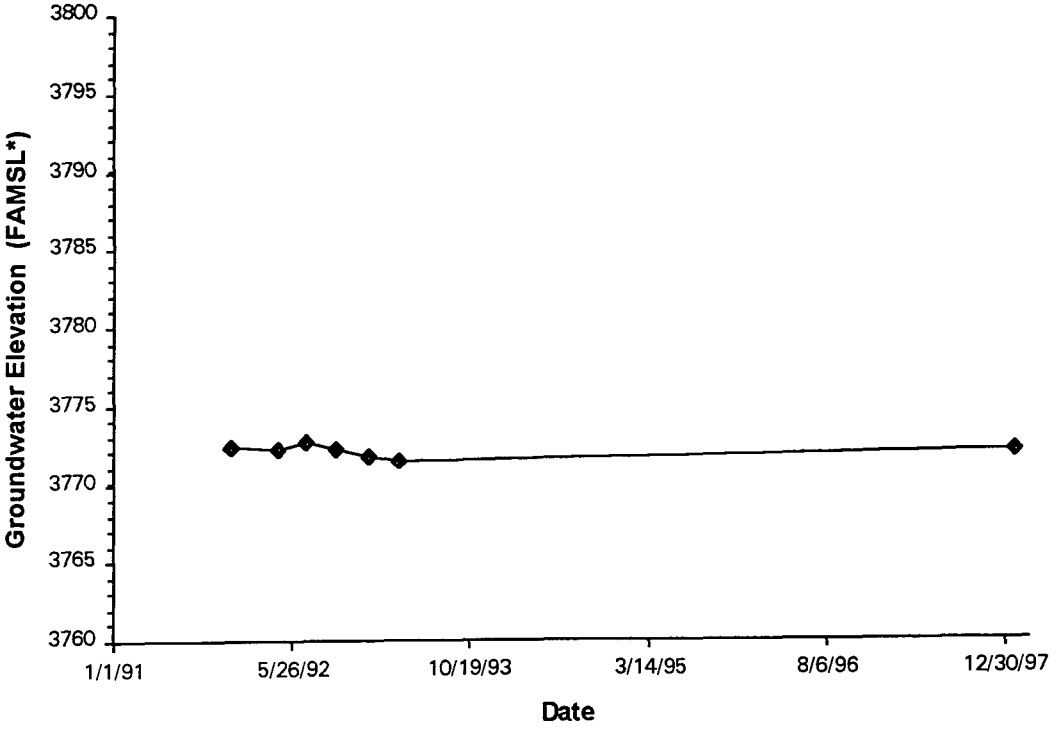
Note:

* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-031

Indian Basin Remediation Project
Eddy County, NM



Note:
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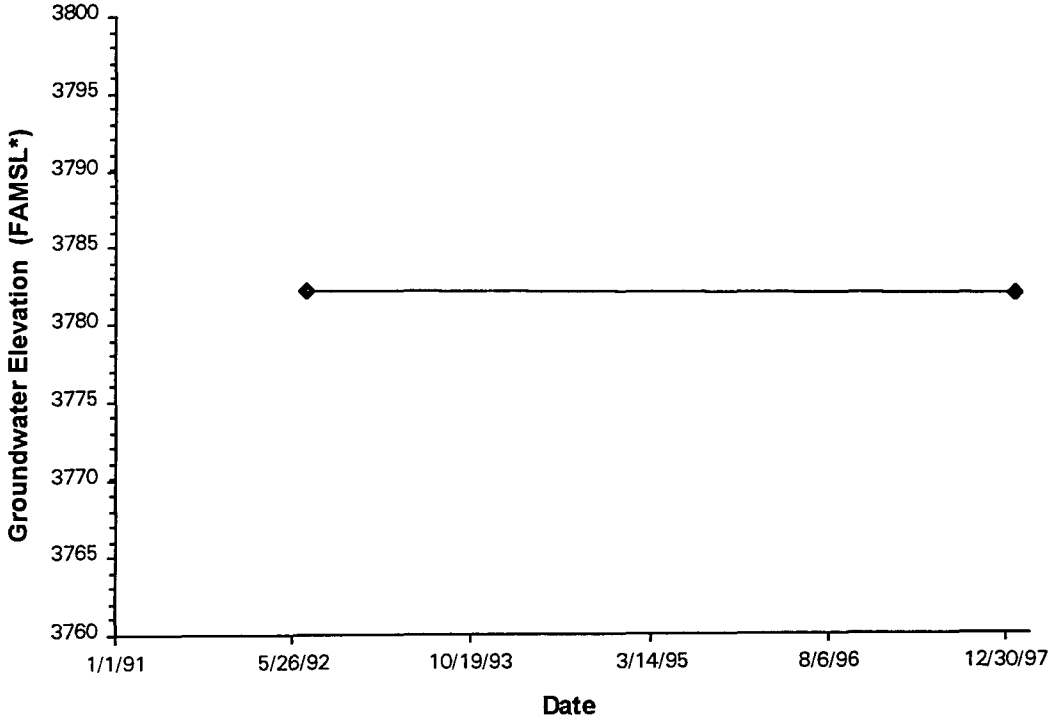
FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-032

Indian Basin Remediation Project
Eddy County, NM



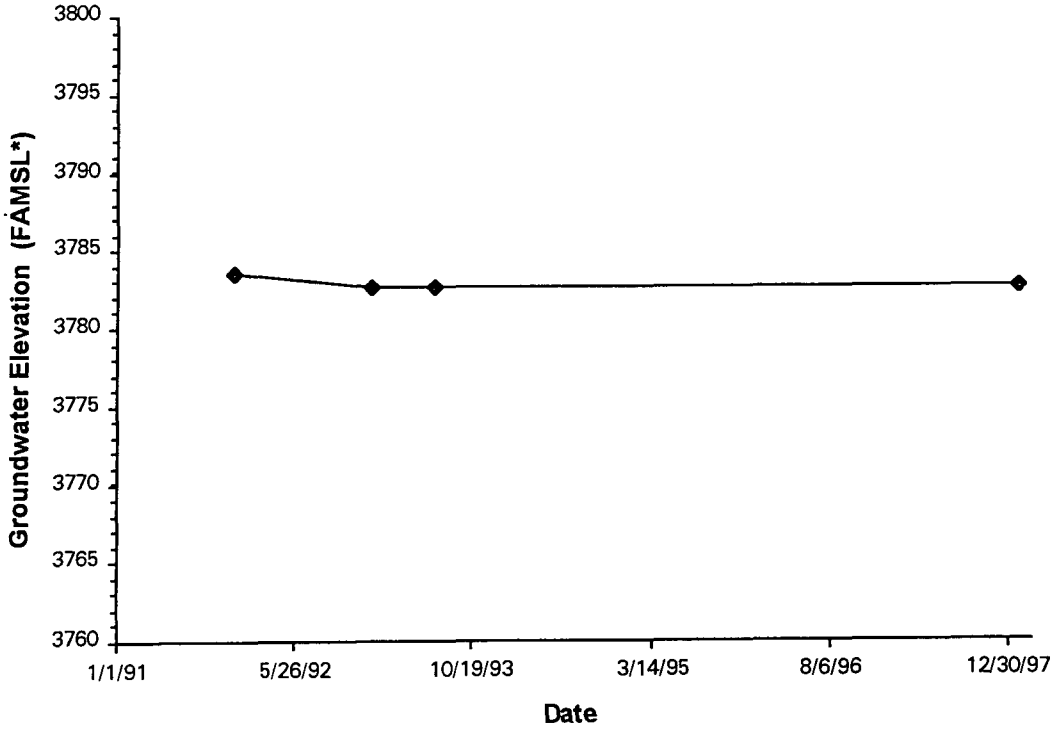
Note:

* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-033

Indian Basin Remediation Project
Eddy County, NM

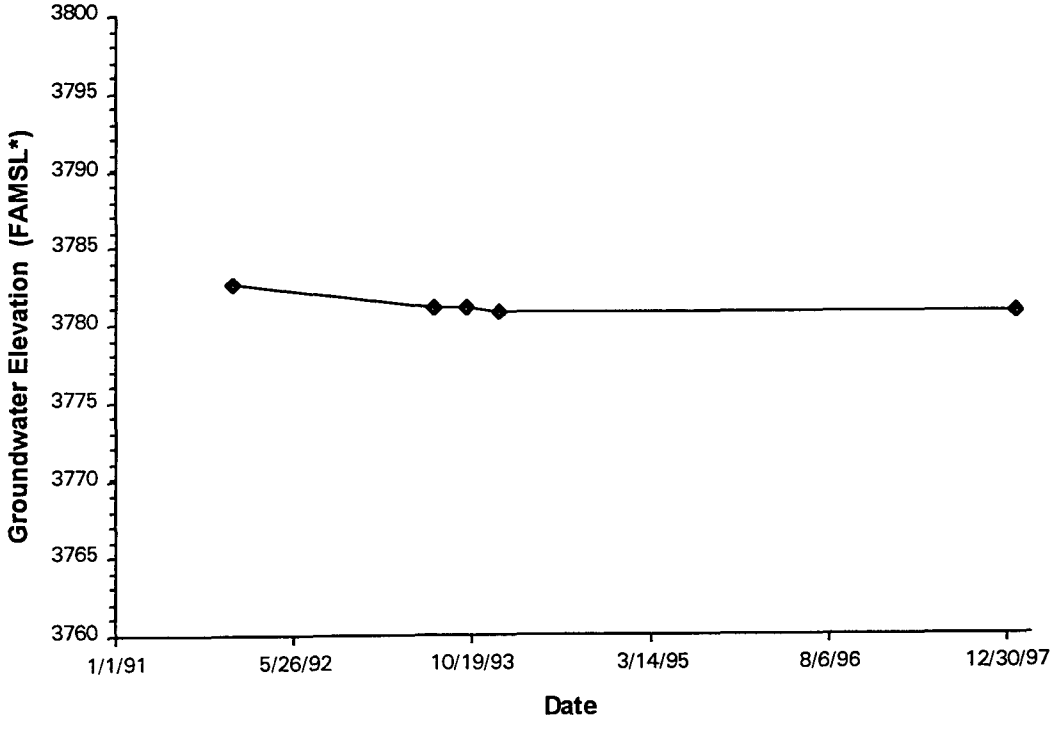


Note:
* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-035

Indian Basin Remediation Project
Eddy County, NM

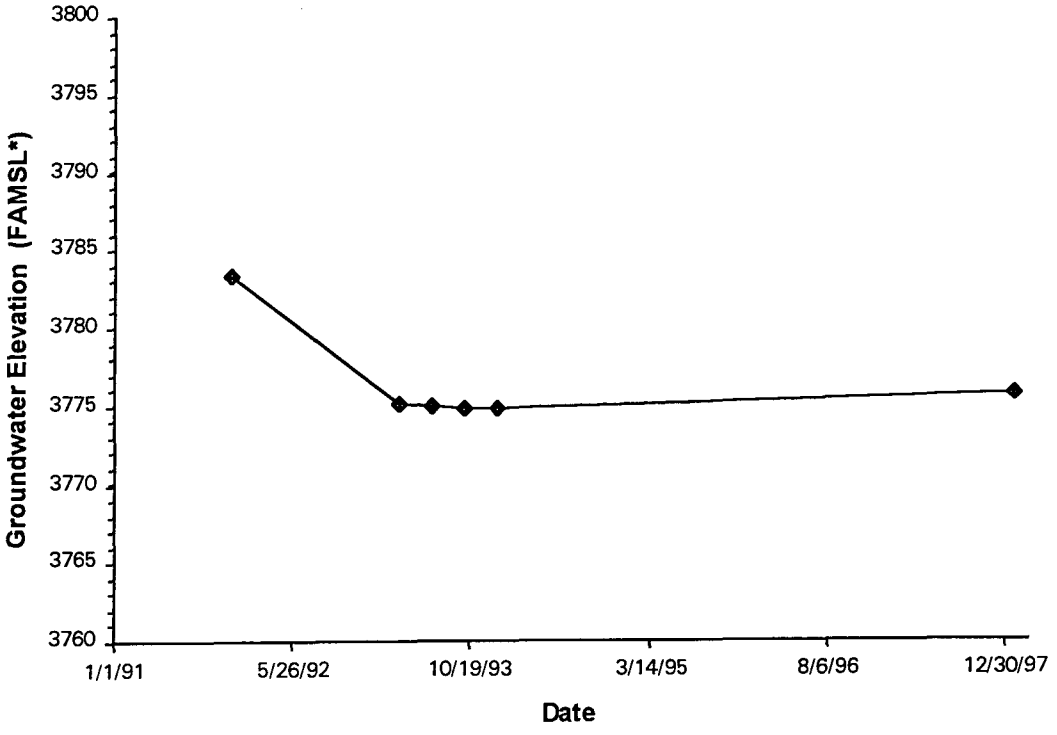


Note:
* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-037

Indian Basin Remediation Project
Eddy County, NM

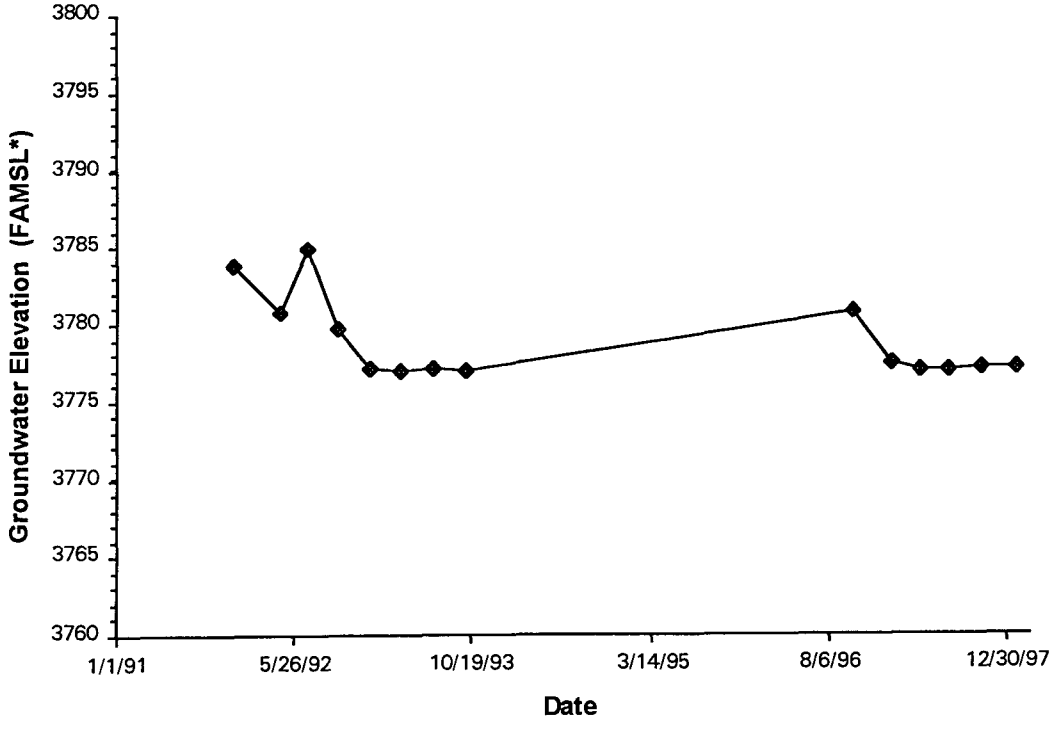


Note:
* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-038

Indian Basin Remediation Project
Eddy County, NM



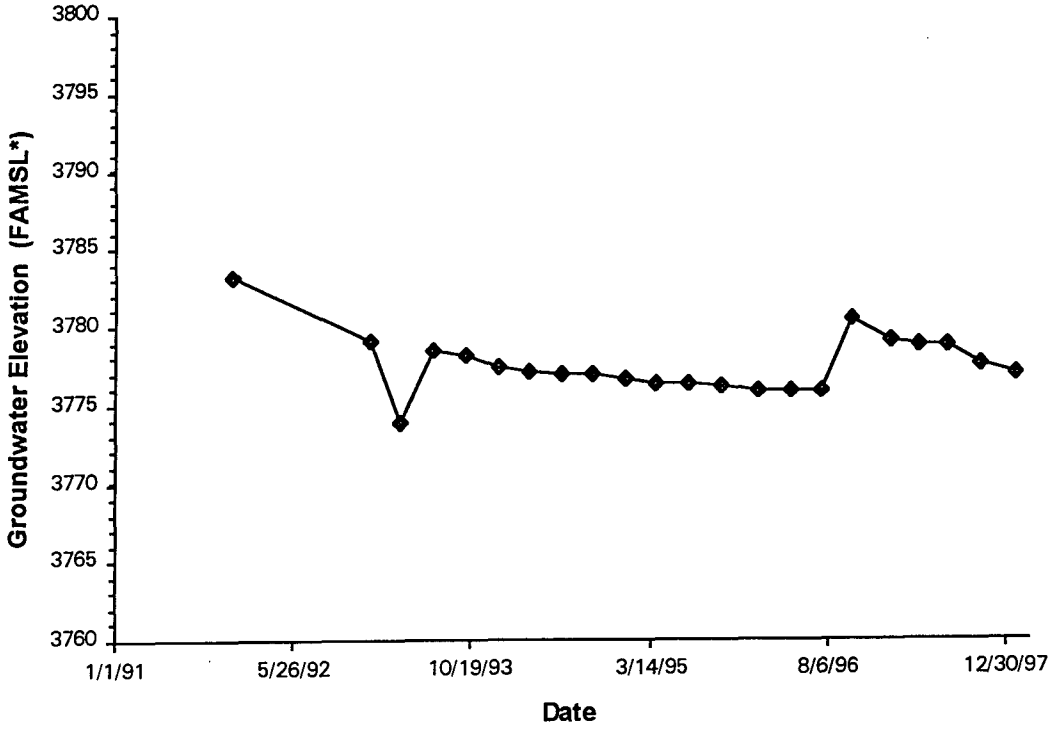
Note:

* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-039

Indian Basin Remediation Project
Eddy County, NM



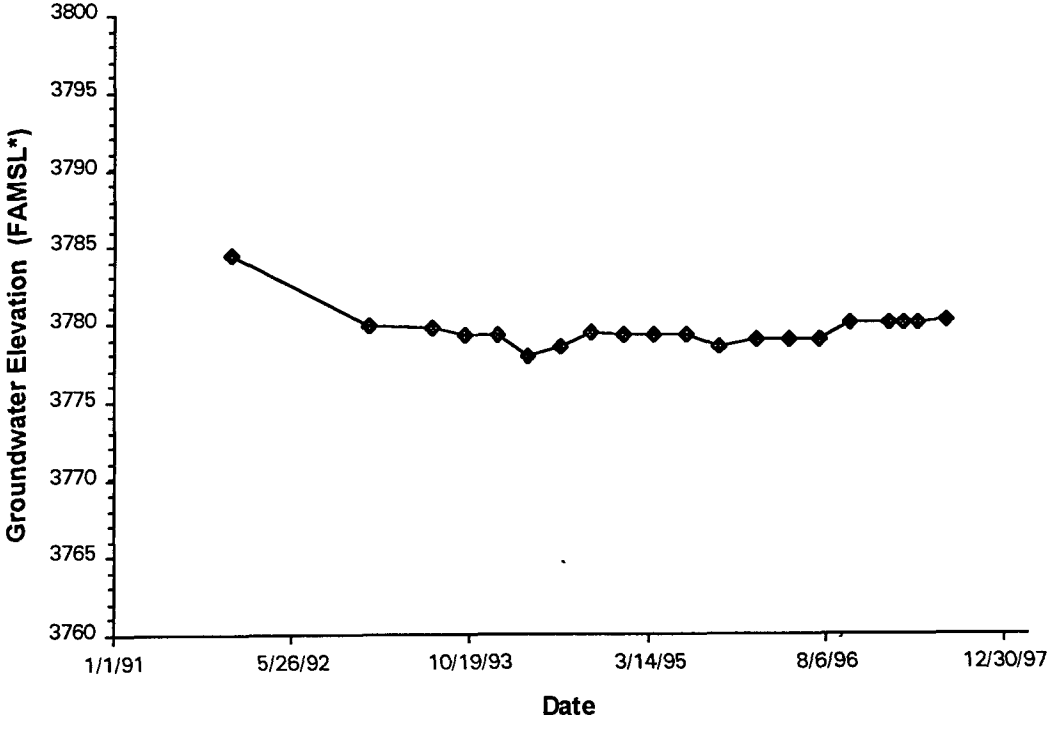
Note:

* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-041

Indian Basin Remediation Project
Eddy County, NM

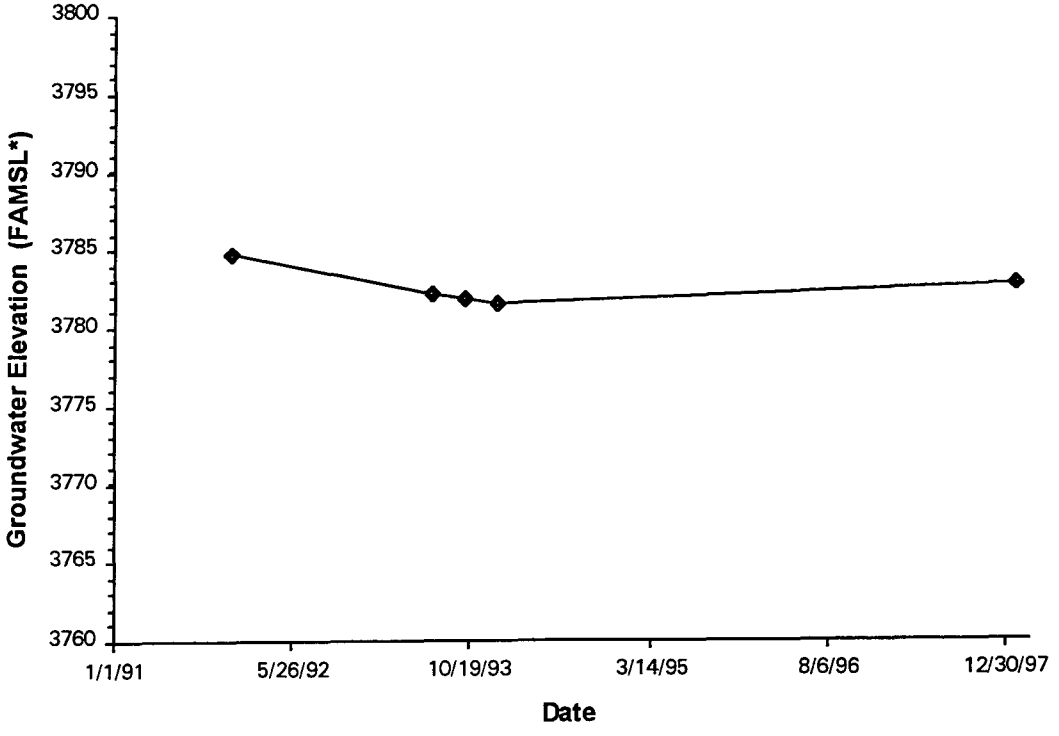


Note:
* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-042

Indian Basin Remediation Project
Eddy County, NM

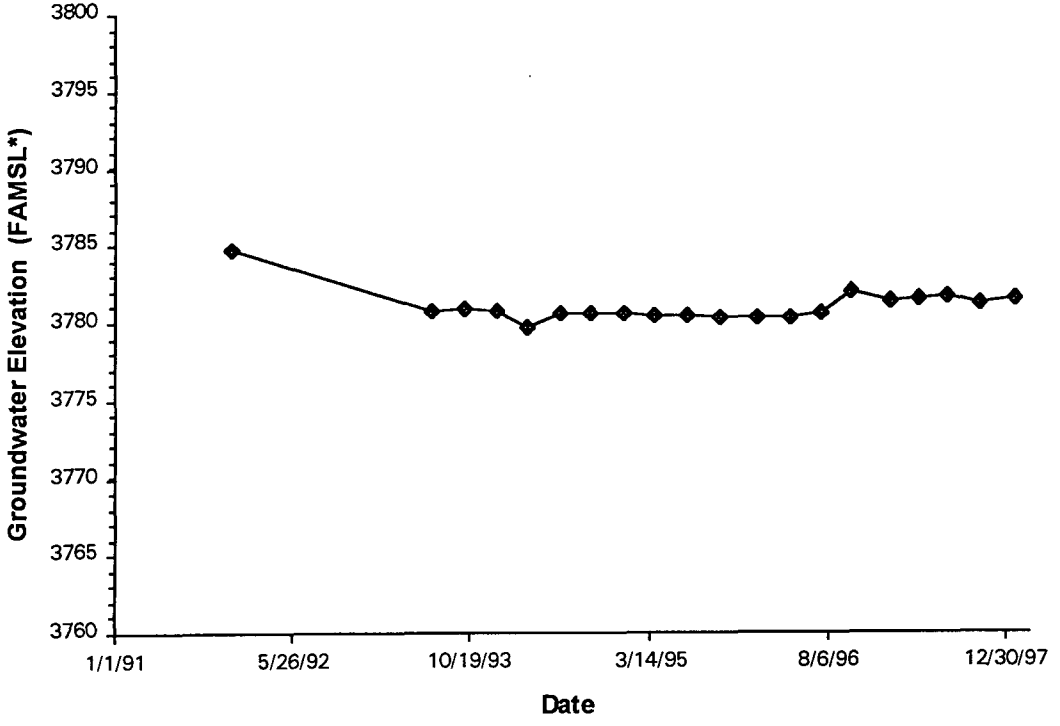


Note:
* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-043

Indian Basin Remediation Project
Eddy County, NM



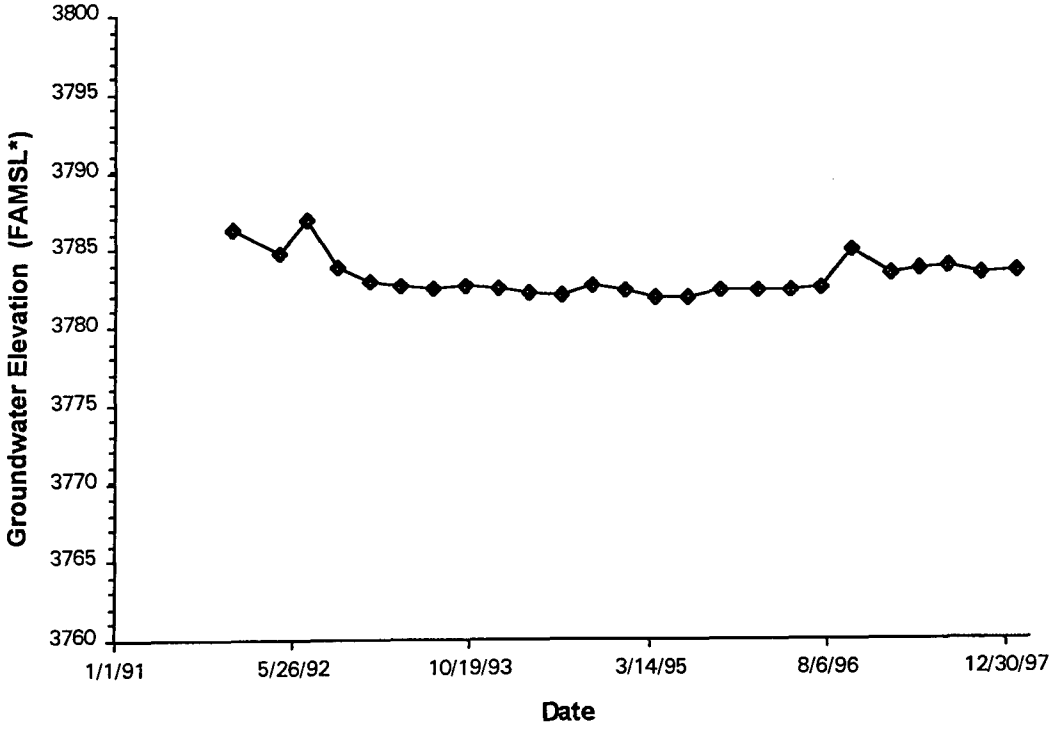
Note:

* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-044

Indian Basin Remediation Project
Eddy County, NM

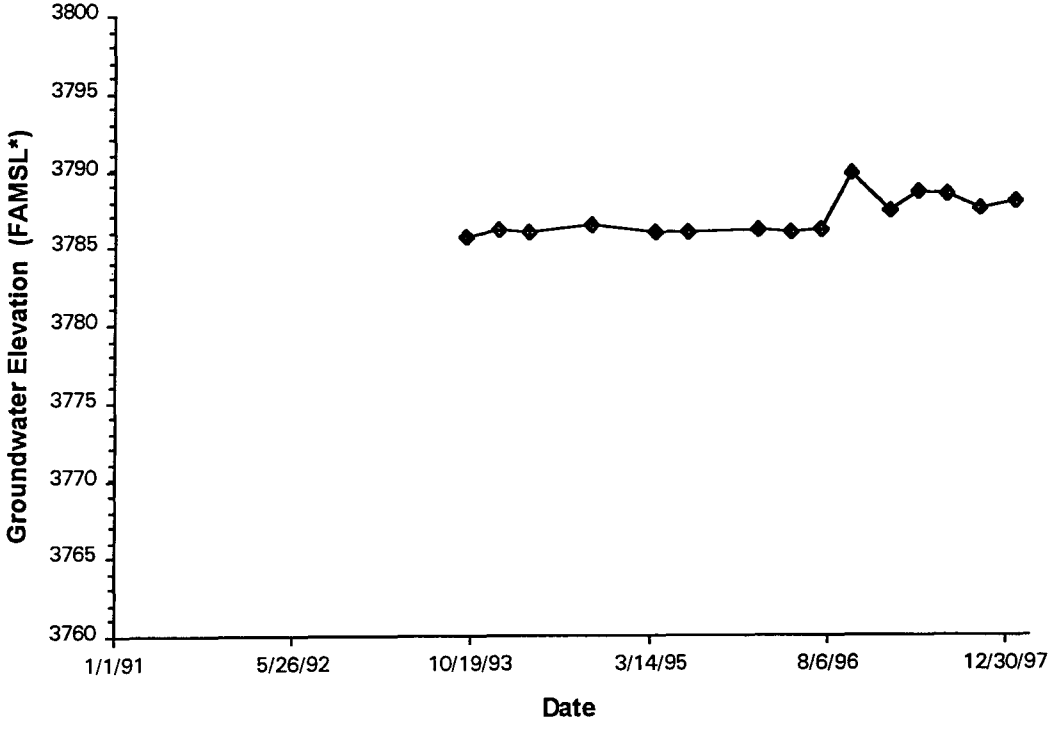


Note:
* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-046

Indian Basin Remediation Project
Eddy County, NM



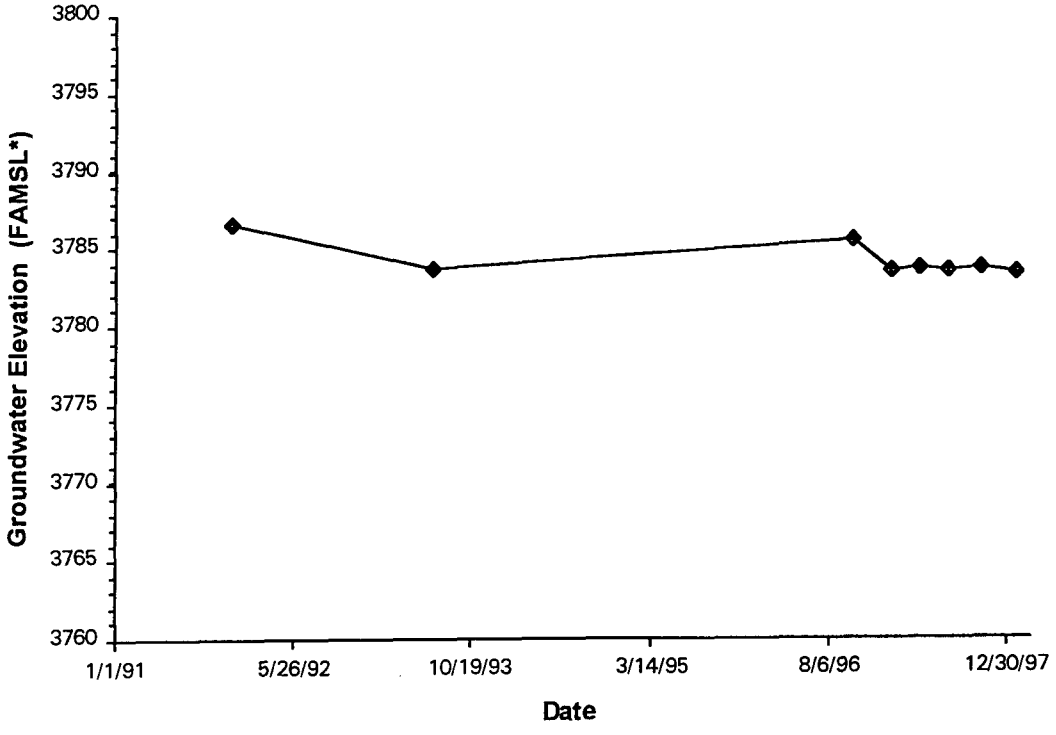
Note:

* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-047

Indian Basin Remediation Project
Eddy County, NM



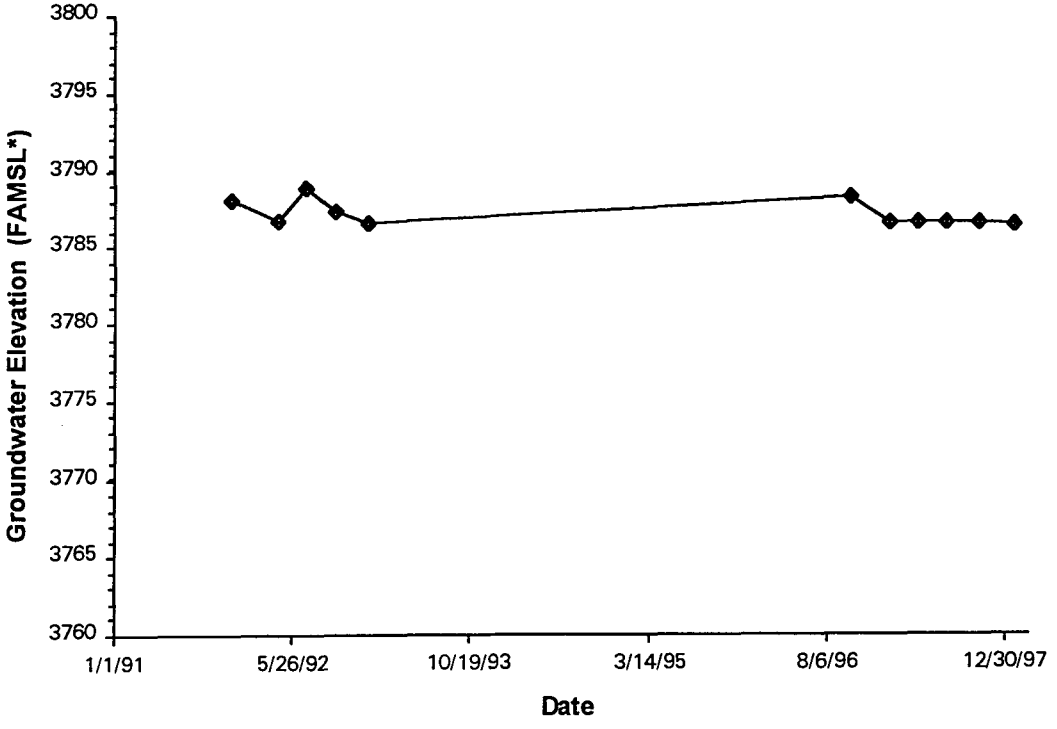
Note:

* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-048

Indian Basin Remediation Project
Eddy County, NM

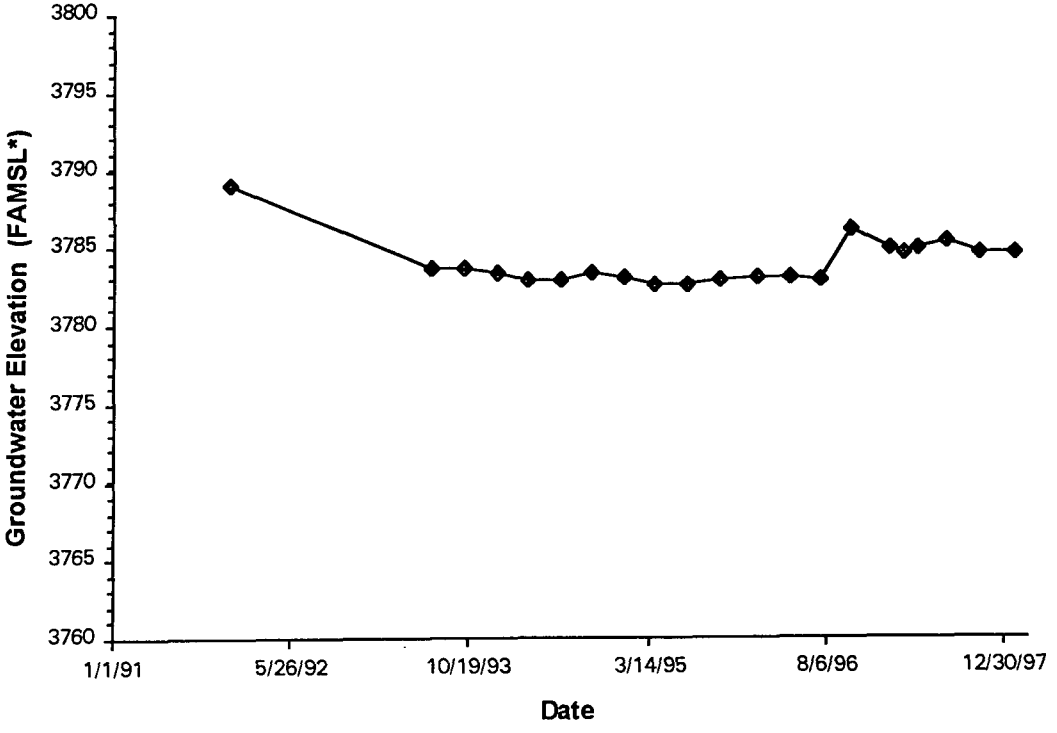


Note:
* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-049

Indian Basin Remediation Project
Eddy County, NM

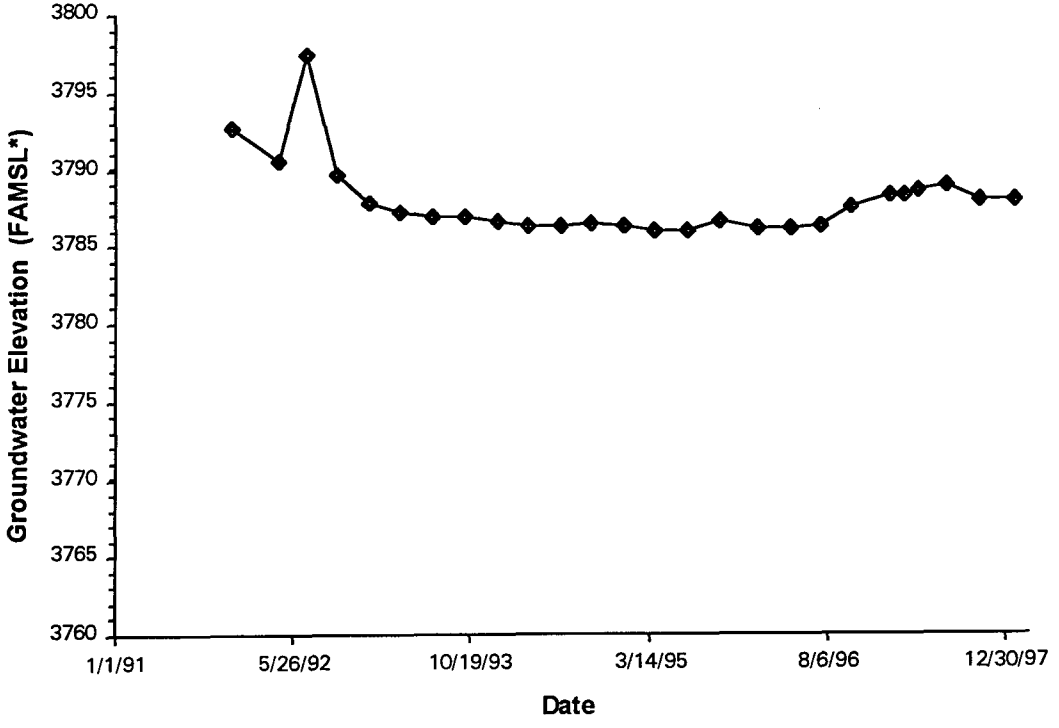


Note:
* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-050

Indian Basin Remediation Project
Eddy County, NM

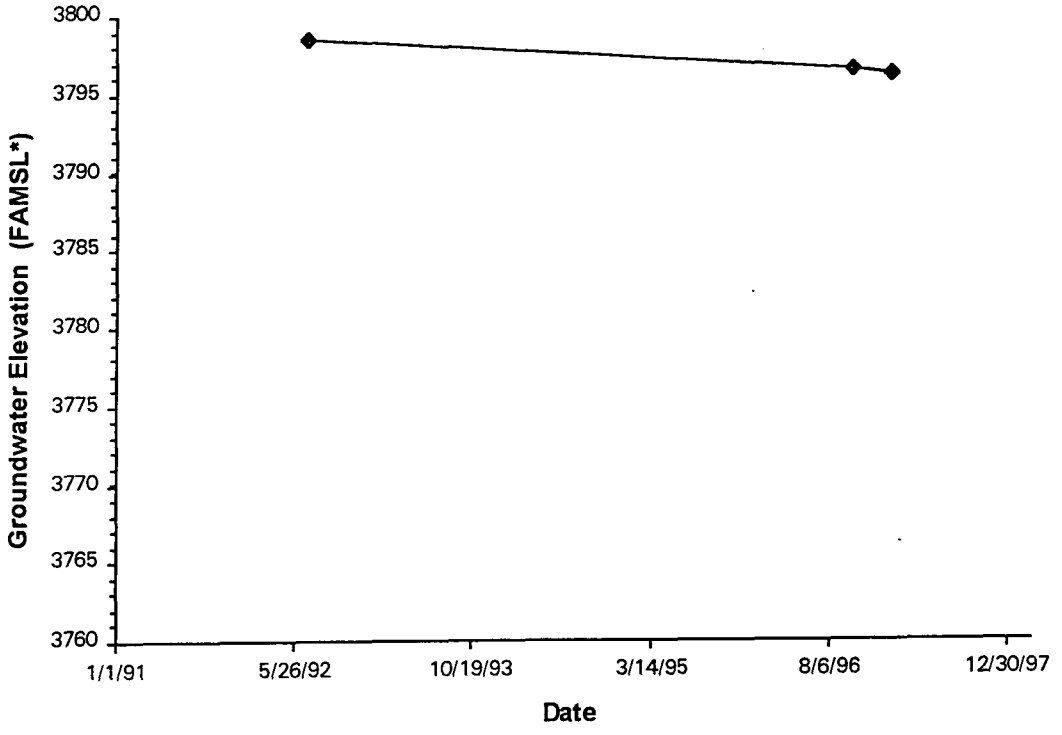


Note:
* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-052

Indian Basin Remediation Project
Eddy County, NM

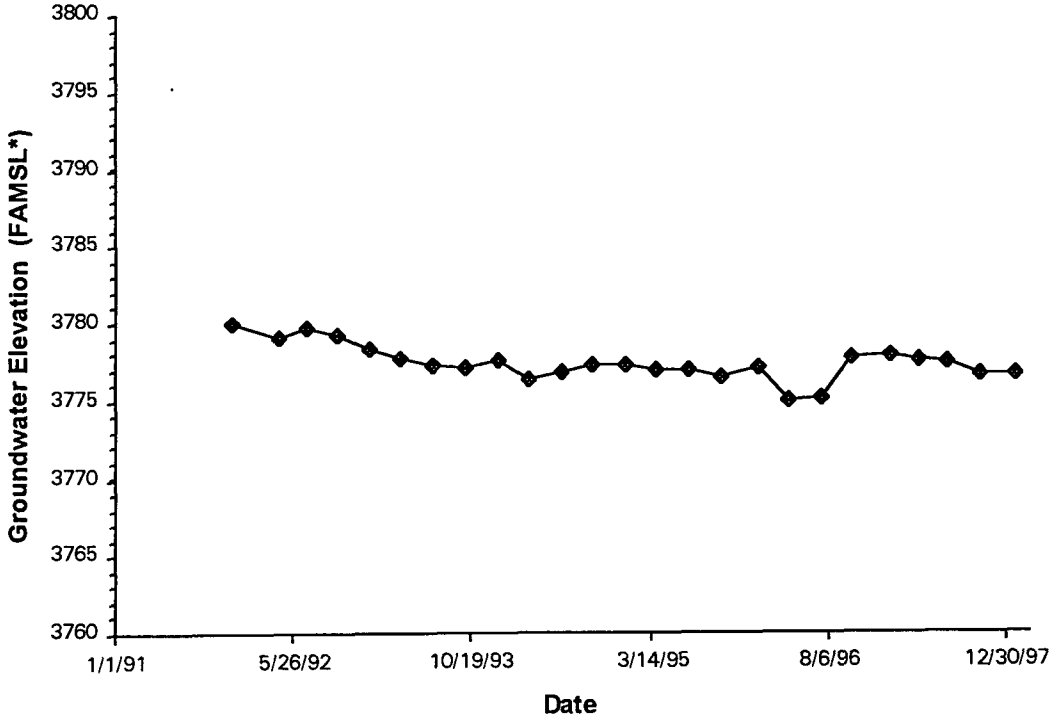


Note:
* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-054

Indian Basin Remediation Project
Eddy County, NM

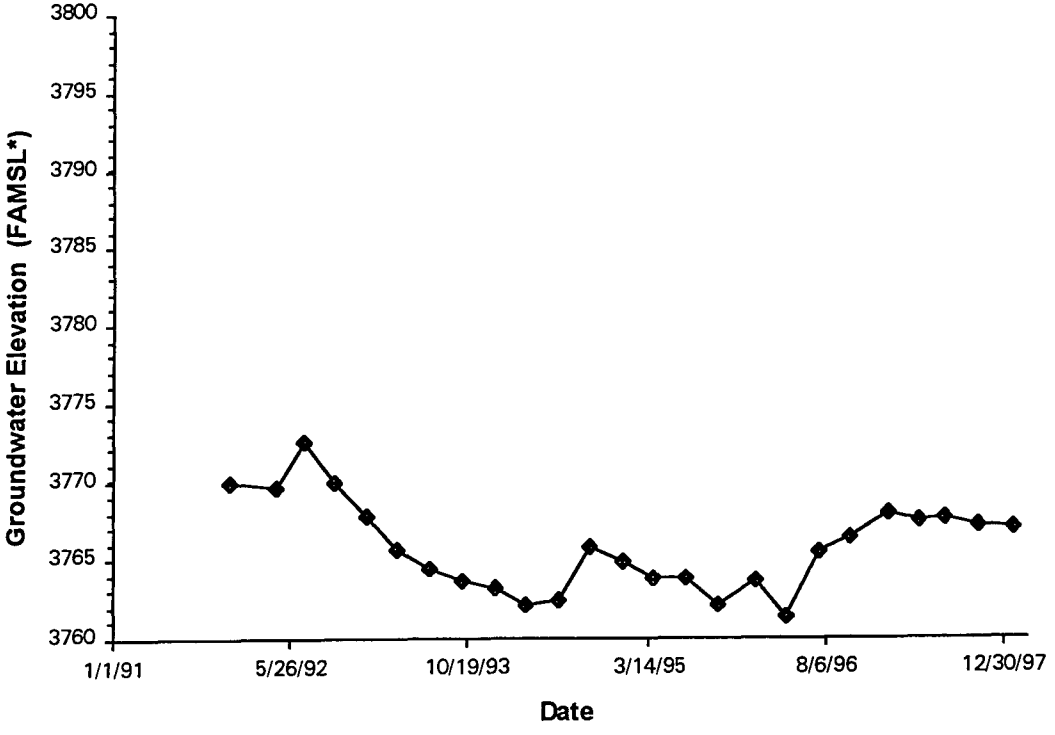


Note:
* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-055

Indian Basin Remediation Project
Eddy County, NM

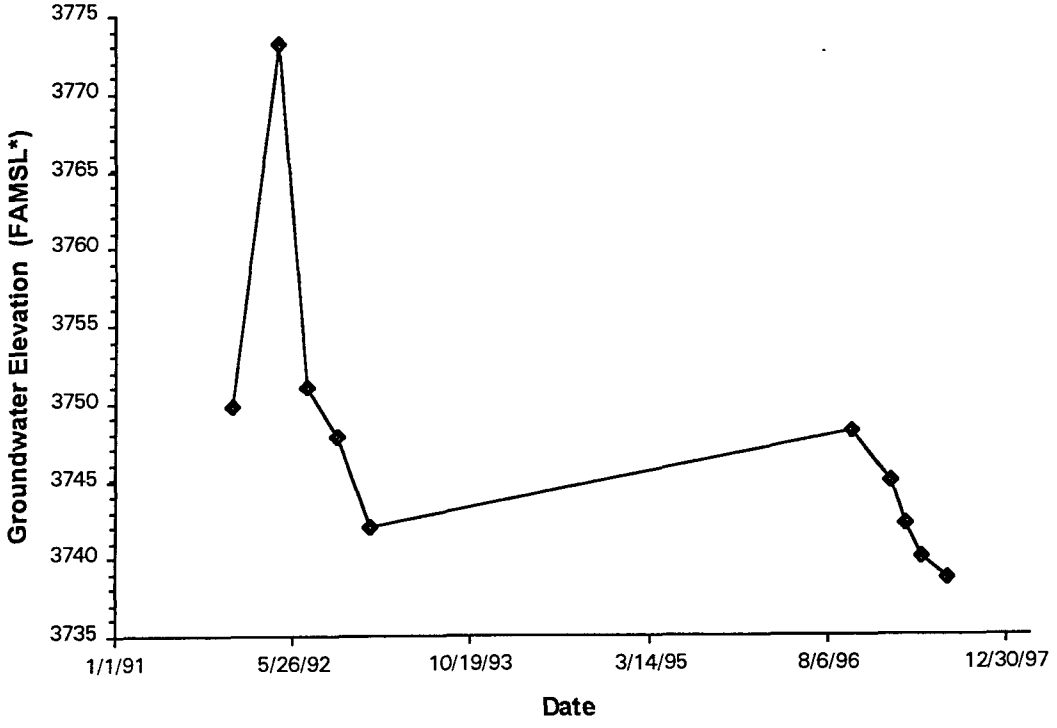


Note:
* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-056

Indian Basin Remediation Project
Eddy County, NM

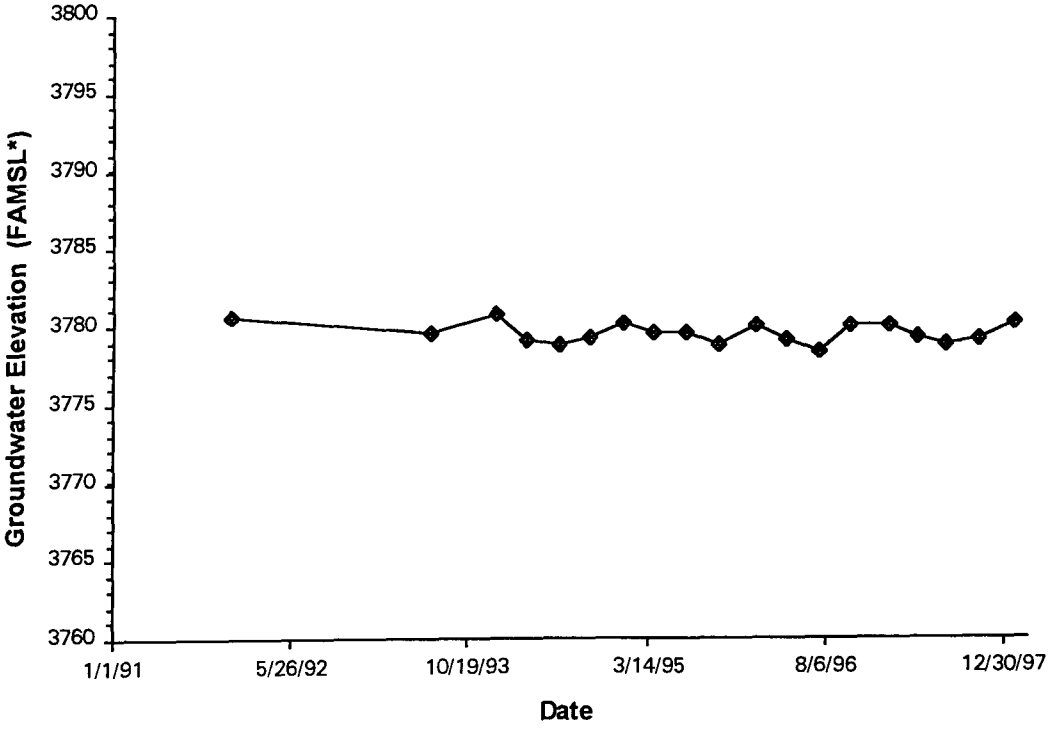


Note:
* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-061

Indian Basin Remediation Project
Eddy County, NM

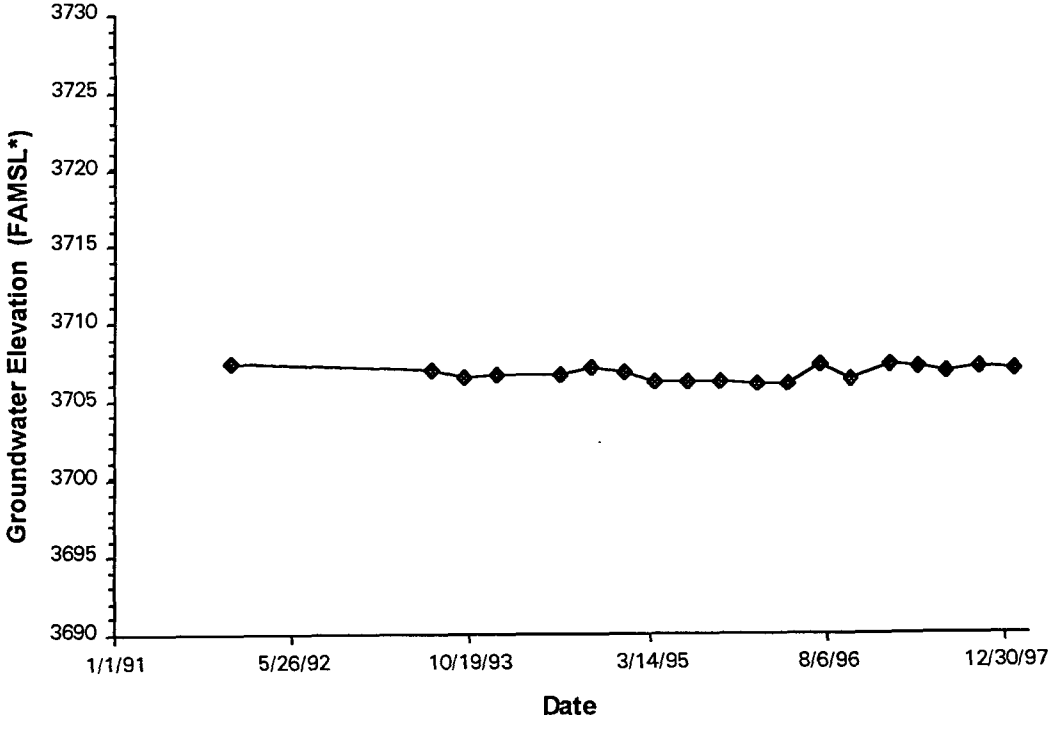


Note:
* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-065

Indian Basin Remediation Project
Eddy County, NM

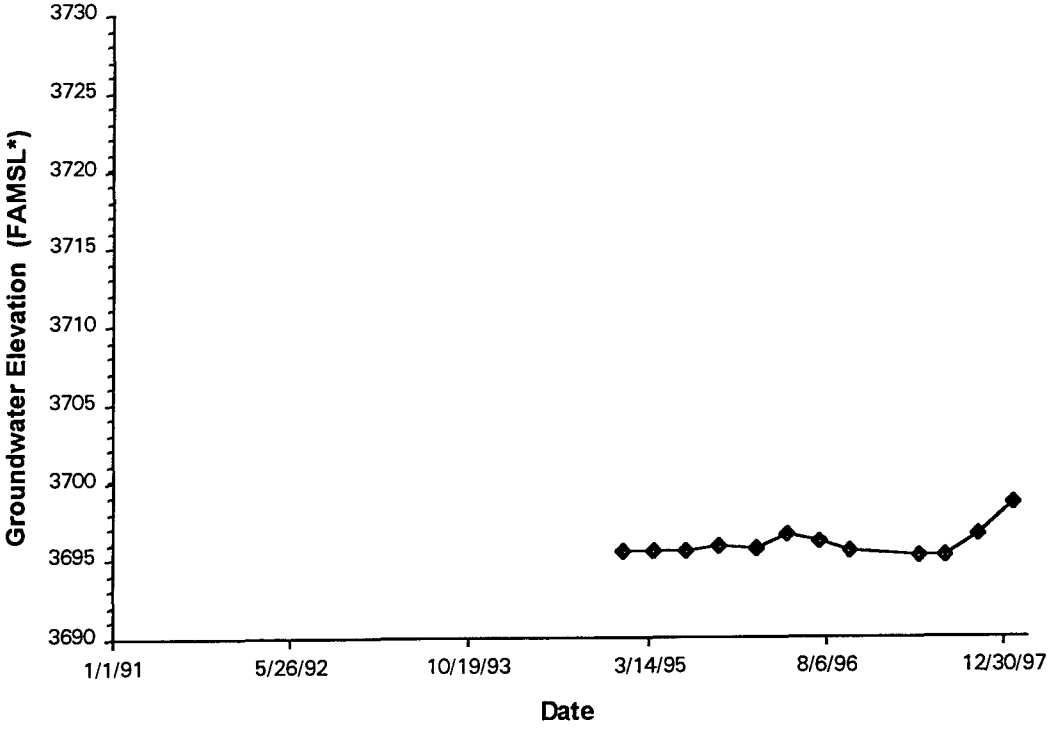


Note:
* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-077

Indian Basin Remediation Project
Eddy County, NM

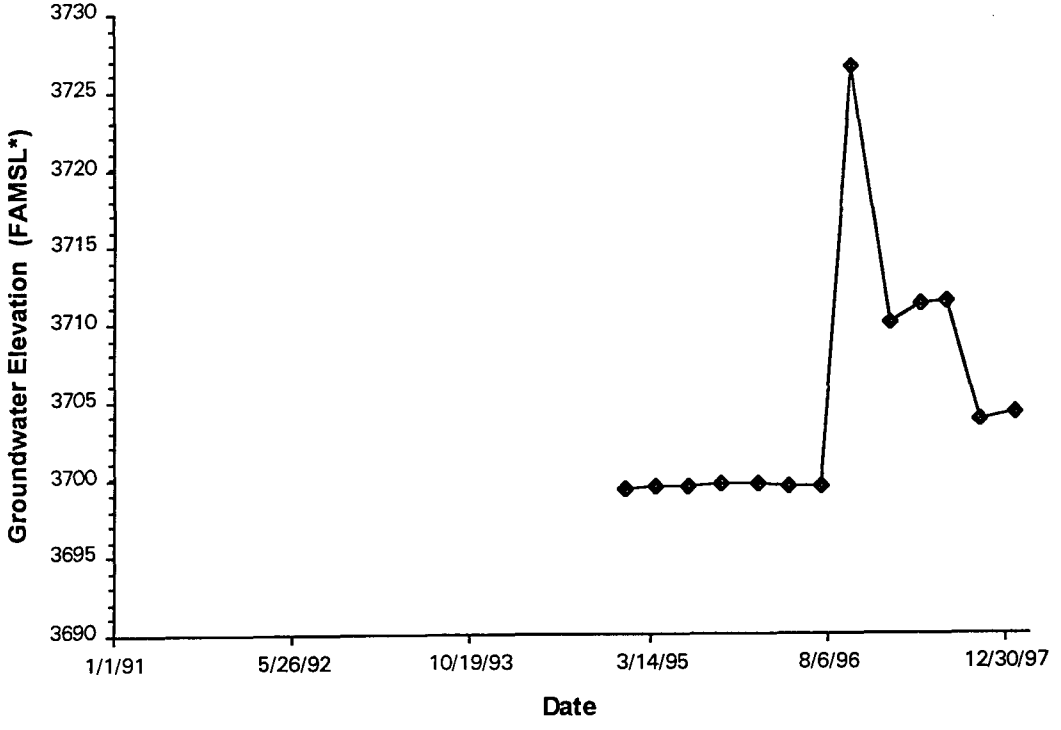


Note:
* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-078

Indian Basin Remediation Project
Eddy County, NM



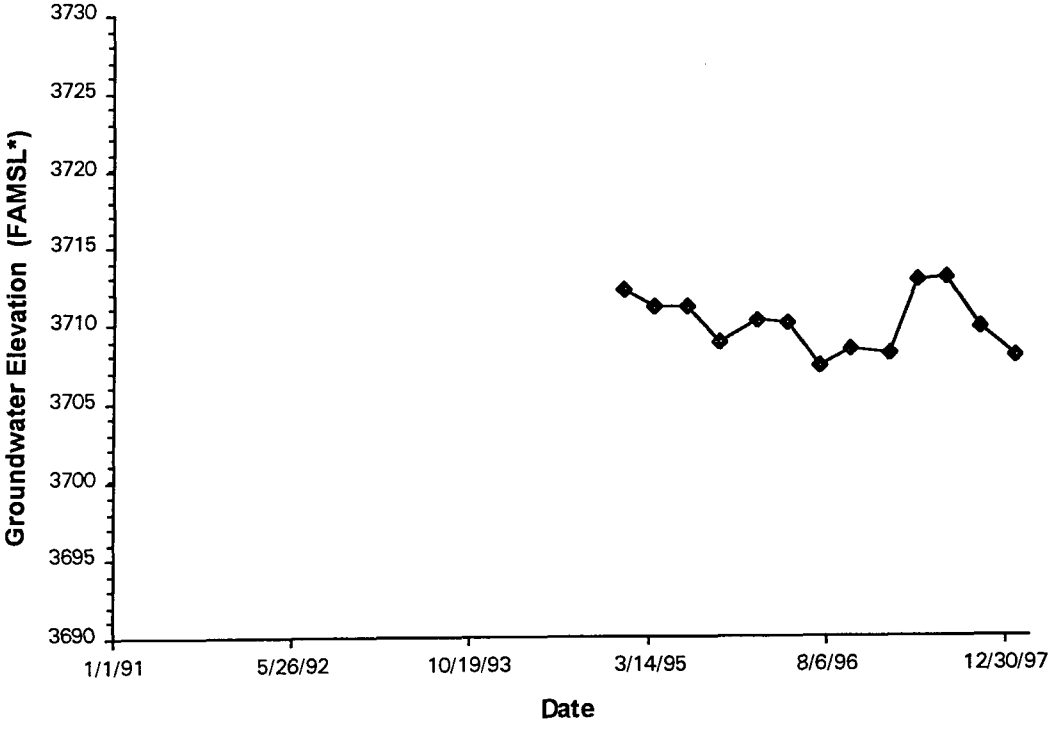
Note:

* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-079

Indian Basin Remediation Project
Eddy County, NM

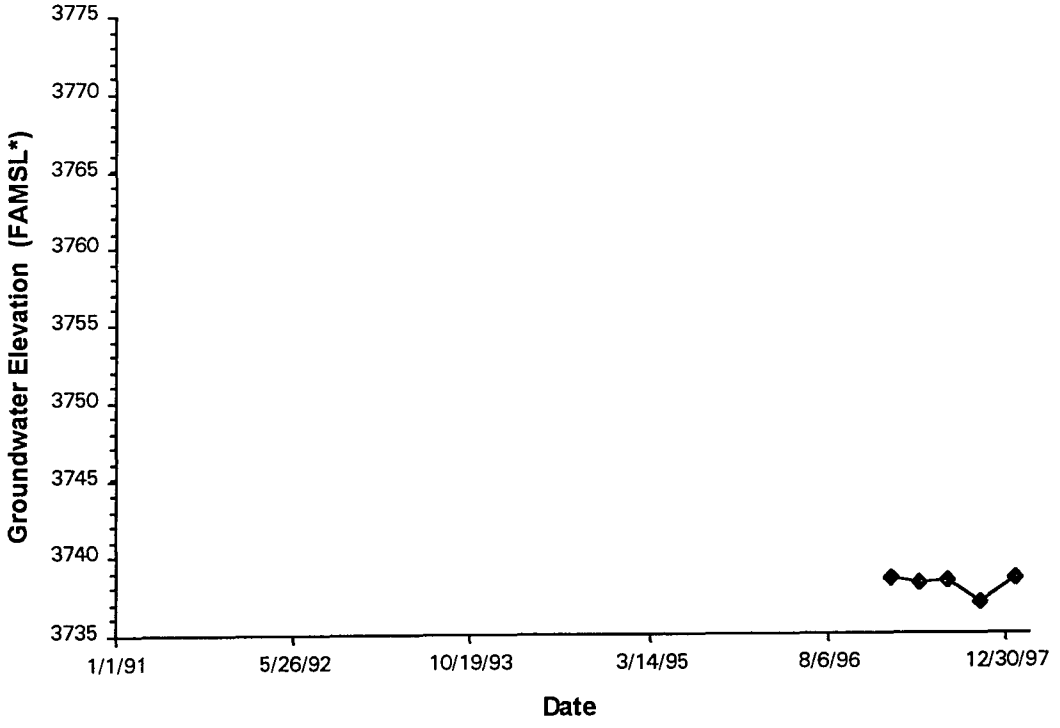


Note:
* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-090

Indian Basin Remediation Project
Eddy County, NM

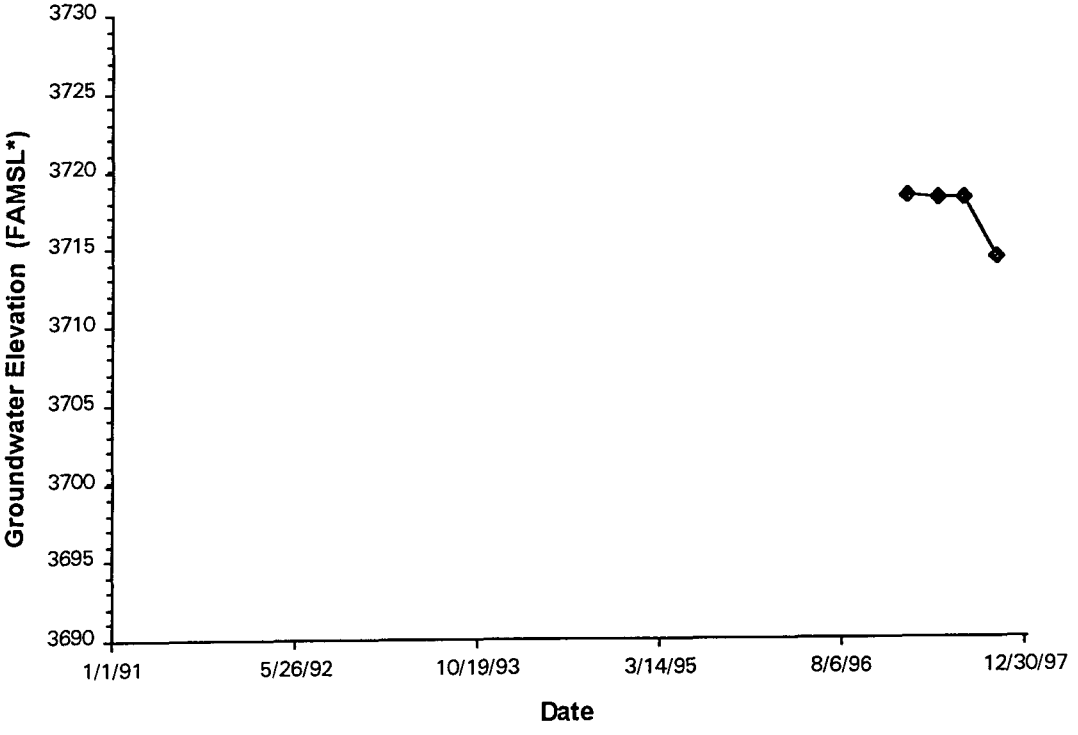


Note:
* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-091

Indian Basin Remediation Project
Eddy County, NM



Note:

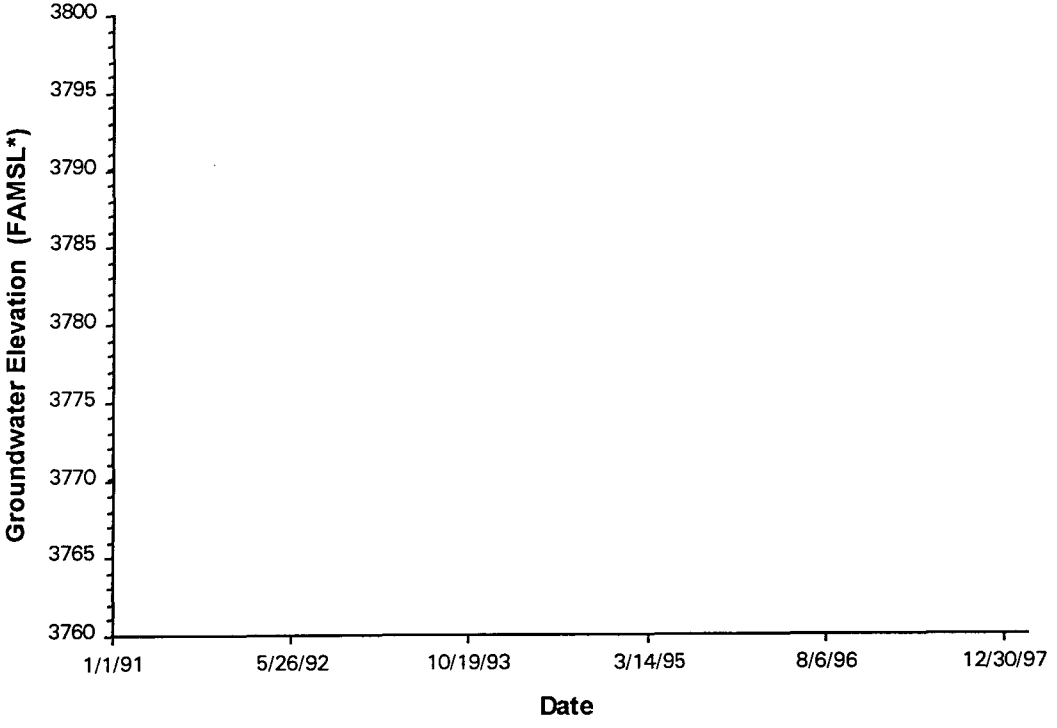
* Calculated groundwater elevations are corrected for measured condensate thickness.

** Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-103

Indian Basin Remediation Project
Eddy County, NM

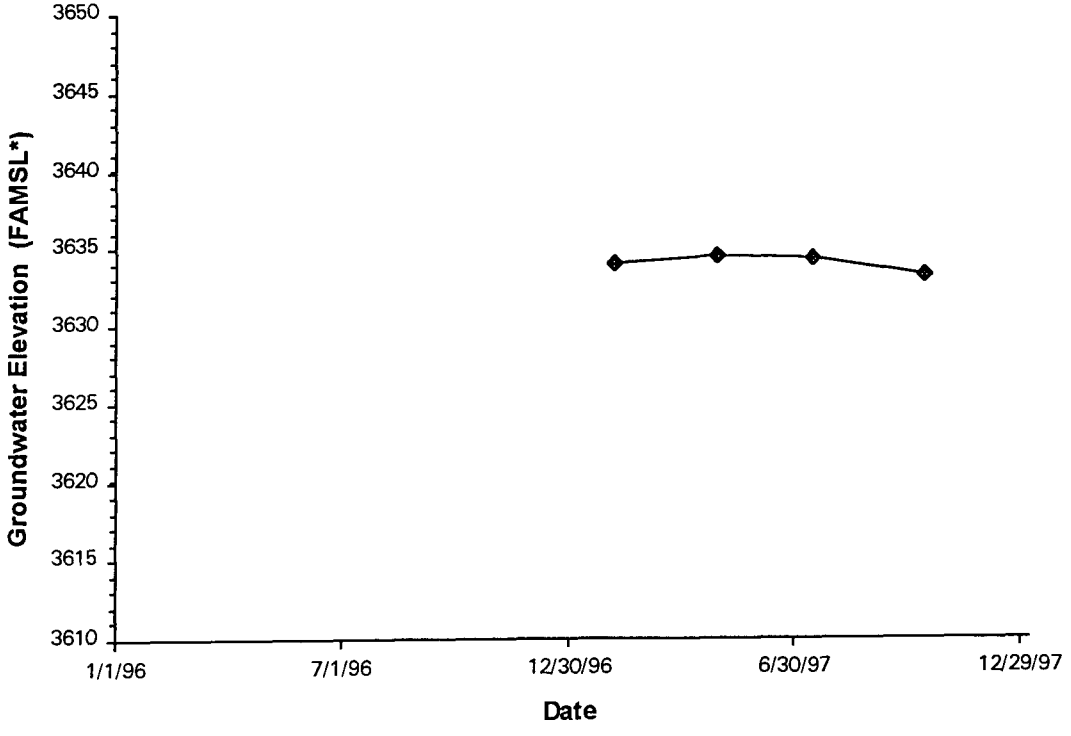


Note:
* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-106

Indian Basin Remediation Project
Eddy County, NM

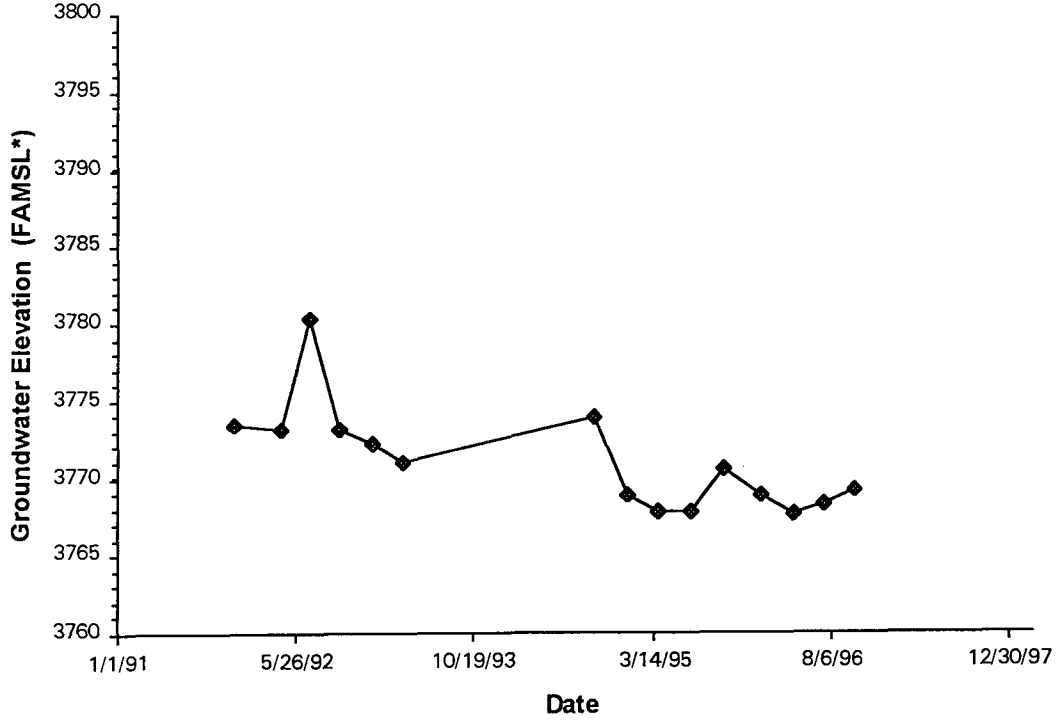


Note:
* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
SUMP-16A

Indian Basin Remediation Project
Eddy County, NM



Note:

* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

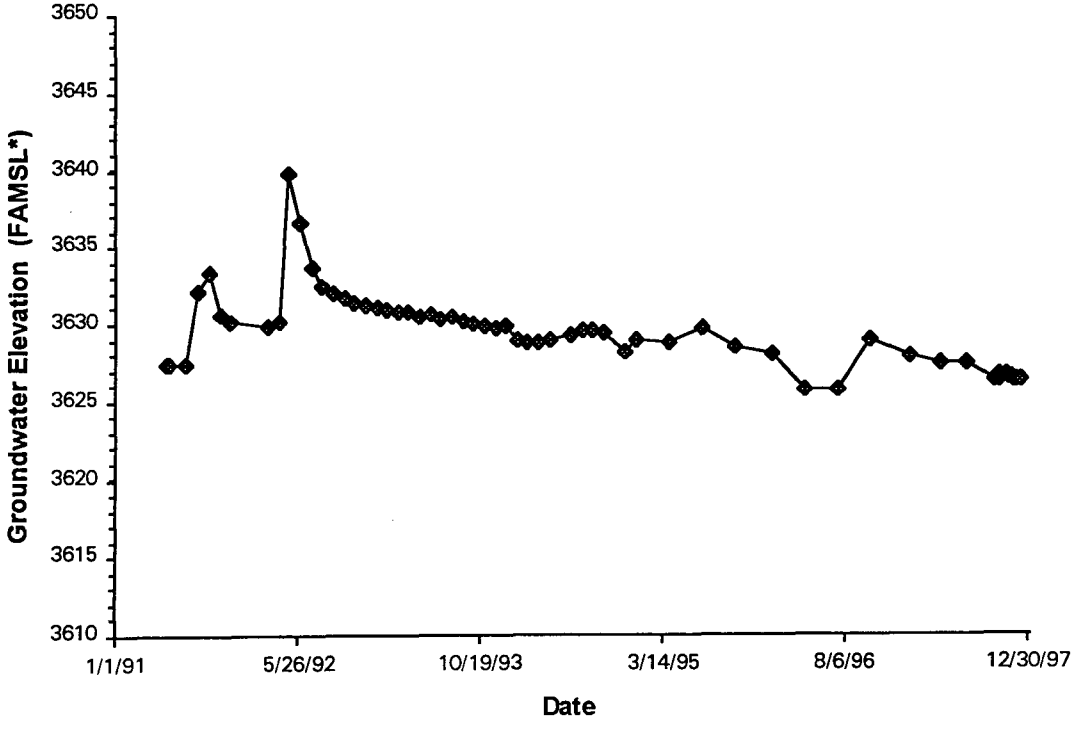
FLUOR DANIEL GTI

LOWER QUEEN HYDROGRAPHS

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-057

Indian Basin Remediation Project
Eddy County, NM



Note:

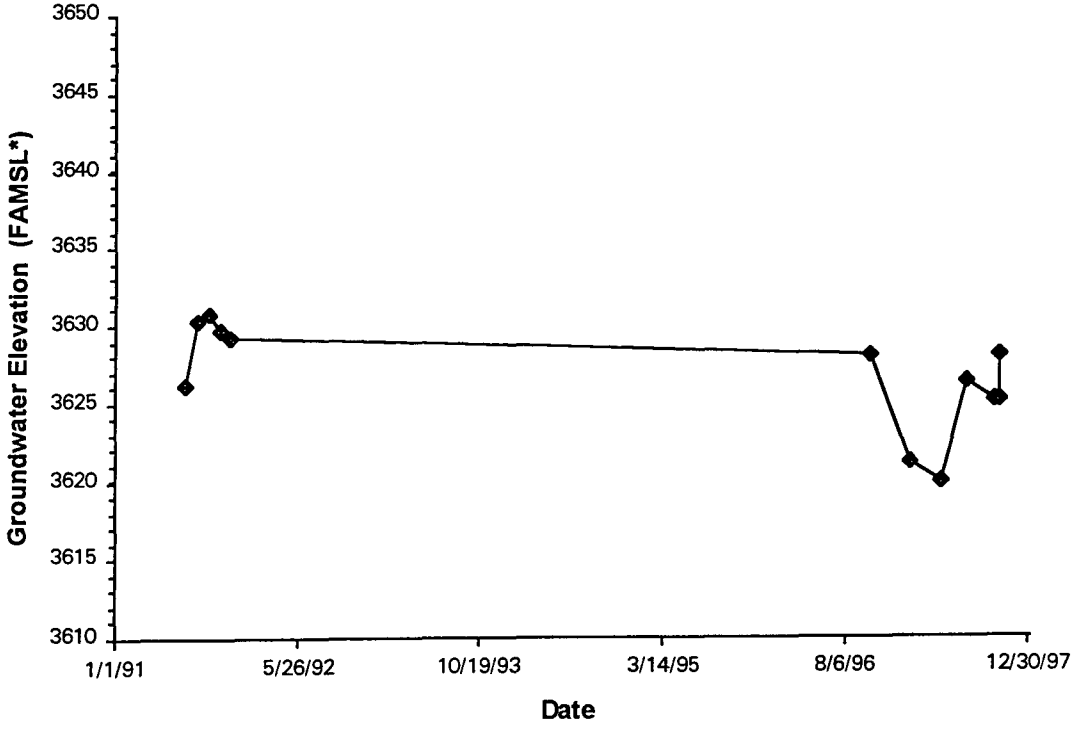
* Calculated groundwater elevations are corrected for measured condensate thickness.

** Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-058

Indian Basin Remediation Project
Eddy County, NM



Note:

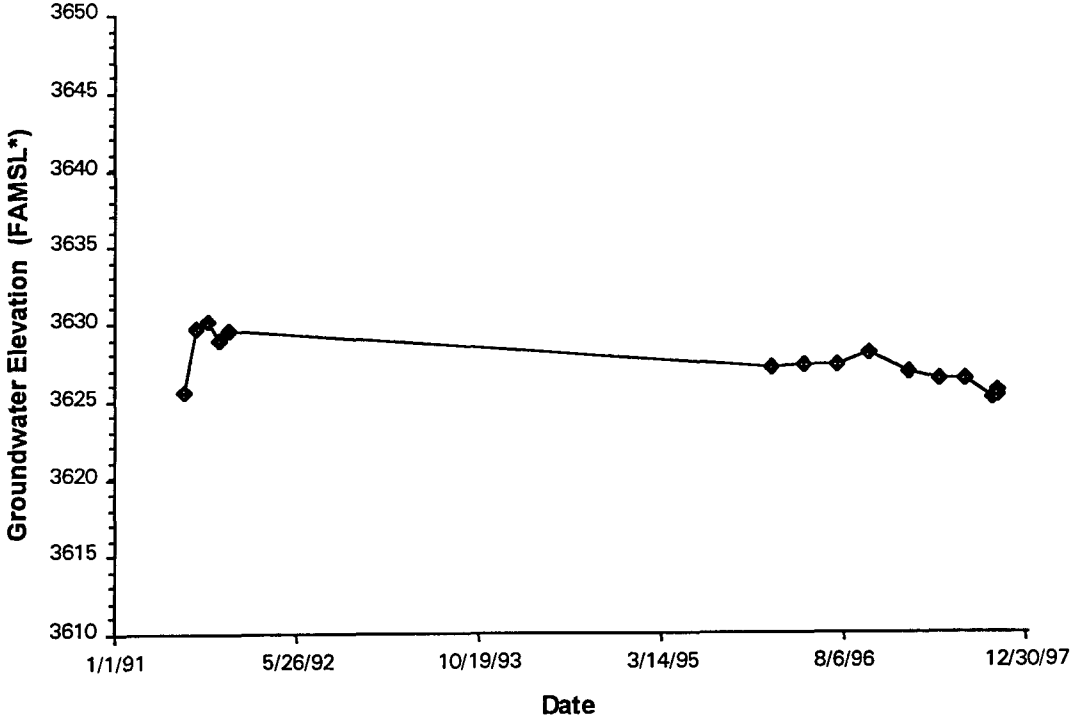
* Calculated groundwater elevations are corrected for measured condensate thickness.

** Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-059

Indian Basin Remediation Project
Eddy County, NM



Note:

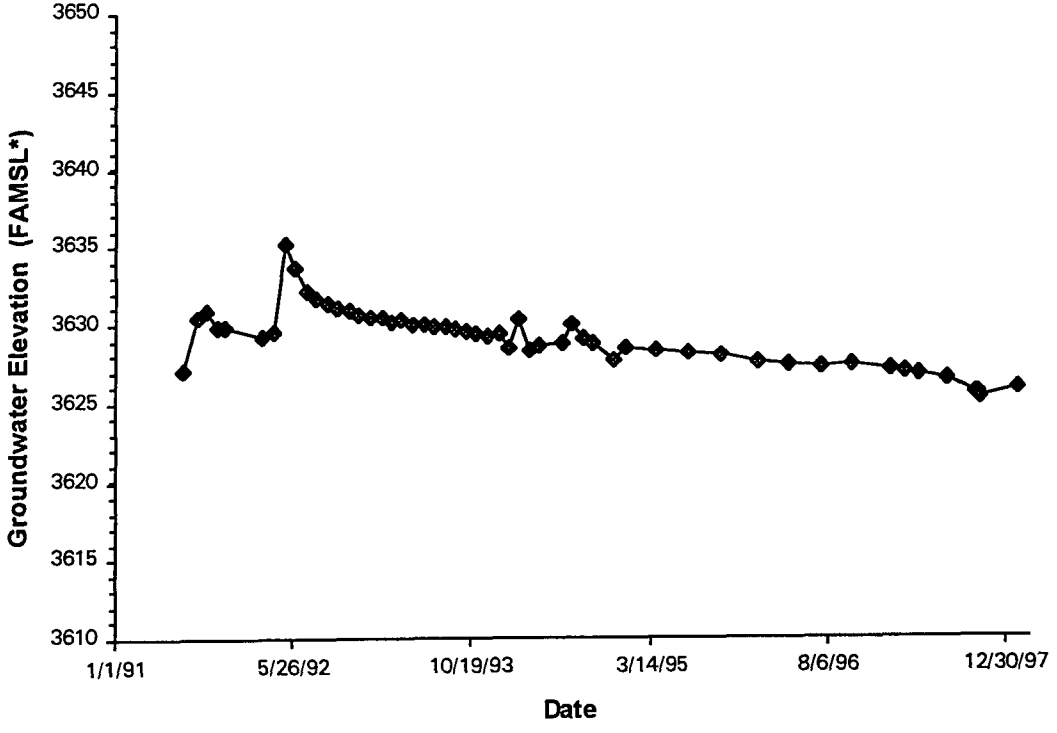
* Calculated groundwater elevations are corrected for measured condensate thickness.

** Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-060

Indian Basin Remediation Project
Eddy County, NM

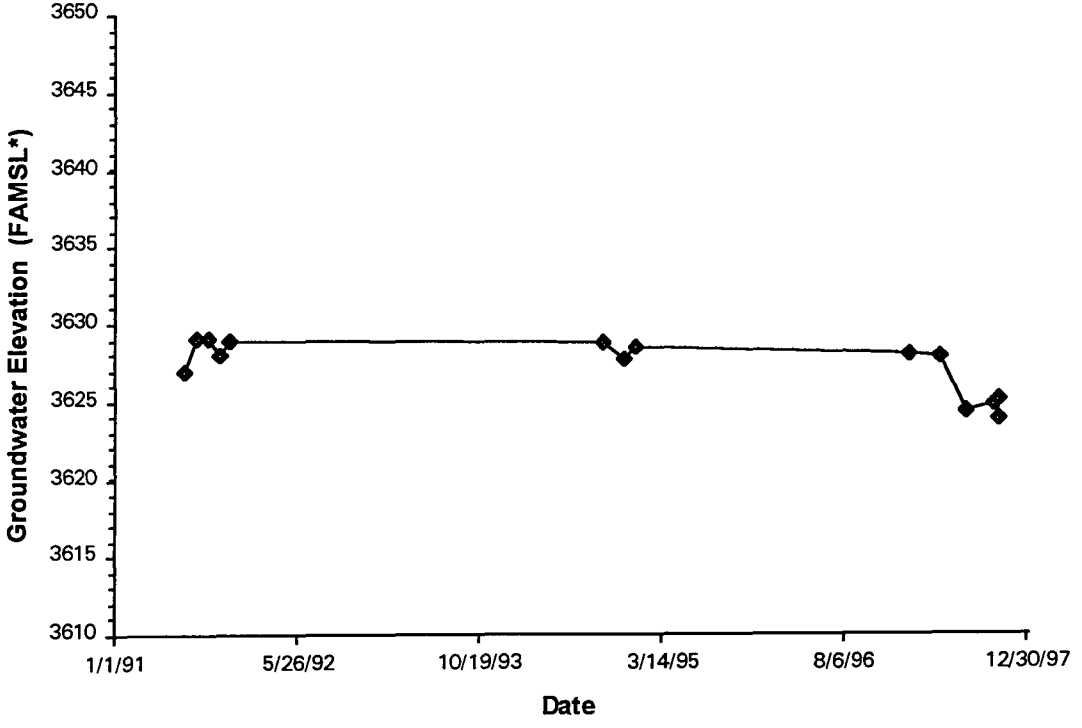


Note:
* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-061A

Indian Basin Remediation Project
Eddy County, NM



Note:

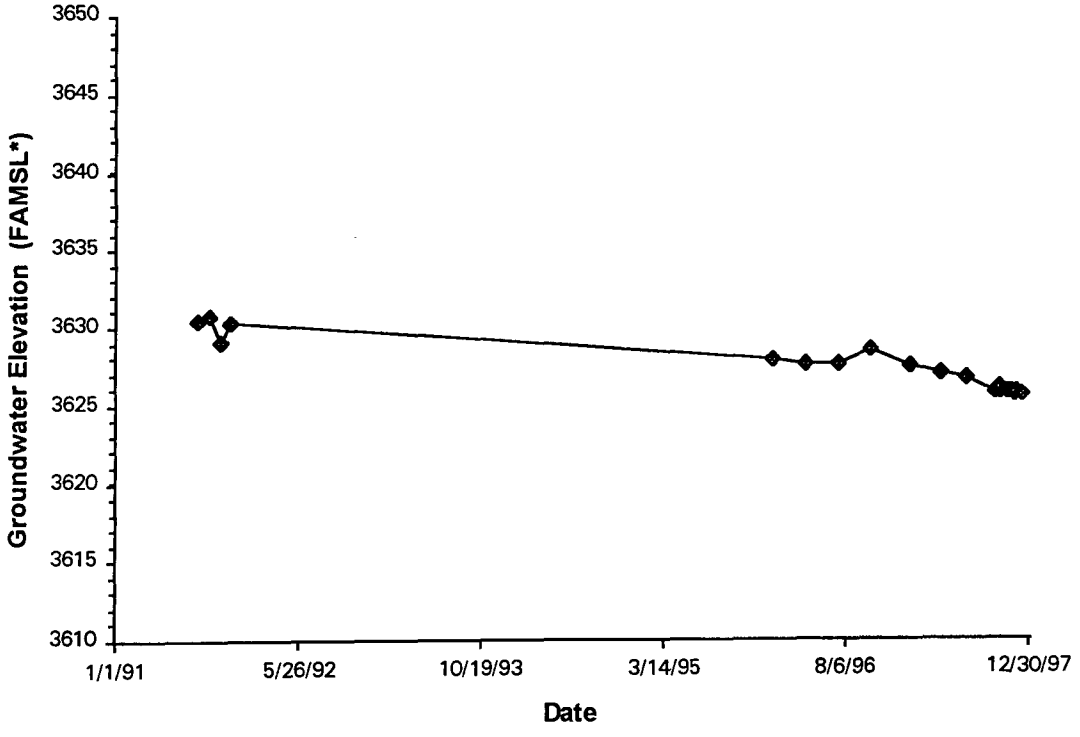
* Calculated groundwater elevations are corrected for measured condensate thickness.

** Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-062

Indian Basin Remediation Project
Eddy County, NM



Note:

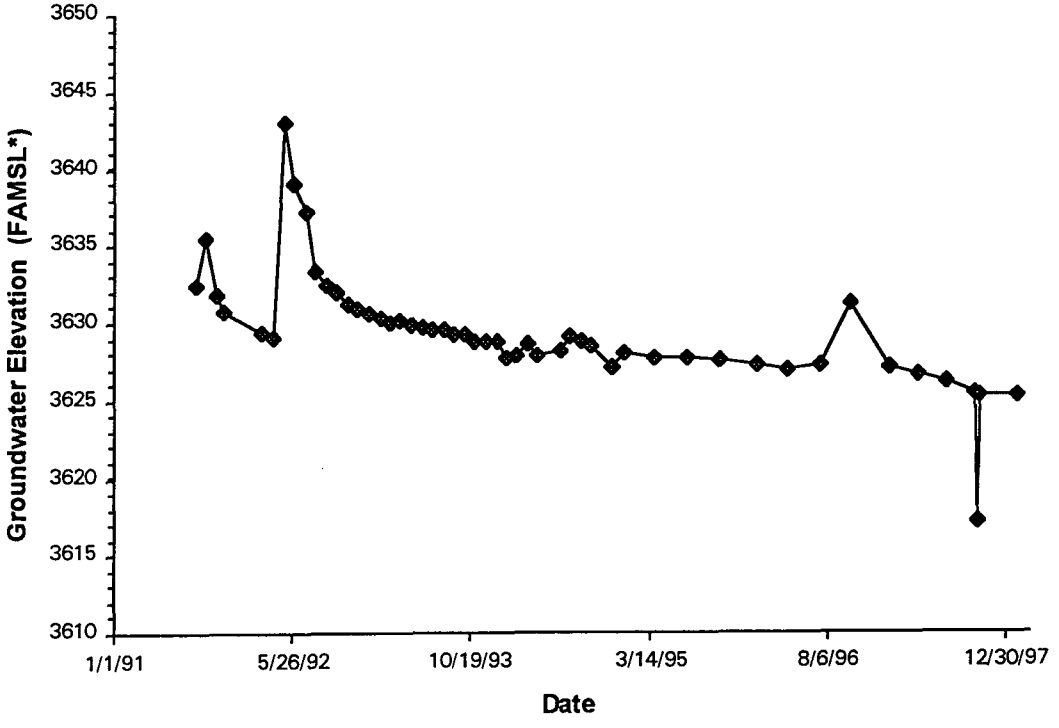
* Calculated groundwater elevations are corrected for measured condensate thickness.

** Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-063

Indian Basin Remediation Project
Eddy County, NM

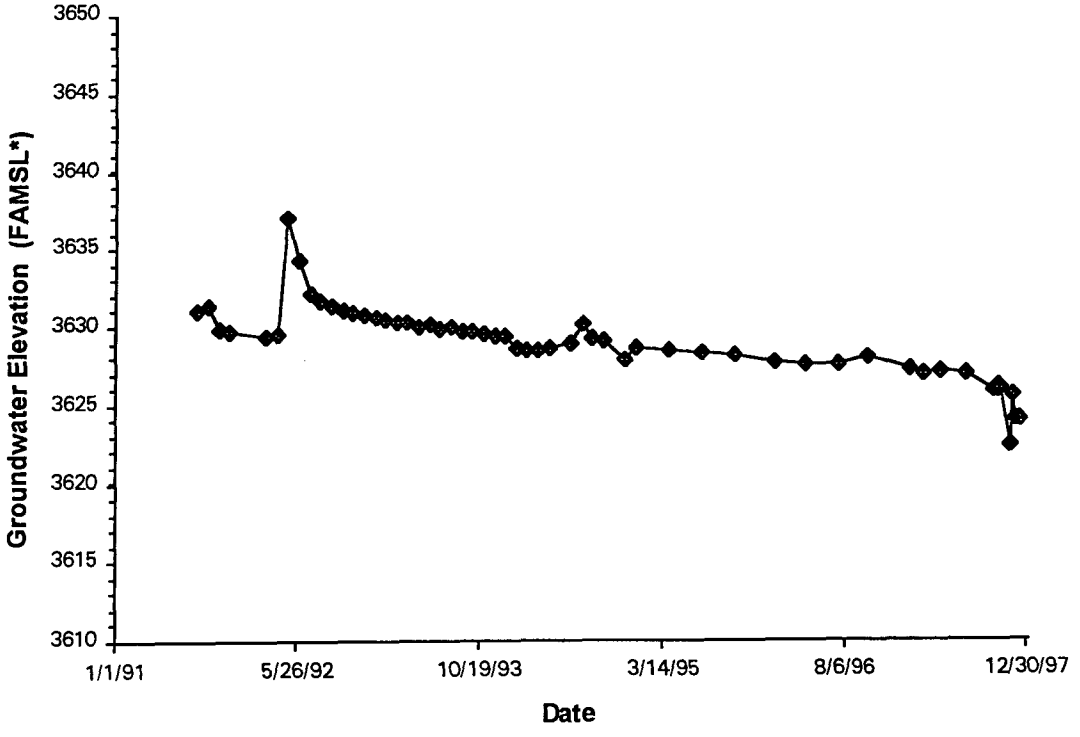


Note:
* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-064

Indian Basin Remediation Project
Eddy County, NM



Note:

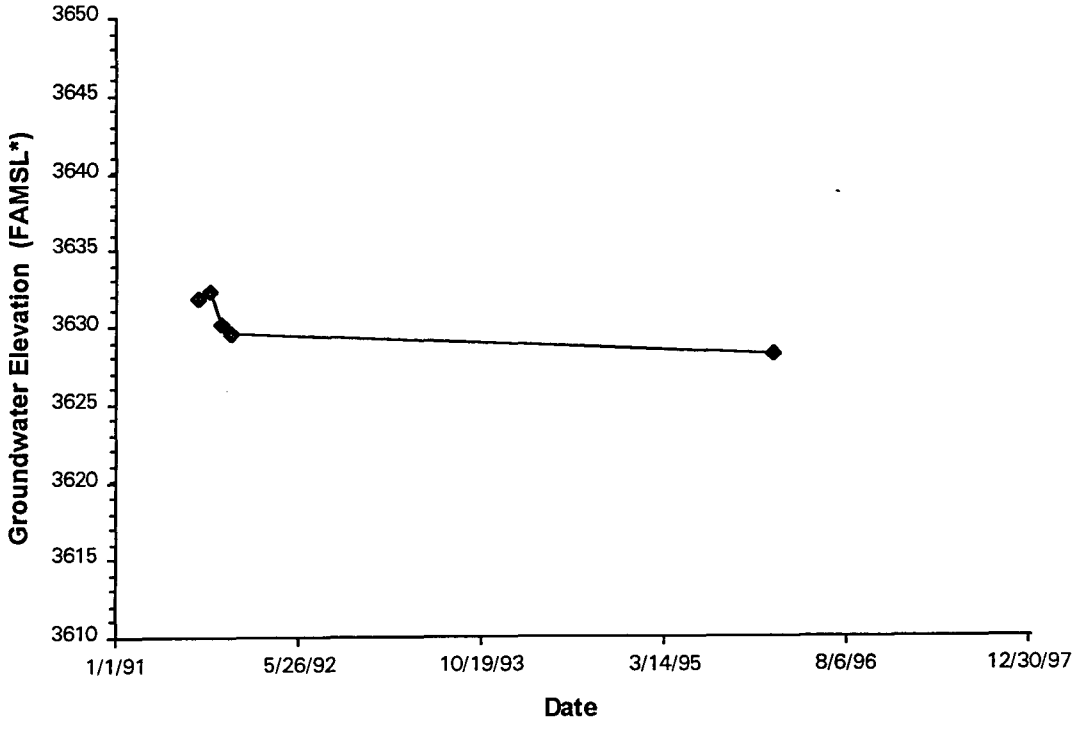
* Calculated groundwater elevations are corrected for measured condensate thickness.

** Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-065A

Indian Basin Remediation Project
Eddy County, NM



Note:

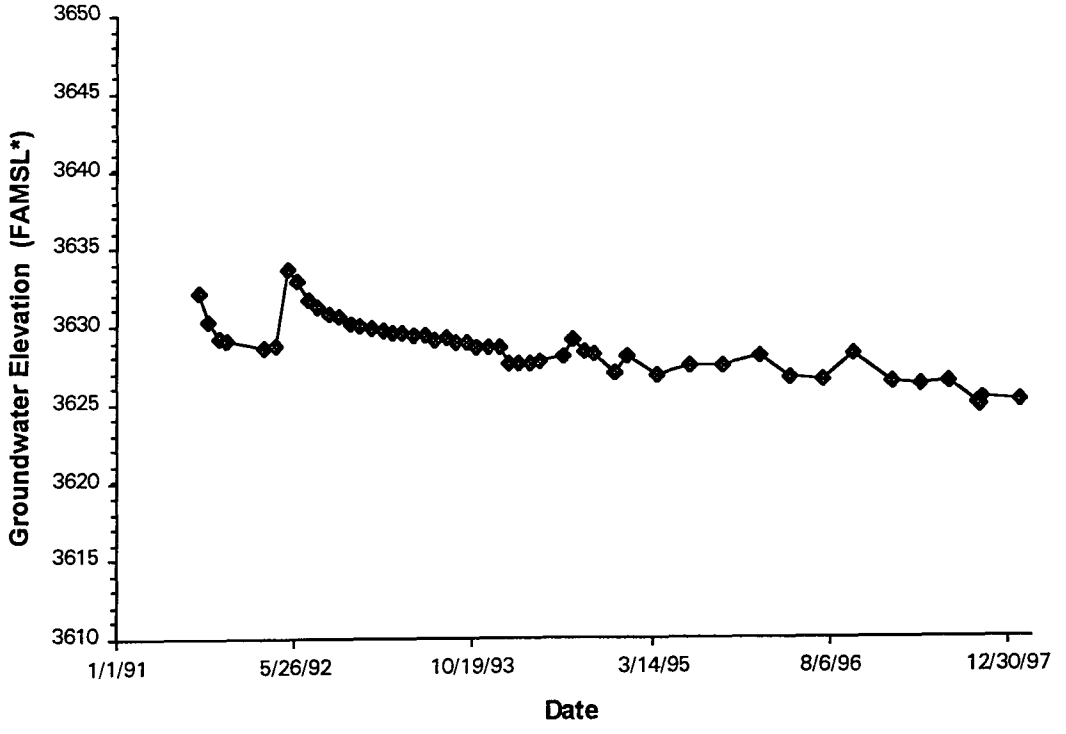
* Calculated groundwater elevations are corrected for measured condensate thickness.

** Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-066

Indian Basin Remediation Project
Eddy County, NM

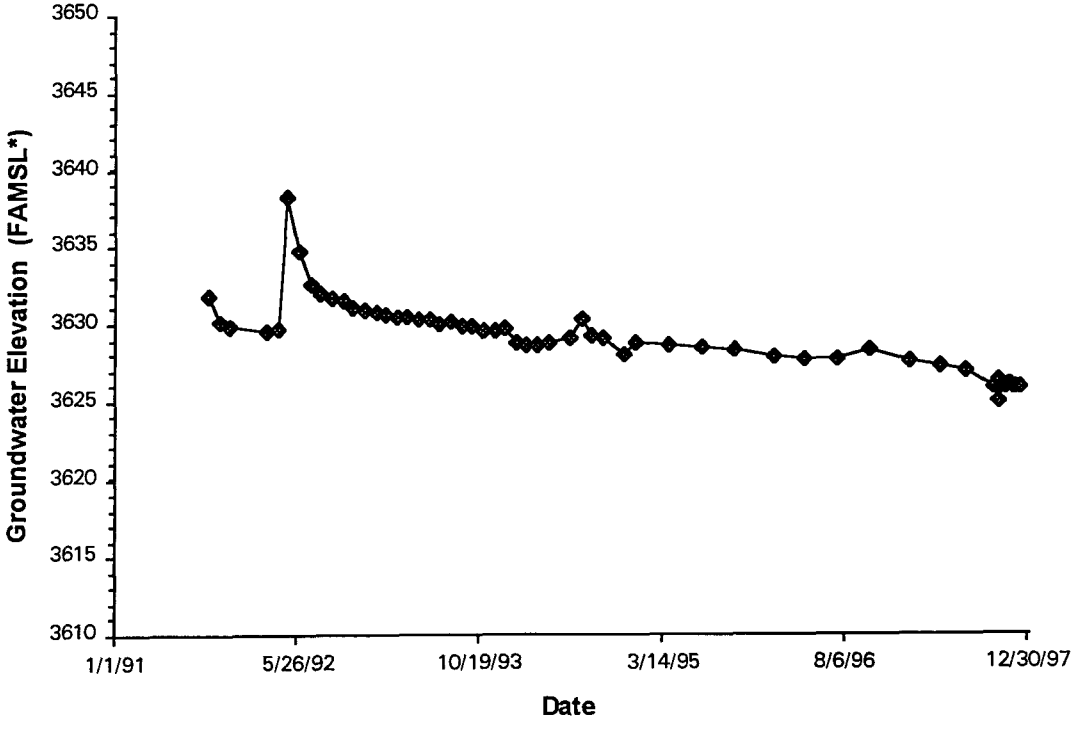


Note:
* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-067

Indian Basin Remediation Project
Eddy County, NM



Note:

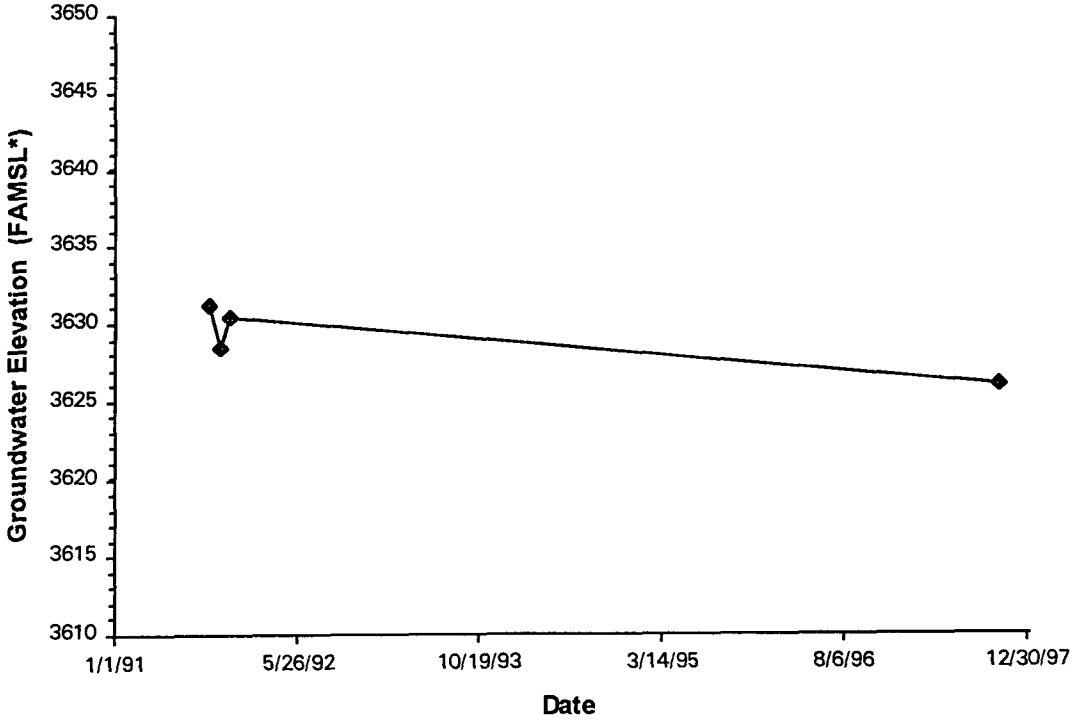
* Calculated groundwater elevations are corrected for measured condensate thickness.

** Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-068

Indian Basin Remediation Project
Eddy County, NM



Note:

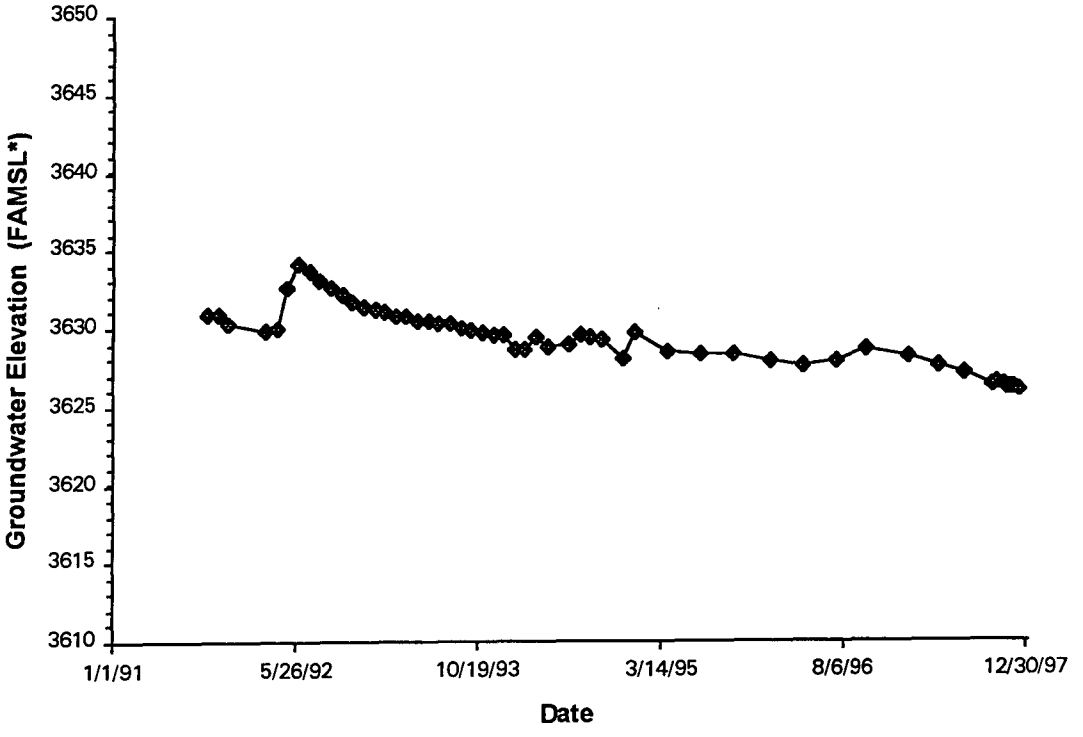
* Calculated groundwater elevations are corrected for measured condensate thickness.

** Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-070

Indian Basin Remediation Project
Eddy County, NM



Note:

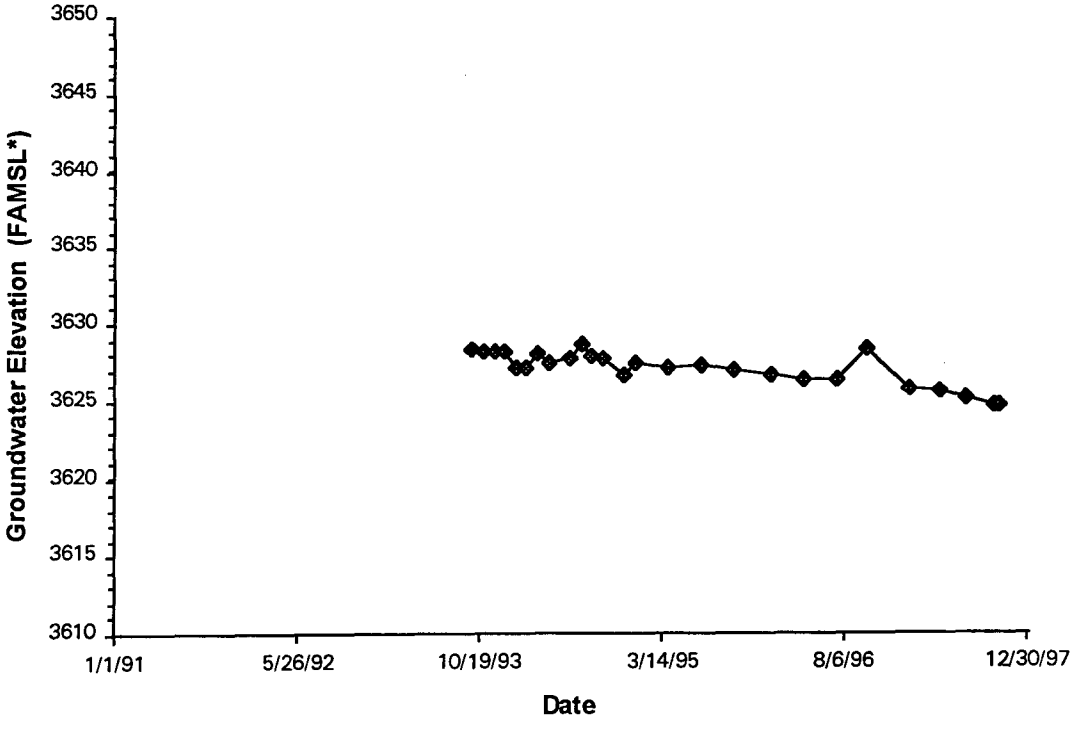
* Calculated groundwater elevations are corrected for measured condensate thickness.

** Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-071

Indian Basin Remediation Project
Eddy County, NM



Note:

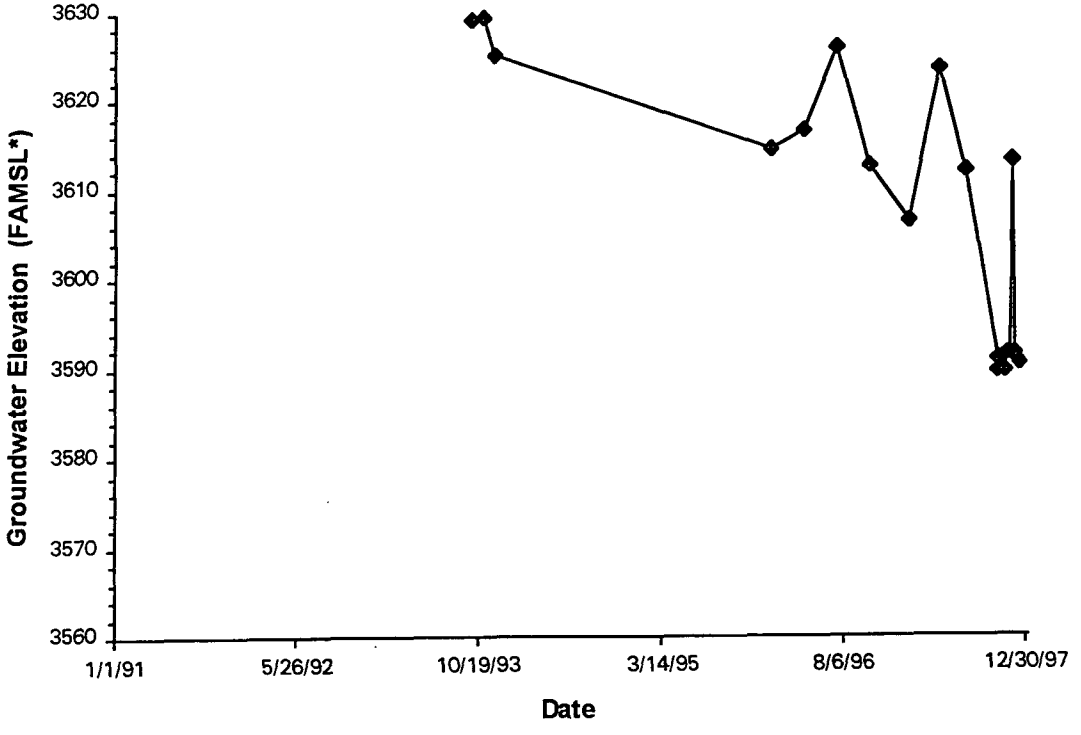
* Calculated groundwater elevations are corrected for measured condensate thickness.

** Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-072

Indian Basin Remediation Project
Eddy County, NM



Note:

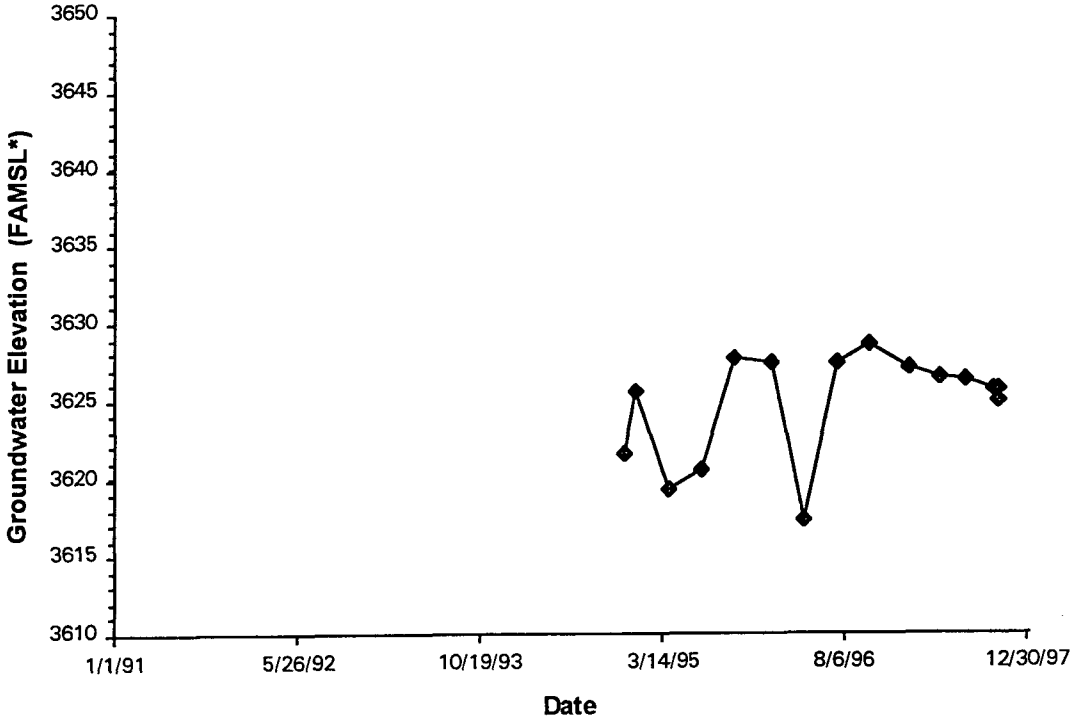
* Calculated groundwater elevations are corrected for measured condensate thickness.

** Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-073

Indian Basin Remediation Project
Eddy County, NM



Note:

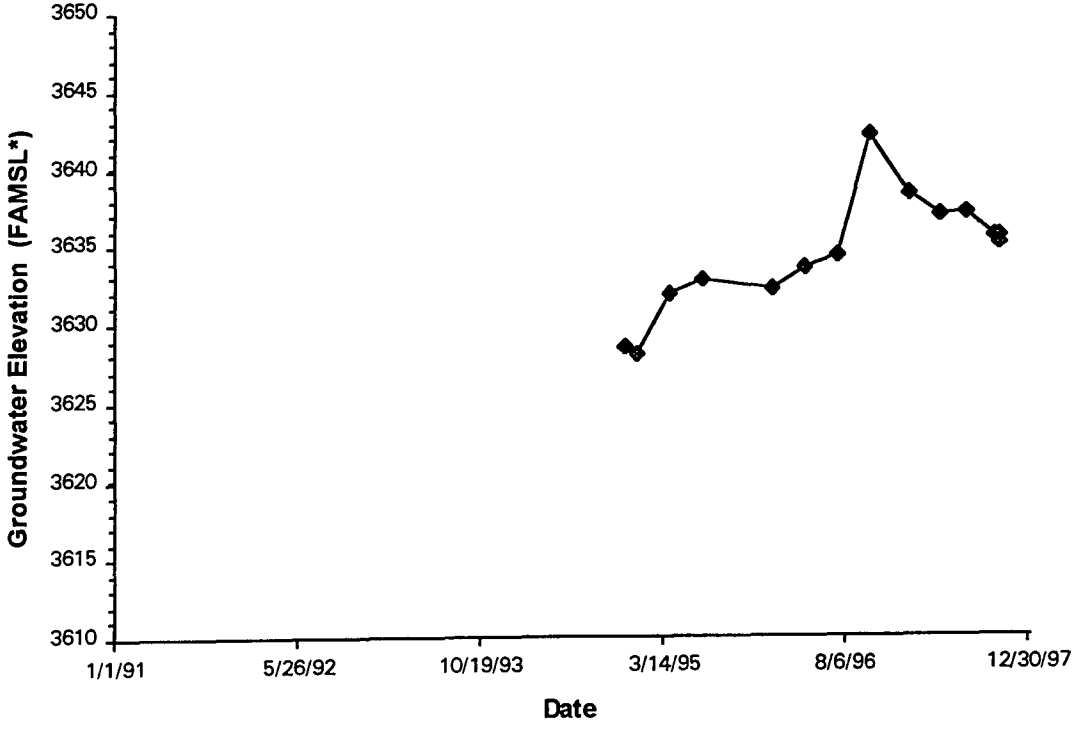
* Calculated groundwater elevations are corrected for measured condensate thickness.

** Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-074

Indian Basin Remediation Project
Eddy County, NM



Note:

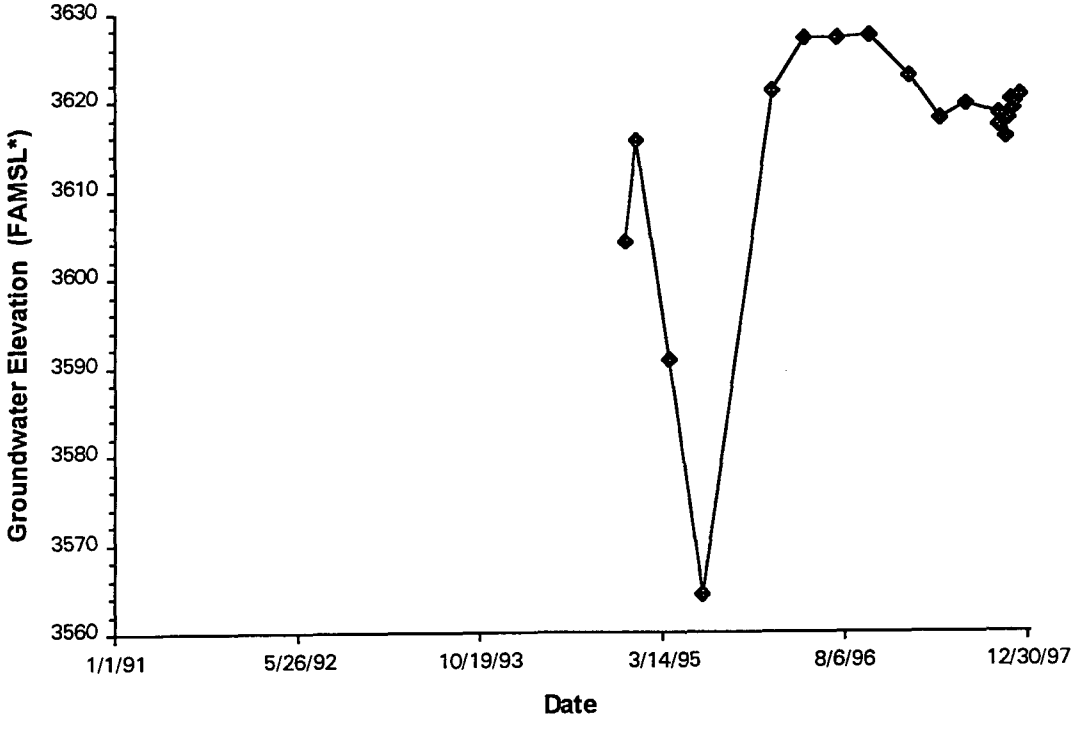
* Calculated groundwater elevations are corrected for measured condensate thickness.

** Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-075

Indian Basin Remediation Project
Eddy County, NM



Note:

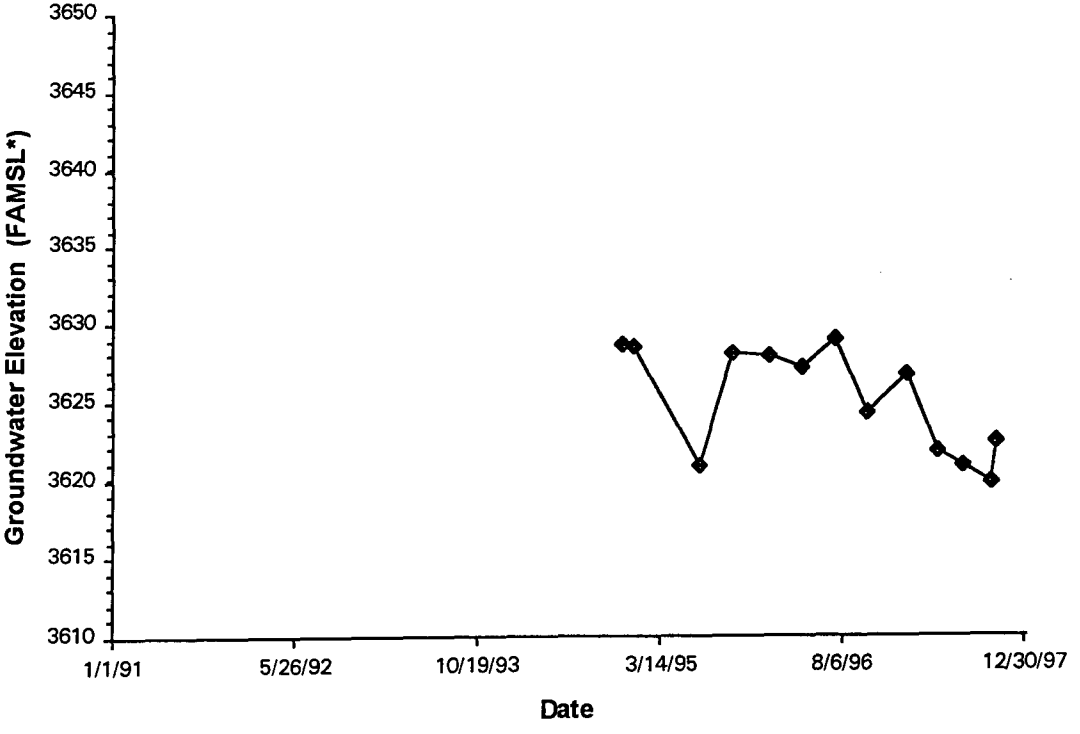
* Calculated groundwater elevations are corrected for measured condensate thickness.

** Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-076

Indian Basin Remediation Project
Eddy County, NM



Note:

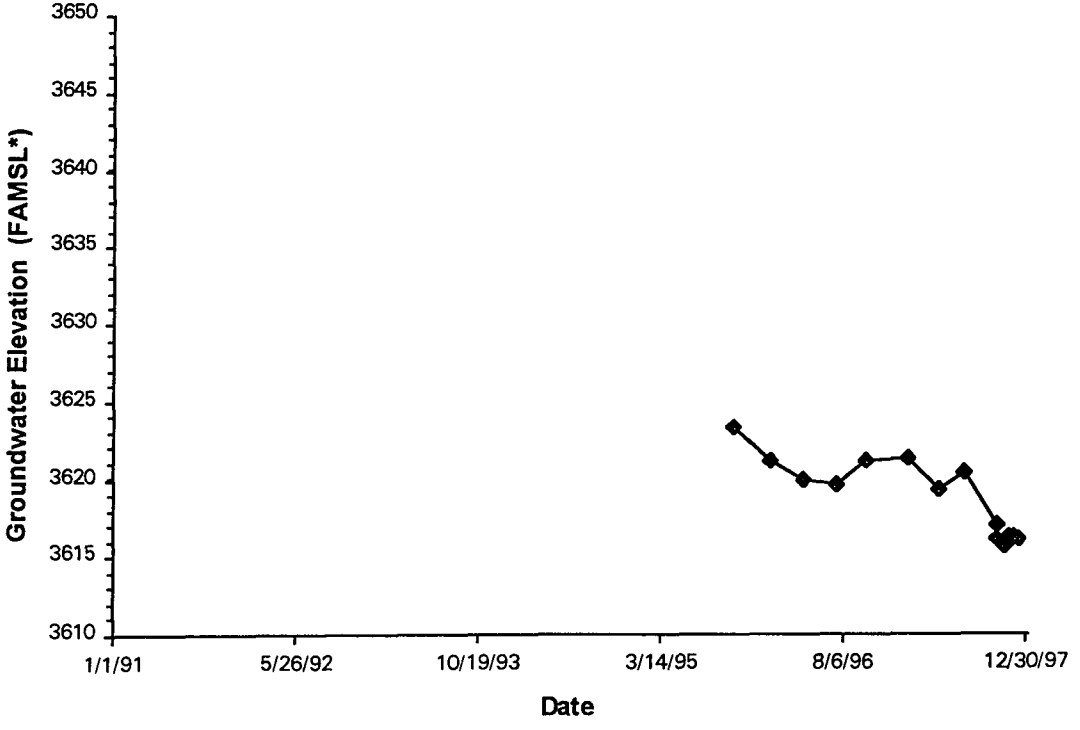
* Calculated groundwater elevations are corrected for measured condensate thickness.

** Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-081

Indian Basin Remediation Project
Eddy County, NM



Note:

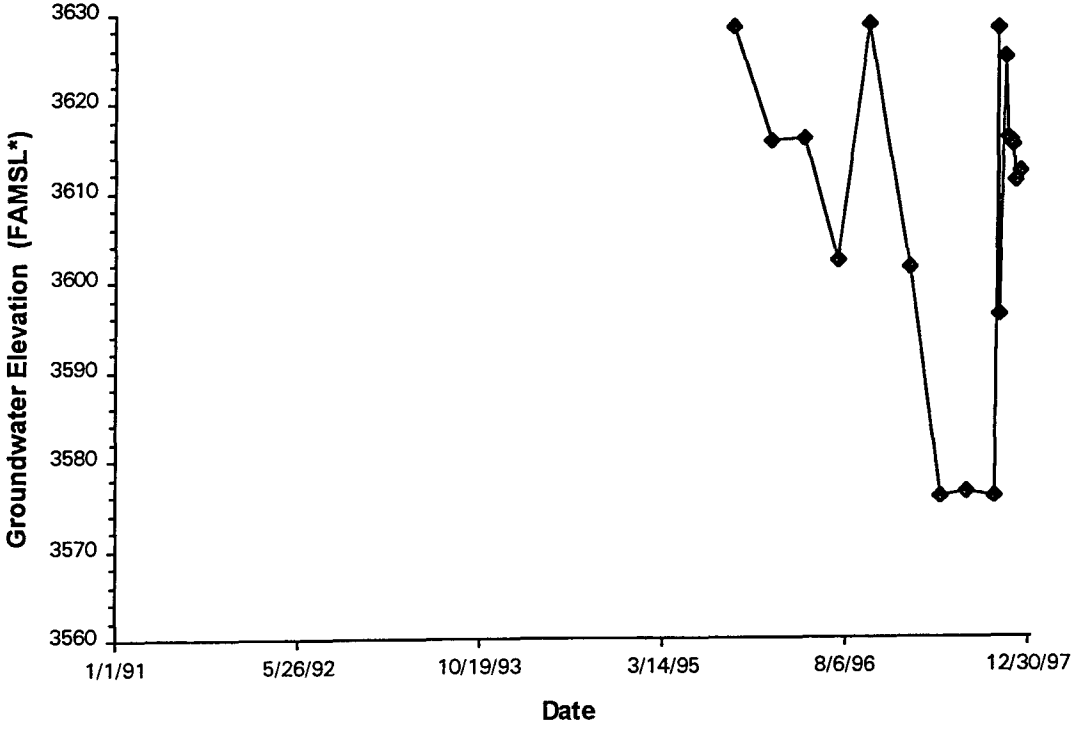
* Calculated groundwater elevations are corrected for measured condensate thickness.

** Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-082

Indian Basin Remediation Project
Eddy County, NM



Note:

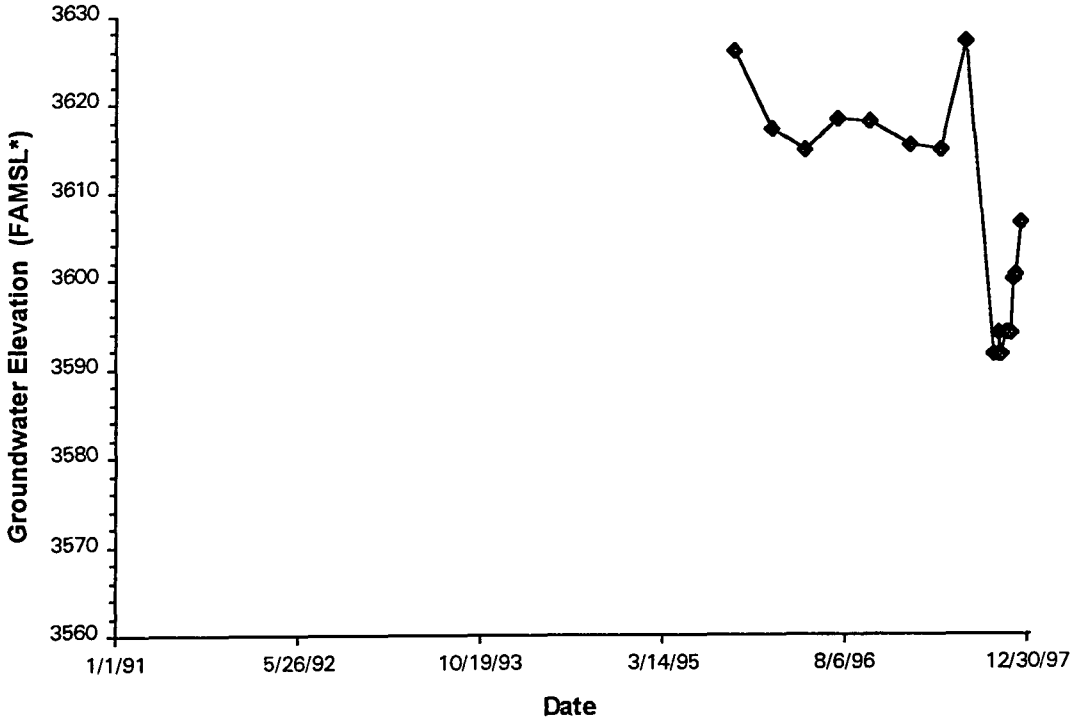
* Calculated groundwater elevations are corrected for measured condensate thickness.

** Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-083

Indian Basin Remediation Project
Eddy County, NM



Note:

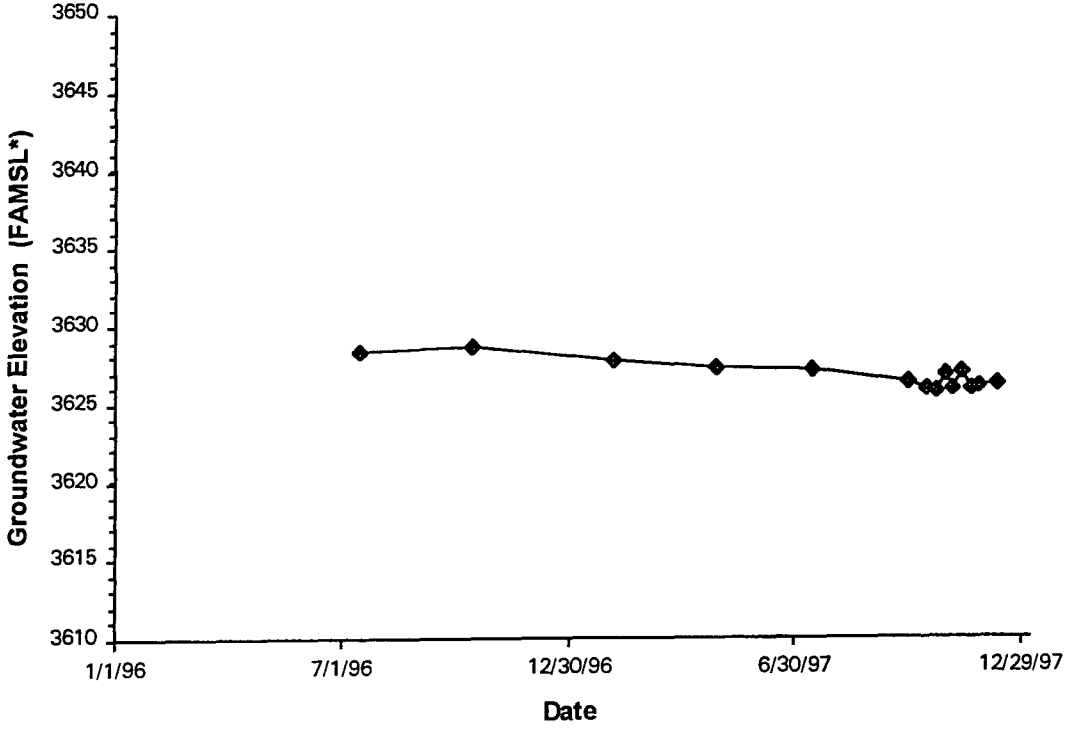
* Calculated groundwater elevations are corrected for measured condensate thickness.

** Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-084

Indian Basin Remediation Project
Eddy County, NM



Note:

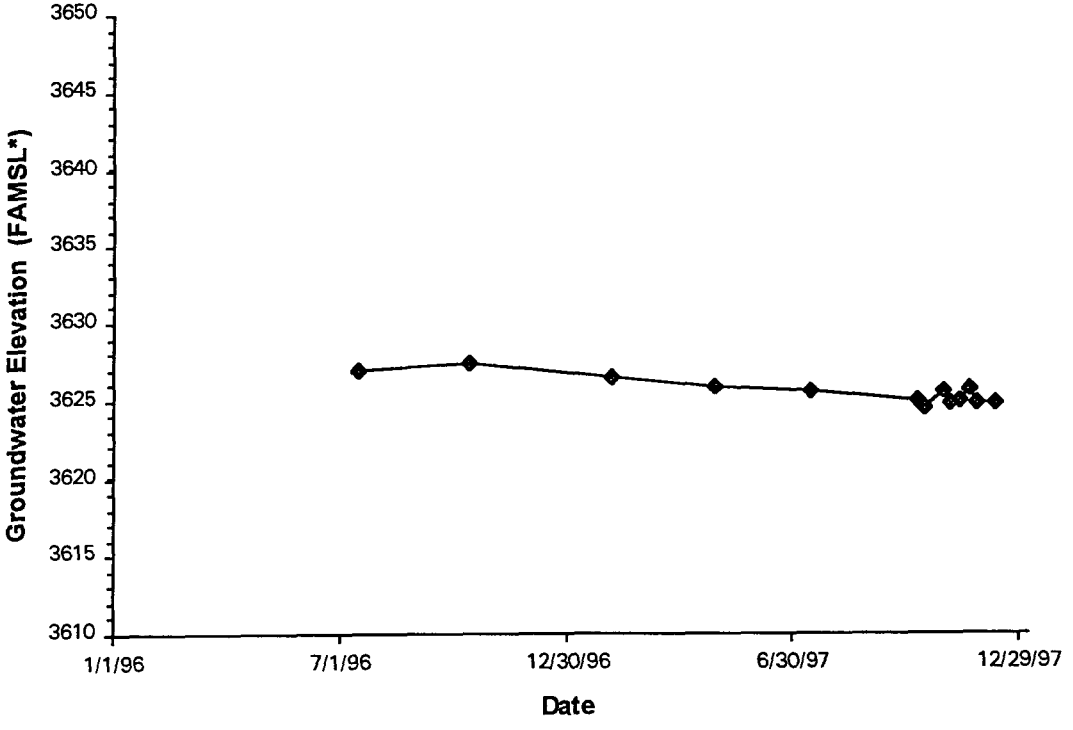
* Calculated groundwater elevations are corrected for measured condensate thickness.

** Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-085

Indian Basin Remediation Project
Eddy County, NM



Note:

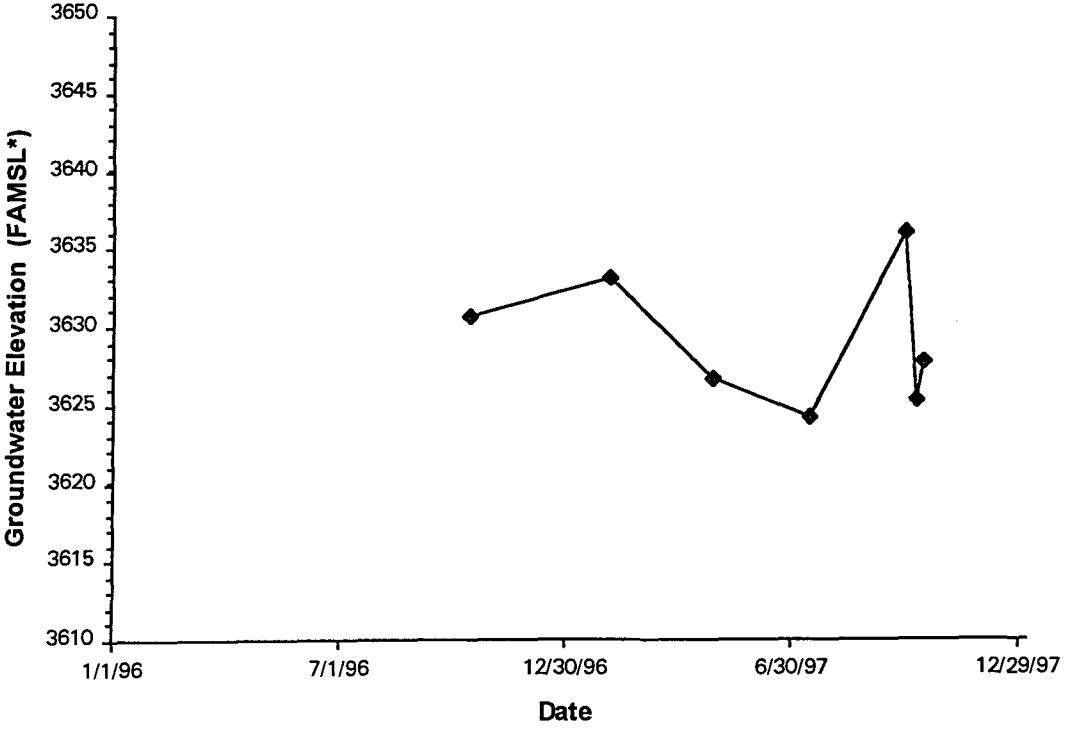
* Calculated groundwater elevations are corrected for measured condensate thickness.

** Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-086

Indian Basin Remediation Project
Eddy County, NM

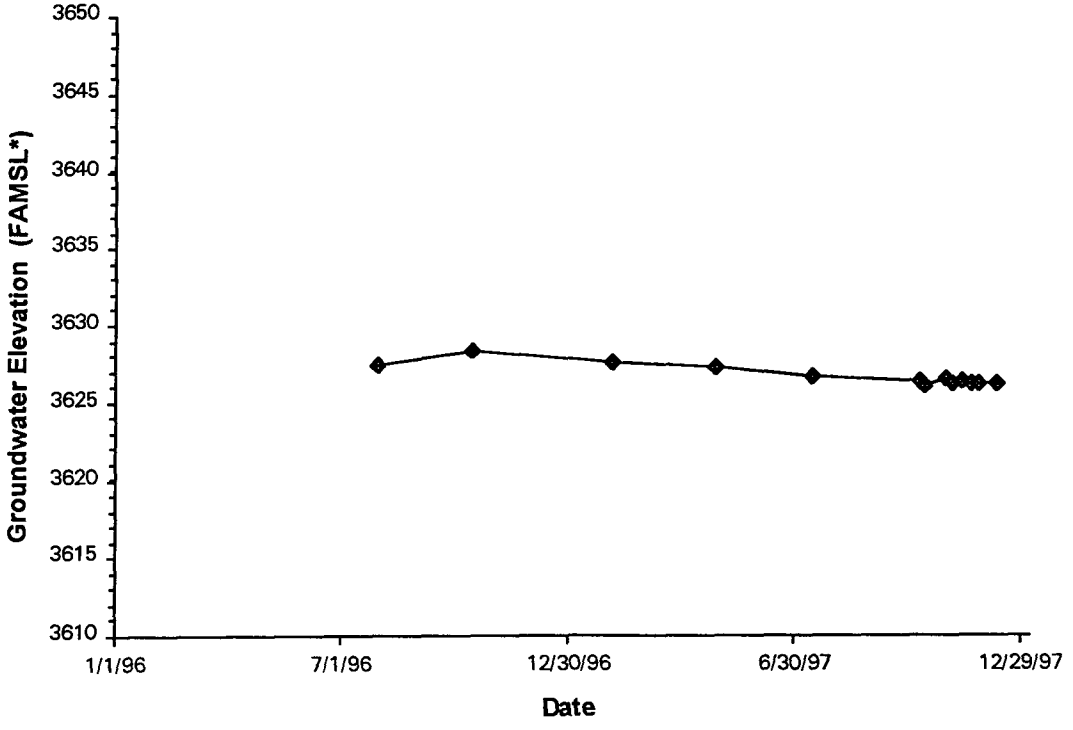


Note:
* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-087

Indian Basin Remediation Project
Eddy County, NM



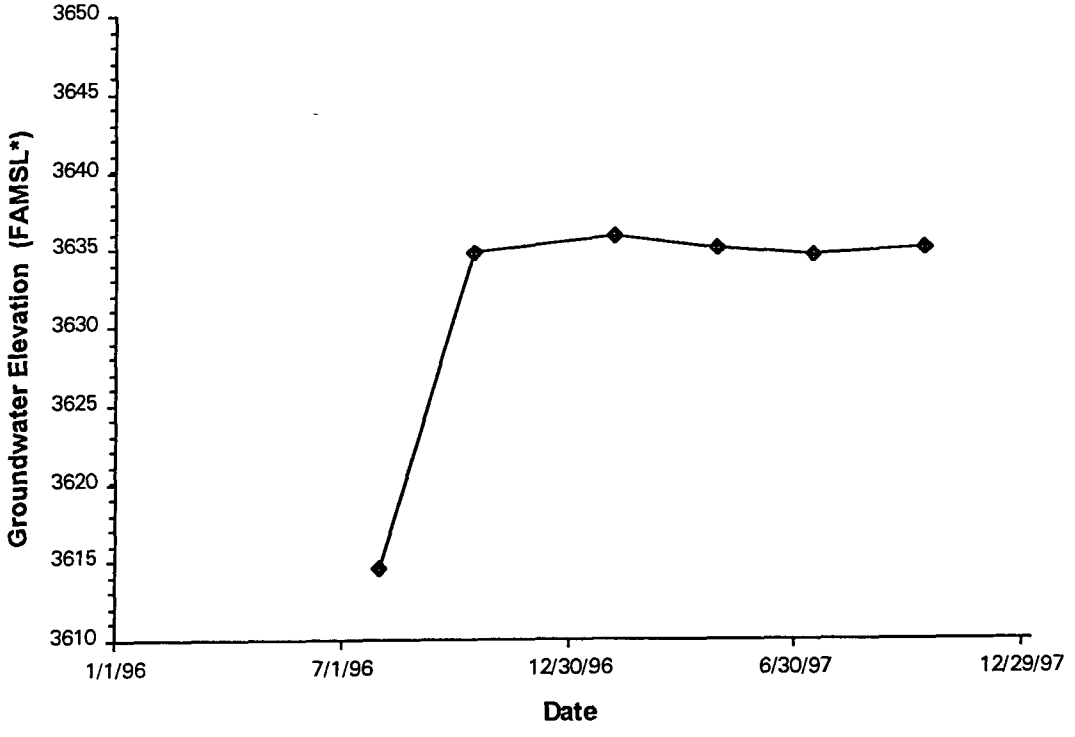
Note:

* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-087A

Indian Basin Remediation Project
Eddy County, NM



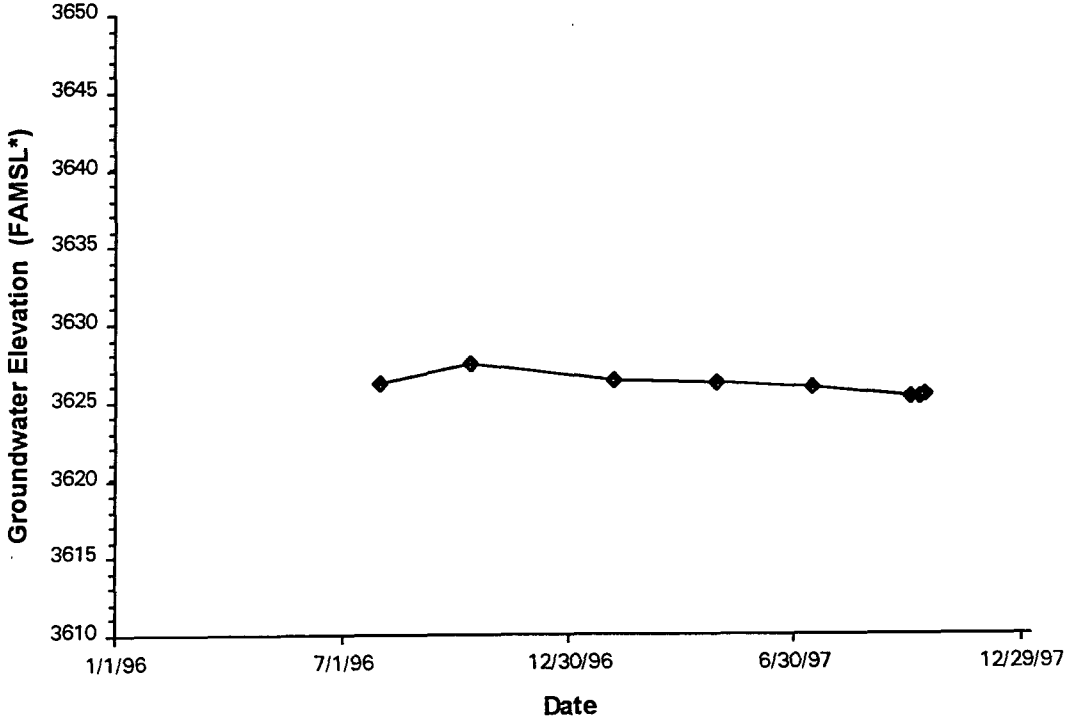
Note:

* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-088

Indian Basin Remediation Project
Eddy County, NM



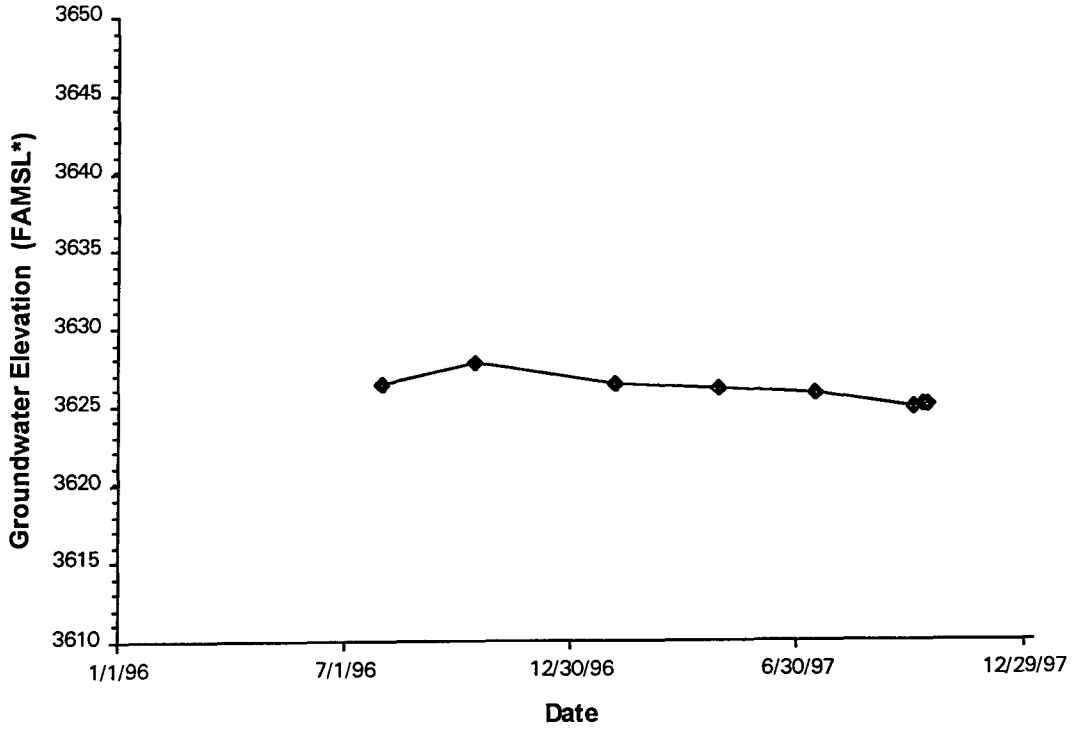
Note:

* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-089

Indian Basin Remediation Project
Eddy County, NM

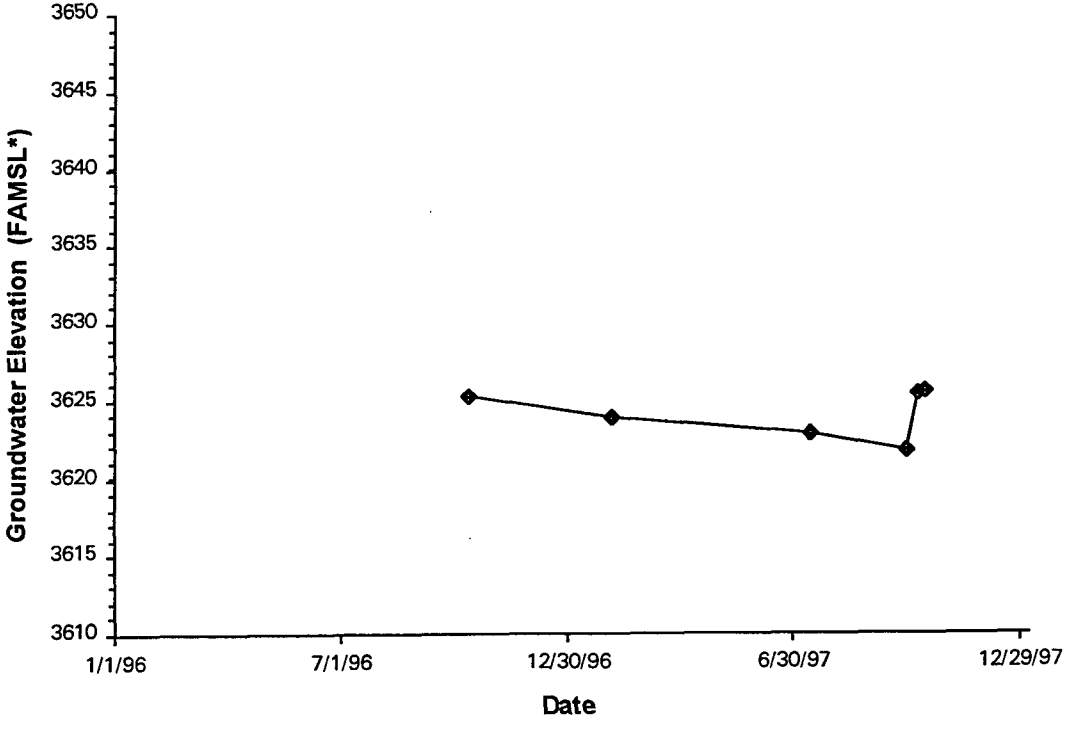


Note:
* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-094

Indian Basin Remediation Project
Eddy County, NM

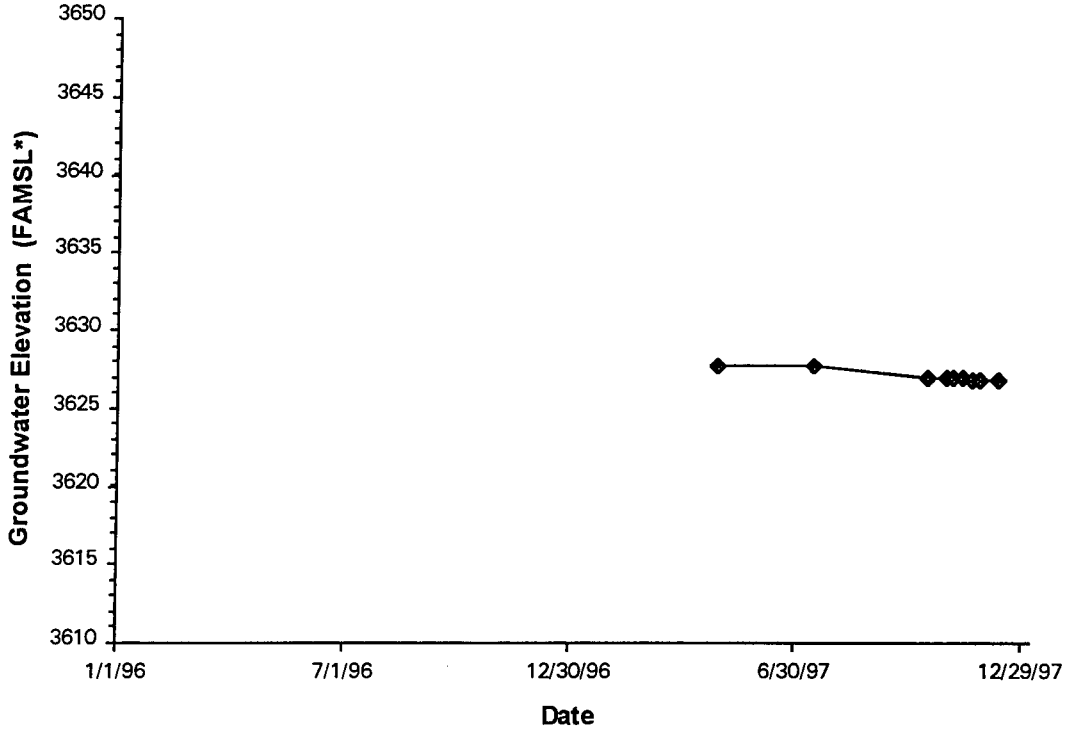


Note:
* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-095

Indian Basin Remediation Project
Eddy County, NM



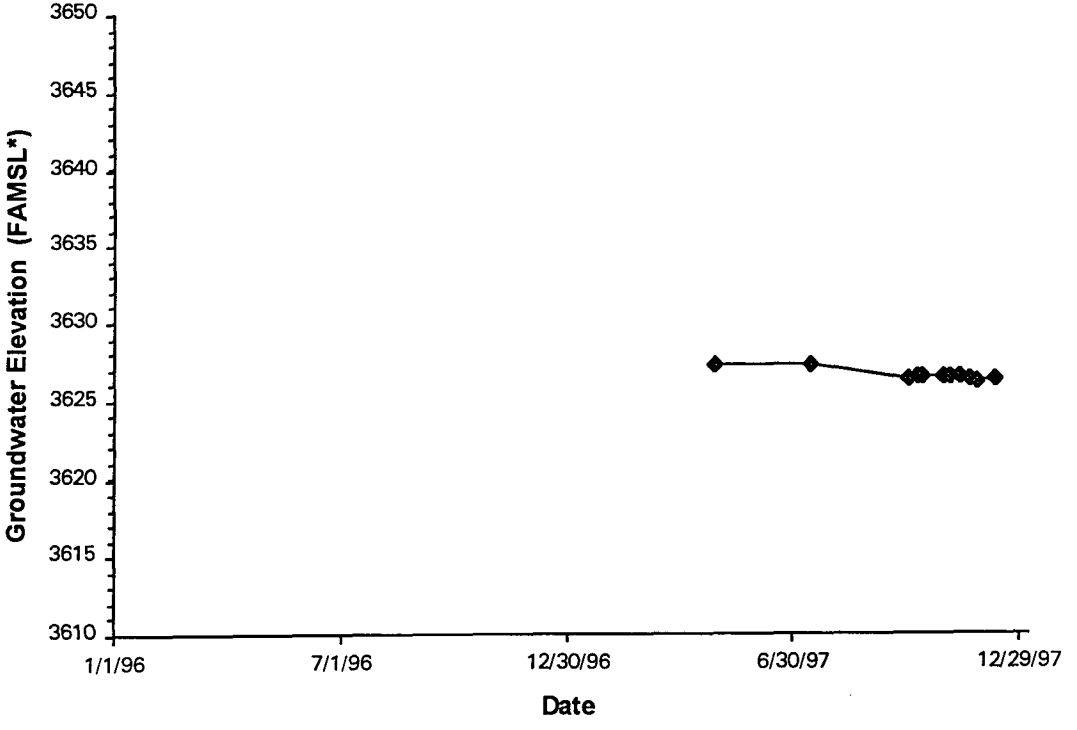
Note:

* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-096

Indian Basin Remediation Project
Eddy County, NM

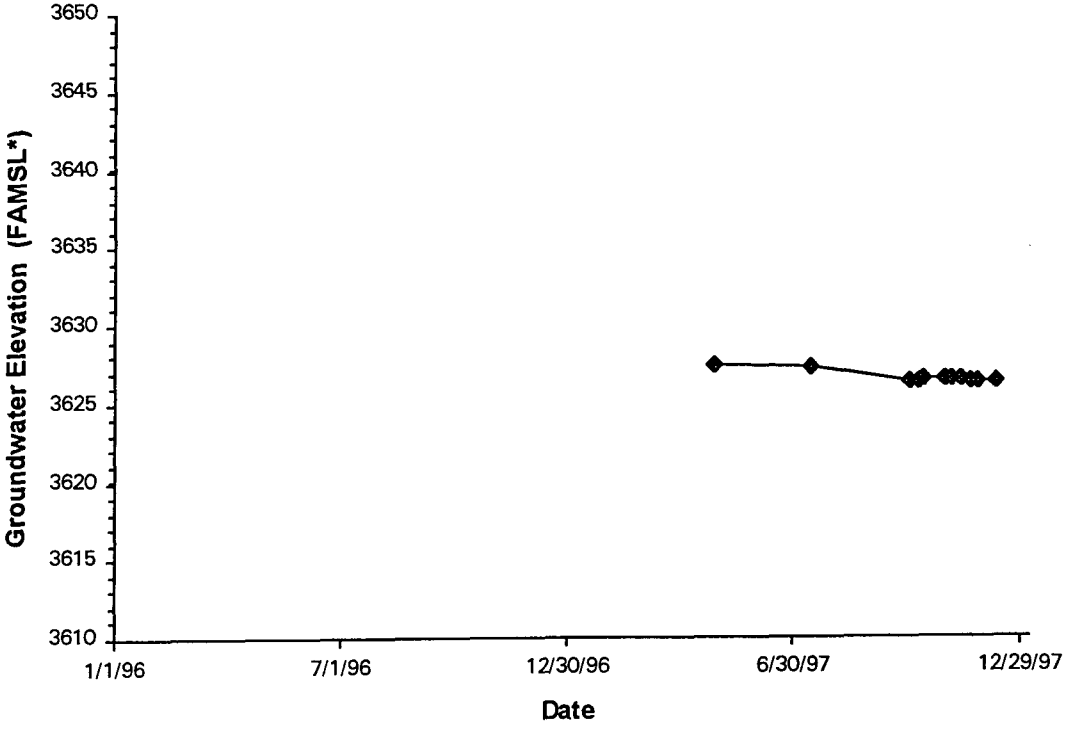


Note:
* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-097

Indian Basin Remediation Project
Eddy County, NM

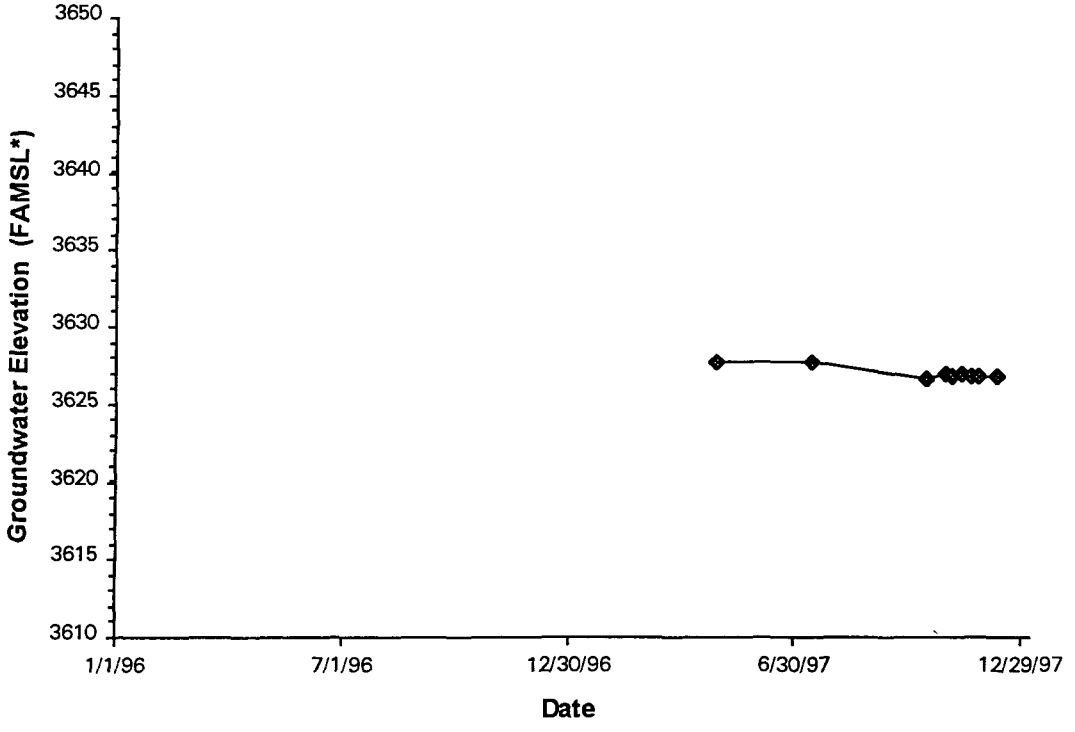


Note:
* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-098

Indian Basin Remediation Project
Eddy County, NM



Note:

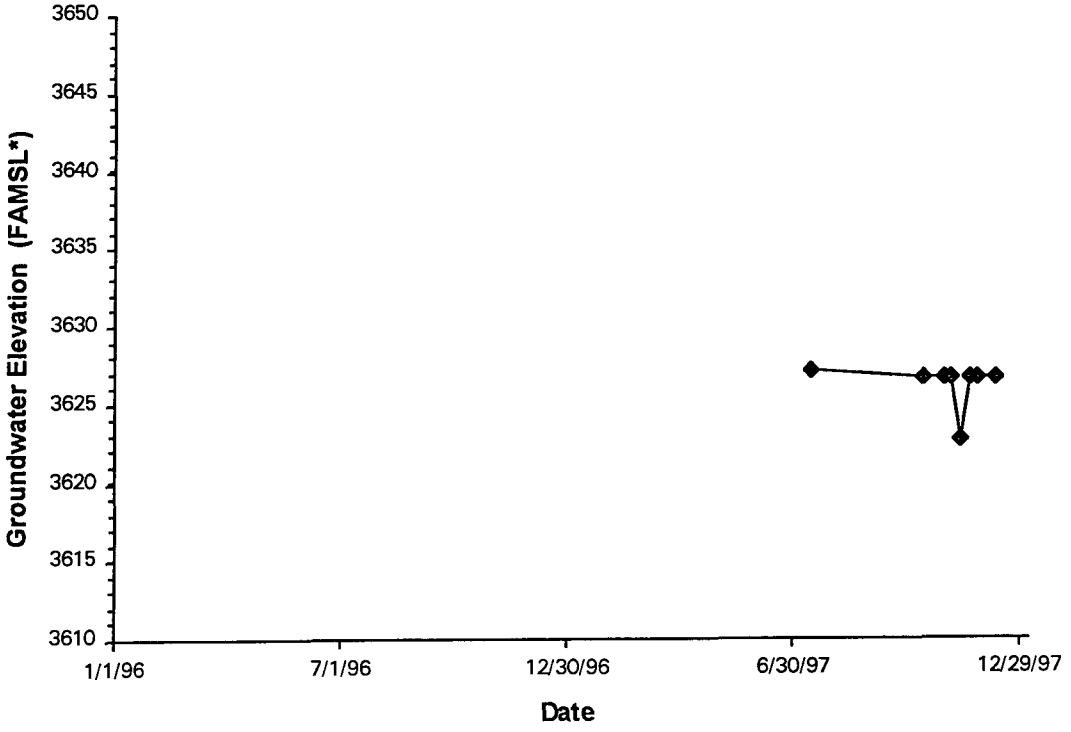
* Calculated groundwater elevations are corrected for measured condensate thickness.

** Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
MW-108

Indian Basin Remediation Project
Eddy County, NM

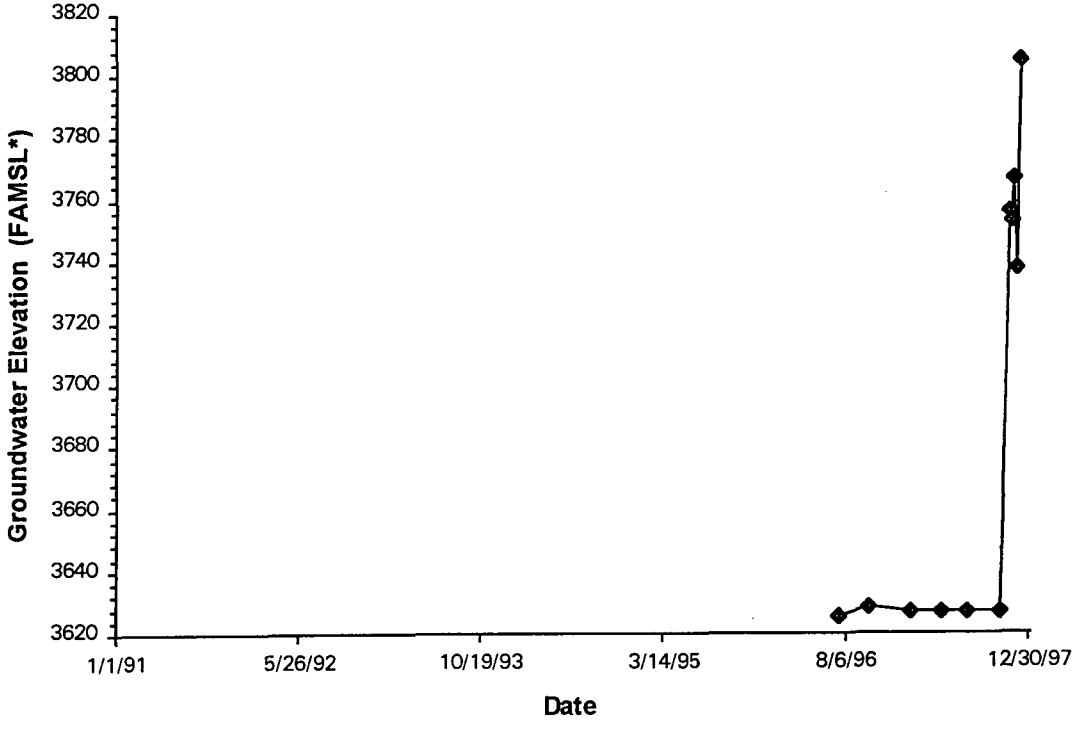


Note:
* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
IW-01

Indian Basin Remediation Project
Eddy County, NM



Note:

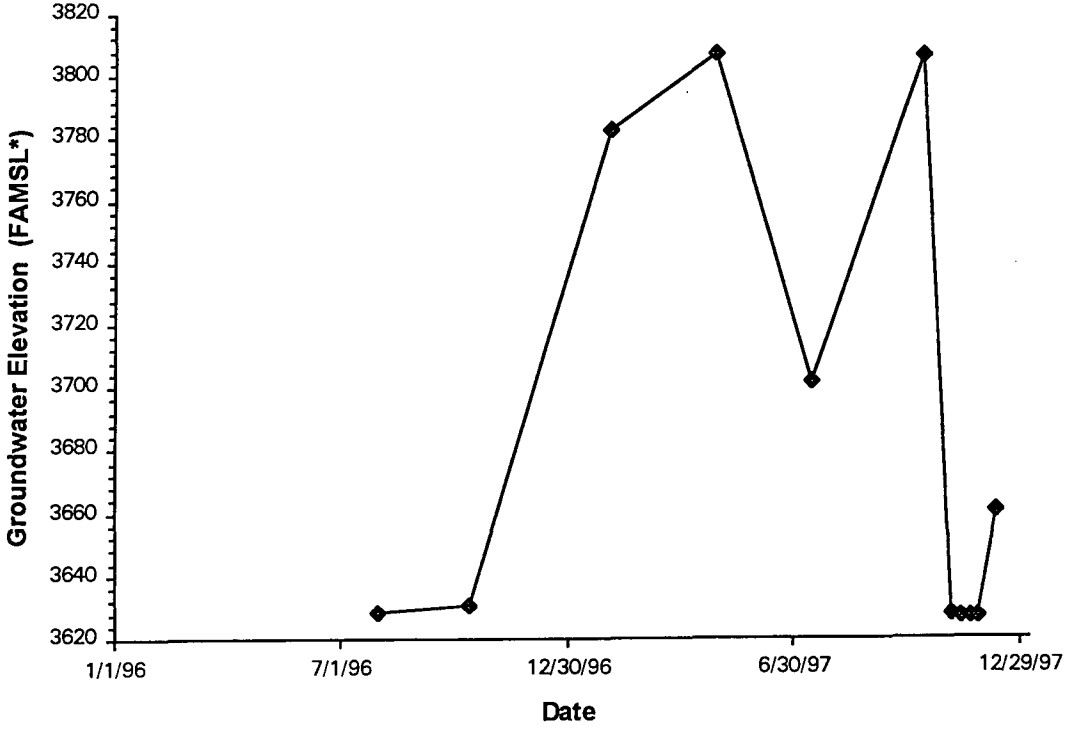
* Calculated groundwater elevations are corrected for measured condensate thickness.

** Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
IW-02

Indian Basin Remediation Project
Eddy County, NM



Note:

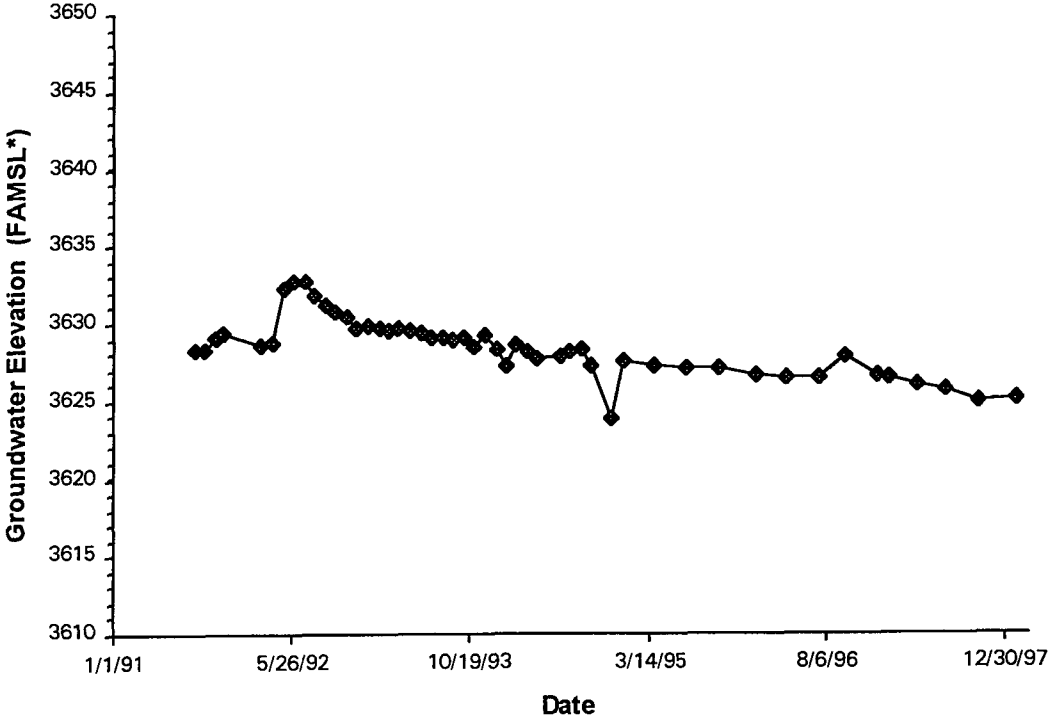
* Calculate groundwater elevations are corrected for measured concensate thickness.

** Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
SW-02

Indian Basin Remediation Project
Eddy County, NM

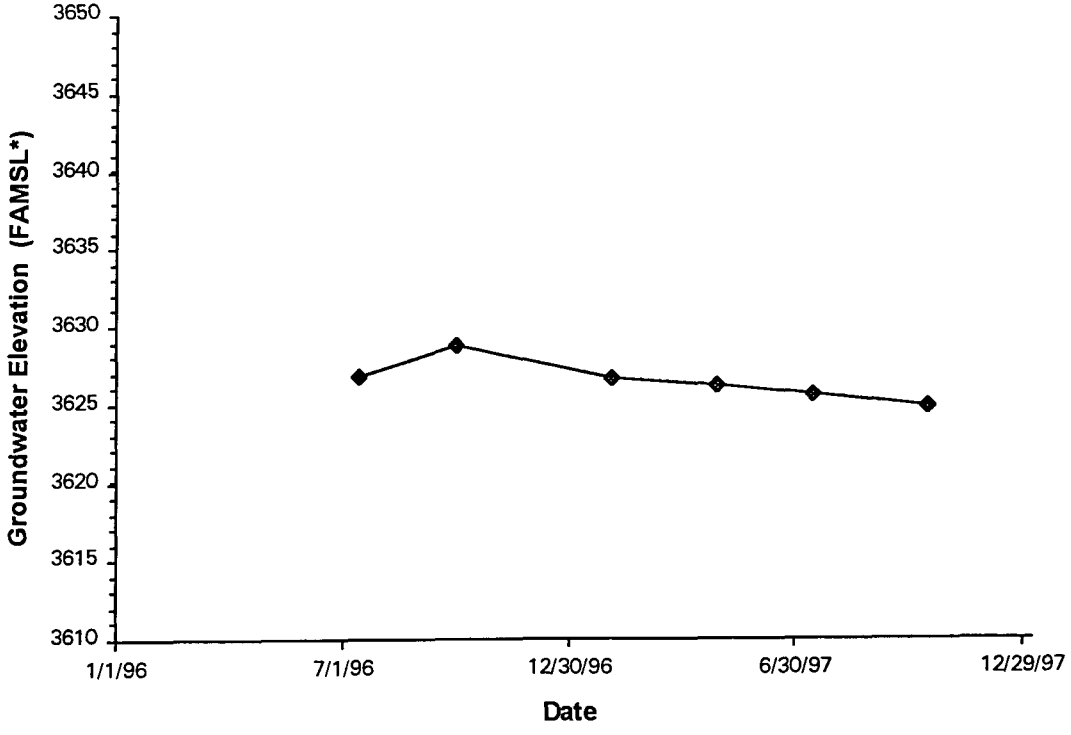


Note:
* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
SW-03

Indian Basin Remediation Project
Eddy County, NM

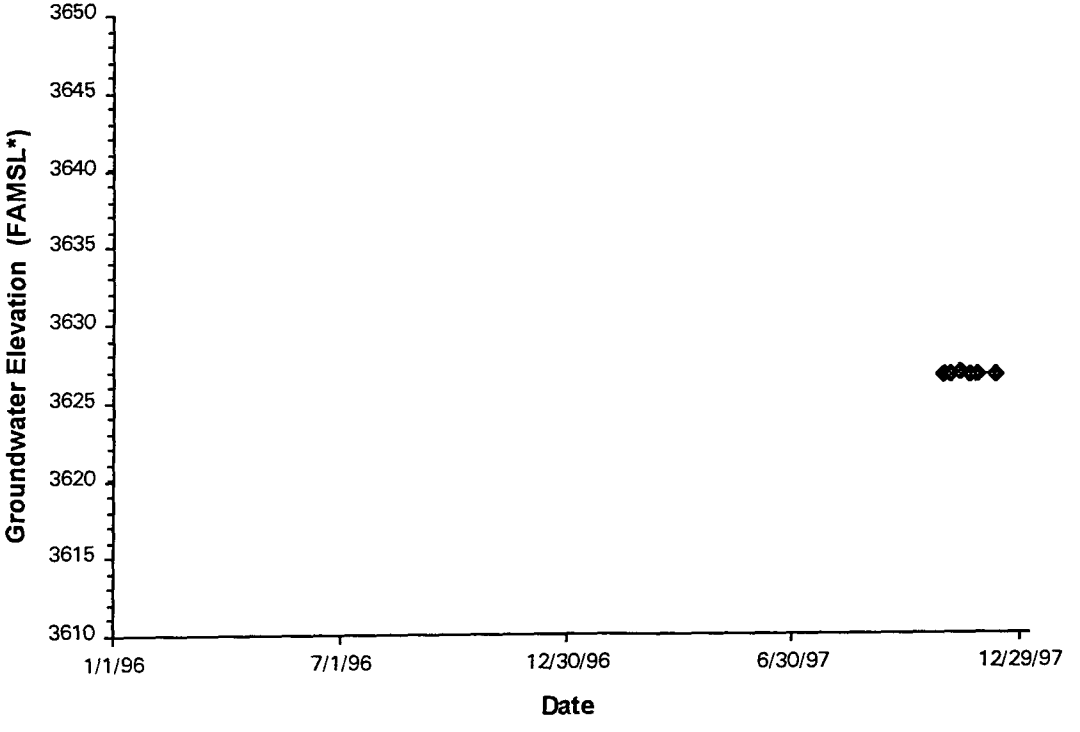


Note:
* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
VE-16

Indian Basin Remediation Project
Eddy County, NM

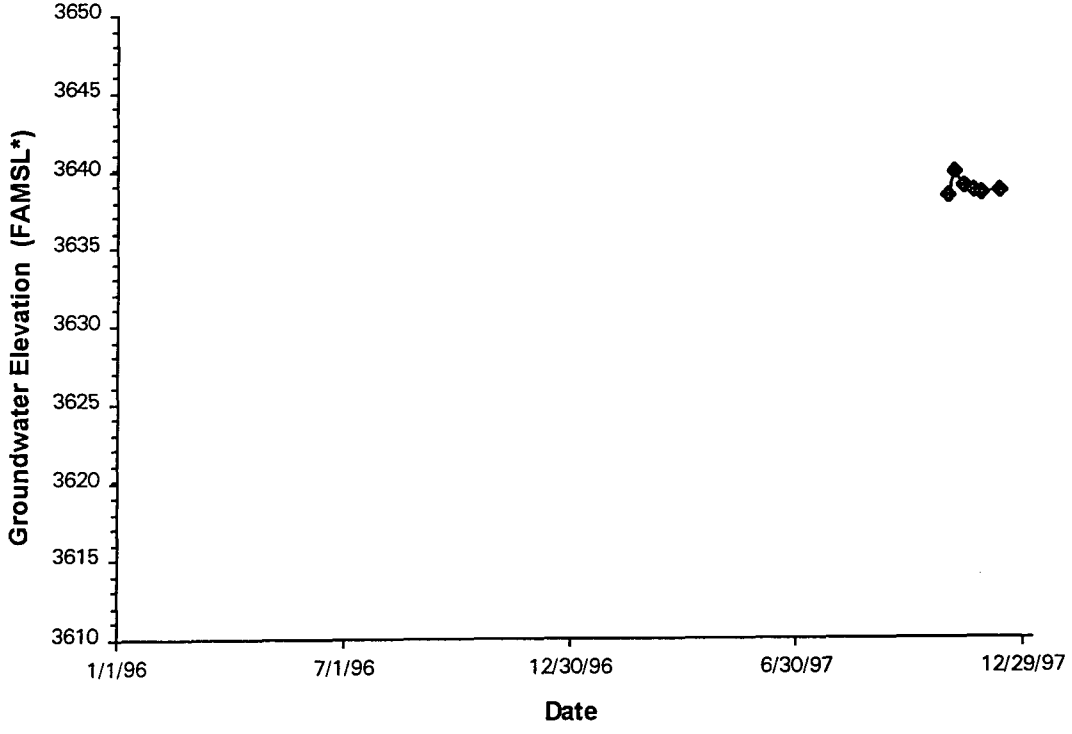


Note:
* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
VE-17

Indian Basin Remediation Project
Eddy County, NM

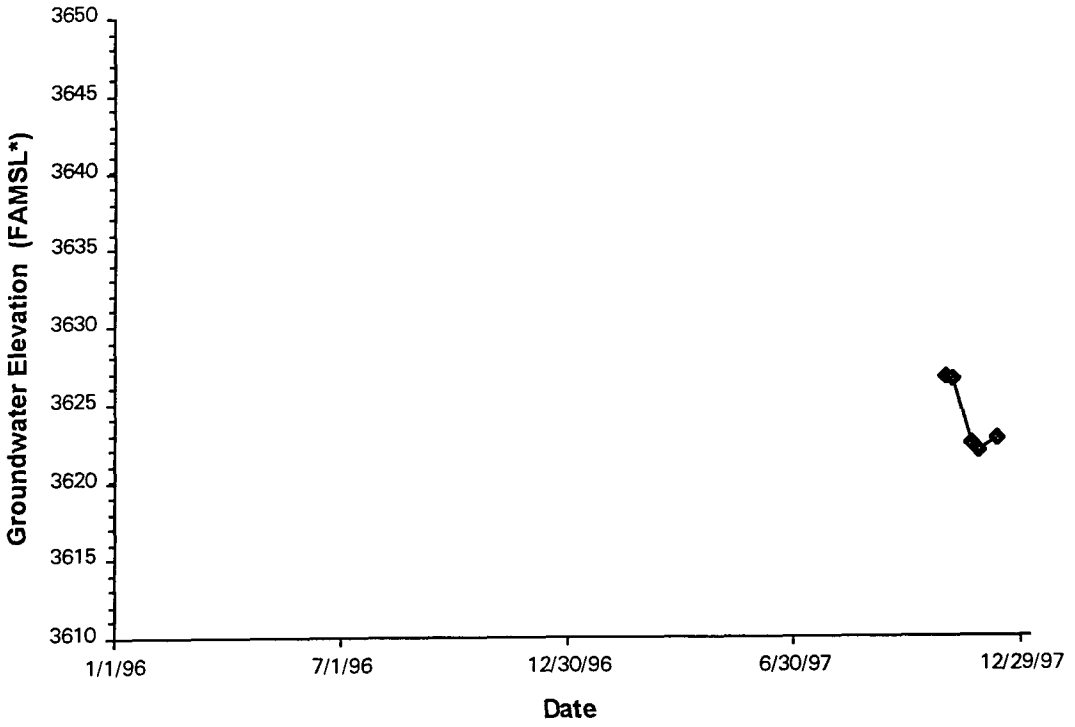


Note:
* Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

GROUNDWATER HYDROGRAPH
VE-19

Indian Basin Remediation Project
Eddy County, NM



Note:

* Calculated groundwater elevations are corrected for measured condensate thickness.

** Elevations are in Feet Above Mean Sea Level (FAMSL) based on survey data supplied by Marathon

FLUOR DANIEL GTI

APPENDIX C

GROUNDWATER SAMPLE CERTIFICATES ANALYSIS, CHAIN-OF-CUSTODY DOCUMENTATION AND QA/QC DATA, 1997

American Environmental Network, Inc.

AEN I.D. 702321

March 10, 1997

MARATHON OIL COMPANY
P.O. BOX 552
MIDLAND, TX 79702

Project Name IB REBEDIATION
Project Number 023350224.60

'tention: BOB MENZIE

On 2/8/97 American Environmental Network (NM), Inc. (ADHS License No. AZ0015), received a request to analyze aqueous samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

EPA method 8020 was performed by American Environmental Network (NM) Inc., Albuquerque, NM.

EPA methods 8310 and 6010 were performed by American Environmental Network (FL) Inc., 11 East Olive Road, Pensacola, FL.

All other analyses were performed by American Environmental Network (AZ) Inc., 9830 S. 51st Street, Suite B-113, Phoenix, AZ.

If you have any questions or comments, please do not hesitate to contact us at (505)344-3777.

Kimberly D. McNeill
Project Manager

H. Mitchell Rubenstein, Ph. D.
General Manager

MR: mt
Enclosure

CLIENT	: MARATHON OIL COMPANY	AEN I.D.	: 702321
PROJECT #	: 023350224.60	DATE RECEIVED	: 2/8/97
PROJECT NAME	: IB REBEDIATION	REPORT DATE	: 3/10/97

AEN ID. #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	DI H2O	AQUEOUS	2/5/97
02	INT RB	AQUEOUS	2/5/97
03	MW-70RB	AQUEOUS	2/5/97
04	MW-70	AQUEOUS	2/5/97
05	MW-63RB	AQUEOUS	2/5/97
06	MW-63	AQUEOUS	2/5/97
07	MW-89RB	AQUEOUS	2/5/97
08	MW-89	AQUEOUS	2/5/97
09	MW-66RB	AQUEOUS	2/5/97
10	MW-66	AQUEOUS	2/5/97
	MW-88RB	AQUEOUS	2/5/97
12	MW-88	AQUEOUS	2/5/97
13	MW-61ARB	AQUEOUS	2/6/97
14	MW-61A	AQUEOUS	2/6/97
15	MW-50	AQUEOUS	2/7/97
16	MW-49	AQUEOU	2/7/97
17	MW-44	AQUEOUS	2/7/97
18	MW-43	AQEUOUS	2/7/97
19	MW-41	AQUEOUS	2/7/97
20	MW-38	AQEUOUS	2/7/97
21	MW-39	AQUEOUS	2/7/97
22	MW-19	AQEUOUS	2/7/97
23	MW-13	AQUEOUS	2/7/97
24	MW-11	AQEUOUS	2/7/97
25	MW-69	AQUEOUS	2/7/97

CLIENT : AMERICAN ENV. NETWORK OF NM, INC.
PROJECT # : 702321
PROJECT NAME : MARATHON O/C
ATI I.D. : 702094

ATI #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	702321-04	AQUEOUS	02/05/97
02	702321-06	AQUEOUS	02/05/97
03	702321-08	AQUEOUS	02/05/97
04	702321-10	AQUEOUS	02/05/97
05	702321-12	AQUEOUS	02/05/97
06	702321-14	AQUEOUS	02/06/97
07	702321-15	AQUEOUS	02/07/97
08	702321-16	AQUEOUS	02/07/97
09	702321-17	AQUEOUS	02/07/97
10	702321-18	AQUEOUS	02/07/97
11	702321-19	AQUEOUS	02/07/97
12	702321-20	AQUEOUS	02/07/97
13	702321-21	AQUEOUS	02/07/97
14	702321-22	AQUEOUS	02/07/97
15	702321-23	AQUEOUS	02/07/97
16	702321-24	AQUEOUS	02/07/97
17	702321-25	AQUEOUS	02/07/97

----- TOTALS -----

MATRIX	# SAMPLES
AQUEOUS	17

ATI STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

American Environmental Network, Inc.

GENERAL CHEMISTRY RESULTS

ATI I.D. : 702094

CLIENT : AMERICAN ENV. NETWORK OF NM, INC.
PROJECT # : 702321
PROJECT NAME : MARATHON O/C

PARAMETER	UNITS	01	02	03	04	05
		70	63	89	66	88
CARBONATE (CACO3)	MG/L	-	-	<1	-	<1
BICARBONATE (CACO3)	MG/L	-	-	286	-	332
HYDROXIDE (CACO3)	MG/L	-	-	<1	-	<1
TOTAL ALKALINITY (AS CACO3)	MG/L	-	-	286	-	332
BROMIDE (EPA 300.0)	MG/L	-	-	<0.3	-	0.3
CHLORIDE (EPA 325.2)	MG/L	10	7	60	9	30
CONDUCTIVITY, (UMHOS/CM)		-	-	1090	-	1240
FLUORIDE (EPA 340.2)	MG/L	-	-	0.80	-	1.13
PH (EPA 150.1)	UNITS	-	-	7.7	-	7.6
SULFATE (EPA 375.2)	MG/L	-	-	250	-	390
T. DISSOLVED SOLIDS (160.1)	MG/L	-	-	840	-	970

American Environmental Network, Inc.

GENERAL CHEMISTRY RESULTS

ATI I.D. : 702094

CLIENT : AMERICAN ENV. NETWORK OF NM, INC.
PROJECT # : 702321
PROJECT NAME : MARATHON O/C

PARAMETER	UNITS	06 (61A)	07 (50)	08 (49)	09 (44)	10 (43)
CARBONATE (CACO3)	MG/L	<1	-	-	-	-
BICARBONATE (CACO3)	MG/L	266	-	-	-	-
HYDROXIDE (CACO3)	MG/L	<1	-	-	-	-
TOTAL ALKALINITY (AS CACO3)	MG/L	266	-	-	-	-
BROMIDE (EPA 300.0)	MG/L	<0.3	-	-	-	-
CHLORIDE (EPA 325.2)	MG/L	13	360	410	180	330
CONDUCTIVITY, (UMHOS/CM)		1020	-	-	-	-
FLUORIDE (EPA 340.2)	MG/L	0.85	-	-	-	-
PH (EPA 150.1)	UNITS	7.5	-	-	-	-
SULFATE (EPA 375.2)	MG/L	340	-	-	-	-
T. DISSOLVED SOLIDS (160.1)	MG/L	840	-	-	-	-

American Environmental Network, Inc.

GENERAL CHEMISTRY RESULTS

ATI I.D. : 702094

CLIENT : AMERICAN ENV. NETWORK OF NM, INC.
PROJECT # : 702321
PROJECT NAME : MARATHON O/C

PARAMETER	UNITS	11	12	13	14	15
		41	38	39	19	13
CHLORIDE (EPA 325.2)	MG/L	180	310	160	240	70

American Environmental Network, Inc.

GENERAL CHEMISTRY RESULTS

ATI I.D. : 702094

CLIENT : AMERICAN ENV. NETWORK OF NM, INC.
PROJECT # : 702321
PROJECT NAME : MARATHON O/C

PARAMETER	UNITS	16	17
CHLORIDE (EPA 325.2)	MG/L	46	70

American Environmental Network, Inc.

GENERAL CHEMISTRY - QUALITY CONTROL

CLIENT : AMERICAN ENV. NETWORK OF NM, INC.
PROJECT # : 702321
PROJECT NAME : MARATHON O/C ATI I.D. : 702094

PARAMETER	UNITS	ATI I.D.	SAMPLE RESULT	DUP. RESULT	RPD	SPIKED SAMPLE	SPIKE CONC	% REC
CARBONATE	MG/L	70208101	<1	<1	NA	NA	NA	NA
BICARBONATE	MG/L		257	255	0.8	NA	NA	NA
HYDROXIDE	MG/L		<1	<1	NA	NA	NA	NA
TOTAL ALKALINITY	MG/L		257	255	0.8	NA	NA	NA
BROMIDE	MG/L	70204801	<0.3	<0.3	NA	1.9	2.0	95
CHLORIDE	MG/L	70209401	10	9	11	60	50	100
CHLORIDE	MG/L	70210303	230	230	0	480	250	100
CHLORIDE	MG/L	70209411	180	180	0	700	500	104
CONDUCTIVITY(UMHOS/CM)		70208101	950	952	0.2	NA	NA	NA
FLUORIDE	MG/L	70208101	0.28	0.28	0	0.61	0.30	110
PH	UNITS	70208101	8.1	8.1	0	NA	NA	NA
SULFATE	MG/L	70205905	12	11	9	29	20	85
SULFATE	MG/L	70210303	115	117	2	220	100	105
TOTAL DISSOLVED SOLIDS	MG/L	70205102	380	370	3	NA	NA	NA

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

"FINAL REPORT FORMAT - MULTIPLE"

Accession: 702191
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 702321
Project Name: MARATHON O/C
Project Location: N/S
Test: Group of Single Metals
QcLevel: II

Parameter:	Unit:	Result:	R.L:	Batch:	Q:
Client ID: 702321-08			Lab ID:001		
CALCIUM (6010)	MG/L	140	1	I6W031	
POTASSIUM (6010)	MG/L	ND	2	X6W031	
MAGNESIUM (6010)	MG/L	55	0.2	J6W031	
SODIUM (6010)	MG/L	31	0.2	16W034	
Comments:					
Client ID: 702321-12			Lab ID:002		
CALCIUM (6010)	MG/L	160	1	I6W031	
POTASSIUM (6010)	MG/L	4	2	X6W031	
MAGNESIUM (6010)	MG/L	74	0.2	J6W031	
SODIUM (6010)	MG/L	31	0.2	16W034	
Comments:					
Client ID: 702321-14			Lab ID:003		
CALCIUM (6010)	MG/L	150	1	I6W031	
POTASSIUM (6010)	MG/L	ND	2	X6W031	
MAGNESIUM (6010)	MG/L	57	0.2	J6W031	
SODIUM (6010)	MG/L	16	0.2	16W034	
Comments:					

"FINAL REPORT FORMAT - MULTIPLE"

Accession: 702191
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 702321
Project Name: MARATHON O/C
Project Location: N/S
Test: Group of Single Metals

Client Id:	Lab Id:	Matrix:	Date/Time Sampled:	Date Received:
702321-08	001	WATER	05-FEB-97 1310	11-FEB-97
702321-12	002	WATER	05-FEB-97 1625	11-FEB-97
702321-14	003	WATER	06-FEB-97 1000	11-FEB-97

"Method Report Summary"

Accession Number: 702191
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 702321
Project Name: MARATHON O/C
Project Location: N/S
Test: Group of Single Metals

Client Sample Id:	Parameter:	Unit:	Result:
702321-08	CALCIUM (6010)	MG/L	140
	MAGNESIUM (6010)	MG/L	55
	SODIUM (6010)	MG/L	31
702321-12	CALCIUM (6010)	MG/L	160
	POTASSIUM (6010)	MG/L	4
	MAGNESIUM (6010)	MG/L	74
	SODIUM (6010)	MG/L	31
702321-14	CALCIUM (6010)	MG/L	150
	MAGNESIUM (6010)	MG/L	57
	SODIUM (6010)	MG/L	16

"Metals Quality Control Report"

Parameter:	CALCIUM	POTASSIUM	MAGNESIUM	SODIUM
Batch Id:	I6W031	X6W031	J6W031	16W034
Blank Result:	<1	<2	<0.2	<0.2
Anal. Method:	6010	6010	6010	6010
Prep. Method:	3010	3010	3010	3010
Analysis Date:	18-FEB-97	18-FEB-97	18-FEB-97	19-FEB-97
Prep. Date:	14-FEB-97	14-FEB-97	14-FEB-97	19-FEB-97
Sample Duplication				
Sample Dup:	702189-2	702189-2	702189-2	702153-1
Rept Limit:	<1	<2	<0.2	<0.2
Sample Result:	260	23	130	24
Dup Result:	270	24	130	24
Sample RPD:	4	4	0	0
Max RPD:	20	20	20	20
Dry Weight%	N/A	N/A	N/A	N/A
Matrix Spike				
Sample Spiked:	702189-2	702189-2	702189-2	702153-1
Rept Limit:	<1	<2	<0.2	<0.2
Sample Result:	240	<2	100	1.6
Spiked Result:	260	23	130	24
Spike Added:	20F	20	20F	20
% Recovery:	100	115	150	112
% Rec Limits:	75-125	75-125	75-125	75-125
Dry Weight%	N/A	N/A	N/A	N/A
ICV				
ICV Result:	9.9	50	5.0	9.7
True Result:	10	50	5.0	10
% Recovery:	99	100	100	97
% Rec Limits:	90-110	90-110	90-110	90-110
LCS				
LCS Result:	22	23	22	22
True Result:	20	20	20	20
% Recovery:	110	115	110	110
% Rec Limits:	80-120	80-120	80-120	80-120

"Quality Control Comments"

Batch Id:	Comments:
I6W031	ANALYST: JR
I6W031	The results reported under "Sample Duplication" are the MS/MSD.
X6W031	ANALYST: JR
X6W031	The results reported under "Sample Duplication" are the MS/MSD.
J6W031	ANALYST: JR
J6W031	The results reported under "Sample Duplication" are the MS/MSD.
16W034	ANALYST: JR
16W034	The results reported under "Sample Duplication" are the MS/MSD.

----- Common Footnotes Metals -----

N/A = NOT APPLICABLE.
N/S = NOT SUBMITTED.
N/C = SAMPLE AND DUPLICATE RESULTS ARE AT OR BELOW ATI REPORTING LIMIT; THEREFORE, THE RPD IS "NOT CALCULABLE" AND NO CONTROL LIMITS APPLY.
N/D = NOT DETECTED.
DISS. OR D = DISSOLVED
T & D = TOTAL AND DISSOLVED
R = REACTIVE
T = TOTAL
G = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X ATI REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE RESULT IS AT OR BELOW ATI REPORTING LIMIT; THEREFORE, THE RESULTS ARE "IN CONTROL".
Q = THE ANALYTICAL (POST-DIGESTION) SPIKE IS REPORTED DUE TO PERCENT RECOVERY BEING OUTSIDE ACCEPTANCE LIMITS ON THE MATRIX (PRE-DIGESTION) SPIKE.
# = ELEVATED REPORTING LIMIT DUE TO INSUFFICIENT SAMPLE.
+ = ELEVATED REPORTING LIMIT DUE TO DILUTION INTO CALIBRATION RANGE.
* = ELEVATED REPORTING LIMIT DUE TO MATRIX INTERFERENCE. (DILUTION PRIOR TO ANALYSIS)
@ = ADJUSTED REPORTING LIMIT DUE TO SAMPLE MATRIX. (DILUTION PRIOR TO DIGESTION)
P = ANALYTICAL (POST DIGESTION) SPIKE.
I = DUPLICATE INJECTION.
& = AUTOMATED
F = SAMPLE SPIKED > 4 X SPIKE CONCENTRATION.
N/C+ = NOT CALCULABLE
N/C* = NOT CALCULABLE; SAMPLE SPIKED > 4 X SPIKE CONCENTRATION.
H = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X ATI REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE RESULTS EXCEEDS THE ATI REPORTING LIMIT; THEREFORE, THE RESULTS ARE "OUT OF CONTROL".
A = SAMPLE AND DUPLICATE RESULTS ARE "OUT OF CONTROL".
Z = THE SAMPLE RESULT FOR THE SPIKE IS BELOW THE REPORTING LIMIT. HOWEVER, THIS RESULT IS REPORTED FOR ACCURATE QC CALCULATIONS.
NH= SAMPLE AND / OR DUPLICATE RESULT IS BELOW 5 X ATI REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE RESULTS EXCEEDS THE ATI REPORTING LIMIT; THEREFORE, THE RESULTS ARE "OUT OF CONTROL". SAMPLE IS NON-HOMOGENEOUS.
J = (FLORIDA DEP 'J' FLAG) - MATRIX SPIKE AND POST SPIKE RECOVERY IS OUT OF THE ACCEPTABLE RANGE. SEE OUT OF CONTROL EVENTS FORM.
U = (FLORIDA DEP 'U' FLAG) - THE COMPOUND WAS ANALYZED FOR, BUT NOT DETECTED.
S = METHOD OF STANDARD ADDITIONS (MSA) WAS PERFORMED ON THIS SAMPLE.

FROM ANALYSIS REPORT:
RL= REPORTING LIMIT BASED ON METHOD DETECTION LIMIT STUDIES.
Q= QUALIFIER (FOOTNOTE)

FROM QUALITY CONTROL REPORT:
RPD= RELATIVE PERCENT DEVIATION.
RPT LIMIT= REPORTING LIMIT BASED ON METHOD DETECTION LIMIT STUDIES.

NOTE: THE UNITS REPORTED ON THE QUALITY CONTROL REPORT ARE REPORTED ON AN AS RUN BASIS.

SW-846, 3rd Edition, latest revision.
EPA 600/4-79-020, Revised March 1983.
NIOSH Manual of Analytical Methods, 4th Edition.
Standard Methods For the Examination of Water and Wastewater, 18th Edition, 1992.
Methods For the Determination of Metals in Environmental Samples - Supplement I, EPA 600/R-94-111, May 1994.

GJ = GARY JACOBS
JLH = JAMES L. HERED
CD = CHRISTY DRAPER
JR = JOHN REED
LV = LASSANDRA VON APPEN

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL COMPANY AEN I.D.: 702321
PROJECT # : 023350224.60
PROJECT NAME : IB REBEDIATION

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	DI H2O	AQUEOUS	2/5/97	NA	2/10/97	1
02	INT RB	AQUEOUS	2/5/97	NA	2/10/97	1
03	MW-70RB	AQUEOUS	2/5/97	NA	2/10/97	1

PARAMETER	DET. LIMIT	UNITS	01	02	03
BENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOLUENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
[illegible]YLBENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
AL XYLENES	0.5	UG/L	< 0.5	< 0.5	< 0.5
SURROGATE:					
TRIFLUOROTOLUENE (%)			97	90	90
SURROGATE LIMITS:	(69 - 117)				

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL COMPANY AEN I.D.: 702321
PROJECT # : 023350224.60
PROJECT NAME : IB REBEDIATION

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
04	MW-70	AQUEOUS	2/5/97	NA	2/10/97	1
05	MW-63RB	AQUEOUS	2/5/97	NA	2/10/97	1
06	MW-63	AQUEOUS	2/5/97	NA	2/10/97	1

PARAMETER	DET. LIMIT	UNITS	04	05	06
BENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOLUENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
AL XYLENES	0.5	UG/L	< 0.5	< 0.5	< 0.5
SURROGATE:					
TRIFLUOROTOLUENE (%)			96	91	92
SURROGATE LIMITS:	(69 - 117)				

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL COMPANY AEN I.D.: 702321
PROJECT # : 023350224.60
PROJECT NAME : IB REBEDIATION

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
07	MW-89RB	AQUEOUS	2/5/97	NA	2/10/97	1
08	MW-89	AQUEOUS	2/5/97	NA	2/10/97	1
09	MW-66RB	AQUEOUS	2/5/97	NA	2/10/97	1

PARAMETER	DET. LIMIT	UNITS	07	08	09
BENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOLUENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOTAL XYLENES	0.5	UG/L	< 0.5	< 0.5	< 0.5
SURROGATE:					
TRIFLUOROTOLUENE (%)			95	95	95
SURROGATE LIMITS:	(69 - 117)				

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL COMPANY AEN I.D.: 702321
PROJECT # : 023350224.60
PROJECT NAME : IB REBEDIATION

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
10	MW-66	AQUEOUS	2/5/97	NA	2/10/97	1
11	MW-88RB	AQUEOUS	2/5/97	NA	2/10/97	1
12	MW-88	AQUEOUS	2/5/97	NA	2/11/97	1

PARAMETER	DET. LIMIT	UNITS	10	11	12
BENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOLUENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
AL XYLENES	0.5	UG/L	< 0.5	< 0.5	< 0.5
SURROGATE:					
TRIFLUOROTOLUENE (%)			96	96	95
SURROGATE LIMITS:	(69 - 117)				

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL COMPANY AEN I.D.: 702321
PROJECT # : 023350224.60
PROJECT NAME : IB REBEDIATION

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
13	MW-61ARB	AQUEOUS	2/6/97	NA	2/11/97	1
14	MW-61A	AQUEOUS	2/6/97	NA	2/11/97	1
15	MW-50	AQUEOUS	2/7/97	NA	2/11/97	1

PARAMETER	DET. LIMIT	UNITS	13	14	15
BENZENE	0.5	UG/L	< 0.5	42	< 0.5
TOLUENE	0.5	UG/L	< 0.5	3.4	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	8.4	< 0.5
L XYLENES	0.5	UG/L	< 0.5	46	< 0.5
SURROGATE:					
BROMOFLUOROBENZENE (%)			NA	110	110
SURROGATE LIMITS	(80 - 120)				
TRIFLUOROTOLUENE (%)			91		
SURROGATE LIMITS:	(69 - 117)				

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL COMPANY AEN I.D.: 702321
PROJECT # : 023350224.60
PROJECT NAME : IB REBEDIATION

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
16	MW-49	AQUEOUS	2/7/97	NA	2/10/97	10
17	MW-44	AQUEOUS	2/7/97	NA	2/10/97	10
18	MW-43	AQUEOUS	2/7/97	NA	2/10/97	1

PARAMETER	DET. LIMIT	UNITS	16	17	18
BENZENE	0.5	UG/L	79	270	64
TOLUENE	0.5	UG/L	66	26	8.1
ETHYLBENZENE	0.5	UG/L	45	53	18
TAL XYLENES	0.5	UG/L	160	48	28
SURROGATE:					
BROMOFLUOROBENZENE (%)			107	107	179*
SURROGATE LIMITS	(80 - 120)				

CHEMIST NOTES:
*SURROGATE OUTSIDE CONTROL LIMITS DUE TO MATRIX INTERFERENCE.

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL COMPANY AEN I.D.: 702321
PROJECT # : 023350224.60
PROJECT NAME : IB REBEDIATION

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
19	MW-41	AQUEOUS	2/7/97	NA	2/11/97	1
20	MW-38	AQUEOUS	2/7/97	NA	2/11/97	1
21	MW-39	AQUEOUS	2/7/97	NA	2/11/97	1

PARAMETER	DET. LIMIT	UNITS	19	20	21
BENZENE	0.5	UG/L	82	0.7	< 0.5
TOLUENE	0.5	UG/L	6.2	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	7.2	< 0.5	< 0.5
TAL XYLENES	0.5	UG/L	9.1	0.7	< 0.5
SURROGATE:					
BROMOFLUOROBENZENE (%)			130*	112	113
SURROGATE LIMITS	(80 - 120)				

CHEMIST NOTES:
*SURROGATE OUTSIDE CONTROL LIMITS DUE TO MATRIX INTERFERENCE.

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL COMPANY AEN I.D.: 702321
PROJECT # : 023350224.60
PROJECT NAME : IB REBEDIATION

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
22	MW-19	AQUEOUS	2/7/97	NA	2/11/97	500
23	MW-13	AQUEOUS	2/7/97	NA	2/11/97	50
24	MW-11	AQUEOUS	2/7/97	NA	2/11/97	10

PARAMETER	DET. LIMIT	UNITS	22	23	24
BENZENE	0.5	UG/L	360	1300	270
TOLUENE	0.5	UG/L	980	130	20
ETHYLBENZENE	0.5	UG/L	1100	690	81
\L XYLENES	0.5	UG/L	5600	1000	1400
SURROGATE:					
BROMOFLUOROBENZENE (%)			124*	114	108
SURROGATE LIMITS	(80 - 120)				

CHEMIST NOTES:
*SURROGATE OUTSIDE CONTROL LIMITS DUE TO MATRIX INTERFERENCE.

GAS CHROMOTOGRAPHY RESULTS
REAGENT BLANK

TEST	: BTEX (EPA 8020)	AEN I.D.	: 702321
BLANK I. D.	: 021097	DATE EXRACTED	: NA
CLIENT	: MARATHON OIL COMPANY	DATE ANALYZED	: 2/10/97
PROJECT #	: 023350224.60	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: IB REBEDIATION		

PARAMETER	UNITS	
BENZENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
ETHYLBENZENE	UG/L	<0.5
TOTAL XYLENES	UG/L	<0.5
SURROGATE:		
BROMOFLUOROBENZENE (%)		108
'RROGATE LIMITS:	(80 - 120)	

¿MIST NOTES:
N/A

American Environmental Network, Inc.

GAS CHROMOTOGRAPHY RESULTS
REAGENT BLANK

TEST	: BTEX (EPA 8020)	AEN I.D.	: 702321
BLANK I. D.	: 021097	DATE EXRACTED	: NA
CLIENT	: MARATHON OIL COMPANY	DATE ANALYZED	: 2/10/97
PROJECT #	: 023350224.60	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: IB REBEDIATION		

PARAMETER	UNITS	
BENZENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
ETHYLBENZENE	UG/L	<0.5
TOTAL XYLENES	UG/L	<0.5
SURROGATE:		
TRIFLUOROTOLUENE (%)		81

S' OGATE LIMITS: (69 - 117)
C IST NOTES:
N/A

GAS CHROMOTOGRAPHY QUALITY CONTROL
MSMSD

TEST	: BTEX (EPA 8020)		
MSMSD #	: 702321-14	AEN I.D.	: 702321
CLIENT	: MARATHON OIL COMPANY	DATE EXRACTED	: NA
PROJECT #	: 023350224.60	DATE ANALYZED	: 2/11/97
PROJECT NAME	: IB REBEDIATION	SAMPLE MATRIX	: AQUEOUS
		UNITS	: UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	42	10.0	53	110	53	110	0	(80 - 120)	20
TOLUENE	3.4	10.0	13	96	13	96	0	(80 - 120)	20
ETHYLBENZENE	8.4	10.0	18	96	17	86	6	(80 - 120)	20
TOTAL XYLENES	46	30.0	75	97	74	93	1	(80 - 120)	20

CHEMIST NOTES:
N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

GAS CHROMOTOGRAPHY QUALITY CONTROL
MSMSD

TEST	: BTEX (EPA 8020)		
MSMSD #	: 702321-10	AEN I.D.	: 702321
CLIENT	: MARATHON OIL COMPANY	DATE EXRACTED	: NA
PROJECT #	: 023350224.60	DATE ANALYZED	: 2/10/97
PROJECT NAME	: IB REBEDIATION	SAMPLE MATRIX	: AQUEOUS
		UNITS	: UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<0.5	10.0	9.2	92	8.1	81	13	(80 - 120)	20
TOLUENE	<0.5	10.0	9.4	94	8.3	83	12	(80 - 120)	20
ETHYLBENZENE	<0.5	10.0	9.3	93	8.3	83	11	(80 - 120)	20
TOTAL XYLENES	<0.5	30.0	29.2	97	26.1	87	11	(80 - 120)	20

CHEMIST NOTES:
N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

GAS CHROMOTOGRAPHY QUALITY CONTROL
MSMSD

TEST	: BTEX (EPA 8020)		
MSMSD #	: 702321-14	AEN I.D.	: 702321
CLIENT	: MARATHON OIL COMPANY	DATE EXRACTED	: NA
PROJECT #	: 023350224.60	DATE ANALYZED	: 2/11/97
PROJECT NAME	: IB REBEDIATION	SAMPLE MATRIX	: AQUEOUS
		UNITS	: UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	42	10.0	53	110	53	110	0	(80 - 120)	20
TOLUENE	3.4	10.0	13	96	13	96	0	(80 - 120)	20
ETHYLBENZENE	8.4	10.0	18	96	17	86	6	(80 - 120)	20
TOTAL XYLENES	46	30.0	75	97	74	93	1	(80 - 120)	20

CHEMIST NOTES:
N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

"FINAL REPORT FORMAT - SINGLE"

Accession: 702191
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 702321
Project Name: MARATHON O/C
Project Location: N/S
Test: POLYNUCLEAR AROMATICS BY 8310
Analysis Method: 8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method: 3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Matrix: WATER
QC Level: II

Lab Id: 001
Client Sample Id: 702321-08

Sample Date/Time: 05-FEB-97 1310
Received Date: 11-FEB-97

Batch: PAW024
Blank: A

Dry Weight %: N/A

Extraction Date: 11-FEB-97
Analysis Date: 14-FEB-97

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/L	ND	1	
ACENAPHTHYLENE	UG/L	ND	1	
ANTHRACENE	UG/L	ND	1	
BENZO(a)ANTHRACENE	UG/L	ND	1	
BENZO(a)PYRENE	UG/L	ND	1	
BENZO(b)FLUORANTHENE	UG/L	ND	1	
BENZO(g,h,i)PERYLENE	UG/L	ND	1	
BENZO(k)FLUORANTHENE	UG/L	ND	1	
CHRYSENE	UG/L	ND	1	
DIBENZO(a,h)ANTHRACENE	UG/L	ND	1	
FLUORANTHENE	UG/L	ND	1	
FLUORENE	UG/L	1	1	
INDENO(1,2,3-cd)PYRENE	UG/L	ND	1	
NAPHTHALENE	UG/L	ND	1	
PHENANTHRENE	UG/L	ND	1	
PYRENE	UG/L	ND	1	
1-METHYLNAPHTHALENE	UG/L	ND	1	
2-METHYLNAPHTHALENE	UG/L	ND	1	
2-CHLOROANTHRACENE	%REC/SURR	111	28-138	
ANALYST	INITIALS	JBT		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession:	702191
Client:	AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number:	702321
Project Name:	MARATHON O/C
Project Location:	N/S
Test:	POLYNUCLEAR AROMATICS BY 8310
Analysis Method:	8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method:	3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Matrix:	WATER
QC Level:	II

Lab Id:	002	Sample Date/Time:	05-FEB-97 1625
Client Sample Id:	702321-12	Received Date:	11-FEB-97
Batch: PAW024		Extraction Date:	11-FEB-97
Blank: A	Dry Weight %: N/A	Analysis Date:	14-FEB-97

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/L	ND	1	
ACENAPHTHYLENE	UG/L	ND	1	
ANTHRACENE	UG/L	ND	1	
BENZO(a)ANTHRACENE	UG/L	ND	1	
BENZO(a)PYRENE	UG/L	ND	1	
BENZO(b)FLUORANTHENE	UG/L	ND	1	
BENZO(g,h,i)PERYLENE	UG/L	ND	1	
BENZO(k)FLUORANTHENE	UG/L	ND	1	
CHRYSENE	UG/L	ND	1	
DIBENZO(a,h)ANTHRACENE	UG/L	ND	1	
FLUORANTHENE	UG/L	ND	1	
FLUORENE	UG/L	1	1	
INDENO(1,2,3-cd)PYRENE	UG/L	ND	1	
NAPHTHALENE	UG/L	1	1	
PHENANTHRENE	UG/L	ND	1	
PYRENE	UG/L	ND	1	
1-METHYLNAPHTHALENE	UG/L	ND	1	
2-METHYLNAPHTHALENE	UG/L	ND	1	
2-CHLOROANTHRACENE	%REC/SURR	110	28-138	
ANALYST	INITIALS	JBT		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession:	702191
Client:	AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number:	702321
Project Name:	MARATHON O/C
Project Location:	N/S
Test:	POLYNUCLEAR AROMATICS BY 8310
Analysis Method:	8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method:	3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Matrix:	WATER
QC Level:	II

Lab Id:	003	Sample Date/Time:	06-FEB-97 1000
Client Sample Id:	702321-14	Received Date:	11-FEB-97
Batch: PAW024		Extraction Date:	11-FEB-97
Blank: A	Dry Weight %: N/A	Analysis Date:	14-FEB-97

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/L	ND	1	
ACENAPHTHYLENE	UG/L	ND	1	
ANTHRACENE	UG/L	ND	1	
BENZO(a)ANTHRACENE	UG/L	ND	1	
BENZO(a)PYRENE	UG/L	ND	1	
BENZO(b)FLUORANTHENE	UG/L	ND	1	
BENZO(g,h,i)PERYLENE	UG/L	1	1	
BENZO(k)FLUORANTHENE	UG/L	ND	1	
CHRYSENE	UG/L	ND	1	
DIBENZO(a,h)ANTHRACENE	UG/L	ND	1	
FLUORANTHENE	UG/L	ND	1	
FLUORENE	UG/L	1	1	
INDENO(1,2,3-cd)PYRENE	UG/L	ND	1	
NAPHTHALENE	UG/L	ND	1	
PHENANTHRENE	UG/L	ND	1	
PYRENE	UG/L	ND	1	
1-METHYLNAPHTHALENE	UG/L	ND	1	
2-METHYLNAPHTHALENE	UG/L	ND	1	
2-CHLOROANTHRACENE	%REC/SURR	100	28-138	
ANALYST	INITIALS	JBT		

Comments:

"Method Report Summary"

Accession Number: 702191
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 702321
Project Name: MARATHON O/C
Project Location: N/S
Test: POLYNUCLEAR AROMATICS BY 8310

Client Sample Id:	Parameter:	Unit:	Result:
702321-08	FLUORENE	UG/L	1
702321-12	FLUORENE	UG/L	1
	NAPHTHALENE	UG/L	1
702321-14	BENZO(g,h,i)PERYLENE	UG/L	1
	FLUORENE	UG/L	1

"QC Report"

Title: Water Blank
Batch: PAW024
Analysis Method: 8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method: 3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.

Blank Id: A Date Analyzed: Date Extracted: 11-FEB-97

Parameters:	Units:	Results:	Reporting Limits:
ACENAPHTHENE	UG/L	ND	1
ACENAPHTHYLENE	UG/L	ND	1
ANTHRACENE	UG/L	ND	1
BENZO(a)ANTHRACENE	UG/L	ND	1
BENZO(a)PYRENE	UG/L	ND	1
BENZO(b)FLUORANTHENE	UG/L	ND	1
BENZO(g,h,i)PERYLENE	UG/L	ND	1
BENZO(k)FLUORANTHENE	UG/L	ND	1
CHRYSENE	UG/L	ND	1
DIBENZO(a,h)ANTHRACENE	UG/L	ND	1
FLUORANTHENE	UG/L	ND	1
FLUORENE	UG/L	ND	1
INDENO(1,2,3-cd)PYRENE	UG/L	ND	1
NAPHTHALENE	UG/L	ND	1
PHENANTHRENE	UG/L	ND	1
PYRENE	UG/L	ND	1
1-METHYLNAPHTHALENE	UG/L	ND	1
2-METHYLNAPHTHALENE	UG/L	ND	1
2-CHLOROANTHRACENE	%REC/SURR	110	28-138
ANALYST	INITIALS	JBT	

Comments:

"QC Report"

Title: Water Reagent
Batch: PAW024
Analysis Method: 8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method: 3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.

RS Date Analyzed: 14-FEB-97 RS Date Extracted: 11-FEB-97
RSD Date Analyzed: 14-FEB-97 RSD Date Extracted: 11-FEB-97

Parameters:	Spike Added	Sample Conc	RS Conc	RS %Rec	RSD Conc	RSD %Rec	RPD	RPD Lmts	Rec Lmts
ACENAPHTHYLENE	10.0	<1	12.0	120	11.5	115	4	35	45-127
BENZO(k)FLUORANTHENE	10.0	<1	11.3	113	10.9	109	4	23	68-131
CHRYSENE	10.0	<1	11.3	113	10.7	107	5	24	69-131
PHENANTHRENE	10.0	<1	11.1	111	10.5	105	6	26	63-124
PYRENE	10.0	<1	11.2	112	10.3	103	8	25	61-126
Surrogates:									
2-CHLOROANTHRACENE				134		125			28-138

Comments:

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
UG/L = PARTS PER BILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

"QC Report"

Title: Water Matrix
Batch: PAW024
Analysis Method: 8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method: 3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.

Dry Weight %: N/A
Sample Spiked: 702191-1

MS Date Analyzed: 14-FEB-97
MSD Date Analyzed: 14-FEB-97

MS Date Extracted: 11-FEB-97
MSD Date Extracted: 11-FEB-97

Parameters:	Spike Added	Sample Conc	MS Conc	MS %Rec	MSD Conc	MSD %Rec	RPD	RPD Lmts	Rec Lmts
ACENAPHTHYLENE	10.0	<1	7.5	75	9.6	96	25	51	18-146
BENZO(k)FLUORANTHENE	10.0	<1	9.2	92	9.1	91	1	40	26-137
CHRYSENE	10.0	<1	9.1	91	9.2	92	1	69	16-156
PHENANTHRENE	10.0	<1	7.2	72	8.5	85	17	36	30-145
PYRENE	10.0	<1	8.5	85	8.8	88	3	41	39-137
Surrogates:									
2-CHLOROANTHRACENE				97		104			28-138

Comments:

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
UG/L = PARTS PER BILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

Common notation for Organic reporting

N/S = NOT SUBMITTED
N/A = NOT APPLICABLE
D = DILUTED OUT
UG = MICROGRAMS
UG/L = PARTS PER BILLION.
UG/KG = PARTS PER BILLION.
MG/M3 = MILLIGRAM PER CUBIC METER.
PPMV = PART PER MILLION BY VOLUME.
MG/KG = PARTS PER MILLION.
MG/L = PARTS PER MILLION.
< = LESS THAN DETECTION LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS
Y = IMPROPER PRESERVATION, NO PRESERVATIVE PRESENT IN SAMPLE UPON RECEIPT.

SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

ORGANIC SOILS ARE REPORTED ON A DRYWEIGHT BASIS.

ND = NOT DETECTED ABOVE REPORTING LIMIT.

RPT LIMIT = REPORTING LIMITS BASED ON METHOD DETECTION LIMIT STUDIES.

RPD = RELATIVE PERCENT DIFFERENCE (OR DEVIATION)

AEN/GC/FID
AEN GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH FLAME IONIZATION DETECTOR (FID).

AEN/GC/FIX
AEN GAS CHROMATOGRAPHIC METHOD FOR ANALYSIS OF FIXED GASES EMPLOYING DIRECT INJECTION ON COLUMN WITH THERMAL CONDUCTIVITY DETECTOR (TCD) AND FLAME IONIZATION DETECTOR (FID).

AEN/GC/FPD
AEN GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH FLAME PHOTOMETRIC DETECTOR (FPD) IN SULFUR-SPECIFIC MODE.

AEN/GC/PID
AEN GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH PHOTOIONIZATION DETECTOR (PID).

AEN/GC/TCD
AEN GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH THERMAL CONDUCTIVITY DETECTOR (TCD).

SW-846 METHOD 9020
PARTICULATE MATTER IS REMOVED BY ALLOWING PARTICULATES TO SETTLE IN THE SAMPLE CONTAINER AND DECANTING THE SUPERNATANT LIQUID. EXCESSIVE PARTICULATES ARE REMOVED BY FILTRATION OF THE SUPERNATANT LIQUID.

SW = STEVE WILHITE
PL = PAUL LESCHENSKY
RW = ROBERT WOLFE
KS = KENDALL SMITH
KK = KERRY LEMONT
RP = ROB PEREZ
JBT = JENNIFER TORRANCE
LP = LAVERNE PETERSON
PLD = PAULA DOUGHTY

American Environmental Network (Arizona), Inc.

CHAIN OF CUSTODY

DATE 2/5/97 PAGE 1 OF 3

AEN LAB I.D. 702321

REPORT: Attn. to: Bob Menzie

COMPANY: Marathon O/c
ADDRESS: Po Box 552
Midland, TX, 79702
PHONE: (915) 687-8312
FAX: (915) 687-8305

BILL TO:
COMPANY: Same as Above
ADDRESS:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	COMPOSITE OR GRAB	Petroleum Hydrocarbons (418.1)	(MOD.8015) Fuel Fingerprint	(M8015) Gas	(BLS-191) Diesel	BTXE/MTBE (8020/602)	Chloride	Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	Volatiles 502.2 (SDWA/UST)	Chloride, TDS, Ph, conductivity	Cations / Anions	Pesticides/PCB (608/8080/505/508)	Herbicides (615/8150/515)	Semi-Volatiles GC/MS (Tics/No Tics)	Volatile Organics GC/MS (624/8240/8260)	PAHs 8310 Polynuclear Aromatics (610/8310)	RCRA Metals by Total Digestion	RCRA Metals by TCLP (1311)	NUMBER OF CONTAINERS
PI H2O	2/5/97	0850	WATER	-01	G					X														2 ✓
INT RB	2/5/97	0900	↓	-02	↓					X														2 ✓
MW-70RB	↓	1010	↓	-03	↓					X														2 ✓
MW-70	↓	1025	↓	-04	↓					X	X													3 ✓
MW-63RB	↓	1135	↓	-05	↓					X														2 ✓
MW-63	↓	1145	↓	-06	↓					X	X													3 ✓
MW-89RB	↓	1300	↓	-07	↓					X														2 ✓
MW-89	↓	1310	↓	-08	↓					X	X KC				X	X					X			7 ✓
MW-66RB	↓	1415	↓	-09	↓					X														2 ✓

PROJECT INFORMATION

PROJ. NO.: 023350224.60
PROJ. NAME: Indian Basin Remediation
P.O. NO.:
SHIPPED VIA:

☐ UST (72 hr. ext.)
☐ NPDES
☐ SDWA
☐ RCRA
☐ OTHER

SAMPLE RECEIPT

NO. CONTAINERS	25
CUSTODY SEALS	Y / N / (NA)
RECEIVED INTACT	(Y) / N / NA
RECEIVED ICE	(Y) / N / NA

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☐ 2 WEEKS

Comments:

SAMPLED & RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: [signature] Time: 1730	Signature: Time:	Signature: Time:
Printed Name: Kevin Cok Date: 2/7/97	Printed Name: Date:	Printed Name: Date:
Company: Fluor Daniel GTI Phone: 242-3113	Company:	Company:

RECEIVED BY: 1.	RECEIVED BY: 2.	RECEIVED BY: (LAB) 3.
Signature: Time:	Signature: Time:	Signature: [signature] Time: 11:05
Printed Name: Date:	Printed Name: Date:	Printed Name: [signature] Date: 2/8/97
Company:	Company:	American Environmental Network

AEN Labs: Albuquerque (505) 344-3777 • Columbia (410) 730-8525 • Pensacola (904) 474-1001 • Pleasant Hill (510) 930-9090 • Portland (503) 684-0447

DISTRIBUTION: White, Canary - AEN (Arizona), Inc. • Pink - ORIGINATOR

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

FedEx # 222841420 4 + 222841421 5

American Environmental Network (Arizona), Inc.

CHAIN OF CUSTODY

DATE 2/5/97 PAGE 2 OF 3

AEN LAB I.D. 702321

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

REPORT: Attn. to: Bob Meyer

COMPANY: MARATHON OC
ADDRESS: PO Box 552
Midland TX 79702
PHONE: (915) 687-8312
FAX: (915) 687-8305

BILL TO:
COMPANY:
ADDRESS: Same as above

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	COMPOSITE OR GRAB	Petroleum Hydrocarbons (418.1)	(MOD.8015) Fuel Fingerprint	(M8015) Gas	(BLS-191) Diesel	BTX&MTBE (8020/602) Chlorine	Chlorine, TDS, Ph, Conductivity	Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	Volatiles 502.2 (SDWA/UST) Captions / Anions	PAHs 8310	Pesticides/PCB (608/8080/505/508)	Herbicides (615/8150/515)	Semi-Volatiles GC/MS (Tics/No Tics)	Volatile Organics GC/MS (624/8240/8260)	Polynuclear Aromatics (610/8310)	RCRA Metals by Total Digestion	RCRA Metals by TCLP (1311)	NUMBER OF CONTAINERS
MW-66	2/5/97	1425	WATER	-10	G					X	X												3
MW-88 RB		1615		-11						X													3
MW-88		1625		-12						X		X			X								3
MW-61A RB	2/6/97	0950		-13						X			X										3
MW-61A		1000		-14						X		X			X								3
MW-50	2/7/97	0910		-15						X	X												3
MW-49		0930		-16						X	X												3
MW-44		1000		-17						X	X												3
MW-43		1025		-18						X	X												3

PROJECT INFORMATION

PROJ. NO.: 02335022A.60
PROJ. NAME: Indian Basin Remediation
P.O. NO.:
SHIPPED VIA:

☐ UST (72 hr. ext.) ☐ NPDES ☐ SDWA ☐ RCRA ☐ OTHER

SAMPLE RECEIPT

NO. CONTAINERS	32
CUSTODY SEALS	Y / N (NA)
RECEIVED INTACT	(Y) N / NA
RECEIVED ICE	(Y) N / NA

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☐ 2 WEEKS

Comments:

SAMPLED & RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Kevin Cook Time: 1730	Signature: Time:	Signature Time
Printed Name: Kevin Cook Date: 2/7/97	Printed Name: Date:	Printed Name Date
Company: Flow Tech Well Svc Phone: 242-3113	Company:	Company

RECEIVED BY: 1.	RECEIVED BY: 2.	RECEIVED BY: (LAB) 3.
Signature: Time:	Signature: Time:	Signature: Time: 1105
Printed Name: Date:	Printed Name: Date:	Printed Name: Date: 2/5/97
Company:	Company:	American Environmental Network

DISTRIBUTION: White, Canary - AEN (Arizona), Inc. - Pink

American Environmental Network (Arizona), Inc.

CHAIN OF CUSTODY

DATE 2/7/97 PAGE 3 OF 3

AEN LAB I.D. 202321

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

REPORT: Attn. to: Bob Menzie

COMPANY: Marathon O/C
ADDRESS: PO Box 552
Midland, Tx. 79702
PHONE: (915) 687-8312
FAX: (915) 687-8305

BILL TO:
COMPANY:
ADDRESS: Same as above

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	COMPOSITE OR GRAB	Petroleum Hydrocarbons (418.1)	(MOD.8015) Fuel Fingerprint	(M8015) Gas	(BLS-191) Diesel	BTXE/MTBE (8020/602)	Chloride	Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	Volatiles 502.2 (SDWA/UST)	Pesticides/PCB (608/8080/505/508)	Herbicides (615/8150/515)	Semi-Volatiles GC/MS (Tics/No Tics)	Volatile Organics GC/MS (624/8240/8260)	Polynuclear Aromatics (610/8310)	RCRA Metals by Total Digestion	RCRA Metals by TCLP (1311)	NUMBER OF CONTAINERS
MW-41	2/7/97	1055	water	-19	G					X	X											3
MW-38	↓	1115	↓	-20						X	X											3
MW-39	↓	1135	↓	-21						X	X											3
MW-19	↓	1200	↓	-22						X	X											3
MW-13	↓	1225	↓	-23						X	X											3
MW-11	↓	1255	↓	-24						X	X											3
MW-69	↓	1335	↓	-25							X											1

PROJECT INFORMATION

PROJ. NO.: 02335 0224.60
PROJ. NAME: Indian Basin Remediation
P.O. NO.:
SHIPPED VIA:

☐ UST (72 hr. ext.) ☐ NPDES ☐ SDWA ☐ RCRA ☐ OTHER

SAMPLE RECEIPT

NO. CONTAINERS	19
CUSTODY SEALS	Y / N / (NA)
RECEIVED INTACT	(Y) / N / NA
RECEIVED COLD	(Y) / N / NA

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☐ 2 WEEKS

Comments:

SAMPLED & RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Kevin Cook Time: 1730	Signature: Time:	Signature: Time
Printed Name: Kevin Cook Date: 2/7/97	Printed Name: Date:	Printed Name: Date
Company: Fluor Daniel GTI Phone: 242-3113	Company:	Company

RECEIVED BY: 1.	RECEIVED BY: 2.	RECEIVED BY: (LAB) 3.
Signature: Time:	Signature: Time:	Signature: [illegible] Time: 1105
Printed Name: Date:	Printed Name: Date:	Printed Name: [illegible] Date: 2/8/97
Company:	Company:	American Environmental Network

American Environmental Network (Arizona), Inc.

CHAIN OF CUSTODY

DATE 2/5/97 PAGE 1 OF 3

AEN LAB I.D. 702321 / 702191

REPORT Attn. to: Bob Menzie

COMPANY: Marathon O/C
ADDRESS: Po Box 552
Midland, TX, 79702
PHONE: (915) 687-8312
FAX: (915) 687-8305

BILL TO:
COMPANY: Same As Above
ADDRESS:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	COMPOSITE OR GRAB	Petroleum Hydrocarbons (418.1)	(MOD.8015) Fuel Fingerprint	(M8015) Gas	(BLS-191) Diesel	BTXE/MTBE (8020/602)	Chloride	Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	Volatiles 502.2 (SDWA/UST)	Chloride, TDS, pH, conductivity	Cations / Anions	Pesticides/PCB (608/8080/505/508)	Herbicides (615/8150/515)	Semi-Volatiles GC/MS (Tics/No Tics)	Volatile Organics GC/MS (624/8240/8260)	Polynuclear Aromatics (610/8310)	PAHs 8310	RCRA Metals by Total Digestion	RCRA Metals by TCLP (1311)	NUMBER OF CONTAINERS
PI H2O	2/5/97	0850	WATER	-01	G					X															2
INT RB	2/5/97	0900	↓	-02	↓					X															2
mw-70RB	↓	1010	↓	-03	↓					X															2
mw-70	↓	1025	↓	-04	↓					X	X														3
mw-63RB	↓	1135	↓	-05	↓					X															2
mw-63	↓	1145	↓	-06	↓					X	X														3
mw-89RB	↓	1300	↓	-07	↓					X															2
mw-89	↓	1310	↓	-08	↓					X	~~X~~ KC				X	X						X			7
mw-66RB	↓	1415	↓	-09	↓					X															2

PROJECT INFORMATION

PROJ. NO. 023350224.60
PROJ. NAME Indian Basin Remediation
P.O. NO.
SHIPPED VIA

[ ] UST (72 hr ext) [ ] NPDES [ ] SDWA [ ] RCRA [ ] OTHER

SAMPLE RECEIPT

NO. CONTAINERS	25
CUSTODY SEALS	Y / N / (NA)
RECEIVED INTACT	(Y) / N / NA
RECEIVED ICE	(Y) / N / NA

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) [ ] 24hr [ ] 48hr [ ] 72hr [ ] 1 WEEK (NORMAL) [ ] 2 WEEKS

Comments:

SAMPLED & RELINQUISHED BY: 1.

Signature: Kevin Cook Time: 1730
Printed Name: Kevin Cook Date: 2/7/97
Company: Fluor Daniel GTI Phone: 242-3113

RELINQUISHED BY: 2.

Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 3.

Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: 1.

Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: 2.

Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: (LAB) 3.

Signature: [signature] Time: 11:05
Printed Name: [illegible] Date: 2/8/97
American Environmental Network

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

AEN I.: Albuquerque (505) 344-3777 • Columbia (410) 730-8525 • Pensacola (904) 474-1001 • Pleasant Hill (510) 930-9090 • Portland (503) 684-0447

DISTRIBUTION: White, Canary - AEN (Arizona), Inc. • Pink - ORIGINATOR

American Environmental Network (Arizona), Inc.

FedEx # [illegible] 2228414215

CHAIN OF CUSTODY

DATE 2/5/97 PAGE 2 OF 3

AEN LAB I.D. 702321 / 702191

REPORT: Attn. to: Bob menzie

COMPANY: Marathon OC
ADDRESS: PO Box 552
Midland Tx 79702
PHONE: (915) 687-8312
FAX: (915) 687-8305

BILL TO:
COMPANY:
ADDRESS: Same as above

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	COMPOSITE OR GRAB	Petroleum Hydrocarbons (418.1)	(MOD.8015) Fuel Fingerprint	(M8015) Gas	(BLS-191) Diesel	BTX/MTBE (8020/602)	Chloride	Chlorine, TDS, Ph, Conductivity	Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	Volatiles 502.2 (SDWA/UST)	Cations / Anions	PAH 8310	Pesticides/PCB (608/8080/505/508)	Herbicides (615/8150/515)	Semi-Volatiles GC/MS (Tics/No Tics)	Volatile Organics GC/MS (624/8240/8260)	Polynuclear Aromatics (610/8310)	RCRA Metals by Total Digestion	RCRA Metals by TCLP (1311)	NUMBER OF CONTAINERS
mw-66	2/5/97	1425	water	-10	G					X	X														3
mw-88 RB	↓	1615	↓	-11	↓					X															2
mw-88	↓	1625	↓	-12	↓					X		X				X	X								7
mw-61A RB	2/6/97	0950	↓	-13	↓					X															2
mw-61A	↓	1000	↓	-14	↓					X		X				X	X								6
mw-50	2/7/97	0910	↓	-15	↓					X	X														3
mw-49	↓	0930	↓	-16	↓					X	X														3
mw-44	↓	1000	↓	-17	↓					X	X														3
mw-43	↓	1025	↓	-18	↓					X	X														3

PROJECT INFORMATION

PROJ. NO. 023350224.60
PROJ. NAME Fullerton Basin Remediation
P.O. NO.
SHIPPED VIA

[ ] UST (72 hr ext) [ ] NPDES [ ] SDWA [ ] RCRA [ ] OTHER

SAMPLE RECEIPT

NO. CONTAINERS	32
CUSTODY SEALS	Y / N / (NA)
RECEIVED INTACT	(Y) / N / NA
RECEIVED ICE	(Y) / N / NA

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) [ ] 24hr [ ] 48hr [ ] 72hr [ ] 1 WEEK (NORMAL) [ ] 2 WEEKS

Comments:

SAMPLED & RELINQUISHED BY: 1.
Signature: Kevin Cook Time: 1730
Printed Name: Kevin Cook Date: 2/7/97
Company: Fluor Daniel GTI Phone: 242-3113

RELINQUISHED BY: 2.
Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 3.
Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: 1.
Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: 2.
Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: (LAB) 3.
Signature: [signature] Time: 1105
Printed Name: H Mitch P. [illegible] Date: 2/8/97
American Environmental Network

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

American Environmental Network (Arizona), Inc.

CHAIN OF CUSTODY

DATE 2/7/97 PAGE 3 OF 3

AEN LAB I.D. 702321 / 702191

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

REPORT: Attn. to: Bob Menzie

COMPANY: Marathon O/C

ADDRESS: PO Box 552
Midland, Tx. 79702

PHONE: (915) 687-8312

FAX: (915) 687-8305

BILL TO:

COMPANY:

ADDRESS: Same As Above

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	COMPOSITE/GRAB	BTXE/MTBE (8020/602) Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	Volatiles 502.2 (SDWA/UST)	Pesticides/PCB (608/8080/505/508)	Herbicides (615/8150/515)	Semi-Volatiles GC/MS (Tics/No Tics)	Volatile Organics GC/MS (624/8240/8260)	Polynuclear Aromatics (610/8310)	RCRA Metals by: Total Digestion	RCRA Metals by: TCLP 1311	(BLS-191) Diesel (M8015) Gas	(MOD.8015) Fuel Fingerprint	Petroleum Hydrocarbons (418.1)	NUMBER OF CONTAINERS
mw-41	2/7/97	1055	WATER	-19	G	X	X												3
mw-38		1115		-20		X	X												3
mw-39		1135		-21		X	X												3
mw-19		1200		-22		X	X												3
mw-13		1225		-23		X	X												3
mw-11		1255		-24		X	X												3
mw-69		1335		-25		X	X												3

PROJECT INFORMATION

PROJECT NO: 023350224.60

PROJECT NAME: Indian Basin Remediation

PO NO:

SHIPPED VIA:

SAMPLE RECEIPT

- [ ] HSL (72 hr ed)
- [ ] NPDES
- [ ] SDWA
- [ ] RCRA
- [ ] OTHER

NO. CONTAINERS	19
CUSTODY SEALS	Y / N (NA)
RECEIVED INTACT	(Y) / N / NA
RECEIVED ICE	(Y) / N / NA

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) [ ] 24hr [ ] 48hr [ ] 72hr [ ] 1 WEEK (NORMAL) [ ] 2 WEEKS

Comments

SAMPLED & RELINQUISHED BY: 1.

Signature: Kevin Cook Time: 1730

Printed Name: Kevin Cook Date: 2/7/97

Company: Flow Analysis GTI Phone: 342-3413

RELINQUISHED BY: 2.

Signature: Time:

Printed Name: Date:

Company:

RELINQUISHED BY: 3.

Signature: Time:

Printed Name: Date:

Company:

RECEIVED BY: 1.

Signature: Time:

Printed Name: Date:

Company:

RECEIVED BY: 2.

Signature: Time:

Printed Name: Date:

Company:

RECEIVED BY: (LAB) 3.

Signature: Time: 1105

Printed Name: Date: 2/8/97

H.M.L. & Western

American Environmental Network

American Environmental Network
Albuquerque, New Mexico

Interlab Chain of Custody

revision #1

DATE: 2/11 PAGE: 1 OF 1

NETWORK PROJECT MANAGER: KIMBERLY D. McNEILL

COMPANY: American Environmental Network
ADDRESS: 2709-D Pan American Freeway, NE
Albuquerque, NM 87107

702191

CLIENT PROJECT MANAGER:

Kim McNeill

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
702321-08	2/5/97	1310	AQ	
-12	2/6/97	1625	↓	
-14	2/5/97	1000	↓	

ANALYSIS REQUEST

Metals - TAL	Metals - PP List	Metals - RCRA	RCRA Metals by TCLP (1311)	TOX	TOC	Gen Chemistry	Oil and Grease	BOD	COD	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	Polynuclear Aromatics (610/8310)	8240 (TCLP 1311) ZHE	8270 (TCLP 1311)	TO-14	Gross Alpha/Beta	NUMBER OF CONTAINERS
			X (Cd, K, Mg, Na)																
			X																
			X																

PROJECT INFORMATION

PROJECT NUMBER: 702321
PROJECT NAME: Marathon Oil Comp.
QC LEVEL: (STD.) IV
QC REQUIRED: MS MSD BLANK
TAT: (STANDARD) RUSH!

2/20

DUE DATE:
RUSH SURCHARGE:
CLIENT DISCOUNT:
SPECIFICATION REQUIRED: ☐YES ☐NO

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS	
CHAIN OF CUSTODY SEALS	
INTACT?	
RECEIVED GOOD COND./COLD	
LAB NUMBER	

SAMPLES SENT TO:	
SAN DIEGO	
Paragon	
RENTON	
PENSACOLA	X
PORTLAND	
PHOENIX	

RELINQUISHED BY: 1.
Signature: Time: 0930
Printed Name: Date: 2/11/97
Company: Albuquerque

RECEIVED BY: 1.
Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 2.
Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: (LAB) 2.
Signature: Time:
Printed Name: Date:
Company:

American Environmental Network
11 East Olive Road Pensacola, Florida 32514 (904)474-1001

PROJECT SAMPLE INSPECTION FORM

Accession #: 702191 Date Received: 11-Feb-97

1.	Was there a Chain of Custody?	(Yes)	No		7.	Are samples preserved? (Check pH of all H_2O except 40ml vials)+	(Yes)	No	N/A
2.	Was Chain of Custody properly relinquished?	(Yes)	No		8.	Is there sufficient volume for analysis requested?	(Yes)	No	
3.	Were samples received cold? (Check Temperature of Cooler)	(Yes)	No	N/A	9.	Were samples received within Holding Time?	(Yes)	No	
4.	Were all samples properly labeled and identified?	(Yes)	No		10.	Is Headspace visible > ¼" in diameter in 40ml vials?* If any headspace is evident, comment in out-of-control section.	Yes	No	(N/A)
5.	Were samples received in proper containers for analysis requested?	(Yes)	No		11.	If sent, were matrix spike bottles returned?	Yes	No	(N/A)
6.	Were all sample containers received intact?	(Yes)	No						

Airbill Number: 398 400 0377 Shipped By: Fedex

Cooler Number: N/S Shipping Charges: N/A

Cooler Weight: N/A Cooler Temp (°C): 4°C

Out of Control Events and Inspection Comments:

Inspected By: D. Kitt Date: 11-Feb-97 Logged By: D. Kitt Date: 11-Feb-97

\+ *All preservatives for the State of North Carolina and the State of New York are to be recorded on the sheet provided to record pH results (SOP 938, section 2.2.9.*

* *According to EPA, ¼" of headspace is allowed in 40ml vials, however, AEN makes it policy to record any headspace as out-of-control (SOP 938, section 2.2.12.*

American Environmental Network
Albuquerque, New Mexico

Interlab Chain of Custody

DATE: 2/10 PAGE 1 OF 2

NETWORK PROJECT MANAGER: KIMBERLY D. McNEILL

COMPANY: American Environmental Network
ADDRESS: 2709-D Pan American Freeway, NE
Albuquerque, NM 87107

CLIENT PROJECT MANAGER: Kim McNeill

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Metals - TAL	Metals - PP List	Metals - RCRA	RCRA Metals by TCLP (1311)	Chloride	F, Bromide, SO4, TDS	~~TOX~~ pH, ec	~~TOC~~ Total Alk (Bicarbonate, Carbonate)	Gen Chemistry			Oil and Grease	BOD	COD	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	Polynuclear Aromatics (610/8310)	8240 (TCLP 1311) ZHE	8270 (TCLP 1311)			TO-14	Gross Alpha/Beta				NUMBER OF CONTAINERS
702321 -04	2/5/97	1025	AQ	1					X																								1
-06		1145		2					X																								1
-08		1310		3					X	X	X	X																					2
-10		1425		4					X																								1
-12	↓	1625		5					X	X	X	X																					2
-14	2/6/97	1000		6					X	X	X	X																					1
-15	2/7/97	0900		7					X																								1
-16		0930		8					X																								1
-17	↓	1000	↓	9					X																								1

PROJECT INFORMATION

PROJECT NUMBER 702321
PROJECT NAME Marathon O/C
QC LEVEL (STD) IV
QC REQUIRED MS MSD BLANK
TAT (STANDARD) RUSH!

DUE DATE: 2/20
RUSH SURCHARGE:
CLIENT DISCOUNT:
SPECIAL QUALIFICATION REQUIRED: [ ] YES [ ] NO

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS	11
CHAIN OF CUSTODY SEALS	N
INTACT?	Y
RECEIVED GOOD COND./COLD	
LAB NUMBER	702094

SAMPLES SENT TO:

SAN DIEGO	
Paragon	
RENTON	
PENSACOLA	
PORTLAND	
PHOENIX	X

RELINQUISHED BY: 1.
Signature: John Caldwell Time: 1115
Printed Name: John Caldwell Date: 4/10/97
Company: AEN Albuquerque

RECEIVED BY: 1.
Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 2.
Signature Time
Printed Name Date
Company

RECEIVED BY: (LAB) 2.
Signature: Time: 1015
Printed Name: ERICA RAISANEN Date: 2/11/97
Company:

American Environmental Network
Albuquerque, New Mexico

Interlab Chain of Custody

DATE: 2/10 PAGE: 2 OF 2

NETWORK PROJECT MANAGER: KIMBERLY D. McNEILL

COMPANY: American Environmental Network
ADDRESS: 2709-D Pan American Freeway, NE
Albuquerque, NM 87107

CLIENT PROJECT MANAGER:

Kim McNeill

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Metals - TAL	Metals - PP List	Metals - RCRA	RCRA Metals by TCLP (1311)	Chloride	TOX	TOC	Gen Chemistry	Oil and Grease	BOD	COD	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	Polynuclear Aromatics (610/8310)	8240 (TCLP 1311) ZHE	8270 (TCLP 1311)			TO-14	Gross Alpha/Beta				NUMBER OF CONTAINERS
702321-18	2/7/97	1055	AQ	10					X																					1
-19		1055		11					X																					1
-20		1115		12					X																					1
-21		1135		13					X																					1
-22		1200		14					X																					1
-23		1225		15					X																					1
-24		1255		16					X																					1
-25		1335		17					X																					1

PROJECT INFORMATION

PROJECT NUMBER: 702321
PROJECT NAME: Marathon O/C
QC LEVEL: (STD) IV
QC REQUIRED: MS MSD BLANK
TAT: (STANDARD) RUSH

DUE DATE: 2/20
RUSH SURCHARGE:
CLIENT DISCOUNT:
SPECIAL CERTIFICATION REQUIRED: YES NO

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS	8
CHAIN OF CUSTODY SEALS	N
INTACT?	Y
RECEIVED GOOD COND/COLD	
LAB NUMBER	702094

SAMPLES SENT TO:

- SAN DIEGO
- Paragon
- RENTON
- PENSACOLA
- PORTLAND
- PHOENIX X

RELINQUISHED BY: 1.

Signature: [signature] Time: 1115
Printed Name: John Caldwell Date: 2/10/97
Albuquerque

RECEIVED BY: 1.

Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 2.

Signature Time
Printed Name Date
Company

RECEIVED BY: (LAB) 2.

Signature: Time: 1015
Printed Name: ERIC RAMANOW Date: 2/11/97
Company:

American Environmental Network, Inc.

AEN I.D. 702327

March 10, 1997

MARATHON OIL CO.
P.O. BOX 552
MIDLAND, TX 79702

Project Name IB REMEDIATION
Project Number (none)

Attention: BOB MENZIE

On 2/13/97 American Environmental Network (NM), Inc. (ADHS License No. AZ0015), received a request to analyze **aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

EPA method 8020 was performed by American Environmental Network (NM) Inc., Albuquerque, NM.

EPA methods 6010 and 8310 were performed by American Environmental Network (FL) Inc., 11 East Olive Road, Pensacola, FL.

All other analyses were performed by American Environmental Network (AZ) Inc., 9830 S. 51st Street, Suite B-113, Phoenix, AZ.

If you have any questions or comments, please do not hesitate to contact us at (505)344-3777.

Kimberly D. McNeill
Project Manager

H. Mitchell Rubenstein, Ph. D.
General Manager

2709-D Pan American Freeway, NE • Albuquerque, NM 87107 • (505) 344-3777 • Fax (602) 344-4413

CLIENT	: MARATHON OIL CO.	AEN I.D.	: 702327
PROJECT #	: (none)	DATE RECEIVED	: 2/13/97
PROJECT NAME	: IB REMEDIATION	REPORT DATE	: 3/10/97

AEN ID. #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	SW-1	AQUEOUS	2/10/97
02	W STRIPPER INLET	AQUEOUS	2/10/97
03	W STRIPPER OUTLET	AQUEOUS	2/10/97
04	E STRIPPER INLET	AQUEOUS	2/10/97
05	E STRIPPER OUTLET	AQUEOUS	2/10/97
06	LYMAN	AQUEOUS	2/10/97
07	ARROYO	AQUEOUS	2/10/97
08	BIEBBLE	AQUEOUS	2/10/97
09	MW-71RB	AQUEOUS	2/9/97
10	MW-71	AQUEOUS	2/9/97
	MW-59	AQUEOUS	2/9/97
	MW-60RB	AQUEOUS	2/9/97
13	MW-60	AQUEOUS	2/9/97
14	MW-87RB	AQUEOUS	2/9/97
15	MW-87	AQUEOUS	2/9/97
16	MW-87ARB	AQUEOUS	2/9/97
17	MW-87A	AQUEOUS	2/9/97
18	MW-67RB	AQUEOUS	2/10/97
19	MW-67	AQUEOUS	2/10/97
20	MW-57RB	AQUEOUS	2/10/97
21	MW-57	AQUEOUS	2/10/97
22	MW-55RB	AQUEOUS	2/10/97
23	MW-55	AQUEOUS	2/10/97
24	MW-54RB	AQUEOUS	2/10/97
25	MW-54	AQUEOUS	2/10/97
26	MW-61RB	AQUEOUS	2/10/97
27	MW-61	AQUEOUS	2/10/97
28	MW-90	AQUEOUS	2/10/97
29	MW-90RB	AQUEOUS	2/10/97
30	MW-79	AQUEOUS	2/10/97
31	MW-78RB	AQUEOUS	2/10/97
32	MW-78	AQUEOUS	2/10/97
33	MW-106	AQUEOUS	2/11/97
34	MW-91	AQUEOUS	2/11/97
35	MW-65	AQUEOUS	2/11/97
36	MW-62	AQUEOUS	2/11/97
37	MW-64	AQUEOUS	2/11/97
	MW-56	AQUEOUS	2/11/97
	MW-10	AQUEOUS	2/11/97
40	MW-46	AQUEOUS	2/11/97

CLIENT : AMERICAN ENV. NETWORK OF NM, INC.
PROJECT # : 702327
PROJECT NAME : MARATHON OIL
ATI I.D. : 702165

ATI #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	702327-01	AQUEOUS	02/10/97
02	702327-06	AQUEOUS	02/10/97
03	702327-07	AQUEOUS	02/10/97
04	702327-08	AQUEOUS	02/10/97
05	702327-10	AQUEOUS	02/09/97
06	702327-11	AQUEOUS	02/09/97
07	702327-13	AQUEOUS	02/09/97
08	702327-15	AQUEOUS	02/09/97
09	702327-17	AQUEOUS	02/09/97
10	702327-19	AQUEOUS	02/10/97
11	702327-21	AQUEOUS	02/10/97
12	702327-23	AQUEOUS	02/10/97
13	702327-25	AQUEOUS	02/10/97
14	702327-27	AQUEOUS	02/10/97
15	702327-28	AQUEOUS	02/10/97
16	702327-30	AQUEOUS	02/10/97
17	702327-32	AQUEOUS	02/10/97
18	702327-33	AQUEOUS	02/11/97
19	702327-34	AQUEOUS	02/11/97
20	702327-35	AQUEOUS	02/11/97
21	702327-36	AQUEOUS	02/11/97
22	702327-37	AQUEOUS	02/11/97
23	702327-38	AQUEOUS	02/11/97
24	702327-39	AQUEOUS	02/11/97
25	702327-40	AQUEOUS	02/11/97

----- TOTALS -----

MATRIX	# SAMPLES
AQUEOUS	25

ATI STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the te of this report. If an extended storage period is required, please contact ur sample control department before the scheduled disposal date.

American Environmental Network, Inc.

GENERAL CHEMISTRY RESULTS

ATI I.D. : 702165

CLIENT : AMERICAN ENV. NETWORK OF NM, INC.
PROJECT # : 702327
PROJECT NAME : MARATHON OIL

PARAMETER	UNITS	01 (SW-1)	02 (Lyman)	03 (Arroyo)	04 (Biebbe)	05 (MW-7)
CARBONATE (CACO3)	MG/L	<1	-	-	-	-
BICARBONATE (CACO3)	MG/L	275	-	-	-	-
HYDROXIDE (CACO3)	MG/L	<1	-	-	-	-
TOTAL ALKALINITY (AS CACO3)	MG/L	275	-	-	-	-
BROMIDE (EPA 300.0)	MG/L	<0.3	-	-	-	-
CHLORIDE (EPA 325.2)	MG/L	21	11	11	10	24
CONDUCTIVITY, (UMHOS/CM)		796	-	-	-	-
FLUORIDE (EPA 340.2)	MG/L	0.54	-	-	-	-
PH (EPA 150.1)	UNITS	7.6	-	-	-	-
SULFATE (EPA 375.2)	MG/L	140	-	-	-	-
T. DISSOLVED SOLIDS (160.1)	MG/L	520	-	-	-	-

American Environmental Network, Inc.

GENERAL CHEMISTRY RESULTS

ATI I.D. : 702165

CLIENT : AMERICAN ENV. NETWORK OF NM, INC.
PROJECT # : 702327
PROJECT NAME : MARATHON OIL

PARAMETER	UNITS	11 (NW-52)	12 (-45)	13 (54)	14 (61)	15 (90)
CARBONATE (CACO3)	MG/L	-	-	-	-	<1
BICARBONATE (CACO3)	MG/L	-	-	-	-	370
HYDROXIDE (CACO3)	MG/L	-	-	-	-	<1
TOTAL ALKALINITY (AS CACO3)	MG/L	-	-	-	-	370
BROMIDE (EPA 300.0)	MG/L	-	-	-	-	<0.3
CHLORIDE (EPA 325.2)	MG/L	32	270	180	410	26
CONDUCTIVITY, (UMHOS/CM)		-	-	-	-	749
FLUORIDE (EPA 340.2)	MG/L	-	-	-	-	0.36
PH (EPA 150.1)	UNITS	-	-	-	-	7.4
SULFATE (EPA 375.2)	MG/L	-	-	-	-	25
T. DISSOLVED SOLIDS (160.1)	MG/L	-	-	-	-	460

American Environmental Network, Inc.

GENERAL CHEMISTRY RESULTS

ATI I.D. : 702165

CLIENT : AMERICAN ENV. NETWORK OF NM, INC.
PROJECT # : 702327
PROJECT NAME : MARATHON OIL

PARAMETER	UNITS	06 (MW-59)	07 (-60)	08 (-87)	09 (87A)	10 (67)
CARBONATE (CACO3)	MG/L	-	-	<1	<1	-
BICARBONATE (CACO3)	MG/L	-	-	222	352	-
HYDROXIDE (CACO3)	MG/L	-	-	<1	<1	-
TOTAL ALKALINITY (AS CACO3)	MG/L	-	-	222	352	-
BROMIDE (EPA 300.0)	MG/L	-	-	<0.3	1.2	-
CHLORIDE (EPA 325.2)	MG/L	29	9	11	150	9
CONDUCTIVITY, (UMHOS/CM)		-	-	814	3350	-
FLUORIDE (EPA 340.2)	MG/L	-	-	0.63	1.90	-
PH (EPA 150.1)	UNITS	-	-	7.8	7.2	-
SULFATE (EPA 375.2)	MG/L	-	-	230	1900	-
T. DISSOLVED SOLIDS (160.1)	MG/L	-	-	580	3200	-

American Environmental Network, Inc.

GENERAL CHEMISTRY RESULTS

ATI I.D. : 702165

CLIENT : AMERICAN ENV. NETWORK OF NM, INC.
PROJECT # : 702327
PROJECT NAME : MARATHON OIL

PARAMETER	UNITS	16	17	18	19	20
		-79	78	106	91	65
CARBONATE (CACO3)	MG/L	-	-	<1	<1	-
BICARBONATE (CACO3)	MG/L	-	-	315	510	-
HYDROXIDE (CACO3)	MG/L	-	-	<1	<1	-
TOTAL ALKALINITY (AS CACO3)	MG/L	-	-	315	510	-
BROMIDE (EPA 300.0)	MG/L	-	-	<0.3	0.5	-
CHLORIDE (EPA 325.2)	MG/L	24	75	10	80	1.3
CONDUCTIVITY, (UMHOS/CM)		-	-	636	1010	-
FLUORIDE (EPA 340.2)	MG/L	-	-	0.24	0.19	-
PH (EPA 150.1)	UNITS	-	-	7.4	7.5	-
SULFATE (EPA 375.2)	MG/L	-	-	37	<5	-
T. DISSOLVED SOLIDS (160.1)	MG/L	-	-	430	590	-

American Environmental Network, Inc.

GENERAL CHEMISTRY RESULTS

ATI I.D. : 702165

CLIENT : AMERICAN ENV. NETWORK OF NM, INC.
PROJECT # : 702327
PROJECT NAME : MARATHON OIL

PARAMETER	UNITS	21	22	23	24	25
		62	64	56	10	46
CHLORIDE (EPA 325.2)	MG/L	150	11	170	120	220

American Environmental Network, Inc.

GENERAL CHEMISTRY - QUALITY CONTROL

CLIENT : AMERICAN ENV. NETWORK OF NM, INC.
PROJECT # : 702327
PROJECT NAME : MARATHON OIL ATI I.D. : 702165

PARAMETER	UNITS	ATI I.D.	SAMPLE RESULT	DUP. RESULT	RPD	SPIKED SAMPLE	SPIKE CONC	% REC
CARBONATE	MG/L	70215701	<1	<1	NA	NA	NA	NA
BICARBONATE	MG/L		216	216	0	NA	NA	NA
HYDROXIDE	MG/L		<1	<1	NA	NA	NA	NA
TOTAL ALKALINITY	MG/L		216	216	0	NA	NA	NA
BROMIDE	MG/L	70211001	0.4	0.4	0	2.9	2.0	125
CHLORIDE	MG/L	70210303	230	230	0	480	250	100
CHLORIDE	MG/L	70216505	24	24	0	76	50	104
CHLORIDE	MG/L	70216517	75	74	1	180	100	105
CHLORIDE	MG/L	70220501	60	60	0	160	100	100
CONDUCTIVITY(UMHOS/CM)		70210303	1100	1110	0.9	NA	NA	NA
CONDUCTIVITY(UMHOS/CM)		70218004	464	463	0.2	NA	NA	NA
FLUORIDE	MG/L	70211705	1.46	1.48	1	3.02	1.50	104
PH	UNITS	70213602	7.9	7.9	0	NA	NA	NA
SULFATE	MG/L	70231501	260	240	8	510	250	100
SULFATE	MG/L	70227603	70	70	0	170	100	100
TOTAL DISSOLVED SOLIDS	MG/L	70216501	520	530	2	NA	NA	NA

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

"FINAL REPORT FORMAT - MULTIPLE"

Accession: 702255
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 702327
Project Name: MARATHON OIL CO.
Project Location: N/S
Test: Group of Single Metals
QcLevel: II

Parameter:	Unit:	Result:	R.L:	Batch:	Q:
Client ID: 702327-01			**Lab ID:001**		
CALCIUM (200.7)	MG/L	100	1	I0W039	
POTASSIUM (200.7)	MG/L	ND	2	X0W039	
MAGNESIUM (200.7)	MG/L	40	0.2	J0W039	
SODIUM (200.7)	MG/L	13	0.2	10W039	
Comments:					
Client ID: 702327-15			**Lab ID:002**		
CALCIUM (200.7)	MG/L	130	1	I0W039	
POTASSIUM (200.7)	MG/L	ND	2	X0W039	
MAGNESIUM (200.7)	MG/L	50	0.2	J0W039	
SODIUM (200.7)	MG/L	12	0.2	10W039	
Comments:					
Client ID: 702327-17			**Lab ID:003**		
CALCIUM (200.7)	MG/L	390	1	I0W039	
POTASSIUM (200.7)	MG/L	9	2	X0W039	
MAGNESIUM (200.7)	MG/L	270	0.2	J0W039	
SODIUM (200.7)	MG/L	190	0.2	10W039	
Comments:					
Client ID: 702327-28			**Lab ID:004**		
CALCIUM (200.7)	MG/L	95	1	I0W039	
POTASSIUM (200.7)	MG/L	3	2	X0W039	
MAGNESIUM (200.7)	MG/L	50	0.2	J0W039	
SODIUM (200.7)	MG/L	15	0.2	10W039	
Comments:					
Client ID: 702327-33			**Lab ID:005**		
CALCIUM (200.7)	MG/L	460	1	I0W039	
POTASSIUM (200.7)	MG/L	14	2	X0W039	
MAGNESIUM (200.7)	MG/L	210	0.2	J0W039	
SODIUM (200.7)	MG/L	6.6	0.2	10W039	
Comments:					
Client ID: 702327-34			**Lab ID:006**		
CALCIUM (200.7)	MG/L	110	1	I0W039	
POTASSIUM (200.7)	MG/L	ND	2	X0W039	
MAGNESIUM (200.7)	MG/L	63	0.2	J0W039	
SODIUM (200.7)	MG/L	57	0.2	10W039	
Comments:					

"FINAL REPORT FORMAT - MULTIPLE"

Accession: 702255
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 702327
Project Name: MARATHON OIL CO.
Project Location: N/S
Test: Group of Single Metals

Client Id:	Lab Id:	Matrix:	Date/Time Sampled:	Date Received:
702327-01	001	WATER	10-FEB-97 1215	14-FEB-97
702327-15	002	WATER	09-FEB-97 1440	14-FEB-97
702327-17	003	WATER	09-FEB-97 1645	14-FEB-97
702327-28	004	WATER	10-FEB-97 1505	14-FEB-97
702327-33	005	WATER	11-FEB-97 0910	14-FEB-97
702327-34	006	WATER	11-FEB-97 0950	14-FEB-97

"Method Report Summary"

Accession Number: 702255
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 702327
Project Name: MARATHON OIL CO.
Project Location: N/S
Test: Group of Single Metals

Client Sample Id:	Parameter:	Unit:	Result:
702327-01	CALCIUM (200.7)	MG/L	100
	MAGNESIUM (200.7)	MG/L	40
	SODIUM (200.7)	MG/L	13
702327-15	CALCIUM (200.7)	MG/L	130
	MAGNESIUM (200.7)	MG/L	50
	SODIUM (200.7)	MG/L	12
702327-17	CALCIUM (200.7)	MG/L	390
	POTASSIUM (200.7)	MG/L	9
	MAGNESIUM (200.7)	MG/L	270
	SODIUM (200.7)	MG/L	190
702327-28	CALCIUM (200.7)	MG/L	95
	POTASSIUM (200.7)	MG/L	3
	MAGNESIUM (200.7)	MG/L	50
	SODIUM (200.7)	MG/L	15
702327-33	CALCIUM (200.7)	MG/L	460
	POTASSIUM (200.7)	MG/L	14
	MAGNESIUM (200.7)	MG/L	210
	SODIUM (200.7)	MG/L	6.6
702327-34	CALCIUM (200.7)	MG/L	110
	MAGNESIUM (200.7)	MG/L	63
	SODIUM (200.7)	MG/L	57

"Metals Quality Control Report"

Parameter:	CALCIUM	POTASSIUM	MAGNESIUM	SODIUM
Batch Id:	I0W039	X0W039	J0W039	10W039
Blank Result:	<1	<2	<0.2	<0.2
Anal. Method:	200.7	200.7	200.7	200.7
Prep. Method:	EPA 600	EPA 600	EPA 600	EPA 600
Analysis Date:	25-FEB-97	25-FEB-97	25-FEB-97	25-FEB-97
Prep. Date:	25-FEB-97	25-FEB-97	25-FEB-97	25-FEB-97
Sample Duplication				
Sample Dup:	702255-1	702255-1	702255-1	702255-1
Rept Limit:	<1	<2	<0.2	<0.2
Sample Result:	130	25	62	35
Dup Result:	130	24	62	35
Sample RPD:	0	4	0	0
Max RPD:	20	20	20	20
Dry Weight%	N/A	N/A	N/A	N/A
Matrix Spike				
Sample Spiked:	702255-1	702255-1	702255-1	702255-1
Rept Limit:	<1	<2	<0.2	<0.2
Sample Result:	100	<2	40	13
Spiked Result:	130	25	62	35
Spike Added:	20F	20	20	20
% Recovery:	150	125	110	110
% Rec Limits:	75-125	75-125	75-125	75-125
Dry Weight%	N/A	N/A	N/A	N/A
ICV				
ICV Result:	10.1	50	5.0	9.6
True Result:	10	50	5.0	10
% Recovery:	101	100	100	96
% Rec Limits:	90-110	90-110	90-110	90-110
LCS				
LCS Result:	23	23	23	22
True Result:	20	20	20	20
% Recovery:	115	115	115	110
% Rec Limits:	80-120	80-120	80-120	80-120

"Quality Control Comments"

Batch Id:	Comments:
I0W039	ANALYST: JR
I0W039	The results reported under "Sample Duplication" are the MS/MSD.
X0W039	ANALYST: JR
X0W039	The results reported under "Sample Duplication" are the MS/MSD.
J0W039	ANALYST: JR
J0W039	The results reported under "Sample Duplication" are the MS/MSD.
10W039	ANALYST: JR
10W039	The results reported under "Sample Duplication" are the MS/MSD.

----- Common Footnotes Metals -----

N/A = NOT APPLICABLE.
N/S = NOT SUBMITTED.
N/C = SAMPLE AND DUPLICATE RESULTS ARE AT OR BELOW ATI REPORTING LIMIT; THEREFORE, THE RPD IS "NOT CALCULABLE" AND NO CONTROL LIMITS APPLY.
N/D = NOT DETECTED.
DISS. OR D = DISSOLVED
T & D = TOTAL AND DISSOLVED
R = REACTIVE
T = TOTAL
G = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X ATI REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE RESULT IS AT OR BELOW ATI REPORTING LIMIT; THEREFORE, THE RESULTS ARE "IN CONTROL".
Q = THE ANALYTICAL (POST-DIGESTION) SPIKE IS REPORTED DUE TO PERCENT RECOVERY BEING OUTSIDE ACCEPTANCE LIMITS ON THE MATRIX (PRE-DIGESTION) SPIKE.
# = ELEVATED REPORTING LIMIT DUE TO INSUFFICIENT SAMPLE.
+ = ELEVATED REPORTING LIMIT DUE TO DILUTION INTO CALIBRATION RANGE.
* = ELEVATED REPORTING LIMIT DUE TO MATRIX INTERFERENCE. (DILUTION PRIOR TO ANALYSIS)
@ = ADJUSTED REPORTING LIMIT DUE TO SAMPLE MATRIX. (DILUTION PRIOR TO DIGESTION)
P = ANALYTICAL (POST DIGESTION) SPIKE.
I = DUPLICATE INJECTION.
& = AUTOMATED
F = SAMPLE SPIKED > 4 X SPIKE CONCENTRATION.
N/C+ = NOT CALCULABLE
N/C* = NOT CALCULABLE; SAMPLE SPIKED > 4 X SPIKE CONCENTRATION.
H = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X ATI REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE RESULTS EXCEEDS THE ATI REPORTING LIMIT; THEREFORE, THE RESULTS ARE "OUT OF CONTROL".
A = SAMPLE AND DUPLICATE RESULTS ARE "OUT OF CONTROL".
Z = THE SAMPLE RESULT FOR THE SPIKE IS BELOW THE REPORTING LIMIT. HOWEVER, THIS RESULT IS REPORTED FOR ACCURATE QC CALCULATIONS.
NH= SAMPLE AND / OR DUPLICATE RESULT IS BELOW 5 X ATI REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE RESULTS EXCEEDS THE ATI REPORTING LIMIT; THEREFORE, THE RESULTS ARE "OUT OF CONTROL". SAMPLE IS NON-HOMOGENEOUS.
J = (FLORIDA DEP 'J' FLAG) - MATRIX SPIKE AND POST SPIKE RECOVERY IS OUT OF THE ACCEPTABLE RANGE. SEE OUT OF CONTROL EVENTS FORM.
U = (FLORIDA DEP 'U' FLAG) - THE COMPOUND WAS ANALYZED FOR, BUT NOT DETECTED.
S = METHOD OF STANDARD ADDITIONS (MSA) WAS PERFORMED ON THIS SAMPLE.

FROM ANALYSIS REPORT:
RL= REPORTING LIMIT BASED ON METHOD DETECTION LIMIT STUDIES.
Q= QUALIFIER (FOOTNOTE)

FROM QUALITY CONTROL REPORT:
RPD= RELATIVE PERCENT DEVIATION.
RPT LIMIT= REPORTING LIMIT BASED ON METHOD DETECTION LIMIT STUDIES.

NOTE: THE UNITS REPORTED ON THE QUALITY CONTROL REPORT ARE REPORTED ON AN AS RUN BASIS.

SW-846, 3rd Edition, latest revision.
EPA 600/4-79-020, Revised March 1983.
NIOSH Manual of Analytical Methods, 4th Edition.
Standard Methods For the Examination of Water and Wastewater, 18th Edition, 1992.
Methods For the Determination of Metals in Environmental Samples - Supplement I, EPA 600/R-94-111, May 1994.

GJ = GARY JACOBS
JLH = JAMES L. HERED
CD = CHRISTY DRAPER
JR = JOHN REED
LV = LASSANDRA VON APPEN

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL CO. AEN I.D.: 702327
PROJECT # : (none)
PROJECT NAME : IB REMEDIATION

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	SW-1	AQUEOUS	2/10/97	NA	2/13/97	1
02	W STRIPPER INLET	AQUEOUS	2/10/97	NA	2/13/97	10
03	W STRIPPER OUTLET	AQUEOUS	2/10/97	NA	2/13/97	1

PARAMETER	DET. LIMIT	UNITS	01	02	03
BENZENE	0.5	UG/L	< 0.5	68	2.3
TOLUENE	0.5	UG/L	< 0.5	8.5	7.9
ETHYLBENZENE	0.5	UG/L	< 0.5	61	1.3
AL XYLENES	0.5	UG/L	< 0.5	270	5.7
SURROGATE:					
TRIFLUOROTOLUENE (%)			91	89	79
SURROGATE LIMITS	(69 - 117)				

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL CO. AEN I.D.: 702327
PROJECT # : (none)
PROJECT NAME : IB REMEDIATION

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
04	E STRIPPER INLET	AQUEOUS	2/10/97	NA	2/13/97	10
05	E STRIPPER OUTLET	AQUEOUS	2/10/97	NA	2/13/97	1
06	LYMAN	AQUEOUS	2/10/97	NA	2/13/97	1

PARAMETER	DET. LIMIT	UNITS	04	05	06
BENZENE	0.5	UG/L	60	2.7	< 0.5
TOLUENE	0.5	UG/L	6.4	8.4	< 0.5
ETHYLBENZENE	0.5	UG/L	55	2.1	< 0.5
.L XYLENES	0.5	UG/L	250	9.9	< 0.5
SURROGATE:					
TRIFLUOROTOLUENE (%)			86	81	91
SURROGATE LIMITS	(69 - 117)				

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL CO. AEN I.D.: 702327
PROJECT # : (none)
PROJECT NAME : IB REMEDIATION

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
07	ARROYO	AQUEOUS	2/10/97	NA	2/13/97	1
08	BIEBBLE	AQUEOUS	2/10/97	NA	2/13/97	1
09	MW-71RB	AQUEOUS	2/9/97	NA	2/13/97	1

PARAMETER	DET. LIMIT	UNITS	07	08	09
BENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOLUENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TAL XYLENES	0.5	UG/L	< 0.5	< 0.5	< 0.5
SURROGATE:					
TRIFLUOROTOLUENE (%)			92	97	97
SURROGATE LIMITS	(69 - 117)				

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL CO. AEN I.D.: 702327
PROJECT # : (none)
PROJECT NAME : IB REMEDIATION

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
10	MW-71	AQUEOUS	2/9/97	NA	2/13/97	1
12	MW-60RB	AQUEOUS	2/9/97	NA	2/13/97	1
13	MW-60	AQUEOUS	2/9/97	NA	2/13/97	1

PARAMETER	DET. LIMIT	UNITS	10	12	13
BENZENE	0.5	UG/L	5.2	< 0.5	< 0.5
TOLUENE	0.5	UG/L	1.3	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	0.8	< 0.5	0.5
\L XYLENES	0.5	UG/L	1.3	< 0.5	0.8
SURROGATE:					
TRIFLUOROTOLUENE (%)			92	94	87
SURROGATE LIMITS	(69 - 117)				

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL CO. AEN I.D.: 702327
PROJECT # : (none)
PROJECT NAME : IB REMEDIATION

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
14	MW-87RB	AQUEOUS	2/9/97	NA	2/13/97	1
15	MW-87	AQUEOUS	2/9/97	NA	2/13/97	1

PARAMETER	DET. LIMIT	UNITS	14	15
BENZENE	0.5	UG/L	< 0.5	< 0.5
TOLUENE	0.5	UG/L	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	< 0.5
TOTAL XYLENES	0.5	UG/L	< 0.5	< 0.5
SURROGATE:				
TRIFLUOROTOLUENE (%)			91	86
SURROGATE LIMITS	(69 - 117)			

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL CO. AEN I.D.: 702327
PROJECT # : (none)
PROJECT NAME : IB REMEDIATION

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
16	MW-87ARB	AQUEOUS	2/9/97	NA	2/13/97	1
17	MW-87A	AQUEOUS	2/9/97	NA	2/13/97	1
18	MW-67RB	AQUEOUS	2/10/97	NA	2/13/97	1

PARAMETER	DET. LIMIT	UNITS	16	17	18
BENZENE	0.5	UG/L	< 0.5	0.9	< 0.5
TOLUENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	0.7	< 0.5
TOTAL XYLENES	0.5	UG/L	< 0.5	1.5	< 0.5
SURROGATE:					
BROMOFLUOROBENZENE (%)			104	104	106
SURROGATE LIMITS	(80 - 120)				

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL CO. AEN I.D.: 702327
PROJECT # : (none)
PROJECT NAME : IB REMEDIATION

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
19	MW-67	AQUEOUS	2/10/97	NA	2/13/97	1
20	MW-57RB	AQUEOUS	2/10/97	NA	2/13/97	1
21	MW-57	AQUEOUS	2/10/97	NA	2/13/97	1

PARAMETER	DET. LIMIT	UNITS	19	20	21
BENZENE	0.5	UG/L	15.0	< 0.5	< 0.5
TOLUENE	0.5	UG/L	4.8	< 0.5	0.9
ETHYLBENZENE	0.5	UG/L	1.9	< 0.5	< 0.5
TOTAL XYLENES	0.5	UG/L	41.0	< 0.5	< 0.5
SURROGATE:					
BROMOFLUOROBENZENE (%)			114	107	95
SURROGATE LIMITS	(80 - 120)				

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL CO. AEN I.D.: 702327
PROJECT # : (none)
PROJECT NAME : IB REMEDIATION

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
22	MW-55RB	AQUEOUS	2/10/97	NA	2/13/97	1
23	MW-55	AQUEOUS	2/10/97	NA	2/13/97	10
24	MW-54RB	AQUEOUS	2/10/97	NA	2/13/97	1

PARAMETER	DET. LIMIT	UNITS	22	23	24
BENZENE	0.5	UG/L	1.7	410	6.0
TOLUENE	0.5	UG/L	< 0.5	20	0.8
ETHYLBENZENE	0.5	UG/L	1.1	230	4.3
\L XYLENES	0.5	UG/L	< 0.5	64	0.7
SURROGATE:					
BROMOFLUOROBENZENE (%)			101	105	107
SURROGATE LIMITS	(80 - 120)				

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL CO. AEN I.D.: 702327
PROJECT # : (none)
PROJECT NAME : IB REMEDIATION

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
25	MW-54	AQUEOUS	2/10/97	NA	2/13/97	1
26	MW-61RB	AQUEOUS	2/10/97	NA	2/13/97	1
27	MW-61	AQUEOUS	2/10/97	NA	2/13/97	1

PARAMETER	DET. LIMIT	UNITS	25	26	27
BENZENE	0.5	UG/L	< 0.5	15	< 0.5
TOLUENE	0.5	UG/L	< 0.5	1.2	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	10	< 0.5
TOTAL XYLENES	0.5	UG/L	< 0.5	3.0	< 0.5

SURROGATE:				
BROMOFLUOROBENZENE (%)		107	101	103
SURROGATE LIMITS	(80 - 120)			

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL CO. AEN I.D.: 702327
PROJECT # : (none)
PROJECT NAME : IB REMEDIATION

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
28	MW-90	AQUEOUS	2/10/97	NA	2/13/97	1
29	MW-90RB	AQUEOUS	2/10/97	NA	2/14/97	1
30	MW-79	AQUEOUS	2/10/97	NA	2/13/97	1

PARAMETER	DET. LIMIT	UNITS	28	29	30
BENZENE	0.5	UG/L	17	< 0.5	< 0.5
TOLUENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	15	< 0.5	< 0.5
\L XYLENES	0.5	UG/L	1.4	< 0.5	< 0.5
SURROGATE:					
BROMOFLUOROBENZENE (%)			104	102	101
SURROGATE LIMITS	(80 - 120)				

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL CO. AEN I.D.: 702327
PROJECT # : (none)
PROJECT NAME : IB REMEDIATION

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
31	MW-78RB	AQUEOUS	2/10/97	NA	2/13/97	1
32	MW-78	AQUEOUS	2/10/97	NA	2/13/97	1
33	MW-106	AQUEOUS	2/11/97	NA	2/13/97	1

PARAMETER	DET. LIMIT	UNITS	31	32	33
BENZENE	0.5	UG/L	< 0.5	41	< 0.5
TOLUENE	0.5	UG/L	< 0.5	7.9	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	7.4	< 0.5
AL XYLENES	0.5	UG/L	< 0.5	12	< 0.5
SURROGATE:					
BROMOFLUOROBENZENE (%)			103	108	104
SURROGATE LIMITS	(80 - 120)				

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL CO. AEN I.D.: 702327
PROJECT # : (none)
PROJECT NAME : IB REMEDIATION

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
34	MW-91	AQUEOUS	2/11/97	NA	2/14/97	10
35	MW-65	AQUEOUS	2/11/97	NA	2/14/97	1
38	MW-56	AQUEOUS	2/11/97	NA	2/14/97	10

PARAMETER	DET. LIMIT	UNITS	34	35	38
BENZENE	0.5	UG/L	340	< 0.5	370
TOLUENE	0.5	UG/L	14	< 0.5	12
ETHYLBENZENE	0.5	UG/L	50	< 0.5	51
TAL XYLENES	0.5	UG/L	55	< 0.5	51
SURROGATE:					
BROMOFLUOROBENZENE (%)			102	101	101
SURROGATE LIMITS	(80 - 120)				

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL CO. AEN I.D.: 702327
PROJECT # : (none)
PROJECT NAME : IB REMEDIATION

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
39	MW-10	AQUEOUS	2/11/97	NA	2/14/97	1
40	MW-46	AQUEOUS	2/11/97	NA	2/13/97	100

PARAMETER	DET. LIMIT	UNITS	39	40
BENZENE	0.5	UG/L	< 0.5	3300
TOLUENE	0.5	UG/L	< 0.5	550
ETHYLBENZENE	0.5	UG/L	< 0.5	1000
TOTAL XYLENES	0.5	UG/L	< 0.5	1400
SURROGATE:				
BROMOFLUOROBENZENE (%)			105	113
SURROGATE LIMITS	(80 - 120)			

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS
REAGENT BLANK

TEST	: BTEX (EPA 8020)	AEN I.D.	: 702327
BLANK I. D.	: 021397B	DATE EXRACTED	: N/A
CLIENT	: MARATHON OIL CO.	DATE ANALYZED	: 2/13/97
PROJECT #	: (none)	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: IB REMEDIATION		

PARAMETER	UNITS	
BENZENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
ETHYLBENZENE	UG/L	<0.5
TOTAL XYLENES	UG/L	<0.5
SURROGATE:		
BROMOFLUOROBENZENE (%)		105

'ROGATE LIMITS: (80 - 120)

.EMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS
REAGENT BLANK

TEST	: BTEX (EPA 8020)	AEN I.D.	: 702327
BLANK I. D.	: 021397	DATE EXRACTED	: N/A
CLIENT	: MARATHON OIL CO.	DATE ANALYZED	: 2/13/97
PROJECT #	: (none)	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: IB REMEDIATION		

PARAMETER	UNITS	
BENZENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
ETHYLBENZENE	UG/L	<0.5
TOTAL XYLENES	UG/L	<0.5
SURROGATE:		
BROMOFLUOROBENZENE (%)		104

ROGATE LIMITS: (80 - 120)
MIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS
REAGENT BLANK

TEST	: BTEX (EPA 8020)	AEN I.D.	: 702327
BLANK I. D.	: 021397C	DATE EXRACTED	: N/A
CLIENT	: MARATHON OIL CO.	DATE ANALYZED	: 2/13/97
PROJECT #	: (none)	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: IB REMEDIATION		

PARAMETER	UNITS	
BENZENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
ETHYLBENZENE	UG/L	<0.5
TOTAL XYLENES	UG/L	<0.5
SURROGATE:		
TRIFLUOROTOLUENE (%)		92
SURROGATE LIMITS:	(69 - 117)	

LIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS
REAGENT BLANK

TEST	: BTEX (EPA 8020)	AEN I.D.	: 702327
BLANK I. D.	: 021497	DATE EXRACTED	: N/A
CLIENT	: MARATHON OIL CO.	DATE ANALYZED	: 2/14/97
PROJECT #	: (none)	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: IB REMEDIATION		

PARAMETER	UNITS	
BENZENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
ETHYLBENZENE	UG/L	<0.5
TOTAL XYLENES	UG/L	<0.5
SURROGATE:		
BROMOFLUOROBENZENE (%)		104

SURROGATE LIMITS: (80 - 120)
QA/QC LIST NOTES:
N/A

GAS CHROMOTOGRAPHY QUALITY CONTROL
MSMSD

TEST	: BTEX (EPA 8020)		
MSMSD #	: 702327-26	AEN I.D.	: 702327
CLIENT	: MARATHON OIL CO.	DATE EXRACTED	: N/A
PROJECT #	: (none)	DATE ANALYZED	: 2/13/97
PROJECT NAME	: IB REMEDIATION	SAMPLE MATRIX	: AQUEOUS
		UNITS	: UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	14.8	10.0	25.7	109	26.5	117	3	(80 - 120)	20
TOLUENE	<0.5	10.0	11.4	114	11.8	118	3	(80 - 120)	20
ETHYLBENZENE	10.3	10.0	20.6	206	20.9	106	1	(80 - 120)	20
TOTAL XYLENES	3.0	30.0	32.3	108	32.7	99	1	(80 - 120)	20

CHEMIST NOTES:
N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

GAS CHROMOTOGRAPHY QUALITY CONTROL
MSMSD

TEST	: BTEX (EPA 8020)		
MSMSD #	: 702327-15	AEN I.D.	: 702327
CLIENT	: MARATHON OIL CO.	DATE EXRACTED	: N/A
PROJECT #	: (none)	DATE ANALYZED	: 2/13/97
PROJECT NAME	: IB REMEDIATION	SAMPLE MATRIX	: AQUEOUS
		UNITS	: UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<0.5	10.0	8.5	85	9.3	93	9	(80 - 120)	20
TOLUENE	<0.5	10.0	8.3	83	9.2	92	10	(80 - 120)	20
ETHYLBENZENE	<0.5	10.0	8.6	86	9.4	94	9	(80 - 120)	20
TOTAL XYLENES	<0.5	30.0	26.8	89	29.3	98	9	(80 - 120)	20

CHEMIST NOTES:
N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8240 BTEX ONLY		
CLIENT	: MARATHON OIL COMPANY	AEN I.D. :	702327
PROJECT #	: 23350224.60	DATE RECEIVED :	2/13/97
PROJECT NAME	: INDIAN BASIN REMEDIATION		

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
702327-10	MW-71	AQUEOUS	2/9/97	N/A	02/20/97	1

PARAMETER	DET. LIMIT		UNITS
Benzene	1.0	5.9	ug/L
Toluene	1.0	1.7	ug/L
Ethylbenzene	1.0	1.3	ug/L
m&p Xylenes	1.0	2.4	ug/L
o-Xylene	1.0	< 1.0	ug/L

SURROGATE % RECOVERY	
1,2-Dichloroethane-d4	81
	(76 - 114)
Toluene-d8	110
	(88 - 110)
Bromofluorobenzene	108
	(86 - 115)

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8240 BTEX ONLY		
CLIENT	: MARATHON OIL COMPANY	AEN I.D. :	702327
PROJECT #	: 23350224.60	DATE RECEIVED :	2/13/97
PROJECT NAME	: INDIAN BASIN REMEDIATION		

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
702327-19	MW-67	AQUEOUS	2/10/97	N/A	02/20/97	1

PARAMETER	DET. LIMIT		UNITS
Benzene	1.0	14	ug/L
Toluene	1.0	2.9	ug/L
Ethylbenzene	1.0	1.7	ug/L
m&p Xylenes	1.0	35	ug/L
o-Xylene	1.0	6.8	ug/L

SURROGATE % RECOVERY		
1,2-Dichloroethane-d4	89	(76 - 114)
Toluene-d8	103	(88 - 110)
Bromofluorobenzene	108	(86 - 115)

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8240 BTEX ONLY		
CLIENT	: MARATHON OIL COMPANY	AEN I.D. :	702327
PROJECT #	: 23350224.60		
PROJECT NAME	: INDIAN BASIN REMEDIATION		

SAMPLE ID #	BATCH	MATRIX	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
REAGENT BLANK	022097	AQUEOUS	N/A	02/20/97	1

PARAMETER	DET. LIMIT		UNITS
Benzene	1.0	< 1.0	ug/L
Toluene	1.0	< 1.0	ug/L
Ethylbenzene	1.0	< 1.0	ug/L
m&p Xylenes	1.0	< 1.0	ug/L
o-Xylene	1.0	< 1.0	ug/L

SURROGATE % RECOVERY	
1,2-Dichloroethane-d4	105 (76 - 114)
Toluene-d8	106 (88 - 110)
Bromofluorobenzene	106 (86 - 115)

Spike Recovery and RPD Summary Report - WATER

Method : C:\HPCHEM\2\METHODS\8260E3.M
Title : ATI ALBUQUERQUE GC/MS
Last Update : Fri Dec 13 08:18:23 1996
Response via : Initial Calibration

Non-Spiked Sample: 021897B1.D

	Spike Sample	Spike Duplicate Sample
File ID :	021897S1.D	021897S2.D
Sample :	021897 BS	021897 BSD
Acq Time:	18 Feb 97 7:52 pm	18 Feb 97 8:45 pm

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC Limits RPD	QC Limits % Rec
1,1-Dichloroethene	0.0	50	60	59	120	119	1	14	61-145
Benzene	0.0	50	55	55	110	109	1	11	76-127
Trichloroethene	0.0	50	52	51	103	102	1	14	71-120
Toluene	0.0	50	50	50	100	100	1	13	76-125
Chlorobenzene	0.0	50	55	55	111	110	1	13	75-130

8260E3.M Wed Feb 19 07:35:26 1997 MS1

"FINAL REPORT FORMAT - SINGLE"

Accession:	702255
Client:	AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number:	702327
Project Name:	MARATHON OIL CO.
Project Location:	N/S
Test:	POLYNUCLEAR AROMATICS BY 8310
Analysis Method:	8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method:	3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Matrix:	WATER
QC Level:	II

Lab Id:	002	Sample Date/Time:	09-FEB-97 1440
Client Sample Id:	702327-15 82	Received Date:	14-FEB-97
Batch: PAW025		Extraction Date:	14-FEB-97
Blank: B	Dry Weight %: N/A	Analysis Date:	21-FEB-97

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/L	ND	1	
ACENAPHTHYLENE	UG/L	ND	1	
ANTHRACENE	UG/L	ND	1	
BENZO(a)ANTHRACENE	UG/L	ND	1	
BENZO(a)PYRENE	UG/L	ND	1	
BENZO(b)FLUORANTHENE	UG/L	ND	1	
BENZO(g,h,i)PERYLENE	UG/L	ND	1	
BENZO(k)FLUORANTHENE	UG/L	ND	1	
CHRYSENE	UG/L	ND	1	
DIBENZO(a,h)ANTHRACENE	UG/L	ND	1	
FLUORANTHENE	UG/L	ND	1	
FLUORENE	UG/L	ND	1	
INDENO(1,2,3-cd)PYRENE	UG/L	ND	1	
NAPHTHALENE	UG/L	ND	1	
PHENANTHRENE	UG/L	ND	1	
PYRENE	UG/L	ND	1	
1-METHYLNAPHTHALENE	UG/L	ND	1	
2-METHYLNAPHTHALENE	UG/L	ND	1	
2-CHLOROANTHRACENE	%REC/SURR	93	28-138	
ANALYST	INITIALS	JBT		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession:	702255
Client:	AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number:	702327
Project Name:	MARATHON OIL CO.
Project Location:	N/S
Test:	POLYNUCLEAR AROMATICS BY 8310
Analysis Method:	8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method:	3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Matrix:	WATER
QC Level:	II

Lab Id:	003	Sample Date/Time:	09-FEB-97 1645
Client Sample Id:	702327-17	Received Date:	14-FEB-97
Batch: PAW025		Extraction Date:	14-FEB-97
Blank: B	Dry Weight %: N/A	Analysis Date:	21-FEB-97

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/L	19	1	
ACENAPHTHYLENE	UG/L	ND	1	
ANTHRACENE	UG/L	ND	1	
BENZO(a)ANTHRACENE	UG/L	ND	1	
BENZO(a)PYRENE	UG/L	ND	1	
BENZO(b)FLUORANTHENE	UG/L	ND	1	
BENZO(g,h,i)PERYLENE	UG/L	ND	1	
BENZO(k)FLUORANTHENE	UG/L	ND	1	
CHRYSENE	UG/L	ND	1	
DIBENZO(a,h)ANTHRACENE	UG/L	ND	1	
FLUORANTHENE	UG/L	ND	1	
FLUORENE	UG/L	ND	1	
INDENO(1,2,3-cd)PYRENE	UG/L	ND	1	
NAPHTHALENE	UG/L	ND	1	
PHENANTHRENE	UG/L	ND	1	
PYRENE	UG/L	ND	1	
1-METHYLNAPHTHALENE	UG/L	ND	1	
2-METHYLNAPHTHALENE	UG/L	ND	1	
2-CHLOROANTHRACENE	%REC/SURR	108	28-138	
ANALYST	INITIALS	JBT		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession:	702255
Client:	AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number:	702327
Project Name:	MARATHON OIL CO.
Project Location:	N/S
Test:	POLYNUCLEAR AROMATICS BY 8310
Analysis Method:	8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method:	3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Matrix:	WATER
QC Level:	II

Lab Id:	004 MW-96	Sample Date/Time:	10-FEB-97 1505
Client Sample Id:	702327-28	Received Date:	14-FEB-97
Batch: PAW025		Extraction Date:	14-FEB-97
Blank: B	Dry Weight %: N/A	Analysis Date:	21-FEB-97

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/L	ND	1	
ACENAPHTHYLENE	UG/L	ND	1	
ANTHRACENE	UG/L	ND	1	
BENZO(a)ANTHRACENE	UG/L	ND	1	
BENZO(a)PYRENE	UG/L	ND	1	
BENZO(b)FLUORANTHENE	UG/L	ND	1	
BENZO(g,h,i)PERYLENE	UG/L	ND	1	
BENZO(k)FLUORANTHENE	UG/L	ND	1	
CHRYSENE	UG/L	ND	1	
DIBENZO(a,h)ANTHRACENE	UG/L	ND	1	
FLUORANTHENE	UG/L	ND	1	
FLUORENE	UG/L	1	1	
INDENO(1,2,3-cd)PYRENE	UG/L	ND	1	
NAPHTHALENE	UG/L	ND	1	
PHENANTHRENE	UG/L	ND	1	
PYRENE	UG/L	ND	1	
1-METHYLNAPHTHALENE	UG/L	ND	1	
2-METHYLNAPHTHALENE	UG/L	ND	1	
2-CHLOROANTHRACENE	%REC/SURR	100	28-138	
ANALYST	INITIALS	JBT		

Comments:

American Environmental Network, Inc.

"FINAL REPORT FORMAT - SINGLE"

Accession:	702255
Client:	AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number:	702327
Project Name:	MARATHON OIL CO.
Project Location:	N/S
Test:	POLYNUCLEAR AROMATICS BY 8310
Analysis Method:	8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method:	3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Matrix:	WATER
QC Level:	II

Lab Id:	005 106	Sample Date/Time:	11-FEB-97 0910
Client Sample Id:	702327-33	Received Date:	14-FEB-97
Batch: PAW025		Extraction Date:	14-FEB-97
Blank: B	Dry Weight %: N/A	Analysis Date:	21-FEB-97

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/L	ND	1	
ACENAPHTHYLENE	UG/L	ND	1	
ANTHRACENE	UG/L	ND	1	
BENZO(a)ANTHRACENE	UG/L	ND	1	
BENZO(a)PYRENE	UG/L	ND	1	
BENZO(b)FLUORANTHENE	UG/L	ND	1	
BENZO(g,h,i)PERYLENE	UG/L	ND	1	
BENZO(k)FLUORANTHENE	UG/L	ND	1	
CHRYSENE	UG/L	ND	1	
DIBENZO(a,h)ANTHRACENE	UG/L	ND	1	
FLUORANTHENE	UG/L	ND	1	
FLUORENE	UG/L	1	1	
INDENO(1,2,3-cd)PYRENE	UG/L	ND	1	
NAPHTHALENE	UG/L	ND	1	
PHENANTHRENE	UG/L	ND	1	
PYRENE	UG/L	ND	1	
1-METHYLNAPHTHALENE	UG/L	ND	1	
2-METHYLNAPHTHALENE	UG/L	ND	1	
2-CHLOROANTHRACENE	%REC/SURR	65	28-138	
ANALYST	INITIALS	JBT		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession:	702255
Client:	AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number:	702327
Project Name:	MARATHON OIL CO.
Project Location:	N/S
Test:	POLYNUCLEAR AROMATICS BY 8310
Analysis Method:	8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method:	3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Matrix:	WATER
QC Level:	II

Lab Id:	006 [illegible]	Sample Date/Time:	11-FEB-97 0950
Client Sample Id:	702327-34	Received Date:	14-FEB-97
Batch: PAW025		Extraction Date:	14-FEB-97
Blank: B	Dry Weight %: N/A	Analysis Date:	21-FEB-97

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/L	2	1	
ACENAPHTHYLENE	UG/L	ND	1	
ANTHRACENE	UG/L	ND	1	
BENZO(a)ANTHRACENE	UG/L	ND	1	
BENZO(a)PYRENE	UG/L	ND	1	
BENZO(b)FLUORANTHENE	UG/L	ND	1	
BENZO(g,h,i)PERYLENE	UG/L	ND	1	
BENZO(k)FLUORANTHENE	UG/L	ND	1	
CHRYSENE	UG/L	ND	1	
DIBENZO(a,h)ANTHRACENE	UG/L	ND	1	
FLUORANTHENE	UG/L	ND	1	
FLUORENE	UG/L	1	1	
INDENO(1,2,3-cd)PYRENE	UG/L	ND	1	
NAPHTHALENE	UG/L	2	1	
PHENANTHRENE	UG/L	ND	1	
PYRENE	UG/L	ND	1	
1-METHYLNAPHTHALENE	UG/L	5	1	
2-METHYLNAPHTHALENE	UG/L	2	1	
2-CHLOROANTHRACENE	%REC/SURR	86	28-138	
ANALYST	INITIALS	JBT		

Comments:

"Method Report Summary"

Accession Number: 702255
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 702327
Project Name: MARATHON OIL CO.
Project Location: N/S
Test: POLYNUCLEAR AROMATICS BY 8310

Client Sample Id:	Parameter:	Unit:	Result:
702327-17	ACENAPHTHENE	UG/L	19
702327-28	FLUORENE	UG/L	1
702327-33	FLUORENE	UG/L	1
702327-34	ACENAPHTHENE	UG/L	2
	FLUORENE	UG/L	1
	NAPHTHALENE	UG/L	2
	1-METHYLNAPHTHALENE	UG/L	5
	2-METHYLNAPHTHALENE	UG/L	2

"QC Report"

Title: Water Blank
Batch: PAW025
Analysis Method: 8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method: 3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.

Blank Id: B Date Analyzed: 21-FEB-97 Date Extracted: 14-FEB-97

Parameters:	Units:	Results:	Reporting Limits:
ACENAPHTHENE	UG/L	ND	1
ACENAPHTHYLENE	UG/L	ND	1
ANTHRACENE	UG/L	ND	1
BENZO(a)ANTHRACENE	UG/L	ND	1
BENZO(a)PYRENE	UG/L	ND	1
BENZO(b)FLUORANTHENE	UG/L	ND	1
BENZO(g,h,i)PERYLENE	UG/L	ND	1
BENZO(k)FLUORANTHENE	UG/L	ND	1
CHRYSENE	UG/L	ND	1
DIBENZO(a,h)ANTHRACENE	UG/L	ND	1
FLUORANTHENE	UG/L	ND	1
FLUORENE	UG/L	ND	1
INDENO(1,2,3-cd)PYRENE	UG/L	ND	1
NAPHTHALENE	UG/L	ND	1
PHENANTHRENE	UG/L	ND	1
PYRENE	UG/L	ND	1
1-METHYLNAPHTHALENE	UG/L	ND	1
2-METHYLNAPHTHALENE	UG/L	ND	1
2-CHLOROANTHRACENE	%REC/SURR	111	28-138
ANALYST	INITIALS	JBT	

Comments:

"QC Report"

Title: Water Reagent
Batch: PAW025
Analysis Method: 8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method: 3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.

RS Date Analyzed: 16-FEB-97
RSD Date Analyzed: 16-FEB-97
RS Date Extracted: 13-FEB-97
RSD Date Extracted: 13-FEB-97

Parameters:	Spike Added	Sample Conc	RS Conc	RS %Rec	RSD Conc	RSD %Rec	RPD	RPD Lmts	Rec Lmts
ACENAPHTHYLENE	10.0	<1	10.0	100	10.9	109	9	35	45-127
BENZO(k)FLUORANTHENE	10.0	<1	10.4	104	9.9	99	5	23	68-131
CHRYSENE	10.0	<1	10.1	101	9.8	98	3	24	69-131
PHENANTHRENE	10.0	<1	9.5	95	9.7	97	2	26	63-124
PYRENE	10.0	<1	9.6	96	9.5	95	1	25	61-126
Surrogates:									
2-CHLOROANTHRACENE				115		119			28-138

Comments:

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
UG/L = PARTS PER BILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

"QC Report"

Title: Water Matrix
Batch: PAW025
Analysis Method: 8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method: 3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.

Dry Weight %: N/A
Sample Spiked: 702214-14

MS Date Analyzed: 17-FEB-97
MSD Date Analyzed: 17-FEB-97

MS Date Extracted: 13-FEB-97
MSD Date Extracted: 13-FEB-97

Parameters:	Spike Added	Sample Conc	MS Conc	MS %Rec	MSD Conc	MSD %Rec	RPD	RPD Lmts	Rec Lmts
ACENAPHTHYLENE	10.0	8	27.0	190*	20.7	127	40	51	18-146
BENZO(k)FLUORANTHENE	10.0	<1	8.8	88	6.8	68	26	40	26-137
CHRYSENE	10.0	3	1.8	-12*	8.7	57	307*	69	16-156
PHENANTHRENE	10.0	2.7	18.3	156*	13.2	105	39*	36	30-145
PYRENE	10.0	<1	14.5	145*	10.1	101	36	41	39-137
Surrogates:									
2-CHLOROANTHRACENE				164*		118			28-138

Comments:
MATRIX SPIKE/MATRIX SPIKE DUPLICATE HAD RECOVERY(S) AND/OR RPD(S) OUTSIDE ACCEPTANCE LIMITS DUE TO MATRIX INTERFERENCE. REFER TO REAGENT SPIKE/REAGENT SPIKE DUPLICATE DATA.

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
UG/L = PARTS PER BILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

Common notation for Organic reporting

N/S = NOT SUBMITTED
N/A = NOT APPLICABLE
D = DILUTED OUT
UG = MICROGRAMS
UG/L = PARTS PER BILLION.
UG/KG = PARTS PER BILLION.
MG/M3 = MILLIGRAM PER CUBIC METER.
PPMV = PART PER MILLION BY VOLUME.
MG/KG = PARTS PER MILLION.
MG/L = PARTS PER MILLION.
< = LESS THAN DETECTION LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS
Y = IMPROPER PRESERVATION, NO PRESERVATIVE PRESENT IN SAMPLE UPON RECEIPT.

SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

ORGANIC SOILS ARE REPORTED ON A DRYWEIGHT BASIS.

ND = NOT DETECTED ABOVE REPORTING LIMIT.

RPT LIMIT = REPORTING LIMITS BASED ON METHOD DETECTION LIMIT STUDIES.

RPD = RELATIVE PERCENT DIFFERENCE (OR DEVIATION)

AEN/GC/FID
AEN GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH FLAME IONIZATION DETECTOR (FID).

AEN/GC/FIX
AEN GAS CHROMATOGRAPHIC METHOD FOR ANALYSIS OF FIXED GASES EMPLOYING DIRECT INJECTION ON COLUMN WITH THERMAL CONDUCTIVITY DETECTOR (TCD) AND FLAME IONIZATION DETECTOR (FID).

AEN/GC/FPD
AEN GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH FLAME PHOTOMETRIC DETECTOR (FPD) IN SULFUR-SPECIFIC MODE.

AEN/GC/PID
AEN GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH PHOTOIONIZATION DETECTOR (PID).

AEN/GC/TCD
AEN GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH THERMAL CONDUCTIVITY DETECTOR (TCD).

SW-846 METHOD 9020
PARTICULATE MATTER IS REMOVED BY ALLOWING PARTICULATES TO SETTLE IN THE SAMPLE CONTAINER AND DECANTING THE SUPERNATANT LIQUID. EXCESSIVE PARTICULATES ARE REMOVED BY FILTRATION OF THE SUPERNATANT LIQUID.

SW = STEVE WILHITE
PL = PAUL LESCHENSKY
RW = ROBERT WOLFE
KS = KENDALL SMITH
KK = KERRY LEMONT
RP = ROB PEREZ
JBT = JENNIFER TORRANCE
LP = LAVERNE PETERSON
PLD = PAULA DOUGHTY

Analytical**Technologies** of New Mexico, Inc., Albuquerque, NM
San Diego • Phoenix • Seattle • Pensacola • Ft. Collins • Portland • Albuquerque • Anchorage

CHAIN OF CUSTODY

DATE: _____ PAGE: 1 OF 1

ATI LAB I.D. 702307

SHADED AREAS ARE FOR LAB USE ONLY

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: BOB MENZIE

COMPANY: MARATHON OIL Co
ADDRESS: P.O. BOX 552
MIDLAND TX 79702
PHONE: 915 687-8312
FAX: 915 687-8305

BILL TO:
COMPANY: SAME AS Above
ADDRESS:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	NUMBER OF CONTAINERS
SW-1	2-10-97	12:15 pm	WATER	01	2
W STRIPPER inlet		1:09 pm		02	2
W STRIPPER outlet		1:06 pm		03	2
E STRIPPER inlet		1:15 pm		04	2
E STRIPPER outlet		12:28 pm		05	2
LYMAN		10:15 AM		06	3
ARROYO		10:18 AM		07	3
BIEBBLE		10:30 AM		08	3

Petroleum Hydrocarbons (418.1) TRPH
(MOD.8015) Diesel/Direct/Inject
(M8015) Gas/Purge & Trap
Gasoline/BTEX & MTBE (M8015/8020)
BTXE/MTBE (8020)
BTEX & Chlorinated Aromatics (602/8020)
BTEX/MTBE/EDC & EDB (8020/8010/Short)
Chlorinated Hydrocarbons (601/8010)
Chloride
504 EDB☐ / DBCP☐
Polynuclear Aromatics (610/8310)
Volatile Organics (624/8240) GC/MS
Volatile Organics (8260) GC/MS
PAH 8310 ✓
Pesticides/PCB (608/8080)
Herbicides (615/8150)
Base/Neutral/Acid Compounds GC/MS (625/8270)
CATIONS / ANIONS
General Chemistry
Chloride, TDS, PH, ALKALINITY
Priority Pollutant Metals (13)
Target Analyte List Metals (23)
RCRA Metals (8)
RCRA Metals by TCLP (Method 1311)

PROJECT INFORMATION	PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS
PROJ. NO.:	(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒ 2 WEEK
PROJ. NAME: IB Renovation	CERTIFICATION REQUIRED: ☐ NM ☐ OTHER
P.O. NO.:	METHANOL PRESERVATION ☐
SHIPPED VIA:	COMMENTS:

SAMPLE RECEIPT

NO. CONTAINERS	8
CUSTODY SEALS	N/A
RECEIVED INTACT	Y
BLUE ICE	2°C

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.
Signature: Brian Arden Time: 1:54	Signature: Kevin Cook Time: 0820
Printed Name: Brian Arden Date: 2/10/97	Printed Name: Kevin Cook Date: 2/13/97
Company: MARATHON Oil Co	Company: Flour Daniel GTI
RECEIVED BY: 1.	**RECEIVED BY: (LAB) 2.**
Signature: Kevin Cook Time: 1354	Signature: Time: 0820
Printed Name: Kevin Cook Date: 2-10-97	Printed Name: Miller Timothy Date: 2/13/97
Company: Flour Daniel GTI	Analytical Technologies of New Mexico

ATI Labs: San Diego (619) 458-9141 • Phoenix (602) 496-4400 • Seattle (206) 228-8335 • Pensacola (904) 474-1001 • Portland (503) 684-0447 • Albuquerque (505) 344-3777 DISTRIBUTION: White, Canary - Pink - ORIGINATOR

American Environmental Network (Arizona), Inc.

CHAIN OF CUSTODY

DATE 2/9/97 PAGE 2nd OF 4/5

AEN LAB I.D. 702327

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

REPORT: Attn. to: Bob Menzie

COMPANY: Marathon O/C
ADDRESS: Po Box 552
Midland, Tx. 79702
PHONE: (915) 687-8312
FAX: (915) 687-8305

BILL TO:
COMPANY:
ADDRESS: Same as above

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	COMPOSITE OR GRAB	BTEX/MTBE (8020/602)	Chlorides, TDS, Pb, Conductivity, Cations	Petroleum Hydrocarbons (418.1)	(MOD.8015) Fuel Fingerprint	(M8015) Gas	(BLS-191) Diesel	Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	Volatiles 502.2 (SDWA/UST)	Cations, Anions	PAHs 8310	Pesticides/PCB (608/8080/505/508)	Herbicides (615/8150/515)	Semi-Volatiles GC/MS (Tics/No Tics)	Volatile Organics GC/MS (624/8240/8260)	Polynuclear Aromatics (610/8310)	RCRA Metals by Total Digestion	RCRA Metals by TCLP (1311)	NUMBER OF CONTAINERS
mw-71RB	2/9/97	1125	WATER	09	G	X	X																	2
mw-71		1130		10		X	X																	2
mw-59		1200		11		X	X																	2
mw-60RB		1320		12		X	X																	2
mw-60		1325		13		X	X																	2
mw-87RB		1435		14		X	X																	2
mw-87		1440		15		X	X								X	X								2
mw-87ARB		1640		16		X	X																	2
mw-87A		1645		17		X	X								X	X								2

PROJECT INFORMATION

PROJ. NO.: 023350024.60
PROJ. NAME: Indian Basin Remediation
P.O. NO.:
SHIPPED VIA:

☐ UST (72 hr. ext.) ☐ NPDES ☐ SDWA ☐ RCRA ☐ OTHER

SAMPLE RECEIPT

NO. CONTAINERS	27
CUSTODY SEALS	Y / N / (NA)
RECEIVED INTACT	(Y) / N / NA
RECEIVED ICE	(Y) / N / NA

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☐ 2 WEEKS

Comments:

SAMPLED & RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Kevin Cook	Signature:	Signature
Time: 0820	Time:	Time
Printed Name: Kevin Cook	Printed Name:	Printed Name
Date: 2/13/97	Date:	Date
Company: Flint Daniel GTI	Company:	Company
Phone: 242-3113		

RECEIVED BY: 1.	RECEIVED BY: 2.	RECEIVED BY: (LAB) 3.
Signature:	Signature:	Signature:
Time:	Time:	Time: 0820
Printed Name:	Printed Name:	Printed Name:
Date:	Date:	Date: 2/10/97
Company:	Company:	American Environmental Network

AEN Labs: Albuquerque (505) 344-3777 • Columbia (410) 730-8525 • Pensacola (904) 474-1001 • Pleasant Hill (510) 930-9090 • Portland (503) 684-0447 DISTRIBUTION: White, Canary, AEN (American Environmental Network), Pink: ORIGINATOR

American Environmental Network (Arizona), Inc.

CHAIN OF CUSTODY

DATE 2/10/97 PAGE 3 OF 5

AEN LAB I.D. 702327

REPORT: Attn. to: Bob Menzie

COMPANY: Marathon Oil
ADDRESS: PO Box 552
Midland, TX 79702
PHONE: (915) 687-8312
FAX: (915) 687 8305

BILL TO: Same as above
COMPANY:
ADDRESS:

ANALYSIS REQUEST: Petroleum Hydrocarbons (418.1); (MOD.8015) Fuel Fingerprint; (M8015) Gas; (BLS-191) Diesel; BTXE/MTBE (8020/602) [BTXE and 8020 circled]; Chloride, TDS, Pb, Conductivity / Chloride; Chlorinated Hydrocarbons (601/8010); Aromatic Hydrocarbons (602/8020); Volatiles 502.2 (SDWA/UST); Cations / Anions; PAHs 8310; Pesticides/PCB (608/8080/505/508); Herbicides (615/8150/515); Semi-Volatiles GC/MS (Tics/No Tics); Volatile Organics GC/MS (624/8240/8260); Polynuclear Aromatics (610/8310); RCRA Metals by Total Digestion; RCRA Metals by TCLP (1311)

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	COMPOSITE OR GRAB	BTXE/MTBE (8020/602)	Chloride, TDS, Pb, Conductivity	NUMBER OF CONTAINERS
mw-67RB	2/10/97	0940	Water	18	G	X		2
mw-67	↓	0945	↓	19	↓	X	X	3
mw-57RB		1105		20		X		2
mw-57		1110		21		X	X	3
mw-55RB		~~1150~~ 1145 KC		22		X		2
mw-55		1150		23		X	X	3
mw-54RB		1235		24		X		2
mw-54		1240		25		X	X	3
mw-61RB		1335		26		X		2

PROJECT INFORMATION

PROJ. NO.: 023350224.60
PROJ. NAME: Indian Basin Remediation
PO NO.:
SHIPPED VIA:

☐ UST (72 hr. ext.) ☐ NPDES ☐ SDWA ☐ RCRA ☐ OTHER

SAMPLE RECEIPT

NO. CONTAINERS: 22
CUSTODY SEALS: Y / N / NA (NA circled)
RECEIVED INTACT: Y / N / NA (Y circled)
RECEIVED ICE: Y / N / NA (Y circled)

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☐ 2 WEEKS

Comments:

SAMPLED & RELINQUISHED BY: 1.
Signature: [signature] Time: 0820
Printed Name: Kevin Cole Date: 2/13/97
Company: Phillips Daniel GTE Phone: 242-3113

RELINQUISHED BY: 2.
Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 3.
Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: 1.
Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: 2.
Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: (LAB) 3.
Signature: [signature] Time: 0820
Printed Name: [signature] Date: 2/13/97
American Environmental Network

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

American Environmental Network (Arizona), Inc.

CHAIN OF CUSTODY

DATE 2/10-11/97 PAGE ~~3~~ 4 OF ~~4~~ 5

AEN LAB I.D. 702327

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

REPORT: Attn. to: Bob Menzie

COMPANY: Marathon O/C
ADDRESS: PO Box 552, Midland TX 79702
PHONE: (915) 687-8312
FAX: (915) 687-8305

BILL TO:
COMPANY:
ADDRESS: Same As Above

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	COMPOSITE OR GRAB	Petroleum Hydrocarbons (418.1)	(MOD.8015) Fuel Fingerprint	(M8015) Gas	(BLS-191) Diesel	BTEX/MTBE (8020/602)	Chlorides	Chlorides, TDS, PH, Conductivity	Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	Volatiles 502.2 (SDWA/UST)	Cations/Anions	PAHs 8310	Pesticides/PCB (608/8080/505/508)	Herbicides (615/8150/515)	Semi-Volatiles GC/MS (Tics/No Tics)	Volatile Organics GC/MS (624/8240/8260)	Polynuclear Aromatics (610/8310)	RCRA Metals by Total Digestion	RCRA Metals by TCLP (1311)	NUMBER OF CONTAINERS
mw-4	2/10/97	1340	Water	27	G					X	X														3
mw-90	↓	1505	↓	28	↓					X		X				X	X								6
mw-90RB	↓	1515	↓	29	↓					X															2
mw-79	↓	1540	↓	30	↓					X	X														3
mw-79RB	↓	1630	↓	31	↓					X															2
mw-78	↓	1635	↓	32	↓					X	X														3
mw-106	2-11-97	0910	↓	33	↓					X		X				X	X								6
mw-91	↓	0950	↓	34	↓					X		X				X	X								6
mw-65	↓	1020	↓	35	↓					X	X														3

PROJECT INFORMATION

PROJ. NO.: 02335 0224.60
PROJ. NAME: Indian Basin Remediation
P.O. NO.:
SHIPPED VIA:

☐ UST (72 hr. ext.) ☐ NPDES ☐ SDWA ☐ RCRA ☐ OTHER

SAMPLE RECEIPT

NO. CONTAINERS	34
CUSTODY SEALS	Y / N / (NA)
RECEIVED INTACT	(Y) / N / NA
RECEIVED (ICE)	(Y) / N / NA

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☐ 2 WEEKS

Comments:

SAMPLED & RELINQUISHED BY: 1.

Signature: Ken Cook Time: 0820
Printed Name: Kevin Cook Date: 2/13/97
Company: Fluor Daniel GTI Phone: 242-3110

RELINQUISHED BY: 2.

Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 3.

Signature Time
Printed Name Date
Company

RECEIVED BY: 1.

Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: 2.

Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: (LAB) 3.

Signature: [signature] Time: 0820
Printed Name: Miles Tinney Date: 2/13/97
American Environmental Network

American Environmental Network (Arizona), Inc.

CHAIN OF CUSTODY

DATE 2/11/97 PAGE 1/5 OF 2/5

AEN LAB I.D. 702327

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

REPORT: Attn. to: Bob Menzie

COMPANY: Marathon O/C
ADDRESS: PO Box 552
Midland TX 79702
PHONE: (915) 687-8312
FAX: (915) 687-8305

BILL TO:
COMPANY:
ADDRESS: Same As Above

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	COMPOSITE OR GRAB	Petroleum Hydrocarbons (418.1)	(MOD.8015) Fuel Fingerprint	(M8015) Gas	(BLS-191) Diesel	BTX&E/MTBE (8020/602)	Chlorides, TDS, PH, Conductivity	Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	Volatiles 502.2 (SDWA/UST)	Cations / Anions	PAHs 8310	Pesticides/PCB (608/8080/505/508)	Herbicides (615/8150/515)	Semi-Volatiles GC/MS (Tics/No Tics)	Volatile Organics GC/MS (624/8240/8260)	Polynuclear Aromatics (610/8310)	RCRA Metals by Total Digestion	RCRA Metals by TCLP (1311)	NUMBER OF CONTAINERS
MW-62	2/11/97	1035	Water	36	G					X	X													11
MW-64		1050		36						X	X													
MW-56		1115		38						X	X													
MW-70		1145		39						X	X													
MW-46		1215		40						X	X													

PROJECT INFORMATION

PROJ. NO.: 023350224.60
PROJ. NAME: Indian Basin Remediation
P.O. NO.:
SHIPPED VIA:

☐ UST (72 hr. ext.) ☐ NPDES ☐ SDWA ☐ RCRA ☐ OTHER

SAMPLE RECEIPT

NO. CONTAINERS	11
CUSTODY SEALS	(Y) N / NA
RECEIVED INTACT	(Y) N / NA
RECEIVED ICE	(Y) N / NA

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☐ 2 WEEKS

Comments:

SAMPLED & RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Kevin Cook	Signature:	Signature:
Time: 0820	Time:	Time:
Printed Name: Kevin Cook	Printed Name:	Printed Name:
Date: 2/13/97	Date:	Date:
Company: Fluor Daniel GTI	Company:	Company:
Phone: 242-3113		

RECEIVED BY: 1.	RECEIVED BY: 2.	RECEIVED BY: (LAB) 3.
Signature:	Signature:	Signature:
Time:	Time:	Time: 0820
Printed Name:	Printed Name:	Printed Name:
Date:	Date:	Date: 2/14/97
Company:	Company:	American Environmental Network

A ican Environmental Network
Albuquerque, New Mexico

Interlab C in of Custody

DATE: 2/13 PAGE 1 of 3

NETWORK PROJECT MANAGER: KIMBERLY D. McNEILL

COMPANY: American Environmental Network
ADDRESS: 2709-D Pan American Freeway, NE
Albuquerque, NM 87107

CLIENT PROJECT MANAGER: Kim McNeill

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Metals - TAL	Metals - PP List	Metals - RCRA	RCRA Metals by TCLP (1311)	Chloride	Fluoride, Bromide, SO4	~~TOX~~ TDS, pH, EC	~~TOC~~ Tot Alk (Bicarbonate + Carbonate)	Gen Chemistry	Oil and Grease	BOD	COD	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	Polynuclear Aromatics (610/8310)	8240 (TCLP 1311) ZHE	8270 (TCLP 1311)	TO-14	Gross Alpha/Beta	NUMBER OF CONTAINERS
702327-01	2/10/97	1215	AQ	1					X	X	X	X														1
-06	↓	1015	↓	2					X																	1
-07	↓	1018	↓	3					X																	1
-08	↓	1030	↓	4					X																	1
-10	2/9/97	1130	↓	5					X																	1
-11	↓	1200	↓	6					X																	1
-13	↓	1325	↓	7					X																	1
-15 *	↓	1440	↓	8					X	X	X	X														1
-17	↓	1645	↓	9					X	X	X	X														1

PROJECT INFORMATION

PROJECT NUMBER: 702327
PROJECT NAME: Marathon Oil Co.
QC LEVEL: (STD) IV
QC REQUIRED: MS MSD BLANK
TAT: (STANDARD) RUSH!
DUE DATE: 2/26
RUSH SURCHARGE:
CLIENT DISCOUNT:
SPECIAL C[...]ICATION REQUIRED: [ ] YES [ ] NO

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS	9
CHAIN OF CUSTODY SEALS	NA
INTACT?	N
RECEIVED GOOD COND./COLD	Blue
LAB NUMBER	702160 702165

* Sample 702327-15 Received w/lid off. Container sealed in a bag.

SAMPLES SENT TO:

SAN DIEGO	
Paragon	
RENTON	
PENSACOLA	
PORTLAND	
PHOENIX	X

RELINQUISHED BY: 1.
Signature: [signature] Time: 1700
Printed Name: John Caldwell Date: 2/13/97
Albuquerque

RELINQUISHED BY: 2.
Signature Time
Printed Name Date
Company

RECEIVED BY: 1.
Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: (LAB) 2.
Signature: [signature] Time: 1002
Printed Name: Melanie Gianguzze Date: 2/14/97
Company: AEN 2

American Environmental Network
Albuquerque, New Mexico

Interlab Chain of Custody

DATE: 2/13 PAGE 2 OF 3

NETWORK PROJECT MANAGER: KIMBERLY D. McNEILL

COMPANY: American Environmental Network
ADDRESS: 2709-D Pan American Freeway, NE
Albuquerque, NM 87107

CLIENT PROJECT MANAGER:
Kim McNeill

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Metals - TAL	Metals - PP List	Metals - RCRA	RCRA Metals by TCLP (1311)	Chloride,	Fluoride, Bromide, SO4	~~TOX~~ TDS, pH, EC	~~TOC~~ Total Alk (Bicarb + Carb)	Gen Chemistry	Oil and Grease	BOD	COD	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	Polynuclear Aromatics (610/8310)	8240 (TCLP 1311) ZHE	8270 (TCLP 1311)	TO-14	Gross Alpha/Beta	NUMBER OF CONTAINERS
702327-19	2/10/97	0945	AQ	10					X																	1
-21	↓	1110	↓	11					X																	1
-23		1150		12					X																	1
-25		1240		13					X																	1
-27		1340		14					X																	1
-28		1505		15					X	X	X	X														1
-30		1540		16					X																	1
-32		1635		17					X																	1
-33	2/11/97	0910		18					X	X	X	X														1

PROJECT INFORMATION

PROJECT NUMBER 702327
PROJECT NAME Marathon Oil Co.
QC LEVEL (STD) IV
(QC REQUIRED) MS MSD BLANK
TAT (STANDARD) RUSH!

DUE DATE 2/26
RUSH SURCHARGE
CLIENT DISCOUNT
SPECIAL CERTIFICATION REQUIRED: [ ] YES [ ] NO

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS	9
CHAIN OF CUSTODY SEALS	NA
INTACT?	Y
RECEIVED GOOD COND./COLD	Blue
LAB NUMBER	702160G 702165 2/14/97

SAMPLES SENT TO:

SAN DIEGO Paragon	
RENTON	
PENSACOLA	
PORTLAND	
PHOENIX	X

RELINQUISHED BY: 1.
Signature: John Caldwell Time: 1700
Printed Name: John Caldwell Date: 2/13/97
Albuquerque

RECEIVED BY: 1.
Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 2.
Signature Time
Printed Name Date
Company

RECEIVED BY: (LAB) 2.
Signature: Melanie Gianquinto Time: 1002
Printed Name: Melanie Gianquinto Date: 2/14/97
Company: AEN - 7

American Environmental Network
Albuquerque, New Mexico

Interlab Chain of Custody

DATE: 2/13 PAGE: 3 OF 3

NETWORK PROJECT MANAGER: KIMBERLY D. McNEILL

COMPANY: American Environmental Network
ADDRESS: 2709-D Pan American Freeway, NE
Albuquerque, NM 87107

CLIENT PROJECT MANAGER:
Kim McNeill

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Metals - TAL	Metals - PP List	Metals - RCRA	RCRA Metals by TCLP (1311)	Chloride	Fluoride, Bromide, SO4	TDS, pH, EC	Total Alk (Carbonate)	Gen Chemistry			Oil and Grease	BOD	COD	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	Polynuclear Aromatics (610/8310)	8240 (TCLP 1311) ZHE	8270 (TCLP 1311)			TOX	Gross Alpha/Beta				NUMBER OF CONTAINERS
702327-34 *	2/11/97	0950	AQ	19					X	X	X	X																					1
-35		1020		20					X																								1
-36		1035		21					X																								1
-37		1050		22					X																								1
-38		1115		23					X																								1
-39		1145		24					X																								1
-40		1245		25					X																								1

PROJECT INFORMATION

PROJECT NUMBER: 702327
PROJECT NAME: Marathon Oil Co.
QC LEVEL: (STD) IV
QC REQUIRED: MS MSD BLANK
TAT: (STANDARD) RUSH!

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS	7
CHAIN OF CUSTODY SEALS	N/A
INTACT?	N
RECEIVED GOOD COND./COLD	Blue
LAB NUMBER	702160 702165

SAMPLES SENT TO:

SAN DIEGO	
Paragon	
RENTON	
PENSACOLA	
PORTLAND	
PHOENIX	X

RELINQUISHED BY: 1.
Signature: John Caldwell Time: 1700
Printed Name: John Caldwell Date: 2/13/97
Albuquerque

RECEIVED BY: 1.
Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 2.
Signature Time
Printed Name Date
Company

RECEIVED BY: (LAB) 2.
Signature: Melanie Granger Time: 1002
Printed Name: Melanie Granger Date: 2/14/97
Company: AEN

DUE DATE: 2/26
RUSH SURCHARGE:
CLIENT DISCOUNT:
SPECIAL REPORTING/FORMATTING REQUIRED: YES NO

* Sample 702327-34 was received w/lid off container sealed in a bag.

AnalyticalTechnologies of New Mexico, Inc., Albuquerque, NM
San Diego • Phoenix • Seattle • Pensacola • Ft. Collins • Portland • Albuquerque • Anchorage

CHAIN OF CUSTODY

DATE: _____ PAGE: 1 OF 5

ATI LAB I.D. 702307

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER: BOB MENZIE
COMPANY: MARATHON OIL Co
ADDRESS: P.O. BOX 552
Midland TX 79702
PHONE: 915 687-8312
FAX: 915 687-8305

BILL TO:
COMPANY: SAME AS Above
ADDRESS:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	BTXE (8020)	Chloride	NUMBER OF CONTAINERS
SW-1	2-10-97	12:15 pm	WATER	01	✓	✓	3
W STRIPPER inlet		1:03 pm		02	✓		2
W STRIPPER outlet		1:06 pm		03	✓		2
E STRIPPER inlet		1:15 pm		04	✓		2
E STRIPPER outlet		1:28 pm		05	✓		2
LYMAN		10:15 AM		06	✓	✓	3
ARROYO		10:18 AM		07	✓	✓	3
BIEBLE	↓	10:30 AM	↓	08	✓	✓	3

Petroleum Hydrocarbons (418.1) TRPH
(MOD.8015) Diesel/Direct/Inject
(M8015) Gas/Purge & Trap
Gasoline/BTEX & MTBE (M8015/8020)
BTEX & Chlorinated Aromatics (602/8020)
BTEX/MTBE/EDC & EDB (8020/8010/Short)
Chlorinated Hydrocarbons (601/8010)
504 EDB ☐ / DBCP ☐
Polynuclear Aromatics (610/8310)
Volatile Organics (624/8240) GC/MS
Volatile Organics (8260) GC/MS
PAH 8310 ✓
Pesticides/PCB (608/8080)
Herbicides (615/8150)
Base/Neutral/Acid Compounds GC/MS (625/8270)
CATIONS / ANIONS ✓
General Chemistry
Chloride, TDS, PH, conductivity ✓
Priority Pollutant Metals (13)
Target Analyte List Metals (23)
RCRA Metals (8)
RCRA Metals by TCLP (Method 1311)
PAH

PROJECT INFORMATION

PROJ. NO.:
PROJ. NAME: LB Remediation
P.O. NO.:
SHIPPED VIA:

SAMPLE RECEIPT

NO. CONTAINERS	21
CUSTODY SEALS	Y/N (NA)
RECEIVED INTACT	Y
ICE	Y

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) X 2 WEEK

CERTIFICATION REQUIRED: ☐ NM ☐ OTHER

METHANOL PRESERVATION ☐

COMMENTS:

RELINQUISHED BY: 1.
Signature: Bigo Aguilera Time: 1:54
Printed Name: Bigo Aguilera Date: 2.10.97
Company: MARATHON Oil Co

RECEIVED BY: 1.
Signature: Kevin Cook Time: 1354
Printed Name: Kevin Cook Date: 2-10-97
Company: Flour Daniel GTI

RELINQUISHED BY: 2.
Signature: Kevin Cook Time: 0820
Printed Name: Kevin Cook Date: 2/13/97
Company: Flour Daniel GTI

RECEIVED BY: (LAB) 2.
Signature: Time: 0820
Printed Name: Date: 2/13/97
Analytical for: ATI

American Environmental Network (Arizona), Inc.

CHAIN OF CUSTODY

DATE 2/9/97 PAGE 2 OF 4/5

AEN LAB I.D. 702327

REPORT Attn. to: Bob Menzie

COMPANY: Marathon o/c
ADDRESS: Po Box 552
Midland, Tx. 79702
PHONE: (915) 687-8312
FAX: (915) 687-8305

BILL TO:
COMPANY:
ADDRESS: Same as above

ANALYSIS REQUEST

Composite or Grab; Petroleum Hydrocarbons (418.1); (MOD.8015) Fuel Fingerprint; (M8015) Gas; (BLS-191) Diesel; BTXE/MTBE (8020/602); Chloride, TDS, Ph, Conductivity, Calcium; Chlorinated Hydrocarbons (601/8010); Aromatic Hydrocarbons (602/8020); Volatiles 502.2 (SDWA/UST); Cations, Anions; PAH 8310; Pesticides/PCB (608/8080/505/508); Herbicides (615/8150/515); Semi-Volatiles GC/MS (Tics/No Tics); Volatile Organics GC/MS (624/8240/8260); Polynuclear Aromatics (610/8310); RCRA Metals by Total Digestion; RCRA Metals by TCLP (1311); Number of Containers

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	COMPOSITE OR GRAB	BTXE/MTBE (8020/602)	Chloride, TDS, Ph, Conductivity, Calcium	Cations, Anions	PAH 8310	NUMBER OF CONTAINERS
mw-71RB	2/7/97	1125	Water	09	6	X				2
mw-71	↓	1130	↓	10	↓	X	X			3
mw-59	↓	1200	↓	11	↓		X			1
mw-60RB	↓	1320	↓	12	↓	X				2
mw-60	↓	1325	↓	13	↓	X	X			3
mw-87RB	↓	1435	↓	14	↓	X				2
mw-87	↓	1440	↓	15	↓	X	X	X	X	6
mw-87ARB	↓	1640	↓	16	↓	X				2
mw-87A	↓	1645	↓	17	↓	X	X	X	X	6

PROJECT INFORMATION

PROJ. NO. 023350224.60
PROJ. NAME Fridan B/S Remediation
P.O. NO.
SHIPPED VIA

SAMPLE RECEIPT

[ ] (RUSH) [ ] NPDES [ ] SDWA [ ] RCRA [ ] OTHER

NO. CONTAINERS: 27
CUSTODY SEALS: Y / N / (NA)
RECEIVED INTACT: (Y) / N / NA
RECEIVED (ICE): (Y) / N / NA

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) [ ] 24hr [ ] 48hr [ ] 72hr [ ] 1 WEEK (NORMAL) [ ] 2 WEEKS

Comments:

SAMPLED & RELINQUISHED BY: 1.

Signature: Kevin Cook Time: 0820
Printed Name: Kevin Cook Date: 2/13/97
Company: Fluor Daniel GTI Phone: 242-3113

RELINQUISHED BY: 2.

Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 3.

Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: 1.

Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: 2.

Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: (LAB) 3.

Signature: [signature] Time: 0820
Printed Name: [signature] Date: 2/13/97
American Environmental Network

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

American Environmental Network (Arizona), Inc.

CHAIN OF CUSTODY

DATE 2/10/97 PAGE 23 OF 45

AEN LAB I.D. 702327

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

REPORT Attn. to: Bob Menzie

COMPANY: Marathon oil
ADDRESS: PO Box 552
Midland, TX 79702
PHONE: (915) 687-8312
FAX: (915) 687 8305

BILL TO:
COMPANY:
ADDRESS: Same as above

ANALYSIS REQUEST (columns): Petroleum Hydrocarbons (418.1); (MOD.8015) Fuel Fingerprint; (M8015) Gas; (BLS-191) Diesel; BTEX/MTBE (8020/602); Chloride, TDS, Pb, Conductivity / Chloride; Chlorinated Hydrocarbons (601/8010); Aromatic Hydrocarbons (602/8020); Volatiles 502.2 (SDWA/UST); Cations / Anions; PAHs 8310; Pesticides/PCB (608/8080/505/508); Herbicides (615/8150/515); Semi-Volatiles GC/MS (Tics/No Tics); Volatile Organics GC/MS (624/8240/8260); Polynuclear Aromatics (610/8310); RCRA Metals by Total Digestion; RCRA Metals by TCLP (1311)

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	COMPOSITE OR GRAB	BTEX/MTBE (8020/602)	Chloride, TDS, Pb, Conductivity	NUMBER OF CONTAINERS
mw-67RB	2/10/97	0940	water	18	G	X		2
mw-67	↓	0945	↓	19	↓	X	X	3
mw-57RB		1105		20		X		2
mw-57		1110		21		X	X	3
mw-55RB		~~[illegible]~~ 1145 KC		22		X		2
mw-55		1150		23		X	X	3
mw-54RB		1235		24		X		2
mw-54		1240		25		X	X	3
mw-61RB		1335		26		X		2

PROJECT INFORMATION

PROJ. NO. 023350224.60
PROJ. NAME Indian Basin Remediation
P.O. NO.
SHIPPED VIA

[ ] UST (72 hr ed) [ ] NPDES [ ] SDWA [ ] RCRA [ ] OTHER

SAMPLE RECEIPT

NO. CONTAINERS: 22
CUSTODY SEALS: Y / N / (NA)
RECEIVED INTACT: (Y) / N / NA
RECEIVED ICE: (Y) / N / NA

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) [ ] 24hr [ ] 48hr [ ] 72hr [ ] 1 WEEK (NORMAL) [ ] 2 WEEKS

Comments:

SAMPLED & RELINQUISHED BY: 1.
Signature: K. Cobb Time: 08:20
Printed Name: Kevin Cobb Date: 2/13/97
Company: Fluor Daniel GTI Phone: 242-3113

RELINQUISHED BY: 2.
Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 3.
Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: 1.
Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: 2.
Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: (LAB) 3.
Signature: [signature] Time: 0820
Printed Name: [illegible] Date: 2/13/97
American Environmental Network

American Environmental Network (Arizona), Inc.

CHAIN OF CUSTODY

DATE 2/10-11/97 PAGE 4 OF 5

AEN LAB I.D. 702327

REPORT Attn. to: Bob Menzie

COMPANY: Marathon O/C
ADDRESS: PO Box 552
Midland TX 79702
PHONE: (915) 687-8312
FAX: (915) 687-8305

BILL TO:
COMPANY:
ADDRESS: Same as Above

ANALYSIS REQUEST

Petroleum Hydrocarbons (418.1); (MOD.8015) Fuel Fingerprint; (M8015) Gas; (BLS-191) Diesel; BTX/MTBE (8020/602); Chlorides; Chlorides, TDS, pH, Conductivity; Chlorinated Hydrocarbons (601/8010); Aromatic Hydrocarbons (602/8020); Volatiles 502.2 (SDWA/UST); Cations/Anions; PAHs 8310; Pesticides/PCB (608/8080/505/508); Herbicides (615/8150/515); Semi-Volatiles GC/MS (Tics/No Tics); Volatile Organics GC/MS (624/8240/8260); Polynuclear Aromatics (610/8310); RCRA Metals by Total Digestion; RCRA Metals by TCLP 1311

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	COMPOSITE OR GRAB	BTX/MTBE (8020/602)	Chlorides	Chlorides, TDS, pH, Conductivity	Cations/Anions	PAHs 8310	NUMBER OF CONTAINERS
mw-4	2/10/97	1340	Water	27	G	X	X				3
mw-90	↓	1505	↓	28	↓	X		X	X	X	6
mw-90RB	↓	1515	↓	29	↓	X					2
mw-79	↓	1540	↓	30	↓	X	X				3
mw-79RB	↓	1630	↓	31	↓	X					2
mw-78	↓	1635	↓	32	↓	X	X				3
mw-106	2-11-97	0910	↓	33	↓	X		X	X	X	6
mw-91	↓	0950	↓	34	↓	X		X	X	X	6
mw-65	↓	1020	↓	35	↓	X	X				3

PROJECT INFORMATION

PROJ. NO. 02335 0224.60
PROJ. NAME Indian Basin Remediation
P.O. NO.
SHIPPED VIA

[ ] (Std/24 hr) [ ] NPDES [ ] SDWA [ ] RCRA [ ] OTHER

SAMPLE RECEIPT

NO. CONTAINERS: 34
CUSTODY SEALS: Y/N/(NA)
RECEIVED INTACT: (Y)/N/NA
RECEIVED (ICE): (Y)/N/NA

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) [ ] 24hr [ ] 48hr [ ] 72hr [ ] 1 WEEK (NORMAL) [ ] 2 WEEKS

Comments:

SAMPLED & RELINQUISHED BY: 1.
Signature: Kevin Cook Time: 0820
Printed Name: Kevin Cook Date: 2/13/97
Company: Fluor Daniel GTI Phone: 242-3113

RELINQUISHED BY: 2.
Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 3.
Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: 1.
Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: 2.
Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: (LAB) 3.
Signature: [signature] Time: 0820
Printed Name: [illegible] Date: 2/13/97
American Environmental Network

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

American Environmental Network (Arizona), Inc.

CHAIN OF CUSTODY

DATE 2/11/97 PAGE 1/5 OF 2/5

AEN LAB I.D. 702327

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

REPORT Attn. to: Bob Menzie

COMPANY: Marathon O/S

ADDRESS: PO Box 552

Midland TX 79702

PHONE: (915) 687-8312

FAX: (915) 687-8305

BILL TO:

COMPANY:

ADDRESS: Same As Above

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	COMPOSITE OR GRAB	Petroleum Hydrocarbons (418.1)	Petroleum Fingerprint	(MOD.8015) Fuel Fingerprint	(M8015) Gas	(BLS-191) Diesel	BTXE/MTBE (8020/602)	Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	Volatiles 502.2 (SDWA/UST)	Pesticides/PCB (608/8080/505/508)	Herbicides (615/8150/515)	Semi-Volatiles GC/MS (Tics/Nc Tics)	Volatile Organics GC/MS (624/8240/8260)	Polynuclear Aromatics (610/8310)	RCRA Metals by Total Digestion	RCRA Metals by TCLP (1311)	NUMBER OF CONTAINERS
MW-62	2/11/97	1035	WATER	36	G						X											1
MW-64		1050		36																		
MW-56		1115		38																		
MW-10		1145		39																		
MW-46		1215		40																		

Chlorides, TDS, PH Conductivity

Cations / Anions

PAH 8310

PROJECT INFORMATION

PROJECT ID: 233502246.60

PROJECT NAME: Indian Basin Remediation

PO NO.:

SHIPPED VIA:

SAMPLE RECEIPT

NO. CONTAINERS: 11

CUSTODY SEALS: Y / N / NA

RECEIVED INTACT: Y / N / NA

RECEIVED ICE: Y / N / NA

	DW (Drinking Water)
	NPDES
	SDWA
	RCRA
	OTHER

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) | | 24hr | | 48hr | | 72hr | | 1 WEEK (NORMAL) | | 2 WEEKS

Comments:

SAMPLED & RELINQUISHED BY: 1.

Signature: Kevin Cook Time: 0820

Printed Name: Kevin Cook Date: 2/13/97

Company: Fluor Daniel GTI Phone: 242-3143

RELINQUISHED BY: 2.

Signature: Time:

Printed Name: Date:

Company:

RELINQUISHED BY: 3.

Signature: Time:

Printed Name: Date:

Company:

RECEIVED BY: 1.

Signature: Time:

Printed Name: Date:

Company:

RECEIVED BY: 2.

Signature: Time:

Printed Name: Date:

Company:

RECEIVED BY: (LAB) 3.

Signature: Time: 0820

Printed Name: Date: 2/14/97

American Environmental Network

●rican Environmental Network
Albuquerque, New Mexico

Interlab Chain of Custody

DATE: 2/13 PAGE: 1 OF 1

NETWORK PROJECT MANAGER: KIMBERLY D. McNEILL

COMPANY: American Environmental Network
ADDRESS: 2709-D Pan American Freeway, NE
Albuquerque, NM 87107

702255

CLIENT PROJECT MANAGER:
Kim McNeill

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Metals - TAL	Metals - PP List	Metals - RCRA	RCRA Metals by TCLP (1311)	Ca, K, Mg, Na	TOX	TOC	Gen Chemistry	Oil and Grease	BOD	COD	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	Polynuclear Aromatics (610/8310)	8240 (TCLP 1311) ZHE	8270 (TCLP 1311)	TO-14	Gross Alpha/Beta	NUMBER OF CONTAINERS
702327 -01	2/10/97	1215	AQ						X																
-15	2/9/97	1440	AQ						X											X					
-17	2/9/97	1645	AQ						X											X					
-28	2/10/97	1505	AQ						X											X					
-33	2/11/97	0910	AQ						X											X					
-34	2/11/97	0950	AQ						X											X					

PROJECT INFORMATION

PROJECT NUMBER: 702327
PROJECT NAME: Marathon Oil Co.
QC LEVEL: (STD.) IV
(QC REQUIRED) MS MSD BLANK
TAT: (STANDARD) RUSH!!

DUE DATE: 2/26
RUSH SURCHARGE:
CLIENT DISCOUNT:
SPECIAL CERTIFICATION REQUIRED: [ ] YES [ ] NO

The 8310's have only a few days left before they brake hold time.

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS	
CHAIN OF CUSTODY SEALS	
INTACT?	
RECEIVED GOOD COND./COLD	
LAB NUMBER	

SAMPLES SENT TO:

SAN DIEGO	
Paragon	
RENTON	
PENSACOLA	X
PORTLAND	
PHOENIX	

RELINQUISHED BY: 1.
Signature: [signature] Time: 1700
Printed Name: John Caldwell Date: 2/13/97
Albuquerque

RELINQUISHED BY: 2.
Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: 1.
Signature: Linda Kitt Time: UK 2/14 ~~68~~ 0939
Printed Name: Linda Kitt Date: 2/14/97
Company: AEN/71.

RECEIVED BY: (LAB) 2.
Signature: Time:
Printed Name: Date:
Company:

Labs: San Diego (619) 458-9141 • Phoenix (602) 496-4400 • Seattle (206) 228-8335 • Pensacola (904) 474-1001 • Portland (503) 684-0447 • Albuquerque (505) 344-3777

American Environmental Network
11 East Olive Road Pensacola, Florida 32514 (904)474-1001

PROJECT SAMPLE INSPECTION FORM

Accession #: 702255 Date Received: 14-Feb-97

1.	Was there a Chain of Custody?	(Yes)	No		7.	Are samples preserved? (Check pH of all H_2O except 40ml vials)+	(Yes)	No	N/A
2.	Was Chain of Custody properly relinquished?	(Yes)	No		8.	Is there sufficient volume for analysis requested?	(Yes)	No	
3.	Were samples received cold? (Check Temperature of Cooler)	(Yes)	No	N/A	9.	Were samples received within Holding Time?	(Yes)	No	
4.	Were all samples properly labeled and identified?	(Yes)	No		10.	Is Headspace visible > ¼" in diameter in 40ml vials?* If any headspace is evident, comment in out-of-control section.	Yes	No	(N/A)
5.	Were samples received in proper containers for analysis requested?	(Yes)	No		11.	If sent, were matrix spike bottles returned?	Yes	No	(N/A)
6.	Were all sample containers received intact?	(Yes)	No						

Airbill Number: 3141821051 Shipped By: Fedex

Cooler Number: N/S Shipping Charges: N/A

Cooler Weight: N/A Cooler Temp (°C): 4°C

Out of Control Events and Inspection Comments:

Metals Sample # 702327-28 received in Plastic Zip lock Bag with Approx ½ bottle of Sample because lid came off bottle and is in the plastic bag

Inspected By: L. Kitt Date: 14-Feb-97 Logged By: L. Kitt Date: 14-Feb-97

All preservatives for the State of North Caroline and the State of New York are to be recorded on the sheet provided to record pH results (SOP 938, section 2.2.9.

* *According to EPA, ¼" of headspace is allowed in 40ml vials, however, AEN makes it policy to record any headspace as out-of-control (SOP 938, section 2.2.12.*

572-00 First Quarter 1997

American Environmental Network, Inc.

AEN I.D. 703361

April 9, 1997

Marathon Oil Company
P.O. Box 552
Midland, TX 79702

Project Name/Number: MOC/IBGP 023350224.64

Attention: Bob Menzie

On **03/24/97**, American Environmental Network (NM), Inc., (ADHS License No. AZ0015) received a request to analyze **aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

All analyses were performed by American Environmental Network (FL) Inc., 11 East Olive Road, Pensacola, FL.

If you have any questions or comments, please do not hesitate to contact us at (505) 344-3777.

Kimberly D. McNeill
Project Manager

H. Mitchell Rubenstein, Ph.D.
General Manager

MR:ft

Enclosure

2709-D Pan American Freeway, NE • Albuquerque, NM 87107 • (505) 344-3777 • Fax (602) 344-4413

CLIENT : MARATHON OIL COMPANY
PROJECT # : 023350224.64
PROJECT NAME : MOC/IBGP

DATE RECEIVED : 03/24/97
REPORT DATE : 04/09/97

AEN ID: 703361

	AEN ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	703361-01	MW-60	AQUEOUS	03/19/97
02	703361-02	MW-41	AQUEOUS	03/20/97
03	703361-03	MW-49	AQUEOUS	03/20/97
04	703361-04	MW-50	AQUEOUS	03/20/97
05	703361-05	MW-56	AQUEOUS	03/21/97
06	703361-06	MW-13	AQUEOUS	03/21/97

---TOTALS---

MATRIX	#SAMPLES
AQUEOUS	6

AEN STANDARD DISPOSAL PRACTICE

e samples from this project will be disposed of in thirty (30) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

"FINAL REPORT FORMAT - MULTIPLE"

Accession: 703418
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 703361
Project Name: MARATHON OIL CO.
Project Location: MOC/IBGP
Test: Group of Single Wetchem
QcLevel: II

Parameter:	Unit:	Result:	R.L:	Batch:	Q:
Client ID: 703361-01 60			Lab ID: 001		
FLUORIDE (340.2/4500-F C)	MG/L	0.8	0.2	FLW011	
SULFATE (375.4)	MG/L	280	250	SEW023	+
TOTAL DISSOLVED SOLIDS (160.1)	MG/L	760	5	TDW016	
Comments:					
Client ID: 703361-02 41			Lab ID: 002		
FLUORIDE (340.2/4500-F C)	MG/L	1.5	0.2	FLW011	
SULFATE (375.4)	MG/L	98	50	SEW023	+
TOTAL DISSOLVED SOLIDS (160.1)	MG/L	1500	5	TDW016	
Comments:					
Client ID: 703361-03 49			Lab ID: 003		
FLUORIDE (340.2/4500-F C)	MG/L	1.4	0.2	FLW011	
SULFATE (375.4)	MG/L	1000	500	SEW023	+
TOTAL DISSOLVED SOLIDS (160.1)	MG/L	3100	5	TDW016	
Comments:					
Client ID: 703361-04 50			Lab ID: 004		
FLUORIDE (340.2/4500-F C)	MG/L	1.2	0.2	FLW011	
SULFATE (375.4)	MG/L	3600	1000	SEW023	+
TOTAL DISSOLVED SOLIDS (160.1)	MG/L	5900	5	TDW016	
Comments:					
Client ID: 703361-05 56			Lab ID: 005		
FLUORIDE (340.2/4500-F C)	MG/L	1.5	0.2	FLW011	
SULFATE (375.4)	MG/L	ND	10	SEW023	
TOTAL DISSOLVED SOLIDS (160.1)	MG/L	1200	5	TDW016	
Comments:					

"FINAL REPORT FORMAT - MULTIPLE"

Accession: 703418
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 703361
Project Name: MARATHON OIL CO.
Project Location: MOC/IBGP
Test: Group of Single Wetchem
QcLevel: II

Parameter:	Unit:	Result:	R.L:	Batch:	Q:
Client ID: 703361-06	13		Lab ID: 006		
FLUORIDE (340.2/4500-F C)	MG/L	0.4	0.2	FLW011	
SULFATE (375.4)	MG/L	ND	10	SEW023	
TOTAL DISSOLVED SOLIDS (160.1)	MG/L	770	5	TDW016	

Comments:

"FINAL REPORT FORMAT - MULTIPLE"

Accession: 703418
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 703361
Project Name: MARATHON OIL CO.
Project Location: MOC/IBGP
Test: Group of Single Wetchem

Client ID:	Lab ID:	Matrix:	Date/Time Sampled:	Date Received:
703361-01	001	WATER	19-MAR-97 1730	25-MAR-97
703361-02	002	WATER	20-MAR-97 1530	25-MAR-97
703361-03	003	WATER	20-MAR-97 1610	25-MAR-97
703361-04	004	WATER	20-MAR-97 1710	25-MAR-97
703361-05	005	WATER	20-MAR-97 0830	25-MAR-97
703361-06	006	WATER	20-MAR-97 0930	25-MAR-97

"Method Report Summary"

Accession Number: 703418
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 703361
Project Name: MARATHON OIL CO.
Project Location: MOC/IBGP
Test: Group of Single Wetchem

Client Sample Id:	Parameter:	Unit:	Result:
703361-01	FLUORIDE (340.2/4500-F C)	MG/L	0.8
	SULFATE (375.4)	MG/L	280
	TOTAL DISSOLVED SOLIDS (160.1)	MG/L	760
703361-02	FLUORIDE (340.2/4500-F C)	MG/L	1.5
	SULFATE (375.4)	MG/L	98
	TOTAL DISSOLVED SOLIDS (160.1)	MG/L	1500
703361-03	FLUORIDE (340.2/4500-F C)	MG/L	1.4
	SULFATE (375.4)	MG/L	1000
	TOTAL DISSOLVED SOLIDS (160.1)	MG/L	3100
703361-04	FLUORIDE (340.2/4500-F C)	MG/L	1.2
	SULFATE (375.4)	MG/L	3600
	TOTAL DISSOLVED SOLIDS (160.1)	MG/L	5900
703361-05	FLUORIDE (340.2/4500-F C)	MG/L	1.5
	TOTAL DISSOLVED SOLIDS (160.1)	MG/L	1200
703361-06	FLUORIDE (340.2/4500-F C)	MG/L	0.4
	TOTAL DISSOLVED SOLIDS (160.1)	MG/L	770

"WetChem Quality Control Report"

Parameter:	FLUORIDE	SULFATE	TDS
Batch Id:	FLW011	SEW023	TDW016
Blank Result:	<0.2	<10	<5
Anal. Method:	340.2	375.4	160.1
Prep. Method:	N/A	N/A	N/A
Analysis Date:	31-MAR-97	01-APR-97	27-MAR-97
Prep. Date:	31-MAR-97	01-APR-97	26-MAR-97
Sample Duplication			
Sample Dup:	703291-1	703290-1	703361-1
Rept Limit:	<0.2	<50+	<5
Sample Result:	0.48	134	280
Dup Result:	0.46	135	244
Sample RPD:	0.02G	1G	14
Max RPD:	0.2	50+	16
Dry Weight%	N/A	N/A	N/A
Matrix Spike			
Sample Spiked:	703291-1	703290-1	N/A
Rept Limit:	<0.2	<100+	N/A
Sample Result:	0.48	134	
Spiked Result:	1.32	328	
Spike Added:	0.8	200	
% Recovery:	105	97	
% Rec Limits:	81-127	64-150	
Dry Weight%	N/A	N/A	
ICV			
ICV Result:	1.12	19.6	354
True Result:	1.20	20	293
% Recovery:	93	98	121
% Rec Limits:	90-110	90-110	90-110
LCS			
LCS Result:			354
True Result:			294
% Recovery:			120
% Rec Limits:			66-122

"Quality Control Comments"

Batch Id:	Comments:
FLW011	703172-1; WAS ADDED TO BATCH ON 02-APR-97
TDW016	703361-1; 26-MAR-97; PREP DATE: 26-MAR-97; ANALYSIS DATE: 27-MAR-97
TDW016	703432-1 WAS ADDED TO BATCH ON 27-MAR-97

----- Common Footnotes WetChem -----

N/A = NOT APPLICABLE.
N/S = NOT SUBMITTED.
N/C = SAMPLE AND DUPLICATE RESULTS ARE AT OR BELOW AEN REPORTING LIMIT; THEREFORE, THE RPD IS "NOT CALCULABLE" AND NO CONTROL LIMITS APPLY.
N/D = NOT DETECTED.
R = REACTIVE
T = TOTAL
G = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X AEN REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE RESULT IS AT OR BELOW AEN REPORTING LIMIT; THEREFORE, THE RESULTS ARE "IN CONTROL".
Q = THE ANALYTICAL (POST-DISTILLATION) SPIKE IS REPORTED DUE TO PERCENT RECOVERY BEING OUTSIDE ACCEPTANCE LIMITS ON THE MATRIX (PRE-DISTILLATION) SPIKE.
# = ELEVATED REPORTING LIMIT DUE TO INSUFFICIENT SAMPLE.
+ = ELEVATED REPORTING LIMIT DUE TO DILUTION INTO CALIBRATION RANGE.
* = ELEVATED REPORTING LIMIT DUE TO MATRIX INTERFERENCE. (DILUTION PRIOR TO ANALYSIS)
@ = ADJUSTED REPORTING LIMIT DUE TO SAMPLE MATRIX. (DILUTION PRIOR TO DIGESTION)
P = ANALYTICAL (POST DIGESTION) SPIKE.
I = DUPLICATE INJECTION.
& = AUTOMATED
F = SAMPLE SPIKED > 4 X SPIKE CONCENTRATION.
N/C+ = NOT CALCULABLE
H = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X AEN REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE RESULTS EXCEEDS THE AEN REPORTING LIMIT; THEREFORE, THE RESULTS ARE "OUT OF CONTROL".
A = SAMPLE AND DUPLICATE RESULTS ARE "OUT OF CONTROL".
Z = THE SAMPLE RESULT FOR THE SPIKE IS BELOW THE REPORTING LIMIT. HOWEVER, THIS RESULT IS REPORTED FOR ACCURATE QC CALCULATIONS.
NH= SAMPLE AND / OR DUPLICATE RESULT IS BELOW 5 X AEN REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE RESULTS EXCEEDS THE AEN REPORTING LIMIT; THEREFORE, THE RESULTS ARE "OUT OF CONTROL". SAMPLE IS NON-HOMOGENEOUS.
(*) = DETECTION LIMITS RAISED DUE TO CLP METHOD NOT REQUIRING A CONCENTRATION STEP FOR CN.
(CA) = SEE CORRECTIVE ACTIONS FORM.
**= MATRIX INTERFERENCE
SW-846, 3rd Edition, latest EPA-approved edition.
EPA 600/4-79-020, Revised March 1983.
STANDARD METHODS, For the Examination of Water and Wastewater, latest EPA-approved edition.
NIOSH Manual of Analytical Methods, 4th Edition.
ANNUAL BOOK OF ASTM STANDARDS, VOLUMES 11.01 and 11.02, latest EPA-approved edition.
METHODS FOR THE DETERMINATION OF INORGANIC SUBSTANCES IN ENVIRONMENTAL SAMPLES, EPA600/R-93/100, AUGUST 1993
AEN-PN USES THE MOST CURRENT PROMULGATED METHODS FROM THE REFERENCES LISTED ABOVE.
METHOD FOR SOIL ANALYSIS, PART 2, CHEMICAL AND MICROBILOGICAL PROPERTIES, 2ND EDITION.
1. COLIFORM. COLIFORM PRECISION IS MEASURED BY THE ABSOLUTE DIFFERENCE BETWEEN THE LOGARITHM OF COLONIES PER 100 MLS OF SAMPLE ON DUPLICATE PLATES.
2. PH. PH PRECISION IS MEASURED BY THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE ANALYSIS.
3. FLASHPOINT. FLASHPOINT PRECISION IS MEASURED BY THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE ANALYSIS.
RPD = RELATIVE PERCENT DIFFERENCE (OR DEVIATION).
RPT LIMIT = REPORTING LIMITS BASED ON METHOD DETECTION LIMIT STUDIES.

DPH = DOLLY P. HWANG
JL = JAN LECLEAR
MB = MICHELLE BOTTS
PLD = PAULA L. DOUGHTY
RB = REBECCA BROWN
NSB = NANCY S. BUTLER
ED = ESTHER DANTIN
RH = RICKY HAGENDORFER
AB = ANDY BROTHERTON
MM = MIKE MCKENZIE

"FINAL REPORT FORMAT - MULTIPLE"

Accession: 703418
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 703361
Project Name: MARATHON OIL CO.
Project Location: MOC/IBGP
Test: Group of Single Metals
QcLevel: II

Parameter:	Unit:	Result:	R.L:	Batch:	Q:
Client ID: 703361-01 60 3/19			Lab ID:001		
BARIUM (200.7)	MG/L	0.03	0.01	B0W068	
IRON (200.7)	MG/L	0.67	0.02	N0W068	
MANGANESE (200.7)	MG/L	0.03	0.01	G0W068	
Comments:					
Client ID: 703361-02 41 3/20			Lab ID:002		
BARIUM (200.7)	MG/L	0.37	0.01	B0W068	
IRON (200.7)	MG/L	0.69	0.02	N0W068	
MANGANESE (200.7)	MG/L	0.11	0.01	G0W068	
Comments:					
Client ID: 703361-03 49 3/20			Lab ID:003		
BARIUM (200.7)	MG/L	0.07	0.01	B0W068	
IRON (200.7)	MG/L	6.8	0.02	N0W068	
MANGANESE (200.7)	MG/L	0.33	0.01	G0W068	
Comments:					
Client ID: 703361-04 50 3/20			Lab ID:004		
BARIUM (200.7)	MG/L	0.03	0.01	B0W068	
IRON (200.7)	MG/L	6.5	0.02	N0W068	
MANGANESE (200.7)	MG/L	0.64	0.01	G0W068	
Comments:					
Client ID: 703361-05 56 3/20			Lab ID:005		
BARIUM (200.7)	MG/L	0.66	0.01	B0W068	
IRON (200.7)	MG/L	28	0.02	N0W068	
MANGANESE (200.7)	MG/L	0.24	0.01	G0W068	
Comments:					
Client ID: 703361-06 13 3/21			Lab ID:006		
BARIUM (200.7)	MG/L	0.37	0.01	B0W068	
IRON (200.7)	MG/L	29	0.02	N0W068	
MANGANESE (200.7)	MG/L	0.48	0.01	G0W068	
Comments:					

"FINAL REPORT FORMAT - MULTIPLE"

Accession: 703418
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 703361
Project Name: MARATHON OIL CO.
Project Location: MOC/IBGP
Test: Group of Single Metals

Client Id:	Lab Id:	Matrix:	Date/Time Sampled:	Date Received:
703361-01	001	WATER	19-MAR-97 1730	25-MAR-97
703361-02	002	WATER	20-MAR-97 1530	25-MAR-97
703361-03	003	WATER	20-MAR-97 1610	25-MAR-97
703361-04	004	WATER	20-MAR-97 1710	25-MAR-97
703361-05	005	WATER	20-MAR-97 0830	25-MAR-97
703361-06	006	WATER	20-MAR-97 0930	25-MAR-97

"Method Report Summary"

Accession Number: 703418
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 703361
Project Name: MARATHON OIL CO.
Project Location: MOC/IBGP
Test: Group of Single Metals

Client Sample Id:	Parameter:	Unit:	Result:
703361-01	BARIUM (200.7)	MG/L	0.03
	IRON (200.7)	MG/L	0.67
	MANGANESE (200.7)	MG/L	0.03
703361-02	BARIUM (200.7)	MG/L	0.37
	IRON (200.7)	MG/L	0.69
	MANGANESE (200.7)	MG/L	0.11
703361-03	BARIUM (200.7)	MG/L	0.07
	IRON (200.7)	MG/L	6.8
	MANGANESE (200.7)	MG/L	0.33
703361-04	BARIUM (200.7)	MG/L	0.03
	IRON (200.7)	MG/L	6.5
	MANGANESE (200.7)	MG/L	0.64
703361-05	BARIUM (200.7)	MG/L	0.66
	IRON (200.7)	MG/L	28
	MANGANESE (200.7)	MG/L	0.24
703361-06	BARIUM (200.7)	MG/L	0.37
	IRON (200.7)	MG/L	29
	MANGANESE (200.7)	MG/L	0.48

"Metals Quality Control Report"

Parameter:	BARIUM	IRON	MANGANESE
Batch Id:	B0W068	N0W068	G0W068
Blank Result:	<0.01	<0.02	<0.01
Anal. Method:	200.7	200.7	200.7
Prep. Method:	EPA 600	EPA 600	EPA 600
Analysis Date:	02-APR-97	02-APR-97	02-APR-97
Prep. Date:	02-APR-97	02-APR-97	02-APR-97
Sample Duplication			
Sample Dup:	703418-1	703418-1	703418-1
Rept Limit:	<0.01	<0.02	<0.01
Sample Result:	2.0	2.7	2.0
Dup Result:	2.1	2.7	2.0
Sample RPD:	5	0	0
Max RPD:	20	20	20
Dry Weight%	N/A	N/A	N/A
Matrix Spike			
Sample Spiked:	703418-1	703418-1	703418-1
Rept Limit:	<0.01	<0.02	<0.01
Sample Result:	0.03	0.67	0.03
Spiked Result:	2.0	2.7	2.0
Spike Added:	2.0	2.0	2.0
% Recovery:	99	102	99
% Rec Limits:	75-125	75-125	75-125
Dry Weight%	N/A	N/A	N/A
ICV			
ICV Result:	5.0	5.1	5.0
True Result:	5.0	5.0	5.0
% Recovery:	100	102	100
% Rec Limits:	90-110	90-110	90-110
LCS			
LCS Result:	2.0	2.1	2.0
True Result:	2.0	2.0	2.0
% Recovery:	100	105	100
% Rec Limits:	80-120	80-120	80-120

"Quality Control Comments"

Batch Id:	Comments:
B0W068	ANALYST: JR
B0W068	The results reported under "Sample Duplication" are the MS/MSD.
N0W068	ANALYST: JR
N0W068	The results reported under "Sample Duplication" are the MS/MSD.
G0W068	ANALYST: JR
G0W068	The results reported under "Sample Duplication" are the MS/MSD.

"FINAL REPORT FORMAT - SINGLE"

Accession:	703418
Client:	AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number:	703361
Project Name:	MARATHON OIL CO.
Project Location:	MOC/IBGP
Test:	ACID EXTRACTABLES (8270)
Analysis Method:	8270/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method:	3520/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Matrix:	WATER
QC Level:	II

Lab Id:	001	Sample Date/Time:	19-MAR-97 1730
Client Sample Id:	703361-01	Received Date:	25-MAR-97
Batch: ALW062		Extraction Date:	26-MAR-97
Blank: A	Dry Weight %: N/A	Analysis Date:	04-APR-97

Parameter:	Units:	Results:	Rpt Lmts:	Q:
PHENOL	MG/L	ND	0.004	
2-FLUOROPHENOL	%REC/SURR	76	21-100	
PHENOL-D6	%REC/SURR	72	10-100	
2,4,6-TRIBROMOPHENOL	%REC/SURR	75	10-123	
ANALYST	INITIALS	RW		

Comments:

----- Common Footnotes Metals -----

N/A = NOT APPLICABLE.
N/S = NOT SUBMITTED.
N/C = SAMPLE AND DUPLICATE RESULTS ARE AT OR BELOW ATI REPORTING LIMIT; THEREFORE, THE RPD IS "NOT CALCULABLE" AND NO CONTROL LIMITS APPLY.
N/D = NOT DETECTED.
DISS. OR D = DISSOLVED
T & D = TOTAL AND DISSOLVED
R = REACTIVE
T = TOTAL
G = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X ATI REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE RESULT IS AT OR BELOW ATI REPORTING LIMIT; THEREFORE, THE RESULTS ARE "IN CONTROL".
Q = THE ANALYTICAL (POST-DIGESTION) SPIKE IS REPORTED DUE TO PERCENT RECOVERY BEING OUTSIDE ACCEPTANCE LIMITS ON THE MATRIX (PRE-DIGESTION) SPIKE.
# = ELEVATED REPORTING LIMIT DUE TO INSUFFICIENT SAMPLE.
+ = ELEVATED REPORTING LIMIT DUE TO DILUTION INTO CALIBRATION RANGE.
* = ELEVATED REPORTING LIMIT DUE TO MATRIX INTERFERENCE. (DILUTION PRIOR TO ANALYSIS)
@ = ADJUSTED REPORTING LIMIT DUE TO SAMPLE MATRIX. (DILUTION PRIOR TO DIGESTION)
P = ANALYTICAL (POST DIGESTION) SPIKE.
I = DUPLICATE INJECTION.
& = AUTOMATED
F = SAMPLE SPIKED > 4 X SPIKE CONCENTRATION.
N/C+ = NOT CALCULABLE
N/C* = NOT CALCULABLE; SAMPLE SPIKED > 4 X SPIKE CONCENTRATION.
H = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X ATI REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE RESULTS EXCEEDS THE ATI REPORTING LIMIT; THEREFORE, THE RESULTS ARE "OUT OF CONTROL".
A = SAMPLE AND DUPLICATE RESULTS ARE "OUT OF CONTROL".
Z = THE SAMPLE RESULT FOR THE SPIKE IS BELOW THE REPORTING LIMIT. HOWEVER, THIS RESULT IS REPORTED FOR ACCURATE QC CALCULATIONS.
NH= SAMPLE AND / OR DUPLICATE RESULT IS BELOW 5 X ATI REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE RESULTS EXCEEDS THE ATI REPORTING LIMIT; THEREFORE, THE RESULTS ARE "OUT OF CONTROL". SAMPLE IS NON-HOMOGENEOUS.
J = (FLORIDA DEP 'J' FLAG) - MATRIX SPIKE AND POST SPIKE RECOVERY IS OUT OF THE ACCEPTABLE RANGE. SEE OUT OF CONTROL EVENTS FORM.
U = (FLORIDA DEP 'U' FLAG) - THE COMPOUND WAS ANALYZED FOR, BUT NOT DETECTED.
S = METHOD OF STANDARD ADDITIONS (MSA) WAS PERFORMED ON THIS SAMPLE.

FROM ANALYSIS REPORT:
RL= REPORTING LIMIT BASED ON METHOD DETECTION LIMIT STUDIES.
Q= QUALIFIER (FOOTNOTE)

FROM QUALITY CONTROL REPORT:
RPD= RELATIVE PERCENT DEVIATION.
RPT LIMIT= REPORTING LIMIT BASED ON METHOD DETECTION LIMIT STUDIES.

NOTE: THE UNITS REPORTED ON THE QUALITY CONTROL REPORT ARE REPORTED ON AN AS RUN BASIS.

SW-846, 3rd Edition, latest revision.
EPA 600/4-79-020, Revised March 1983.
NIOSH Manual of Analytical Methods, 4th Edition.
Standard Methods For the Examination of Water and Wastewater, 18th Edition, 1992.
Methods For the Determination of Metals in Environmental Samples - Supplement I, EPA 600/R-94-111, May 1994.

GJ = GARY JACOBS
JLH = JAMES L. HERED
CD = CHRISTY DRAPER
JR = JOHN REED
LV = LASSANDRA VON APPEN

"FINAL REPORT FORMAT - SINGLE"

Accession:	703418
Client:	AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number:	703361
Project Name:	MARATHON OIL CO.
Project Location:	MOC/IBGP
Test:	ACID EXTRACTABLES (8270)
Analysis Method:	8270/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method:	3520/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Matrix:	WATER
QC Level:	II

Lab Id:	002	Sample Date/Time:	20-MAR-97 1530
Client Sample Id:	703361-02	Received Date:	25-MAR-97
Batch: ALW062		Extraction Date:	26-MAR-97
Blank: A	Dry Weight %: N/A	Analysis Date:	04-APR-97

Parameter:	Units:	Results:	Rpt Lmts:	Q:
PHENOL	MG/L	ND	0.003	
2-FLUOROPHENOL	%REC/SURR	89	21-100	
PHENOL-D6	%REC/SURR	76	10-100	
2,4,6-TRIBROMOPHENOL	%REC/SURR	100	10-123	
ANALYST	INITIALS	RW		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession:	703418
Client:	AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number:	703361
Project Name:	MARATHON OIL CO.
Project Location:	MOC/IBGP
Test:	ACID EXTRACTABLES (8270)
Analysis Method:	8270/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method:	3520/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Matrix:	WATER
QC Level:	II

Lab Id:	003		Sample Date/Time:	20-MAR-97 1610
Client Sample Id:	703361-03		Received Date:	25-MAR-97
Batch: ALW062			Extraction Date:	26-MAR-97
Blank: A	Dry Weight %:	N/A	Analysis Date:	04-APR-97

Parameter:	Units:	Results:	Rpt Lmts:	Q:
PHENOL	MG/L	ND	0.003	
2-FLUOROPHENOL	%REC/SURR	92	21-100	
PHENOL-D6	%REC/SURR	81	10-100	
2,4,6-TRIBROMOPHENOL	%REC/SURR	101	10-123	
ANALYST	INITIALS	RW		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession:	703418
Client:	AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number:	703361
Project Name:	MARATHON OIL CO.
Project Location:	MOC/IBGP
Test:	ACID EXTRACTABLES (8270)
Analysis Method:	8270/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method:	3520/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Matrix:	WATER
QC Level:	II

Lab Id:	004	Sample Date/Time:	20-MAR-97 1710
Client Sample Id:	703361-04	Received Date:	25-MAR-97
Batch: ALW062		Extraction Date:	26-MAR-97
Blank: A	Dry Weight %: N/A	Analysis Date:	04-APR-97

Parameter:	Units:	Results:	Rpt Lmts:	Q:
PHENOL	MG/L	ND	0.003	
2-FLUOROPHENOL	%REC/SURR	75	21-100	
PHENOL-D6	%REC/SURR	52	10-100	
2,4,6-TRIBROMOPHENOL	%REC/SURR	96	10-123	
ANALYST	INITIALS	RW		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession:	703418
Client:	AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number:	703361
Project Name:	MARATHON OIL CO.
Project Location:	MOC/IBGP
Test:	ACID EXTRACTABLES (8270)
Analysis Method:	8270/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method:	3520/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Matrix:	WATER
QC Level:	II

Lab Id:	005	Sample Date/Time:	20-MAR-97 0830
Client Sample Id:	703361-05	Received Date:	25-MAR-97
Batch: ALW062		Extraction Date:	26-MAR-97
Blank: A	Dry Weight %: N/A	Analysis Date:	04-APR-97

Parameter:	Units:	Results:	Rpt Lmts:	Q:
PHENOL	MG/L	ND	0.003	
2-FLUOROPHENOL	%REC/SURR	76	21-100	
PHENOL-D6	%REC/SURR	60	10-100	
2,4,6-TRIBROMOPHENOL	%REC/SURR	111	10-123	
ANALYST	INITIALS	RW		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession:	703418
Client:	AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number:	703361
Project Name:	MARATHON OIL CO.
Project Location:	MOC/IBGP
Test:	ACID EXTRACTABLES (8270)
Analysis Method:	8270/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method:	3520/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Matrix:	WATER
QC Level:	II

Lab Id:	006	Sample Date/Time:	20-MAR-97 0930
Client Sample Id:	703361-06	Received Date:	25-MAR-97
Batch: ALW062		Extraction Date:	26-MAR-97
Blank: A	Dry Weight %: N/A	Analysis Date:	04-APR-97

Parameter:	Units:	Results:	Rpt Lmts:	Q:
PHENOL	MG/L	ND	0.006	
2-FLUOROPHENOL	%REC/SURR	83	21-100	
PHENOL-D6	%REC/SURR	72	10-100	
2,4,6-TRIBROMOPHENOL	%REC/SURR	87	10-123	
ANALYST	INITIALS	RW		

Comments:

"QC Report"

Title: Water Blank
Batch: ALW062
Analysis Method: 8270/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method: 3520/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.

Blank Id: A Date Analyzed: 03-APR-97 Date Extracted: 26-MAR-97

Parameters:	Units:	Results:	Reporting Limits:
P-CHLORO-M-CRESOL	UG/L	ND	10
2-CHLOROPHENOL	UG/L	ND	10
O-CRESOL	UG/L	ND	10
M,P CRESOL	UG/L	ND	10
2,4-DICHLOROPHENOL	UG/L	ND	10
2,6-DICHLOROPHENOL	UG/L	ND	10
2,4-DIMETHYLPHENOL	UG/L	ND	10
4,6-DINITRO-O-CRESOL	UG/L	ND	50
2,4-DINITROPHENOL	UG/L	ND	10
2-NITROPHENOL	UG/L	ND	10
4-NITROPHENOL	UG/L	ND	50
PENTACHLOROPHENOL	UG/L	ND	50
PHENOL	UG/L	ND	10
2,3,4,6-TETRACHLOROPHENOL	UG/L	ND	10
2,4,5-TRICHLOROPHENOL	UG/L	ND	50
2,4,6-TRICHLOROPHENOL	UG/L	ND	10
ACENAPHTHENE	UG/L	ND	10
ACENAPHTHYLENE	UG/L	ND	10
ACETOPHENONE	UG/L	ND	10
2-ACETYLAMINOFLUORENE	UG/L	ND	10
4-AMINOBIPHENYL	UG/L	ND	10
ANILINE	UG/L	ND	10
ANTHRACENE	UG/L	ND	10
ARAMITE	UG/L	ND	10
BENZO (A) ANTHRACENE	UG/L	ND	10
BENZO (A) PYRENE	UG/L	ND	10
BENZO (B) FLUORANTHENE	UG/L	ND	10
BENZO (G,H,I) PERYLENE	UG/L	ND	10
BENZO (K) FLUORANTHENE	UG/L	ND	10
BENZYL ALCOHOL	UG/L	ND	10
BIS(2-CHLORO-1-METHYLETHYL)ETHER	UG/L	ND	10
BIS(2-CHLOROETHOXY)METHANE	UG/L	ND	10
BIS(2-CHLOROETHYL)ETHER	UG/L	ND	10
BIS(2-ETHYLHEXYL)PHTHALATE	UG/L	ND	10
4-BROMOPHENYL PHENYL ETHER	UG/L	ND	10
BUTYLBENZYL PHTHALATE	UG/L	ND	10
P-CHLOROANILINE	UG/L	ND	10
CHLOROBENZILATE	UG/L	ND	10
2-CHLORONAPHTHALENE	UG/L	ND	10
4-CHLOROPHENYL PHENYL ETHER	UG/L	ND	10
CHRYSENE	UG/L	ND	10
DIALLATE	UG/L	ND	10
DIBENZO (A,H) ANTHRACENE	UG/L	ND	10
DIBENZOFURAN	UG/L	ND	10
1,2-DICHLOROBENZENE	UG/L	ND	10
1,3-DICHLOROBENZENE	UG/L	ND	10

"QC Report"

Title: Water Blank
Batch: ALW062
Analysis Method: 8270/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method: 3520/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.

Parameters:	Units:	Results:	Reporting Limits:
1,4-DICHLOROBENZENE	UG/L	ND	10
3,3'-DICHLOROBENZIDINE	UG/L	ND	50
DIETHYLPHTHALATE	UG/L	ND	10
DIMETHOATE	UG/L	ND	10
P-DIMETHYLAMINOAZOBENZENE	UG/L	ND	10
7,12-DIMETHYLBENZ(A)ANTHRACENE	UG/L	ND	10
3,3'-DIMETHYLBENZIDINE	UG/L	ND	10
A,A-DIMETHYLPHENETHYLAMINE	UG/L	ND	10
DIMETHYLPHTHALATE	UG/L	ND	10
DI-N-BUTYLPHTHALATE	UG/L	ND	10
M-DINITROBENZENE	UG/L	ND	10
2,4-DINITROTOLUENE	UG/L	ND	10
2,6-DINITROTOLUENE	UG/L	ND	10
DI-N-OCTYLPHTHALATE	UG/L	ND	10
DIPHENYLAMINE	UG/L	ND	10
ETHYL METHANESULFONATE	UG/L	ND	10
FAMPHUR	UG/L	ND	10
FLUORANTHENE	UG/L	ND	10
FLUORENE	UG/L	ND	10
HEXACHLOROBENZENE	UG/L	ND	10
HEXACHLOROBUTADIENE	UG/L	ND	10
HEXACHLOROCYCLOPENTADIENE	UG/L	ND	10
HEXACHLOROETHANE	UG/L	ND	10
HEXACHLOROPHENE	UG/L	ND	10
HEXACHLOROPROPENE	UG/L	ND	10
INDENO (1,2,3-CD) PYRENE	UG/L	ND	10
ISODRIN	UG/L	ND	10
ISOPHORONE	UG/L	ND	10
ISOSAFROLE	UG/L	ND	10
KEPONE	UG/L	ND	10
METHAPYRILENE	UG/L	ND	10
3-METHYLCHOLANTHRENE	UG/L	ND	10
METHYL METHANESULFONATE	UG/L	ND	10
1-METHYLNAPHTHALENE	UG/L	ND	10
2-METHYLNAPHTHALENE	UG/L	ND	10
NAPHTHALENE	UG/L	ND	10
1,4-NAPHTHOQUINONE	UG/L	ND	10
1-NAPHTHYLAMINE	UG/L	ND	10
2-NAPHTHYLAMINE	UG/L	ND	10
2-NITROANILINE	UG/L	ND	50
3-NITROANILINE	UG/L	ND	50
4-NITROANILINE	UG/L	ND	50
NITROBENZENE	UG/L	ND	10
5-NITRO-O-TOLUIDINE	UG/L	ND	10
4-NITROQUINOLINE-1-OXIDE	UG/L	ND	10
N-NITROSODIETHYLAMINE	UG/L	ND	10
N-NITROSODIMETHYLAMINE	UG/L	ND	10

"QC Report"

Title: Water Blank
Batch: ALW062
Analysis Method: 8270/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method: 3520/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.

Parameters:	Units:	Results:	Reporting Limits:
N-NITROSODI-N-BUTYLAMINE	UG/L	ND	10
N-NITROSODIPHENYLAMINE	UG/L	ND	10
N-NITROSOMETHYLETHYLAMINE	UG/L	ND	10
N-NITROSOMORPHOLINE	UG/L	ND	10
N-NITROSOPIPERIDINE	UG/L	ND	10
N-NITROSOPYRROLIDINE	UG/L	ND	10
PARATHION	UG/L	ND	10
PENTACHLOROBENZENE	UG/L	ND	10
PENTACHLOROETHANE	UG/L	ND	10
PENTACHLORONITROBENZENE	UG/L	ND	10
PHENACETIN	UG/L	ND	10
PHENANTHRENE	UG/L	ND	10
2-PICOLINE	UG/L	ND	10
P-PHENYLENEDIAMINE	UG/L	ND	10
PRONAMIDE	UG/L	ND	10
PYRENE	UG/L	ND	10
PYRIDINE	UG/L	ND	10
SAFROLE	UG/L	ND	10
SULFOTEPP	UG/L	ND	10
1,2,4,5-TETRACHLOROBENZENE	UG/L	ND	10
THIONAZIN	UG/L	ND	10
O-TOLUIDINE	UG/L	ND	10
1,2,4 TRICHLOROBENZENE	UG/L	ND	10
SYM-TRINITROBENZENE	UG/L	ND	10
O,O,O-TRIETHYL PHOSPHOROTHIATE	UG/L	ND	10
BENZIDINE	UG/L	ND	10
BIS(2-CHLOROISOPROPYL)ETHER	UG/L	ND	10
2-(SEC BUTYL)4,6-DINITRO-PHENOL(DINOSEB)	UG/L	ND	10
N-NITROSO-DI-N-PROPYLAMINE	UG/L	ND	10
6-METHYL CHRYSENE	UG/L	ND	20
INDENE	UG/L	ND	20
QUINOLINE	UG/L	ND	50
BENZENETHIOL	UG/L	ND	20
2-FLUOROBIPHENYL	%REC/SURR	88	43-116
TERPHENYL-D14	%REC/SURR	90	33-124
NITROBENZENE-D5	%REC/SURR	74	35-114
2-FLUOROPHENOL	%REC/SURR	65	21-100
PHENOL-D6	%REC/SURR	65	10-100
2,4,6-TRIBROMOPHENOL	%REC/SURR	65	10-123
ANALYST	INITIALS	RW	

Comments:

"QC Report"

Title: Water Reagent
Batch: ALW062
Analysis Method: 8270/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method: 3520/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.

RS Date Analyzed: 03-APR-97
RSD Date Analyzed: 03-APR-97
RS Date Extracted: 26-MAR-97
RSD Date Extracted: 26-MAR-97

Parameters:	Spike Added	Sample Conc	RS Conc	RS %Rec	RSD Conc	RSD %Rec	RPD	RPD Lmts	Rec Lmts
PHENOL	150	<10	128	85	102	68	22	32	5-112
2-CHLOROPHENOL	150	<10	142	95	112	75	24	27	40-120
1,4-DICHLOROBENZENE	100	<10	74	74	86	86	15	29	32-119
N-NITRO-DI-N-PROPYLAMINE	100	<10	76	76	82	82	8	30	26-128
1,2,4 TRICHLOROBENZENE	100	<10	70	70	80	80	13	28	44-142
4-CHLORO-3-METHYLPHENOL	150	<10	126	84	112	75	11	28	30-128
ACENAPHTHENE	100	<10	98	98	104	104	6	26	47-145
4-NITROPHENOL	150	<50	102	68	91	61	11	50	1-132
2,4-DINITROTOLUENE	100	<10	98	98	100	100	2	29	39-138
PENTACHLOROPHENOL	150	<50	112	75	102	68	10	24	15-157
PYRENE	100	<10	94	94	100	100	6	25	52-115
Surrogates:									
NITROBENZENE-D5				77		82			35-114
2-FLUOROBIPHENYL				88		88			43-116
TERPHENYL-D14				91		96			33-124
PHENOL-D6				76		58			10-100
2-FLUOROPHENOL				78		59			21-100
2,4,6-TRIBROMOPHENOL				77		67			10-123

Comments:

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
UG/L = PARTS PER BILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

"QC Report"

Title: Water Matrix
Batch: ALW062
Analysis Method: 8270/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method: 3520/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.

Dry Weight %: N/A
Sample Spiked: 703304-2

MS Date Analyzed: 03-APR-97
MSD Date Analyzed: 03-APR-97

MS Date Extracted: 28-MAR-97
MSD Date Extracted: 28-MAR-96

Parameters:	Spike Added	Sample Conc	MS Conc	MS %Rec	MSD Conc	MSD %Rec	RPD	RPD Lmts	Rec Lmts
PHENOL	300	<10	216	72	260	87	19	38	5-112
2-CHLOROPHENOL	300	<10	232	77	284	95	21	25	38-120
1,4-DICHLOROBENZENE	200	<10	148	74	156	78	5	27	39-112
N-NITRO-DI-N-PROPYLAMINE	200	<10	164	82	180	90	9	30	32-125
1,2,4 TRICHLOROBENZENE	200	<10	160	80	172	86	7	30	44-118
4-CHLORO-3-METHYLPHENOL	300	<10	208	69	248	83	18	23	42-131
ACENAPHTHENE	200	<10	188	94	192	96	2	21	47-131
4-NITROPHENOL	300	<50	136	45	160	53	16	36	1-116
2,4-DINITROTOLUENE	200	<10	160	80	172	86	7	22	39-138
PENTACHLOROPHENOL	300	<50	204	68	248	83	20	36	14-164
PYRENE	200	<10	180	90	192	96	6	21	52-115
Surrogates:									
NITROBENZENE-D5				81		86			35-114
2-FLUOROBIPHENYL				84		89			43-116
TERPHENYL-D14				85		90			33-124
PHENOL-D6				70		81			10-100
2-FLUOROPHENOL				68		78			21-100
2,4,6-TRIBROMOPHENOL				76		87			10-123

Comments:

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
UG/L = PARTS PER BILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

Common notation for Organic reporting

N/S = NOT SUBMITTED
N/A = NOT APPLICABLE
D = DILUTED OUT
UG/L = PARTS PER BILLION.
UG/KG = PARTS PER BILLION.
MG/KG = PARTS PER MILLION.
MG/L = PARTS PER MILLION.
MG/M3 = MILLIGRAMS PER CUBIC METER.
NG = NANOGRAMS.
UG = MICROGRAMS.
PPBV = PARTS PER BILLION/VOLUME.
< = LESS THAN DETECTION LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS
J = THE REPORTED VALUE IS EITHER LESS THAN THE REPORTING LIMIT BUT GREATER THAN ZERO, OR QUANTITATED AS A TIC; THEREFORE, IT IS ESTIMATED.
JJ = REPORTED VALUE IS ESTIMATED DUE TO MATRIX INTERFERENCE.
ND = NOT DETECTED ABOVE REPORT LIMIT.
RPT LIMIT = REPORTING LIMITS BASED ON METHOD DETECTION LIMIT STUDIES.
RPD = RELATIVE PERCENT DIFFERENCE (OR DEVIATION)

SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

ORGANIC SOILS ARE REPORTED ON A DRY WEIGHT BASIS.

DUE TO THE NATURE OF THE SAMPLE MATRIX, MATRIX SPIKE/MATRIX SPIKE DUPLICATE ANALYSIS CANNOT BE PERFORMED FOR AIR ANALYSIS.

CLP SOW 1991, USEPA CONTRACT LABORATORY PROGRAM, STATEMENT OF WORK FOR ORGANICS ANALYSIS, DOCUMENT NUMBER OLM01.8, AUGUST 1991.

AEN-PN USES THE MOST CURRENT PROMULGATED METHODS CONTAINED IN THE REFERENCE MANUALS.

LP = LEVERNE PETERSON
LD = LARRY DILMORE
PL = PAUL LESCHENSKY
DWB = DAVID BOWERS
RW = RITA WINGO
LL = LANCE LARSON
BV = BEN VAUGHN

American Environmental Network
Albuquerque, New Mexico

Interlab Chain of Custody

DATE: 3/24 PAGE: 1 OF 1

NETWORK PROJECT MANAGER: KIMBERLY D. McNEILL

COMPANY: American Environmental Network
ADDRESS: 2709-D Pan American Freeway, NE
Albuquerque, NM 87107

CLIENT PROJECT MANAGER:

Kim McNeill

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
703361-01	3/19/97	1730	AQ	1
-02	3/20	1530		2
-03	3/20	1610		3
-04	3/20	1710		4
-05	3/21	0830		5
-06	3/21	0930	↓	6

	Metals - TAL	Metals - PP List	Metals - RCRA	RCRA Metals by TCLP (1311)	Barium, Manganese, Fe	TDS, 304, TF	~~TOX~~ ~~Total~~ Phenolics by 8270	TOC	Gen Chemistry			Oil and Grease	BOD	COD	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	Polynuclear Aromatics (610/8310)	8240 (TCLP 1311) ZHE	8270 (TCLP 1311)			TO-14	Gross Alpha/Beta			NUMBER OF CONTAINERS
703361-01				X	X	X	X																					1
-02				X	X	X	X																					2
-03				X	X	X	X																					3
-04				X	X	X	X										•											4
-05				X	X	X	X																					5
-06				X	X	X	X																					6

PROJECT INFORMATION

PROJECT NUMBER: 703361
PROJECT NAME: Marathon Oil Co.
QC LEVEL: STD. IV
QC REQUIRED: MS MSD BLANK
TAT: STANDARD RUSH!

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS	
CHAIN OF CUSTODY SEALS	
INTACT?	
RECEIVED GOOD COND./COLD	
LAB NUMBER	703418

DUE DATE: 4/5
RUSH SURCHARGE:
CLIENT DISCOUNT:
SPECIAL QUALIFICATION REQUIRED: ☐YES ☐NO

Phenol by 8270
0.003 mg/L

SAMPLES SENT TO:

SAN DIEGO	
Paragon	
RENTON	
PENSACOLA	X
PORTLAND	
PHOENIX	

RELINQUISHED BY: 1.
Signature: John Caldwell Time: 1700
Printed Name: John Caldwell Date: 3/24/97
Albuquerque

RECEIVED BY: 1.
Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 2.
Signature: Time:
Printed Name: Date: 3/25/97
Company:

RECEIVED BY: (LAB) 2.
Signature: Time: 0832
Printed Name: R. ELSPERMAN Date: 3/25/97
Company: BEN

American Environmental Network of Florida
PROJECT SAMPLE INSPECTION FORM

ab Accession #: 703418 Date Received: 25-Mar-97

1.	Was there a Chain of Custody?	(Yes)	No*		8.	Were samples checked for preservative? *(Check pH of all H_2O requiring preservative except VOA vials that require zero headspace)* +	(Yes)	No*	N/A
2.	Was Chain of Custody properly filled out and relinquished?	(Yes)	No*		9.	Is there sufficient volume for analysis requested?	(Yes)	No*	
3.	Were samples received cold? (Criteria: 1° - 4°C: AEN-SOP 1055)	(Yes)	No*	N/A	10.	Were samples received within Holding Time? (REFER TO AEN-SOP 1040)	(Yes)	No*	
4.	Were all samples properly labeled and identified?	(Yes)	No*		11.	Is Headspace visible > ¼" in diameter in VOA vials?* If any headspace is evident, comment in out-of-control section.	Yes*	No	(N/A)
5.	Did samples require splitting? Req By: PM Client Other*	Yes*	(No)		12.	If sent, were matrix spike bottles returned?	Yes	No*	(N/A)
6.	Were samples received in proper containers for analysis requested?	(Yes)	No*		13.	Was Project Manager notified of problems? (initials:_____)	Yes	No*	N/A
7.	Were all sample containers received intact?	(Yes)	No*						

Airbill Number(s): _____ Shipped By: FEDEX

Cooler Number(s): N/S Shipping Charges: N/A

Cooler Weight(s): N/A Cooler Temp(s) (°C): 2°C - CCK4

(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

Client Cooler

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: PJE Date: 3/25/97 Logged By: PJE Date: 3/25/97

* *Note all Out-of-Control and/or questionable events on Comment Section of this form.*
Note who requested the splitting of samples on the Comment Section of this form.

\+ *All preservatives for the State of North Carolina, the State of New York, and other requested samples are to be recorded on the sheet provided to record pH results (AEN-SOP 938, section 2.2.9).*

\# *According to EPA, ¼" of headspace is allowed in 40 ml vials requiring volatile analysis, however, AEN makes it policy to record any headspace as out-of-control (AEN-SOP 938, section 2.2.12).*

(American Environmental Network (NM), Inc.
Albuquerque • Phoenix • Pensacola • Portland • Pleasant Hills • Columbia

CHAIN OF CUSTODY

DATE: 3/19/97 PAGE: 1 OF 1

AEN LAB I.D.: 703361

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: Susan Burns

COMPANY: Fluor Daniel GTI
ADDRESS: 2501 Yale Blvd SE #204
Albuquerque New Mexico 87106
PHONE: 505-242-3113
FAX: 505-242-1103
BILL TO: Marathon Oil Company (Bob Menzie)
COMPANY:
ADDRESS:

ANALYSIS REQUEST

Petroleum Hydrocarbons (418.1) TRPH; (MOD.8015) Diesel/Direct/Inject; (M8015) Gas/Purge & Trap; Gasoline/BTEX & MTBE (M8015/8020); BTXE/MTBE (8020); BTEX & Chlorinated Aromatics (602/8020); BTEX/MTBE/EDC & EDB (8020/8010/Short); Chlorinated Hydrocarbons (601/8010); 504 EDB ☐ / DBCP ☐; Polynuclear Aromatics (610/8310); Volatile Organics (624/8240) GC/MS; Volatile Organics (8260) GC/MS; Pesticides/PCB (608/8080); Herbicides (615/8150); Base/Neutral/Acid Compounds GC/MS (625/8270); Phenol; General Chemistry: Barium, Manganese, Iron; TDS, SO4, F; Priority Pollutant Metals (13); Target Analyte List Metals (23); RCRA Metals (8); RCRA Metals by TCLP (Method 1311); Metals:; NUMBER OF CONTAINERS

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	Phenol	Barium, Manganese, Iron	TDS, SO4, F	NUMBER OF CONTAINERS
MW-60	3/19/97	17:30	AQ	-01	X	X	X	3
MW-41	3/20/97	15:30	↓	-02	X	X	X	3
MW-49	3/20/97	16:10	↓	-03	X	X	X	3
MW-50	3/20/97	17:10	↓	-04	X	X	X	3
MW-56	3/21/97	08:30	↓	-05	X	X	X	3
MW-13	3/21/97	09:30	↓	-06	X	X	X	3

PROJECT INFORMATION

PROJ. NO.: 02335022 4.64
PROJ. NAME: MOC/IBCP
P.O. NO.:
SHIPPED VIA:

SAMPLE RECEIPT
NO. CONTAINERS: 18
CUSTODY SEALS: Y/N/NA
RECEIVED INTACT: YES
BLUE ICE/ICE: 4°C

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐24hr ☐48hr ☐72hr ☐1 WEEK (NORMAL) ☒ JC
CERTIFICATION REQUIRED: ☐NM ☐SDWA ☐OTHER
METHANOL PRESERVATION ☐
COMMENTS: FIXED FEE ☐

RELINQUISHED BY: 1.
Signature: [signature] Time: 08:10
Printed Name: Charles T. Briscoe Date: 3/24/97
Company: Fluor Daniel GTI

RECEIVED BY: 1.
Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 2.
Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: (LAB) 2.
Signature: [signature] Time: 08:20
Printed Name: [illegible] Date: 3/24/97
American Environmental Network (NM), Inc.

4/1/9. AEN Inc.: American Environmental Network (NM), Inc. • 2709-D Pan American Freeway, NE • Albuquerque, New Mexico 87107

DISTRIBUTION: White, Canary - AEN Pink - ORIGINATOR

American Environmental Network, Inc.

AEN I.D. 705327

May 20, 1997

MARATHON O/C
PO BOX 552
MIDLAND TX 79702

Project Name INDIAN BASIN REM.
Project Number 023350224.61

Attention: BOB MENZIE

On 5/8/97 American Environmental Network (NM), Inc. (ADHS License No. AZ0015), received a request to analyze aqueous samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

EPA method 8020 was performed by American Environmental Network (NM) Inc., Albuquerque, NM.

All other analyses were performed by American Environmental Network (FL) Inc., 11 East Olive Road, Pensacola, FL.

If you have any questions or comments, please do not hesitate to contact us at (505)344-3777.

Kimberly D. McNeill
Project Manager

H. Mitchell Rubenstein, Ph. D.
General Manager

MR: mt

Enclosure

2709-D Pan American Freeway, NE • Albuquerque, NM 87107 • (505) 344-3777 • Fax (602) 344-4413

CLIENT	: MARATHON O/C	AEN I.D.	: 705327
PROJECT #	: 023350224.61	DATE RECEIVED	: 5/8/97
PROJECT NAME	: INDIAN BASIN REM.	REPORT DATE	: 5/20/97

AEN ID. #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	MW-98RB	AQ	5/6/97
02	MW-66	AQ	5/6/97
03	MW-66RB	AQ	5/6/97
04	MW-71	AQ	5/6/97
05	MW-71RB	AQ	5/6/97
06	MW-60	AQ	5/6/97
07	MW-60RB	AQ	5/6/97
08	MW-87	AQ	5/6/97
09	MW-87RB	AQ	5/6/97
10	MW-87A	AQ	5/7/97
11	MW-87A RB	AQ	5/7/97
12	MW-90	AQ	5/7/97
13	MW-90RB	AQ	5/7/97
14	MW-79	AQ	5/7/97
15	MW-106	AQ	5/7/97
16	MW-77	AQ	5/7/97
17	MW-65	AQ	5/7/97
18	MW-78	AQ	5/7/97
19	MW-78RB	AQ	5/7/97
20	MW-61A	AQ	5/7/97
21	TRIP BLANK A	AQ	4/24/97
22	TRIP BLANK B	AQ	4/24/97

"FINAL REPORT FORMAT - MULTIPLE"

Accession: 705157
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 705327
Project Name: MARATHON OIL CO.
Project Location: INDIAN BASIN REMEDIATION
Test: Group of Single Wetchem
QcLevel: II

Parameter:	Unit:	Result:	R.L.:	Batch:	Q:
Client ID: 705327-02			Lab ID: 001		
CHLORIDE (325.3)	MG/L	9	1	CIW044	
Comments:					
Client ID: 705327-04			Lab ID: 002		
CHLORIDE (325.3)	MG/L	17	1	CIW044	
Comments:					
Client ID: 705327-06			Lab ID: 003		
CHLORIDE (325.3)	MG/L	10	1	CIW044	
Comments:					
Client ID: 705327-08			Lab ID: 004		
CHLORIDE (325.3)	MG/L	13	1	CIW044	
Comments:					
Client ID: 705327-10			Lab ID: 005		
CHLORIDE (325.3)	MG/L	140	1	CIW044	
Comments:					
Client ID: 705327-12			Lab ID: 006		
CHLORIDE (325.3)	MG/L	25	1	CIW044	
Comments:					
Client ID: 705327-14			Lab ID: 007		
CHLORIDE (325.3)	MG/L	24	1	CIW044	
Comments:					
Client ID: 705327-15			Lab ID: 008		
CHLORIDE (325.3)	MG/L	4	1	CIW044	
Comments:					

"FINAL REPORT FORMAT - MULTIPLE"

Accession: 705157
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 705327
Project Name: MARATHON OIL CO.
Project Location: INDIAN BASIN REMEDIATION
Test: Group of Single Wetchem
QcLevel: II

Parameter:	Unit:	Result:	R.L:	Batch:	Q:
Client ID: 705327-16			Lab ID: 009		
CHLORIDE (325.3)	MG/L 72	150	1	CIW044	
Comments:					
Client ID: 705327-17			Lab ID: 010		
CHLORIDE (325.3)	MG/L 65	2	1	CIW044	
Comments:					
Client ID: 705327-18			Lab ID: 011		
CHLORIDE (325.3)	MG/L 74	59	1	CIW044	
Comments:					
Client ID: 705327-20			Lab ID: 012		
CHLORIDE (325.3)	MG/L 61	11	1	CIW044	
Comments:					

"FINAL REPORT FORMAT - MULTIPLE"

Accession: 705157
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 705327
Project Name: MARATHON OIL CO.
Project Location: INDIAN BASIN REMEDIATION
Test: Group of Single Wetchem

Client ID:	Lab ID:	Matrix:	Date/Time Sampled:	Date Received:
705327-02	001	WATER	06-MAY-97 0935	09-MAY-97
705327-04	002	WATER	06-MAY-97 1315	09-MAY-97
705327-06	003	WATER	06-MAY-97 1440	09-MAY-97
705327-08	004	WATER	06-MAY-97 1545	09-MAY-97
705327-10	005	WATER	07-MAY-97 0815	09-MAY-97
705327-12	006	WATER	07-MAY-97 1010	09-MAY-97
705327-14	007	WATER	07-MAY-97 1035	09-MAY-97
705327-15	008	WATER	07-MAY-97 1125	09-MAY-97
705327-16	009	WATER	07-MAY-97 1145	09-MAY-97
705327-17	010	WATER	07-MAY-97 1215	09-MAY-97
705327-18	011	WATER	07-MAY-97 1310	09-MAY-97
705327-20	012	WATER	07-MAY-97 1420	09-MAY-97

"WetChem Quality Control Report"

Parameter:	CHLORIDE
Batch Id:	CIW044
Blank Result:	<1
Anal. Method:	325.3
Prep. Method:	N/A
Analysis Date:	13-MAY-97
Prep. Date:	13-MAY-97

Sample Duplication

Sample Dup:	705093-12
Rept Limit:	<1
Sample Result:	<1
Dup Result:	<1
Sample RPD:	N/C
Max RPD:	1
Dry Weight%	N/A

Matrix Spike

Sample Spiked:	705093-12
Rept Limit:	<1
Sample Result:	<1
Spiked Result:	55.4
Spike Added:	55.0
% Recovery:	101
% Rec Limits:	88-113
Dry Weight%	N/A

ICV

ICV Result:	96.1
True Result:	100
% Recovery:	96
% Rec Limits:	90-110

LCS

LCS Result:	
True Result:	
% Recovery:	
% Rec Limits:	

----- Common Footnotes WetChem -----

N/A = NOT APPLICABLE.
N/S = NOT SUBMITTED.
N/C = SAMPLE AND DUPLICATE RESULTS ARE AT OR BELOW AEN REPORTING LIMIT; THEREFORE, THE RPD IS "NOT CALCULABLE" AND NO CONTROL LIMITS APPLY.
N/D = NOT DETECTED.
R = REACTIVE
T = TOTAL
G = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X AEN REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE RESULT IS AT OR BELOW AEN REPORTING LIMIT; THEREFORE, THE RESULTS ARE "IN CONTROL".
Q = THE ANALYTICAL (POST-DISTILLATION) SPIKE IS REPORTED DUE TO PERCENT RECOVERY BEING OUTSIDE ACCEPTANCE LIMITS ON THE MATRIX (PRE-DISTILLATION) SPIKE.
# = ELEVATED REPORTING LIMIT DUE TO INSUFFICIENT SAMPLE.
+ = ELEVATED REPORTING LIMIT DUE TO DILUTION INTO CALIBRATION RANGE.
* = ELEVATED REPORTING LIMIT DUE TO MATRIX INTERFERENCE. (DILUTION PRIOR TO ANALYSIS)
@ = ADJUSTED REPORTING LIMIT DUE TO SAMPLE MATRIX. (DILUTION PRIOR TO DIGESTION)
P = ANALYTICAL (POST DIGESTION) SPIKE.
I = DUPLICATE INJECTION.
& = AUTOMATED
F = SAMPLE SPIKED > 4 X SPIKE CONCENTRATION.
N/C+ = NOT CALCULABLE
H = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X AEN REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE RESULTS EXCEEDS THE AEN REPORTING LIMIT; THEREFORE, THE RESULTS ARE "OUT OF CONTROL".
A = SAMPLE AND DUPLICATE RESULTS ARE "OUT OF CONTROL".
Z = THE SAMPLE RESULT FOR THE SPIKE IS BELOW THE REPORTING LIMIT. HOWEVER, THIS RESULT IS REPORTED FOR ACCURATE QC CALCULATIONS.
NH= SAMPLE AND / OR DUPLICATE RESULT IS BELOW 5 X AEN REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE RESULTS EXCEEDS THE AEN REPORTING LIMIT; THEREFORE, THE RESULTS ARE "OUT OF CONTROL". SAMPLE IS NON-HOMOGENEOUS.
(*) = DETECTION LIMITS RAISED DUE TO CLP METHOD NOT REQUIRING A CONCENTRATION STEP FOR CN
(CA) = SEE CORRECTIVE ACTIONS FORM.
**= MATRIX INTERFERENCE
SW-846, 3rd Edition, latest EPA-approved edition.
EPA 600/4-79-020, Revised March 1983.
STANDARD METHODS, For the Examination of Water and Wastewater, latest EPA-approved edition
NIOSH Manual of Analytical Methods, 4th Edition.
ANNUAL BOOK OF ASTM STANDARDS, VOLUMES 11.01 and 11.02, latest EPA-approved edition.
METHODS FOR THE DETERMINATION OF INORGANIC SUBSTANCES IN ENVIRONMENTAL SAMPLES, EPA600/R-93/100, AUGUST 1993
AEN-PN USES THE MOST CURRENT PROMULGATED METHODS FROM THE REFERENCES LISTED ABOVE.
METHODS FOR SOIL ANALYSIS, PART 2, CHEMICAL AND MICROBILOGICAL PROPERTIES, 2ND EDITION.

1. COLIFORM. COLIFORM PRECISION IS MEASURED BY THE ABSOLUTE DIFFERENCE BETWEEN THE LOGARITHM OF COLONIES PER 100 MLS OF SAMPLE ON DUPLICATE PLATES.
2. PH. PH PRECISION IS MEASURED BY THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE ANALYSIS.
3. FLASHPOINT. FLASHPOINT PRECISION IS MEASURED BY THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE ANALYSIS.

RPD = RELATIVE PERCENT DIFFERENCE (OR DEVIATION).
RPT LIMIT = REPORTING LIMITS BASED ON METHOD DETECTION LIMIT STUDIES.

DPH = DOLLY P. HWANG
JL = JAN LECLEAR
ED = ESTHER DANTIN
PLD = PAULA L. DOUGHTY
RB = REBECCA BROWN
NSB = NANCY S. BUTLER
LV = LASSANDRA VON APPEN
RH = RICKY HAGENDORFER
AB = ANDY BROTHERTON
MM = MIKE MCKENZIE
JTZ = JONATHAN T. ZIENTARSKI

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON O/C
AEN I.D.: 705327
PROJECT # : 023350224.61
PROJECT NAME : INDIAN BASIN REM.

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	MW-98RB	AQUEOUS	5/6/97	NA	5/9/97	1
02	MW-66	AQUEOUS	5/6/97	NA	5/9/97	1
03	MW-66RB	AQUEOUS	5/6/97	NA	5/9/97	1

PARAMETER	DET. LIMIT	UNITS	01	02	03
BENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOLUENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOTAL XYLENES	0.5	UG/L	< 0.5	< 0.5	< 0.5
SURROGATE:					
BROMOFLUOROBENZENE (%)			102	109	109
SURROGATE LIMITS	(80 - 120)				

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON O/C
AEN I.D.: 705327
PROJECT # : 023350224.61
PROJECT NAME : INDIAN BASIN REM.

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
04	MW-71	AQUEOUS	5/6/97	NA	5/9/97	1
05	MW-71RB	AQUEOUS	5/6/97	NA	5/12/97	1
06	MW-60	AQUEOUS	5/6/97	NA	5/9/97	1

PARAMETER	DET. LIMIT	UNITS	04	05	06
BENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOLUENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOTAL XYLENES	0.5	UG/L	< 0.5	< 0.5	< 0.5
SURROGATE:					
BROMOFLUOROBENZENE (%)			107	99	109
SURROGATE LIMITS	(80 - 120)				

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON O/C
AEN I.D.: 705327
PROJECT # : 023350224.61
PROJECT NAME : INDIAN BASIN REM.

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
07	MW-60RB	AQUEOUS	5/6/97	NA	5/9/97	1
08	MW-87	AQUEOUS	5/6/97	NA	5/9/97	1
09	MW-87RB	AQUEOUS	5/6/97	NA	5/9/97	1

PARAMETER	DET. LIMIT	UNITS	07	08	09
BENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOLUENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOTAL XYLENES	0.5	UG/L	< 0.5	< 0.5	< 0.5
SURROGATE:					
BROMOFLUOROBENZENE (%)			113	96	103
SURROGATE LIMITS	(80 - 120)				

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON O/C
AEN I.D.: 706327
PROJECT # : 023350224.61
PROJECT NAME : INDIAN BASIN REM.

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
10	MW-87A	AQUEOUS	5/7/97	NA	5/9/97	1
11	MW-87A RB	AQUEOUS	5/7/97	NA	5/9/97	1
12	MW-90	AQUEOUS	5/7/97	NA	5/12/97	1

PARAMETER	DET. LIMIT	UNITS	10	11	12
BENZENE	0.5	UG/L	< 0.5	< 0.5	1.1
TOLUENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOTAL XYLENES	0.5	UG/L	< 0.5	< 0.5	< 0.5
SURROGATE:					
BROMOFLUOROBENZENE (%)			102	102	105
SURROGATE LIMITS	(80 - 120)				

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON O/C
AEN I.D.: 705327
PROJECT # : 023350224.61
PROJECT NAME : INDIAN BASIN REM.

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
13	MW-90RB	AQUEOUS	5/7/97	NA	5/9/97	1
14	MW-79	AQUEOUS	5/7/97	NA	5/9/97	1
15	MW-106	AQUEOUS	5/7/97	NA	5/9/97	1

PARAMETER	DET. LIMIT	UNITS	13	14	15
BENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOLUENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOTAL XYLENES	0.5	UG/L	< 0.5	< 0.5	< 0.5
SURROGATE:					
BROMOFLUOROBENZENE (%)			109	109	106
SURROGATE LIMITS	(80 - 120)				

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON O/C
AEN I.D.: 705327
PROJECT # : 023350224.61
PROJECT NAME : INDIAN BASIN REM.

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
16	MW-77	AQUEOUS	5/7/97	NA	5/12/97	10
17	MW-65	AQUEOUS	5/7/97	NA	5/12/97	1
18	MW-78	AQUEOUS	5/7/97	NA	5/12/97	10

PARAMETER	DET. LIMIT	UNITS	16	17	18
BENZENE	0.5	UG/L	8.4	< 0.5	20
TOLUENE	0.5	UG/L	70	< 0.5	42
ETHYLBENZENE	0.5	UG/L	8.3	< 0.5	12
TOTAL XYLENES	0.5	UG/L	52	< 0.5	23
SURROGATE:					
BROMOFLUOROBENZENE (%)			74 *	101	94
SURROGATE LIMITS	(80 - 120)				

CHEMIST NOTES:
* SURROGATE OUTSIDE RECOVERY LIMITS DUE TO MATRIX INTERFERENCE

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON O/C
AEN I.D.: 705327
PROJECT # : 023350224.61
PROJECT NAME : INDIAN BASIN REM.

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
19	MW-78RB	AQUEOUS	5/7/97	NA	5/12/97	1
20	MW-61A	AQUEOUS	5/7/97	NA	5/12/97	50
21	TRIP BLANK A	AQUEOUS	4/24/97	NA	5/12/97	1

PARAMETER	DET. LIMIT	UNITS	19	20	21
BENZENE	0.5	UG/L	< 0.5	**330**	< 0.5
TOLUENE	0.5	UG/L	< 0.5	**59**	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	< 25	< 0.5
TOTAL XYLENES	0.5	UG/L	< 0.5	**850**	< 0.5
SURROGATE:					
BROMOFLUOROBENZENE (%)			107	114	105
SURROGATE LIMITS	(80 - 120)				

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON O/C
AEN I.D.: 705327
PROJECT # : 023350224.61
PROJECT NAME : INDIAN BASIN REM.

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
22	TRIP BLANK B	AQUEOUS	4/24/97	NA	5/12/97	1

PARAMETER	DET. LIMIT	UNITS	22
BENZENE	0.5	UG/L	< 0.5
TOLUENE	0.5	UG/L	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5
TOTAL XYLENES	0.5	UG/L	< 0.5
SURROGATE:			
BROMOFLUOROBENZENE (%)			100
SURROGATE LIMITS	(80 - 120)		

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS
REAGENT BLANK

TEST	: BTEX (EPA 8020)	AEN I.D.	: 705327
BLANK I. D.	: 050997	DATE EXRACTED	: N/A
CLIENT	: MARATHON O/C	DATE ANALYZED	: 5/9/97
PROJECT #	: 023350224.61	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: INDIAN BASIN REM.		

PARAMETER	UNITS	
BENZENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
ETHYLBENZENE	UG/L	<0.5
TOTAL XYLENES	UG/L	<0.5
SURROGATE:		
BROMOFLUOROBENZENE (%)		103
SURROGATE LIMITS:	(80 - 120)	

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS
REAGENT BLANK

TEST	: BTEX (EPA 8020)	AEN I.D.	: 705327
BLANK I. D.	: 051297	DATE EXRACTED	: N/A
CLIENT	: MARATHON O/C	DATE ANALYZED	: 5/12/97
PROJECT #	: 023350224.61	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: INDIAN BASIN REM.		

PARAMETER	UNITS	
BENZENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
ETHYLBENZENE	UG/L	<0.5
TOTAL XYLENES	UG/L	<0.5
SURROGATE:		
BROMOFLUOROBENZENE (%)		103
SURROGATE LIMITS:	(80 - 120)	

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY QUALITY CONTROL
MSMSD

TEST	: BTEX (EPA 8020)		
MSMSD #	: 705327-01	AEN I.D.	: 705327
CLIENT	: MARATHON O/C	DATE EXRACTED	: N/A
PROJECT #	: 023350224.61	DATE ANALYZED	: 5/9/97
PROJECT NAME	: INDIAN BASIN REM.	SAMPLE MATRIX	: AQUEOUS
		UNITS	: UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<0.5	10.0	10.1	101	9.9	99	2	(80 - 120)	20
TOLUENE	<0.5	10.0	9.9	99	9.8	98	1	(80 - 120)	20
ETHYLBENZENE	<0.5	10.0	10.4	104	10.3	103	1	(80 - 120)	20
TOTAL XYLENES	<0.5	30.0	31.3	104	31.0	103	1	(80 - 120)	20

CHEMIST NOTES:
N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

GAS CHROMOTOGRAPHY QUALITY CONTROL
MSMSD

TEST	: BTEX (EPA 8020)		
MSMSD #	: 705327-17	AEN I.D.	: 705327
CLIENT	: MARATHON O/C	DATE EXRACTED	: N/A
PROJECT #	: 023350224.61	DATE ANALYZED	: 5/12/97
PROJECT NAME	: INDIAN BASIN REM.	SAMPLE MATRIX	: AQUEOUS
		UNITS	: UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<0.5	10.0	10.0	100	10.1	101	1	(80 - 120)	20
TOLUENE	<0.5	10.0	9.8	98	9.9	99	1	(80 - 120)	20
ETHYLBENZENE	<0.5	10.0	10.4	104	10.5	105	1	(80 - 120)	20
TOTAL XYLENES	<0.5	30.0	31.4	105	31.8	106	1	(80 - 120)	20

CHEMIST NOTES:
N/A

$$\% \text{ Recovery} = \frac{\text{(Spike Sample Result - Sample Result)}}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{\text{(Sample Result - Duplicate Result)}}{\text{Average Result}} \times 100$$

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

American Environmental Network (NM), Inc.

Albuquerque • Phoenix • Pensacola • Portland • Pleasant Hills • Columbia

CHAIN OF CUSTODY

DATE: 5/6 PAGE: 1 OF 2 3

AEN LAB I.D. 705327

PROJECT MANAGER: Bob Menzie

COMPANY: Marathon Oil
ADDRESS: P.O. Box 552
Midland TX 79702
PHONE: (915) 687-8312
FAX: (915) 687-8305

BILL TO:
COMPANY:
ADDRESS: Same as above

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct/Inject	Chloride 352.4	(M8015) Gas/Purge & Trap	Gasoline/BTEX & MTBE (M8015/8020)	BTXE/~~MTBE~~ (8020)	BTEX & Chlorinated Aromatics (602/8020)	BTEX/MTBE/EDC & EDB (8020/8010/Short)	Chlorinated Hydrocarbons (601/8010)	PAH 8310	504 EDB / DBCP	Polynuclear Aromatics (610/8310)	Volatile Organics (624/8240) GC/MS	Volatile Organics (8260) GC/MS	CATIONS	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	ANIONS	General Chemistry:			Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals:		NUMBER OF CONTAINERS
MW-98RB	5/6/97	0900	WATER	-01						X																							2
MW-66	↓	0935	↓	-02			X			X																							3
MW-66RB		0950		-03						X																							2
MW-71		1315		-04			X			X																							3
MW-71RB		1350		-05						X																							2
MW-60		1440		-06			X			X																							3
MW-60RB		1500		-07						X																							2
MW-87		1545		-08			X			X																							3
MW-87RB		1600		-09						X																							2
MW-87A	5/7/97	0815	WATER	-10			X			X																							3

PROJECT INFORMATION

PROJ. NO.: 023350224.61
PROJ. NAME: Indian Basin Remediation
P.O. NO.:
SHIPPED VIA:

SAMPLE RECEIPT [illegible]

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) [ ] 24hr [ ] 48hr [ ] 72hr [ ] 1 WEEK (NORMAL) [X]
CERTIFICATION REQUIRED: [ ] NM [ ] SDWA [ ] OTHER
METHANOL PRESERVATION [ ]
COMMENTS: FIXED FEE [ ]

From Field

RELINQUISHED BY: 1.

Signature: Kevin Cook Time: 1225
Printed Name: Kevin Cook Date: 5/8/97
Company: EOGT

RELINQUISHED BY: 2.

Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: 1.

Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: (LAB) 2.

Signature: [illegible] Time: [illegible]
Printed Name: [illegible] Date: [illegible]
American Environmental Network (NM), Inc.

American Environmental Network (NM), Inc.
Albuquerque • Phoenix • Pensacola • Portland • Pleasant Hills • Columbia

CHAIN OF CUSTODY

DATE: 5/7/97 PAGE: 2 OF 3

AEN LAB ID: [redacted]

SHADED AREAS ARE FOR LAB USE ONLY

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: Bob Menzie

COMPANY: Marathon O/C
ADDRESS: P.O. Box 552
Midland TX 79702
PHONE: (915) 687-8312
FAX: (915) 687-8305

BILL TO:
COMPANY: Same As Above
ADDRESS:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct/Inject	Chlorides 352.4	(M8015) Gas/Purge & Trap	Gasoline/BTEX & MTBE (M8015/8020)	BTXE/BTBE (8020)	BTEX & Chlorinated Aromatics (602/8020)	BTEX/MTBE/EDC & EDB (8020/8010/Short)	Chlorinated Hydrocarbons (601/8010)	504 EDB / DBCP	Polynuclear Aromatics (610/8310)	Volatile Organics (624/8240) GC/MS	Volatile Organics (8260) GC/MS	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	General Chemistry:	Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals:	NUMBER OF CONTAINERS
MW-87A RB	5/7/97	0905	WATER	-11						X																	2
MW-90		1010		-12			X			X																	3
MW-90RB		1020		-13						X																	2
MW-79		1035		-14			X			X																	3
MW-106		1125		-15			X			X																	3
MW-77		1145		-16			X			X																	3
MW-65		1215		-17			X			X																	3
MW-78		1310		-18			X			X																	3
MW-78RB		1320		-19						X																	2
MW-61A	↓	1420	↓	-20			X			X																	3

PROJECT INFORMATION

PROJ NO.: 02338022A.61
PROJ NAME: Indian Basin Remediation
P.O. NO.:
SHIPPED VIA:

[redacted]

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) [ ]24hr [ ]48hr [ ]72hr [ ]1 WEEK (NORMAL) [ ]
CERTIFICATION REQUIRED: [ ]NM [ ]SDWA [ ]OTHER
METHANOL PRESERVATION [ ]
COMMENTS: FIXED FEE [ ]

from Field

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.
Signature: Time: 1225	Signature: Time:
Printed Name: Kevin Cook Date: 5/8/97	Printed Name: Date:
Company: FDGTI	Company:
RECEIVED BY:	RECEIVED BY: (LAB)
Signature: Time:	[redacted]
Printed Name: Date:	Printed Name: Brent Barron
Company:	American Environmental Network (NM), Inc.

4/1/96 AEN Inc.: American Environmental Network (NM), Inc. • 2709-D Pan American Freeway, NE • Albuquerque, New Mexico 87107

DISTRIBUTION White, Canary - AEN Pink - ORIGINATOR

American Environmental Network (NM), Inc.
Albuquerque • Phoenix • Pensacola • Portland • Pleasant Hills • Columbia

CHAIN OF CUSTODY

DATE: _____ PAGE: 3 OF 3

AEN LAB I.D.: 705322

PROJECT MANAGER: Bob Menzie

COMPANY: Marathon Oil Co.
ADDRESS: P.O. Box 552
Midland TX 79702
PHONE: (915) 687-8312
FAX: (915) 687-8305

BILL TO: Same
COMPANY:
ADDRESS:

ANALYSIS REQUEST

SAMPLE I.D.	DATE	TIME	MATRIX	LAB I.D.	Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct/Inject	(M8015) Gas/Purge & Trap	Gasoline/BTEX & MTBE (M8015/8020)	BTXE/MTBE (8020)	BTEX & Chlorinated Aromatics (602/8020)	BTEX/MTBE:EDC & EDB (8020/8010/Short)	Chlorinated Hydrocarbons (601/8010)	504 EDB / DBCP	Polynuclear Aromatics (610/8310)	Volatile Organics (624/8240) GC/MS	Volatile Organics (8260) GC/MS	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base:Neutral:Acid Compounds GC/MS (625/8270)	General Chemistry:	Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals:
Trip Blank	4/24/97 BP	10:05	AQ						X																

PROJECT INFORMATION

PROJ NO: 023350224
PROJ NAME: Indian Basin Rem.
PO NO
SHIPPED VIA:

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) [ ] 24hr [ ] 48hr [ ] 72hr [ ] 1 WEEK (NORMAL) [ ]
CERTIFICATION REQUIRED: [ ] NM [ ] SDWA [ ] OTHER
METHANOL PRESERVATION [ ]
COMMENTS: FIXED FEE [ ]

Hand Field

RELINQUISHED BY:

Signature: Kevin Cook Time: 1225
Printed Name: Kevin Cook Date: 5/8/97
Company: FOGTT

RECEIVED BY:

Signature Time
Printed Name Date
Company

RELINQUISHED BY:

Signature Time
Printed Name Date
Company

RECEIVED BY:

PLEASE FILL THIS FORM IN COMPLETELY.

DISTRIBUTION: White, Canary - AEN Pink - ORIGINATOR

PROJECT SAMPLE INSPECTION FORM

Lab Accession #: 705157

Date Received: 09-May-97

#	Question	Response
1.	Was there a Chain of Custody?	Yes (circled) No*
2.	Was Chain of Custody properly filled out and relinquished?	Yes (circled) No*
3.	Were samples received cold? (Criteria: 1° - 4°C: AEN-SOP 1055)	Yes (circled) No* N/A
4.	Were all samples properly labeled and identified?	Yes (circled) No*
5.	Did samples require splitting? Req By: PM Client Other*	Yes* No (circled)
6.	Were samples received in proper containers for analysis requested?	Yes (circled) No*
7.	Were all sample containers received intact?	Yes (circled) No*
8.	Were samples checked for preservative? *(Check pH of all H_2O requiring preservative except VOA vials that require zero headspace)*+	Yes (circled) No* N/A
9.	Is there sufficient volume for analysis requested?	Yes (circled) No*
10.	Were samples received within Holding Time? (REFER TO AEN-SOP 1040)	Yes (circled) No*
11.	Is Headspace visible > ¼" in diameter in VOA vials?* If any headspace is evident, comment in out-of-control section.	Yes* No N/A (circled)
12.	If sent, were matrix spike bottles returned?	Yes No* N/A (circled)
13.	Was Project Manager notified of problems? (initials:_______)	Yes No* N/A (circled)

Airbill Number(s): 185749517

Shipped By: FEDEX

Cooler Number(s): N/S

Shipping Charges: N/A

Cooler Weight(s): N/A

Cooler Temp(s) (°C): 2°C - CCK2
(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: PHE Date: 5/9/97 Logged By: PHE Date: 5/9/97

♠ *Note all Out-of-Control and/or questionable events on Comment Section of this form.*

♦ *Note who requested the splitting of samples on the Comment Section of this form.*

\+ *All preservatives for the State of North Carolina, the State of New York, and other requested samples are to be recorded on the sheet provided to record pH results (AEN-SOP 938, section 2.2.9).*

* *According to EPA, ¼" of headspace is allowed in 40 ml vials requiring volatile analysis, however, AEN makes it policy to record any headspace as out-of-control (AEN-SOP 938, section 2.2.12).*

WORDOC\LAB\PSIF... FEBRUARY 14, 1997

American Environmental Network
Albuquerque, New Mexico

Interlab Chain of Custody 70515

DATE: 0508-97 PAGE: 1 OF

NETWORK PROJECT MANAGER: KIMBERLY D. McNEILL

COMPANY: American Environmental Network
ADDRESS: 2709-D Pan American Freeway, NE
Albuquerque, NM 87107

CLIENT PROJECT MANAGER:
Kim McNeill

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
705327-02	5/6/97	935	AQ	1
-04		1315		2
-06		1440		3
-08		1545		4
-10	5/7/97	815		5
-12		1010		6
-14		1035		7
-15		1125		8
-16		1145		9

Metals - TAL
Metals - PP List
Metals - RCRA
RCRA Metals by TCLP (1311)
Cl
TOX
TOC
Gen Chemistry
Oil and Grease
BOD
COD
Pesticides/PCB (608/8080)
Herbicides (615/8150)
Base/Neutral Acid Compounds GC/MS (625/8270)
Volatile Organics GC/MS (624/8240)
Polynuclear Aromatics (610/8310)
8240 (TCLP 1311) ZHE
8270 (TCLP 1311)
TO-14
Gross Alpha/Beta
NUMBER OF CONTAINERS

PROJECT INFORMATION

PROJECT NUMBER: 705327
PROJECT NAME: Marathon Oil Co
QC LEVEL: (STD) II IV
QC REQUIRED: (MS) MSD BLANK
TAT: (STANDARD) RUSH

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS:
CHAIN OF CUSTODY SEALS:
INTACT?:
RECEIVED GOOD COND./COLD:
LAB NUMBER:

DUE DATE: 05-27-97
RUSH SURCHARGE:
CLIENT DISCOUNT:
SPECIAL CERTIFICATION REQUIRED: ( )YES ( )NO

SAMPLES SENT TO

SAN DIEGO
Paragon
RENTON
PENSACOLA X
PORTLAND
PHOENIX

RELINQUISHED BY: 1.

Signature: Time: 1700
Printed Name: Brian Price Date: 05-08-97
Albuquerque NM

RECEIVED BY: 1.

Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 2

Signature Time
Printed Name Date 5/9/97
Company

RECEIVED BY: (LAB) 2.

Signature: Time: 1329
Printed Name: R. ESPERMAN Date: 5/9/97
Company: AENL

American Environmental Network
Albuquerque, New Mexico

Interlab Chain of Custody

705157 DATE: 05-08-97 PAGE 2 OF 2

NETWORK PROJECT MANAGER: KIMBERLY D. McNEILL

COMPANY: American Environmental Network
ADDRESS: 2709-D Pan American Freeway, NE
Albuquerque, NM 87107

CLIENT PROJECT MANAGER:
Kim McNeill

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Metals - TAL	Metals - PP List	Metals - RCRA	RCRA Metals by TCLP (1311)	Cd	TOX	TOC	Gen Chemistry	Oil and Grease	BOD	COD	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	Polynuclear Aromatics (610/8310)	8240 (TCLP 1311) ZHE	8270 (TCLP 1311)	TO-14	Gross Alpha/Beta	NUMBER OF CONTAINERS
705327-17	5/7/97	1215	AQ	10					X																
-18		1310		11					X																
-20		1420		12					X																

PROJECT INFORMATION

PROJECT NUMBER 705327
PROJECT NAME Marathon Oil Co.
QC LEVEL (STD) IV
QC REQUIRED MS MSD BLANK
TAT (STANDARD) RUSH!

DUE DATE: 05-08-97
RUSH SURCHARGE: ____
CLIENT DISCOUNT: ____
SPECIAL CERTIFICATION REQUIRED: [ ] YES [ ] NO

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS
CHAIN OF CUSTODY SEALS
INTACT?
RECEIVED GOOD COND./COLD
LAB NUMBER

SAMPLES SENT TO:

SAN DIEGO
Paragon
RENTON
PENSACOLA X
PORTLAND
PHOENIX

RELINQUISHED BY: 1.
Signature: [signature] Time: 1700
Printed Name: Brian Price Date: 05-08-97
Albuquerque

RECEIVED BY: 1.
Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 2
Signature Time 5/9/97
Printed Name Date
Company

RECEIVED BY: (LAB) 2.
Signature: [signature] Time: 1329
Printed Name: R. ELSPERMAN Date: 5/9/97
Company: AEN/EL

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CHAIN OF CUSTODY

DATE 5/7/97 PAGE 2 OF 3

AEN LAB I.D. [redacted]

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY

PROJECT MANAGER: Bob Menzie

COMPANY: Marathon O/C
ADDRESS: P.O. Box 552
Midland TX 79702
PHONE: (915) 687-8312
FAX (915) 687-8305

BILL TO
COMPANY Same As Above
ADDRESS

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct/Inject	Chlorides 325.3	(M8015) Gas/Purge & Trap	Gasoline/BTEX & MTBE (M8015/8020)	BTXE/~~TPHE~~ (8020)	BTEX & Chlorinated Aromatics (602/8020)	BTEX/MTBE/EDC & EDB (8020/8010/Short)	Chlorinated Hydrocarbons (601/8010)	504 EDB ☐ / DBCP ☐	Polynuclear Aromatics (610/8310)	Volatile Organics (624/8240) GC/MS	Volatile Organics (8260) GC/MS	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	General Chemistry	Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals	NUMBER OF CONTAINERS
MW-87A RB	5/7/97	0905	WATER	11			X			X																	2
MW-90		1010		12			X			X																	2
MW-90RB		1020		13			X			X																	2
MW-79		1035		14			X			X																	2
MW-106		1125		15			X			X																	2
MW-77		1145		16			X			X																	2
MW-65		1215		17			X			X																	2
MW-78		1310		18			X			X																	2
MW-78RB		1320		19			X			X																	2
MW-61A	↓	1420	↓	20			X			X																	2

PROJECT INFORMATION

PROJ NO 023302224.61
PROJ NAME Indian Basin Remediation
PO NO
SHIPPED VIA:

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) [ ] 24hr [ ] 48hr [ ] 72hr [ ] 1 WEEK (NORMAL) [ ]

CERTIFICATION REQUIRED: [ ] NM [ ] SDWA [ ] OTHER

METHANOL PRESERVATION [ ]

COMMENTS: FIXED FEE [ ]

From Field

RELINQUISHED BY: 1.

Signature: Ken Cook Time: 1225
Printed Name: Ken Cook Date: 5/8/97
Company: FDGTF

RECEIVED BY:
Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 2.

Signature Time
Printed Name Date
Company

RECEIVED BY (LAB):

American Environmental Network (NM), Inc.
Albuquerque • Phoenix • Pensacola • Portland • Pleasant Hills • Columbia

CHAIN OF CUSTODY

DATE: 5/6 PAGE 1 OF 2

AEN LAB I.D. [redacted]

SHADED AREAS ARE FOR LAB USE ONLY

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: Bob Menzie
COMPANY: Marathon Oil
ADDRESS: P.O. Box 552
Midland TX 79702
PHONE: (915) 687-8312
FAX: (915) 687-8305

BILL TO
COMPANY: Same as above
ADDRESS

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct/Inject	Chloride 352.4	(M8015) Gas/Purge & Trap	Gasoline/BTEX & MTBE (M8015/8020)	BTXE/MTBE (8020)	BTEX & Chlorinated Aromatics (602/8020)	BTEX/MTBE/EDC & EDB (8020/8010/Short)	Chlorinated Hydrocarbons (601/8010)	PAH 8310	504 EDB / DBCP	Polynuclear Aromatics (610/8310)	Volatile Organics (624/8240) GC/MS	Volatile Organics (8260) GC/MS	Cations	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Anions	General Chemistry			Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals	NUMBER OF CONTAINERS
MW-98RB	5/6/97	0900	WATER	01						X																					2
MW-66		0935		02			X			X																					2
MW-66RB		0950		03						X																					2
MW-71		1315		04			X			X																					2
MW-71RB		1350		05						X																					2
MW-60		1440		06			X			X																					2
MW-60RB		1500		07						X																					2
MW-87		1545		08			X			X																					2
MW-87RB		1600		09						X																					2
MW-87A	5/7/97	0815	WATER	10			X			X																					2

A) PROJECT INFORMATION

PROJ. NO.: 023350224.6
PROJ. NAME: Indian Basin Remediation
P.O. NO.:
SHIPPED VIA:

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) [ ]24hr [ ]48hr [ ]72hr [ ]1 WEEK (NORMAL) [X]

CERTIFICATION REQUIRED: [ ]NM [ ]SDWA [ ]OTHER

METHANOL PRESERVATION [ ]

COMMENTS: FIXED FEE [ ]

Fran Kidd

RELINQUISHED BY: 1.

Signature: Kevin Cook Time: 1225
Printed Name: Kevin Cook Date: 5/8/97
Company: FOGT

RECEIVED BY:
Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 2.

Signature Time
Printed Name Date
Company

RECEIVED BY (LAB)

2Q '97 572-00

American Environmental Network, Inc.

AEN I.D. 705309

May 28, 1997

MARATHON O/C
PO BOX 552
MIDLAND TX, 79702

Project Name IND. BASIN REM.
Project Number 23350224.61

Attention: BOB MENZIE

On 5/2/97 American Environmental Network (NM), Inc. (ADHS License No. AZ0015), received a request to analyze aqueous samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

EPA method 8020 was performed by American Environmental Network (NM) Inc., Albuquerque, NM.

Bromide analysis was performed by American Environmental Network (AZ) Inc., 9830 S. 51st Street, Suite B-113, Phoenix, AZ.

All other analyses were performed by American Environmental Network (FL) Inc., 11 East Olive Road, Pensacola, FL.

If you have any questions or comments, please do not hesitate to contact us at (505)344-3777.

Kimberly D. McNeill
Project Manager

H. Mitchell Rubenstein, Ph. D.
General Manager

MR: mt

Enclosure

2709-D Pan American Freeway, NE • Albuquerque, NM 87107 • (505) 344-3777 • Fax (602) 344-4413

CLIENT	: MARATHON O/C	AEN I.D.	: 705309
PROJECT #	: 23350225	DATE RECEIVED	: 5/2/97
PROJECT NAME	: IND. BASIN REM.	REPORT DATE	: 5/28/97

AEN ID. #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	DI WATER	AQ	4/29/97
02	INT RB	AQ	4/29/97
03	MW-89	AQ	4/30/97
04	MW-89RB	AQ	4/30/97
05	MW-88	AQ	4/30/97
06	MW-88RB	AQ	4/30/97
07	MW-96	AQ	4/30/97
08	MW-96RB	AQ	4/30/97
09	MW97	AQ	4/30/97
	MW-97RB	AQ	4/30/97
	MW-95	AQ	4/30/97
12	MW-95RB	AQ	4/30/97
13	MW-98	AQ	4/30/97
14	TRIP BLANK	AQ	4/24/97

CLIENT : AMERICAN ENV. NETWORK OF NM, INC.
PROJECT # : 705309
PROJECT NAME : MARATHON OIL
ATI I.D. : 705069

ATI #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	705309-07	AQUEOUS	04/30/97
02	705309-09	AQUEOUS	04/30/97
03	705309-11	AQUEOUS	04/30/97
04	705309-13	AQUEOUS	04/30/97

----- TOTALS -----

MATRIX	# SAMPLES
AQUEOUS	4

ATI STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

American Environmental Network, Inc.

GENERAL CHEMISTRY RESULTS

ATI I.D. : 705069

CLIENT : AMERICAN ENV. NETWORK OF NM, INC.
PROJECT # : 705309
PROJECT NAME : MARATHON OIL

PARAMETER	UNITS	01	02	03	04
BROMIDE (EPA 300.0)	MG/L	<0.3	<0.3	<0.3	<0.3

American Environmental Network, Inc.

GENERAL CHEMISTRY - QUALITY CONTROL

CLIENT : AMERICAN ENV. NETWORK OF NM, INC.
PROJECT # : 705309
PROJECT NAME : MARATHON OIL ATI I.D. : 705069

PARAMETER	UNITS	ATI I.D.	SAMPLE RESULT	DUP. RESULT	RPD	SPIKED SAMPLE	SPIKE CONC	% REC
BROMIDE	MG/L	70506901	<0.3	<0.3	NA	1.0	1.0	100

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

"FINAL REPORT FORMAT - MULTIPLE"

Accession: 705014
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 705309
Project Name: MARATHON OIL CO.
Project Location: MOC
Test: TOTAL ALKALINITY
QcLevel: II

Parameter:	Unit:	Result:	R.L:	Batch:	Q:
Client ID: 705309-07	96 4/30		Lab ID: 003		
ALKALINITY, TOTAL (2320B)	MG/L	300	1	ASW016	
PH (150.1)	UNITS	7.1	NA	PHW092	
BICARBONATE, CACO3 (2330B)	MG/L	300	1	NONE	
CARBONATE, CACO3 (2330B)	MG/L	ND	1	NONE	
CARBON DIOXIDE, FREE AS CACO3	MG/L	48	1	NONE	
HYDROXIDE (2330B) AS CACO3	MG/L	ND	1	NONE	
Comments:					
Client ID: 705309-09	97 4/30		Lab ID: 004		
ALKALINITY, TOTAL (2320B)	MG/L	270	1	ASW016	
PH (150.1)	UNITS	7.3	NA	PHW092	
BICARBONATE, CACO3 (2330B)	MG/L	270	1	NONE	
CARBONATE, CACO3 (2330B)	MG/L	1	1	NONE	
CARBON DIOXIDE, FREE AS CACO3	MG/L	27	1	NONE	
HYDROXIDE (2330B) AS CACO3	MG/L	ND	1	NONE	
Comments:					
Client ID: 705309-11	95 4/30		Lab ID: 005		
ALKALINITY, TOTAL (2320B)	MG/L	310	1	ASW016	
PH (150.1)	UNITS	7.3	NA	PHW092	
BICARBONATE, CACO3 (2330B)	MG/L	310	1	NONE	
CARBONATE, CACO3 (2330B)	MG/L	1	1	NONE	
CARBON DIOXIDE, FREE AS CACO3	MG/L	31	1	NONE	
HYDROXIDE (2330B) AS CACO3	MG/L	ND	1	NONE	
Comments:					

"FINAL REPORT FORMAT - MULTIPLE"

Accession: 705014
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 705309
Project Name: MARATHON OIL CO.
Project Location: MOC
Test: TOTAL ALKALINITY
QcLevel: II

Parameter:	Unit:	Result:	R.L:	Batch:	Q:
Client ID: 705309-13			Lab ID: 006		
ALKALINITY, TOTAL (2320B)	MG/L	240	1	ASW016	
PH (150.1)	UNITS	7.4	NA	PHW092	
BICARBONATE, CACO3 (2330B)	MG/L	240	1	NONE	
CARBONATE, CACO3 (2330B)	MG/L	1	1	NONE	
CARBON DIOXIDE, FREE AS CACO3	MG/L	19	1	NONE	
HYDROXIDE (2330B) AS CACO3	MG/L	ND	1	NONE	

Comments:

"FINAL REPORT FORMAT - MULTIPLE"

Accession: 705014
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 705309
Project Name: MARATHON OIL CO.
Project Location: MOC
Test: TOTAL ALKALINITY

Client ID:	Lab ID:	Matrix:	Date/Time Sampled:	Date Received:
705309-07	003	WATER	30-APR-97 1255	03-MAY-97
705309-09	004	WATER	30-APR-97 1445	03-MAY-97
705309-11	005	WATER	30-APR-97 1635	03-MAY-97
705309-13	006	WATER	30-APR-97 1800	03-MAY-97

"Method Report Summary"

Accession Number: 705014
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 705309
Project Name: MARATHON OIL CO.
Project Location: MOC
Test: TOTAL ALKALINITY

Client Sample Id:	Parameter:	Unit:	Result:
705309-07	ALKALINITY, TOTAL (2320B)	MG/L	300
	PH (150.1)	UNITS	7.1
	BICARBONATE, CACO3 (2330B)	MG/L	300
	CARBON DIOXIDE, FREE AS CACO3	MG/L	48
705309-09	ALKALINITY, TOTAL (2320B)	MG/L	270
	PH (150.1)	UNITS	7.3
	BICARBONATE, CACO3 (2330B)	MG/L	270
	CARBONATE, CACO3 (2330B)	MG/L	1
	CARBON DIOXIDE, FREE AS CACO3	MG/L	27
705309-11	ALKALINITY, TOTAL (2320B)	MG/L	310
	PH (150.1)	UNITS	7.3
	BICARBONATE, CACO3 (2330B)	MG/L	310
	CARBONATE, CACO3 (2330B)	MG/L	1
	CARBON DIOXIDE, FREE AS CACO3	MG/L	31
705309-13	ALKALINITY, TOTAL (2320B)	MG/L	240
	PH (150.1)	UNITS	7.4
	BICARBONATE, CACO3 (2330B)	MG/L	240
	CARBONATE, CACO3 (2330B)	MG/L	1
	CARBON DIOXIDE, FREE AS CACO3	MG/L	19

"WetChem Quality Control Report"

Parameter:	ALKALINITY	PH
Batch Id:	ASW016	PHW092
Blank Result:	<1	N/A
Anal. Method:	2320B	150.1
Prep. Method:	N/A	N/A
Analysis Date:	12-MAY-97	05-MAY-97
Prep. Date:	12-MAY-97	05-MAY-97
Sample Duplication		
Sample Dup:	705014-3	705014-3
Rept Limit:	<1	N/A
Sample Result:	300	7.13
Dup Result:	303	7.04
Sample RPD:	1	0.09
Max RPD:	4	0.08
Dry Weight%	N/A	N/A
Matrix Spike		
Sample Spiked:	705014-3	N/A
Rept Limit:	<1	N/A
Sample Result:	300	
Spiked Result:	348	
Spike Added:	50	
% Recovery:	96	
% Rec Limits:	77-122	
Dry Weight%	N/A	
ICV		
ICV Result:	254	10.04
True Result:	250	10.00
% Recovery:	102	100
% Rec Limits:	90-110	90-110
LCS		
LCS Result:		6.60
True Result:		6.87
% Recovery:		96
% Rec Limits:		96-103

----- Common Footnotes WetChem -----

N/A = NOT APPLICABLE.
N/S = NOT SUBMITTED.
N/C = SAMPLE AND DUPLICATE RESULTS ARE AT OR BELOW AEN REPORTING LIMIT; THEREFORE, THE RPD IS "NOT CALCULABLE" AND NO CONTROL LIMITS APPLY.
N/D = NOT DETECTED.
R = REACTIVE
T = TOTAL
G = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X AEN REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE RESULT IS AT OR BELOW AEN REPORTING LIMIT; THEREFORE, THE RESULTS ARE "IN CONTROL".
Q = THE ANALYTICAL (POST-DISTILLATION) SPIKE IS REPORTED DUE TO PERCENT RECOVERY BEING OUTSIDE ACCEPTANCE LIMITS ON THE MATRIX (PRE-DISTILLATION) SPIKE.
# = ELEVATED REPORTING LIMIT DUE TO INSUFFICIENT SAMPLE.
+ = ELEVATED REPORTING LIMIT DUE TO DILUTION INTO CALIBRATION RANGE.
* = ELEVATED REPORTING LIMIT DUE TO MATRIX INTERFERENCE. (DILUTION PRIOR TO ANALYSIS)
@ = ADJUSTED REPORTING LIMIT DUE TO SAMPLE MATRIX. (DILUTION PRIOR TO DIGESTION)
P = ANALYTICAL (POST DIGESTION) SPIKE.
I = DUPLICATE INJECTION.
& = AUTOMATED
F = SAMPLE SPIKED > 4 X SPIKE CONCENTRATION.
N/C+ = NOT CALCULABLE
H = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X AEN REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE RESULTS EXCEEDS THE AEN REPORTING LIMIT; THEREFORE, THE RESULTS ARE "OUT OF CONTROL".
A = SAMPLE AND DUPLICATE RESULTS ARE "OUT OF CONTROL".
Z = THE SAMPLE RESULT FOR THE SPIKE IS BELOW THE REPORTING LIMIT. HOWEVER, THIS RESULT IS REPORTED FOR ACCURATE QC CALCULATIONS.
NH= SAMPLE AND / OR DUPLICATE RESULT IS BELOW 5 X AEN REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE RESULTS EXCEEDS THE AEN REPORTING LIMIT; THEREFORE, THE RESULTS ARE "OUT OF CONTROL". SAMPLE IS NON-HOMOGENEOUS.
(*) = DETECTION LIMITS RAISED DUE TO CLP METHOD NOT REQUIRING A CONCENTRATION STEP FOR CN.
(CA) = SEE CORRECTIVE ACTIONS FORM.
**= MATRIX INTERFERENCE
SW-846, 3rd Edition, latest EPA-approved edition.
EPA 600/4-79-020, Revised March 1983.
STANDARD METHODS, For the Examination of Water and Wastewater, latest EPA-approved edition.
NIOSH Manual of Analytical Methods, 4th Edition.
ANNUAL BOOK OF ASTM STANDARDS, VOLUMES 11.01 and 11.02, latest EPA-approved edition.
METHODS FOR THE DETERMINATION OF INORGANIC SUBSTANCES IN ENVIRONMENTAL SAMPLES, EPA600/R-93/100, AUGUST 1993
AEN-PN USES THE MOST CURRENT PROMULGATED METHODS FROM THE REFERENCES LISTED ABOVE.
METHODS FOR SOIL ANALYSIS, PART 2, CHEMICAL AND MICROBILOGICAL PROPERTIES, 2ND EDITION.

1. COLIFORM. COLIFORM PRECISION IS MEASURED BY THE ABSOLUTE DIFFERENCE BETWEEN THE LOGARITHM OF COLONIES PER 100 MLS OF SAMPLE ON DUPLICATE PLATES.
2. PH. PH PRECISION IS MEASURED BY THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE ANALYSIS.
3. FLASHPOINT. FLASHPOINT PRECISION IS MEASURED BY THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE ANALYSIS.

RPD = RELATIVE PERCENT DIFFERENCE (OR DEVIATION).
RPT LIMIT = REPORTING LIMITS BASED ON METHOD DETECTION LIMIT STUDIES.

DPH = DOLLY P. HWANG	RB = REBECCA BROWN	AB = ANDY BROTHERTON
JL = JAN LECLEAR	NSB = NANCY S. BUTLER	MM = MIKE MCKENZIE
ED = ESTHER DANTIN	LV = LASSANDRA VON APPEN	JTZ = JONATHAN T. ZIENTARSKI
PLD = PAULA L. DOUGHTY	RH = RICKY HAGENDORFER	

"FINAL REPORT FORMAT - MULTIPLE"

Accession: 705014
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 705309
Project Name: MARATHON OIL CO.
Project Location: MOC
Test: Group of Single Wetchem
QcLevel: II

Parameter:	Unit:	Result:	R.L:	Batch:	Q:
Client ID: 705309-03	89		Lab ID: 001		
CHLORIDE (325.3)	MG/L	58	1	CIW043	
Comments:					
Client ID: 705309-05	88		Lab ID: 002		
CHLORIDE (325.3)	MG/L	26	1	CIW043	
Comments:					
Client ID: 705309-07	96		Lab ID: 003		
FLUORIDE (340.2/4500-F C)	MG/L	0.8	0.2	FLW015	
SULFATE (375.4)	MG/L	160	50	SEW034	+
TOTAL DISSOLVED SOLIDS (160.1)	MG/L	560	5	TDW026	
Comments:					
Client ID: 705309-09	97		Lab ID: 004		
FLUORIDE (340.2/4500-F C)	MG/L	0.5	0.2	FLW015	
SULFATE (375.4)	MG/L	150	50	SEW034	+
TOTAL DISSOLVED SOLIDS (160.1)	MG/L	550	5	TDW026	
Comments:					
Client ID: 705309-11	95		Lab ID: 005		
FLUORIDE (340.2/4500-F C)	MG/L	0.4	0.2	FLW015	
SULFATE (375.4)	MG/L	19	10	SEW034	
TOTAL DISSOLVED SOLIDS (160.1)	MG/L	370	5	TDW026	
Comments:					
Client ID: 705309-13	98		Lab ID: 006		
FLUORIDE (340.2/4500-F C)	MG/L	0.4	0.2	FLW015	
SULFATE (375.4)	MG/L	25	10	SEW036	
TOTAL DISSOLVED SOLIDS (160.1)	MG/L	330	5	TDW026	
Comments:					

"FINAL REPORT FORMAT - MULTIPLE"

Accession: 705014
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 705309
Project Name: MARATHON OIL CO.
Project Location: MOC
Test: Group of Single Wetchem

Client ID:	Lab ID:	Matrix:	Date/Time Sampled:	Date Received:
705309-03	001	WATER	30-APR-97 0955	03-MAY-97
705309-05	002	WATER	30-APR-97 1120	03-MAY-97
705309-07	003	WATER	30-APR-97 1255	03-MAY-97
705309-09	004	WATER	30-APR-97 1445	03-MAY-97
705309-11	005	WATER	30-APR-97 1635	03-MAY-97
705309-13	006	WATER	30-APR-97 1800	03-MAY-97

"Method Report Summary"

Accession Number: 705014
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 705309
Project Name: MARATHON OIL CO.
Project Location: MOC
Test: Group of Single Wetchem

Client Sample Id:	Parameter:	Unit:	Result:
705309-03	CHLORIDE (325.3)	MG/L	58
705309-05	CHLORIDE (325.3)	MG/L	26
705309-07	FLUORIDE (340.2/4500-F C)	MG/L	0.8
	SULFATE (375.4)	MG/L	160
	TOTAL DISSOLVED SOLIDS (160.1)	MG/L	560
705309-09	FLUORIDE (340.2/4500-F C)	MG/L	0.5
	SULFATE (375.4)	MG/L	150
	TOTAL DISSOLVED SOLIDS (160.1)	MG/L	550
705309-11	FLUORIDE (340.2/4500-F C)	MG/L	0.4
	SULFATE (375.4)	MG/L	19
	TOTAL DISSOLVED SOLIDS (160.1)	MG/L	370
705309-13	FLUORIDE (340.2/4500-F C)	MG/L	0.4
	SULFATE (375.4)	MG/L	25
	TOTAL DISSOLVED SOLIDS (160.1)	MG/L	330

"WetChem Quality Control Report"

Parameter:	CHLORIDE	FLUORIDE	SULFATE	TDS	SULFATE
Batch Id:	CIW043	FLW015	SEW034	TDW026	SEW036
Blank Result:	<1	<0.2	<10	<5	<10
Anal. Method:	325.3	340.2	375.4	160.1	375.4
Prep. Method:	N/A	N/A	N/A	N/A	N/A
Analysis Date:	05-MAY-97	13-MAY-97	06-MAY-97	07-MAY-97	13-MAY-97
Prep. Date:	05-MAY-97	13-MAY-97	06-MAY-97	06-MAY-97	13-MAY-97
Sample Duplication					
Sample Dup:	704587-1	705081-1	704587-1	705014-3	705014-6
Rept Limit:	<1	<0.2	<1000+	<5	<10
Sample Result:	29.8	<0.2	1510	562	25.4
Dup Result:	30.0	<0.2	1450	602	26.0
Sample RPD:	1	N/C	60G	7	0.6G
Max RPD:	6	0.2	1000	15	10
Dry Weight%	N/A	N/A	N/A	N/A	N/A
Matrix Spike					
Sample Spiked:	704587-1	705081-1	704587-1	N/A	705014-6
Rept Limit:	<1	<0.2	<1000+	N/A	<20+
Sample Result:	29.8	<0.2	1510		25.4
Spiked Result:	84.6	1.09	3490		65.0
Spike Added:	55.0	0.80	2000		40
% Recovery:	100	118	99		99
% Rec Limits:	88-113	81-127	64-150		64-150
Dry Weight%	N/A	N/A	N/A		N/A
ICV					
ICV Result:	98.3	1.16	20.8		19.8
True Result:	100	1.20	20.0		20.0
% Recovery:	98	97	104		99
% Rec Limits:	90-110	90-110	90-110		90-110
LCS					
LCS Result:				352	
True Result:				293	
% Recovery:				120	
% Rec Limits:				77-122	

"Quality Control Comments"

Batch Id:	Comments:
CIW043	705030-2,3 WERE ADDED TO BATCH ON 06-MAY-97
CIW043	705071-1 WAS ADDED TO BATCH ON 07-MAY
CIW043	705030-3 SAMPLE RESULT 102.3, SAMPLE DUPLICATE 101.1 , RPD = 6
CIW043	705030-3 SPIKE ADDED 275, SPIKE RESULT 350.6 = 90 %
FLW015	705158-2 SAMPLE RESULT 0.37, SAMPLE DUPLICATE 0.34 RPD = 0.03G
FLW015	705158-2 SPIKE ADDED 0.8, SPIKE RESULT 1.09 = 90%

----- Common Footnotes WetChem -----

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N/D = NOT DETECTED.
R = REACTIVE
T = TOTAL
G = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X AEN REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE RESULT IS AT OR BELOW AEN REPORTING LIMIT; THEREFORE, THE RESULTS ARE "IN CONTROL".
Q = THE ANALYTICAL (POST-DISTILLATION) SPIKE IS REPORTED DUE TO PERCENT RECOVERY BEING OUTSIDE ACCEPTANCE LIMITS ON THE MATRIX (PRE-DISTILLATION) SPIKE.
# = ELEVATED REPORTING LIMIT DUE TO INSUFFICIENT SAMPLE.
+ = ELEVATED REPORTING LIMIT DUE TO DILUTION INTO CALIBRATION RANGE.
* = ELEVATED REPORTING LIMIT DUE TO MATRIX INTERFERENCE. (DILUTION PRIOR TO ANALYSIS)
@ = ADJUSTED REPORTING LIMIT DUE TO SAMPLE MATRIX. (DILUTION PRIOR TO DIGESTION)
P = ANALYTICAL (POST DIGESTION) SPIKE.
I = DUPLICATE INJECTION.
& = AUTOMATED
F = SAMPLE SPIKED > 4 X SPIKE CONCENTRATION.
N/C+ = NOT CALCULABLE
H = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X AEN REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE RESULTS EXCEEDS THE AEN REPORTING LIMIT; THEREFORE, THE RESULTS ARE "OUT OF CONTROL".
A = SAMPLE AND DUPLICATE RESULTS ARE "OUT OF CONTROL".
Z = THE SAMPLE RESULT FOR THE SPIKE IS BELOW THE REPORTING LIMIT. HOWEVER, THIS RESULT IS REPORTED FOR ACCURATE QC CALCULATIONS.
NH= SAMPLE AND / OR DUPLICATE RESULT IS BELOW 5 X AEN REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE RESULTS EXCEEDS THE AEN REPORTING LIMIT; THEREFORE, THE RESULTS ARE "OUT OF CONTROL". SAMPLE IS NON-HOMOGENEOUS.
(*) = DETECTION LIMITS RAISED DUE TO CLP METHOD NOT REQUIRING A CONCENTRATION STEP FOR CN.
(CA) = SEE CORRECTIVE ACTIONS FORM.
**= MATRIX INTERFERENCE
SW-846, 3rd Edition, latest EPA-approved edition.
EPA 600/4-79-020, Revised March 1983.
STANDARD METHODS, For the Examination of Water and Wastewater, latest EPA-approved edition.
NIOSH Manual of Analytical Methods, 4th Edition.
ANNUAL BOOK OF ASTM STANDARDS, VOLUMES 11.01 and 11.02, latest EPA-approved edition.
METHODS FOR THE DETERMINATION OF INORGANIC SUBSTANCES IN ENVIRONMENTAL SAMPLES, EPA600/R-93/100, AUGUST 1993
AEN-PN USES THE MOST CURRENT PROMULGATED METHODS FROM THE REFERENCES LISTED ABOVE.
METHODS FOR SOIL ANALYSIS, PART 2, CHEMICAL AND MICROBILOGICAL PROPERTIES, 2ND EDITION.

1. COLIFORM. COLIFORM PRECISION IS MEASURED BY THE ABSOLUTE DIFFERENCE BETWEEN THE LOGARITHM OF COLONIES PER 100 MLS OF SAMPLE ON DUPLICATE PLATES.
2. PH. PH PRECISION IS MEASURED BY THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE ANALYSIS.
3. FLASHPOINT. FLASHPOINT PRECISION IS MEASURED BY THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE ANALYSIS.

RPD = RELATIVE PERCENT DIFFERENCE (OR DEVIATION).
RPT LIMIT = REPORTING LIMITS BASED ON METHOD DETECTION LIMIT STUDIES.

DPH	= DOLLY P. HWANG	RB	= REBECCA BROWN	AB	= ANDY BROTHERTON
JL	= JAN LECLEAR	NSB	= NANCY S. BUTLER	MM	= MIKE MCKENZIE
ED	= ESTHER DANTIN	LV	= LASSANDRA VON APPEN	JTZ	= JONATHAN T. ZIENTARSKI
PLD	= PAULA L. DOUGHTY	RH	= RICKY HAGENDORFER		

"FINAL REPORT FORMAT - MULTIPLE"

Accession: 705014
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 705309
Project Name: MARATHON OIL CO.
Project Location: MOC
Test: Group of Single Metals
QcLevel: II

Parameter:	Unit:	Result:	R.L:	Batch:	Q:
Client ID: 705309-07			**Lab ID:003**		
CALCIUM (200.7)	MG/L	120	0.5	I0W106	
POTASSIUM (200.7)	MG/L	2.0	0.1	X0W106	
MAGNESIUM (200.7)	MG/L	46	0.05	J0W106	
SODIUM (200.7)	MG/L	9.0	0.2	10X106	
Comments:					
Client ID: 705309-09			**Lab ID:004**		
CALCIUM (200.7)	MG/L	120	0.5	I0W106	
POTASSIUM (200.7)	MG/L	2.7	0.1	X0W106	
MAGNESIUM (200.7)	MG/L	45	0.05	J0W106	
SODIUM (200.7)	MG/L	5.7	0.2	10X106	
Comments:					
Client ID: 705309-11			**Lab ID:005**		
CALCIUM (200.7)	MG/L	85	0.5	I0W106	
POTASSIUM (200.7)	MG/L	2.3	0.1	X0W106	
MAGNESIUM (200.7)	MG/L	35	0.05	J0W106	
SODIUM (200.7)	MG/L	3.7	0.2	10X106	
Comments:					
Client ID: 705309-13			**Lab ID:006**		
CALCIUM (200.7)	MG/L	99	0.5	I0W106	
POTASSIUM (200.7)	MG/L	2.8	0.1	X0W106	
MAGNESIUM (200.7)	MG/L	35	0.05	J0W106	
SODIUM (200.7)	MG/L	5.1	0.2	10X106	
Comments:					

"FINAL REPORT FORMAT - MULTIPLE"

Accession: 705014
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 705309
Project Name: MARATHON OIL CO.
Project Location: MOC
Test: Group of Single Metals

Client Id:	Lab Id:	Matrix:	Date/Time Sampled:	Date Received:
705309-07	003	WATER	30-APR-97 1255	03-MAY-97
705309-09	004	WATER	30-APR-97 1445	03-MAY-97
705309-11	005	WATER	30-APR-97 1635	03-MAY-97
705309-13	006	WATER	30-APR-97 1800	03-MAY-97

"Method Report Summary"

Accession Number: 705014
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 705309
Project Name: MARATHON OIL CO.
Project Location: MOC
Test: Group of Single Metals

Client Sample Id:	Parameter:	Unit:	Result:
705309-07	CALCIUM (200.7)	MG/L	120
	POTASSIUM (200.7)	MG/L	2.0
	MAGNESIUM (200.7)	MG/L	46
	SODIUM (200.7)	MG/L	9.0
705309-09	CALCIUM (200.7)	MG/L	120
	POTASSIUM (200.7)	MG/L	2.7
	MAGNESIUM (200.7)	MG/L	45
	SODIUM (200.7)	MG/L	5.7
705309-11	CALCIUM (200.7)	MG/L	85
	POTASSIUM (200.7)	MG/L	2.3
	MAGNESIUM (200.7)	MG/L	35
	SODIUM (200.7)	MG/L	3.7
705309-13	CALCIUM (200.7)	MG/L	99
	POTASSIUM (200.7)	MG/L	2.8
	MAGNESIUM (200.7)	MG/L	35
	SODIUM (200.7)	MG/L	5.1

"Metals Quality Control Report"

Parameter:	CALCIUM	POTASSIUM	MAGNESIUM	SODIUM
Batch Id:	I0W106	X0W106	J0W106	10X106
Blank Result:	<0.5	<0.1	<0.05	<0.2
Anal. Method:	200.7	200.7	200.7	200.7
Prep. Method:	200.7	200.7	200.7	200.7
Analysis Date:	09-MAY-97	09-MAY-97	09-MAY-97	12-MAY-97
Prep. Date:	09-MAY-97	09-MAY-97	09-MAY-97	09-MAY-97
Sample Duplication				
Sample Dup:	705014-3	705014-3	705014-3	705014-3
Rept Limit:	<0.5	<0.1	<0.05	<0.2
Sample Result:	140	24	67	30
Dup Result:	140	23	65	29
Sample RPD:	0	4	3	3
Max RPD:	20	20	20	20
Dry Weight%	N/A	N/A	N/A	N/A
Matrix Spike				
Sample Spiked:	705014-3	705014-3	705014-3	705014-3
Rept Limit:	<0.5	<0.1	<0.05	<0.2
Sample Result:	120	2.0	46	9.0
Spiked Result:	140	24	67	30
Spike Added:	20F	20	20	20
% Recovery:	100	110	105	105
% Rec Limits:	75-125	75-125	75-125	75-125
Dry Weight%	N/A	N/A	N/A	N/A
ICV				
ICV Result:	5.1	4.9	4.8	24
True Result:	5.0	5.0	5.0	25
% Recovery:	102	98	96	96
% Rec Limits:	90-110	90-110	90-110	90-110
LCS				
LCS Result:	21	19	20	20
True Result:	20	20	20	20
% Recovery:	105	95	100	100
% Rec Limits:	80-120	80-120	80-120	80-120

"Quality Control Comments"

Batch Id:	Comments:
I0W106	ANALYST: JR
I0W106	The results reported under "Sample Duplication" are the MS/MSD.
X0W106	ANALYST: JR
X0W106	The results reported under "Sample Duplication" are the MS/MSD.
J0W106	ANALYST: JR
J0W106	The results reported under "Sample Duplication" are the MS/MSD.
10X106	ANALYST: JR
10X106	The results reported under "Sample Duplication" are the MS/MSD.

----- Common Footnotes Metals -----

N/A = NOT APPLICABLE.
N/S = NOT SUBMITTED.
N/C = SAMPLE AND DUPLICATE RESULTS ARE AT OR BELOW ATI REPORTING LIMIT; THEREFORE, THE RPD IS "NOT CALCULABLE" AND NO CONTROL LIMITS APPLY.
N/D = NOT DETECTED.
DISS. OR D = DISSOLVED
T & D = TOTAL AND DISSOLVED
R = REACTIVE
T = TOTAL
G = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X ATI REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE RESULT IS AT OR BELOW ATI REPORTING LIMIT; THEREFORE, THE RESULTS ARE "IN CONTROL".
Q = THE ANALYTICAL (POST-DIGESTION) SPIKE IS REPORTED DUE TO PERCENT RECOVERY BEING OUTSIDE ACCEPTANCE LIMITS ON THE MATRIX (PRE-DIGESTION) SPIKE.
# = ELEVATED REPORTING LIMIT DUE TO INSUFFICIENT SAMPLE.
+ = ELEVATED REPORTING LIMIT DUE TO DILUTION INTO CALIBRATION RANGE.
* = ELEVATED REPORTING LIMIT DUE TO MATRIX INTERFERENCE. (DILUTION PRIOR TO ANALYSIS)
@ = ADJUSTED REPORTING LIMIT DUE TO SAMPLE MATRIX. (DILUTION PRIOR TO DIGESTION)
P = ANALYTICAL (POST DIGESTION) SPIKE.
I = DUPLICATE INJECTION.
& = AUTOMATED
F = SAMPLE SPIKED > 4 X SPIKE CONCENTRATION.
N/C+ = NOT CALCULABLE
N/C* = NOT CALCULABLE; SAMPLE SPIKED > 4 X SPIKE CONCENTRATION.
' = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X ATI REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE RESULTS EXCEEDS THE ATI REPORTING LIMIT; THEREFORE, THE RESULTS ARE "OUT OF CONTROL".
A = SAMPLE AND DUPLICATE RESULTS ARE "OUT OF CONTROL".
Z = THE SAMPLE RESULT FOR THE SPIKE IS BELOW THE REPORTING LIMIT. HOWEVER, THIS RESULT IS REPORTED FOR ACCURATE QC CALCULATIONS.
NH= SAMPLE AND / OR DUPLICATE RESULT IS BELOW 5 X ATI REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE RESULTS EXCEEDS THE ATI REPORTING LIMIT; THEREFORE, THE RESULTS ARE "OUT OF CONTROL". SAMPLE IS NON-HOMOGENEOUS.
J = (FLORIDA DEP 'J' FLAG) - MATRIX SPIKE AND POST SPIKE RECOVERY IS OUT OF THE ACCEPTABLE RANGE. SEE OUT OF CONTROL EVENTS FORM.
U = (FLORIDA DEP 'U' FLAG) - THE COMPOUND WAS ANALYZED FOR, BUT NOT DETECTED.
S = METHOD OF STANDARD ADDITIONS (MSA) WAS PERFORMED ON THIS SAMPLE.

FROM ANALYSIS REPORT:
RL= REPORTING LIMIT BASED ON METHOD DETECTION LIMIT STUDIES.
Q= QUALIFIER (FOOTNOTE)

FROM QUALITY CONTROL REPORT:
RPD= RELATIVE PERCENT DEVIATION.
RPT LIMIT= REPORTING LIMIT BASED ON METHOD DETECTION LIMIT STUDIES.

NOTE: THE UNITS REPORTED ON THE QUALITY CONTROL REPORT ARE REPORTED ON AN AS RUN BASIS.

SW-846, 3rd Edition, latest revision.
EPA 600/4-79-020, Revised March 1983.
NIOSH Manual of Analytical Methods, 4th Edition.
Standard Methods For the Examination of Water and Wastewater, 18th Edition, 1992.
Methods For the Determination of Metals in Environmental Samples - Supplement I, EPA 600/R-94-111, May 1994.

J = GARY JACOBS
JLH = JAMES L. HERED
CD = CHRISTY DRAPER
JR = JOHN REED
LV = LASSANDRA VON APPEN

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX, (EPA 8020)
CLIENT : MARATHON O/C
AEN I.D.: 705309
PROJECT # : 23350224.61
PROJECT NAME : IND. BASIN REM.

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	DI WATER	AQUEOUS	4/29/97	NA	5/6/97	1
02	INT RB	AQUEOUS	4/29/97	NA	5/6/97	1
03	MW-89	AQUEOUS	4/30/97	NA	5/6/97	1

PARAMETER	DET. LIMIT	UNITS	01	02	03
BENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOLUENE	0.5	UG/L	1.2	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TAL XYLENES	0.5	UG/L	7.2*	< 0.5	< 0.5
SURROGATE:					
BROMOFLUOROBENZENE (%)			109	110	111
SURROGATE LIMITS	(80 - 120)				

CHEMIST NOTES:
* - COMPOUND RESULT NOT CONFIRMED BY MASS SPECTROSCOPY. RESULT DUE TO COELUTING COMPOUND.

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX, (EPA 8020)
CLIENT : MARATHON O/C
PROJECT # : 23350224.61
PROJECT NAME : IND. BASIN REM.

AEN I.D.: 705309

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
04	MW-89RB	AQUEOUS	4/30/97	NA	5/6/97	1
05	MW-88	AQUEOUS	4/30/97	NA	5/6/97	1
06	MW-88RB	AQUEOUS	4/30/97	NA	5/6/97	1

PARAMETER	DET. LIMIT	UNITS	04	05	06
BENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOLUENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOTAL XYLENES	0.5	UG/L	< 0.5	< 0.5	< 0.5
SURROGATE:					
BROMOFLUOROBENZENE (%)			107	113	111
SURROGATE LIMITS	(80 - 120)				

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX, (EPA 8020)
CLIENT : MARATHON O/C
AEN I.D.: 705309
PROJECT # : 23350224.61
PROJECT NAME : IND. BASIN REM.

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
07	MW-96	AQUEOUS	4/30/97	NA	5/6/97	1
08	MW-96RB	AQUEOUS	4/30/97	NA	5/6/97	1
09	MW-97	AQUEOUS	4/30/97	NA	5/6/97	1

PARAMETER	DET. LIMIT	UNITS	07	08	09
BENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOLUENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TAL XYLENES	0.5	UG/L	< 0.5	< 0.5	< 0.5
SURROGATE:					
BROMOFLUOROBENZENE (%)			111	106	111
SURROGATE LIMITS	(80 - 120)				

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX, (EPA 8020)
CLIENT : MARATHON O/C
AEN I.D.: 705309
PROJECT # : 23350224.61
PROJECT NAME : IND. BASIN REM.

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
10	MW-97RB	AQUEOUS	4/30/97	NA	5/6/97	1
11	MW-95	AQUEOUS	4/30/97	NA	5/6/97	1
12	MW-95RB	AQUEOUS	4/30/97	NA	5/6/97	1

PARAMETER	DET. LIMIT	UNITS	10	11	12
BENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOLUENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOTAL XYLENES	0.5	UG/L	< 0.5	< 0.5	< 0.5
SURROGATE:					
BROMOFLUOROBENZENE (%)			109	114	109
SURROGATE LIMITS	(80 - 120)				

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX, (EPA 8020)
CLIENT : MARATHON O/C
AEN I.D.: 705309
PROJECT # : 23350224.61
PROJECT NAME : IND. BASIN REM.

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
13	MW-98	AQUEOUS	4/30/97	NA	5/6/97	1
14	TRIP BLANK	AQUEOUS	4/24/97	NA	5/6/97	1

PARAMETER	DET. LIMIT	UNITS	13	14
BENZENE	0.5	UG/L	5.8	< 0.5
TOLUENE	0.5	UG/L	3.5	< 0.5
ETHYLBENZENE	0.5	UG/L	1.5	< 0.5
TOTAL XYLENES	0.5	UG/L	26	< 0.5
SURROGATE:				
BROMOFLUOROBENZENE (%)			107	113
SURROGATE LIMITS	(80 - 120)			

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS
REAGENT BLANK

TEST	: BTEX, (EPA 8020)	AEN I.D.	: 705309
BLANK I. D.	: 050697	DATE EXRACTED	: NA
CLIENT	: MARATHON O/C	DATE ANALYZED	: 5/6/97
PROJECT #	: 23350224.6	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: IND. BASIN REM.		

PARAMETER	UNITS	
BENZENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
ETHYLBENZENE	UG/L	<0.5
TOTAL XYLENES	UG/L	<0.5
SURROGATE:		
BROMOFLUOROBENZENE (%)		119

SURROGATE LIMITS: (80 - 120)

CHEMIST NOTES:

N/A

GAS CHROMOTOGRAPHY RESULTS
REAGENT BLANK

TEST	: BTEX, (EPA 8020)	AEN I.D.	: 705309
BLANK I. D.	: 050797	DATE EXRACTED	: NA
CLIENT	: MARATHON O/C	DATE ANALYZED	: 5/7/97
PROJECT #	: 23350224.6	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: IND. BASIN REM.		

PARAMETER	UNITS	
BENZENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
ETHYLBENZENE	UG/L	<0.5
TOTAL XYLENES	UG/L	<0.5
.ROGATE:		
BROMOFLUOROBENZENE (%)		110
SURROGATE LIMITS:	(80 - 120)	

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY QUALITY CONTROL
MSMSD

TEST	: BTEX, (EPA 8020)		
MSMSD #	: 705309-03	AEN I.D.	: 705309
CLIENT	: MARATHON O/C	DATE EXRACTED	: NA
PROJECT #	: 23350224.6	DATE ANALYZED	: 5/7/97
PROJECT NAME	: IND. BASIN REM.	SAMPLE MATRIX	: AQUEOUS
		UNITS	: UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<0.5	10.0	9.5	95	10.3	103	8	(80 - 120)	20
TOLUENE	<0.5	10.0	9.4	94	11.3	113	19	(80 - 120)	20
ETHYLBENZENE	<0.5	10.0	9.9	99	10.4	104	5	(80 - 120)	20
TOTAL XYLENES	<0.5	30.0	29.8	99	32.6	109	9	(80 - 120)	20

CHEMIST NOTES:
N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

"FINAL REPORT FORMAT - SINGLE"

Accession:	705014
Client:	AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number:	705309
Project Name:	MARATHON OIL CO.
Project Location:	MOC
Test:	POLYNUCLEAR AROMATICS BY 8310
Analysis Method:	8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method:	3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Matrix:	WATER
QC Level:	II

Lab Id:	003	Sample Date/Time:	30-APR-97 1255
Client Sample Id:	705309-07	Received Date:	03-MAY-97
Batch: PAW093		Extraction Date:	06-MAY-97
Blank: A	Dry Weight %: N/A	Analysis Date:	09-MAY-97

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/L	ND	1	
ACENAPHTHYLENE	UG/L	ND	1	
ANTHRACENE	UG/L	ND	1	
BENZO(a)ANTHRACENE	UG/L	ND	1	
BENZO(a)PYRENE	UG/L	ND	1	
BENZO(b)FLUORANTHENE	UG/L	ND	1	
BENZO(g,h,i)PERYLENE	UG/L	ND	1	
BENZO(k)FLUORANTHENE	UG/L	ND	1	
CHRYSENE	UG/L	ND	1	
DIBENZO(a,h)ANTHRACENE	UG/L	ND	1	
FLUORANTHENE	UG/L	ND	1	
FLUORENE	UG/L	ND	1	
INDENO(1,2,3-cd)PYRENE	UG/L	ND	1	
NAPHTHALENE	UG/L	ND	1	
PHENANTHRENE	UG/L	ND	1	
PYRENE	UG/L	ND	1	
1-METHYLNAPHTHALENE	UG/L	ND	1	
2-METHYLNAPHTHALENE	UG/L	ND	1	
2-CHLOROANTHRACENE	%REC/SURR	102	28-138	
ANALYST	INITIALS	KS		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession:	705014
Client:	AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number:	705309
Project Name:	MARATHON OIL CO.
Project Location:	MOC
Test:	POLYNUCLEAR AROMATICS BY 8310
Analysis Method:	8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method:	3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Matrix:	WATER
QC Level:	II

Lab Id:	004	Sample Date/Time:	30-APR-97 1445
Client Sample Id:	705309-09	Received Date:	03-MAY-97
Batch: PAW093		Extraction Date:	06-MAY-97
Blank: A	Dry Weight %: N/A	Analysis Date:	09-MAY-97

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/L	ND	1	
ACENAPHTHYLENE	UG/L	ND	1	
ANTHRACENE	UG/L	ND	1	
BENZO(a)ANTHRACENE	UG/L	ND	1	
BENZO(a)PYRENE	UG/L	ND	1	
BENZO(b)FLUORANTHENE	UG/L	ND	1	
BENZO(g,h,i)PERYLENE	UG/L	ND	1	
BENZO(k)FLUORANTHENE	UG/L	ND	1	
CHRYSENE	UG/L	ND	1	
DIBENZO(a,h)ANTHRACENE	UG/L	ND	1	
FLUORANTHENE	UG/L	ND	1	
FLUORENE	UG/L	ND	1	
INDENO(1,2,3-cd)PYRENE	UG/L	ND	1	
NAPHTHALENE	UG/L	ND	1	
PHENANTHRENE	UG/L	ND	1	
PYRENE	UG/L	ND	1	
1-METHYLNAPHTHALENE	UG/L	ND	1	
2-METHYLNAPHTHALENE	UG/L	ND	1	
2-CHLOROANTHRACENE	%REC/SURR	111	28-138	
ANALYST	INITIALS	KS		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession:	705014
Client:	AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number:	705309
Project Name:	MARATHON OIL CO.
Project Location:	MOC
Test:	POLYNUCLEAR AROMATICS BY 8310
Analysis Method:	8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method:	3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Matrix:	WATER
QC Level:	II

Lab Id:	005	Sample Date/Time:	30-APR-97 1635
Client Sample Id:	705309-11	Received Date:	03-MAY-97
Batch: PAW093		Extraction Date:	06-MAY-97
Blank: A	Dry Weight %: N/A	Analysis Date:	09-MAY-97

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/L	ND	1	
ACENAPHTHYLENE	UG/L	ND	1	
ANTHRACENE	UG/L	ND	1	
BENZO(a)ANTHRACENE	UG/L	ND	1	
BENZO(a)PYRENE	UG/L	ND	1	
BENZO(b)FLUORANTHENE	UG/L	ND	1	
BENZO(g,h,i)PERYLENE	UG/L	ND	1	
BENZO(k)FLUORANTHENE	UG/L	ND	1	
CHRYSENE	UG/L	ND	1	
DIBENZO(a,h)ANTHRACENE	UG/L	ND	1	
FLUORANTHENE	UG/L	ND	1	
FLUORENE	UG/L	ND	1	
INDENO(1,2,3-cd)PYRENE	UG/L	ND	1	
NAPHTHALENE	UG/L	ND	1	
PHENANTHRENE	UG/L	ND	1	
PYRENE	UG/L	ND	1	
1-METHYLNAPHTHALENE	UG/L	ND	1	
2-METHYLNAPHTHALENE	UG/L	ND	1	
2-CHLOROANTHRACENE	%REC/SURR	150*	28-138	
ANALYST	INITIALS	SW		

Comments:
*SURROGATE RECOVERY OUTSIDE ACCEPTANCE LIMITS
DUE TO MATRIX INTERFERENCE.

"FINAL REPORT FORMAT - SINGLE"

Accession:	705014
Client:	AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number:	705309
Project Name:	MARATHON OIL CO.
Project Location:	MOC
Test:	POLYNUCLEAR AROMATICS BY 8310
Analysis Method:	8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method:	3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Matrix:	WATER
QC Level:	II

Lab Id:	006	Sample Date/Time:	30-APR-97 1800
Client Sample Id:	705309-13	Received Date:	03-MAY-97
Batch: PAW093		Extraction Date:	06-MAY-97
Blank: A	Dry Weight %: N/A	Analysis Date:	09-MAY-97

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/L	ND	1	
ACENAPHTHYLENE	UG/L	ND	1	
ANTHRACENE	UG/L	ND	1	
BENZO(a)ANTHRACENE	UG/L	ND	1	
BENZO(a)PYRENE	UG/L	ND	1	
BENZO(b)FLUORANTHENE	UG/L	ND	1	
BENZO(g,h,i)PERYLENE	UG/L	ND	1	
BENZO(k)FLUORANTHENE	UG/L	ND	1	
CHRYSENE	UG/L	ND	1	
DIBENZO(a,h)ANTHRACENE	UG/L	ND	1	
FLUORANTHENE	UG/L	ND	1	
FLUORENE	UG/L	ND	1	
INDENO(1,2,3-cd)PYRENE	UG/L	ND	1	
NAPHTHALENE	UG/L	ND	1	
PHENANTHRENE	UG/L	ND	1	
PYRENE	UG/L	ND	1	
1-METHYLNAPHTHALENE	UG/L	ND	1	
2-METHYLNAPHTHALENE	UG/L	ND	1	
2-CHLOROANTHRACENE	%REC/SURR	88	28-138	
ANALYST	INITIALS	KS		

Comments:

"QC Report"

Title: Water Blank
Batch: PAW093
Analysis Method: 8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method: 3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.

Blank Id: A Date Analyzed: 08-MAY-97 Date Extracted: 06-MAY-97

Parameters:	Units:	Results:	Reporting Limits:
ACENAPHTHENE	UG/L	ND	1
ACENAPHTHYLENE	UG/L	ND	1
ANTHRACENE	UG/L	ND	1
BENZO(a)ANTHRACENE	UG/L	ND	1
BENZO(a)PYRENE	UG/L	ND	1
BENZO(b)FLUORANTHENE	UG/L	ND	1
BENZO(g,h,i)PERYLENE	UG/L	ND	1
BENZO(k)FLUORANTHENE	UG/L	ND	1
CHRYSENE	UG/L	ND	1
DIBENZO(a,h)ANTHRACENE	UG/L	ND	1
FLUORANTHENE	UG/L	ND	1
FLUORENE	UG/L	ND	1
INDENO(1,2,3-cd)PYRENE	UG/L	ND	1
NAPHTHALENE	UG/L	ND	1
PHENANTHRENE	UG/L	ND	1
PYRENE	UG/L	ND	1
1-METHYLNAPHTHALENE	UG/L	ND	1
2-METHYLNAPHTHALENE	UG/L	ND	1
2-CHLOROANTHRACENE	%REC/SURR	83	28-138
ANALYST	INITIALS	JBT	

Comments:

"QC Report"

Title: Water Reagent
Batch: PAW093
Analysis Method: 8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method: 3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.

RS Date Analyzed: 08-MAY-97 RS Date Extracted: 06-MAY-97
RSD Date Analyzed: 08-MAY-97 RSD Date Extracted: 06-MAY-97

Parameters:	Spike Added	Sample Conc	RS Conc	RS %Rec	RSD Conc	RSD %Rec	RPD	RPD Lmts	Rec Lmts
ACENAPHTHYLENE	10.0	<1	7.5	75	7.7	77	3	35	45-127
BENZO(k)FLUORANTHENE	10.0	<1	7.3	73	7.5	75	3	23	68-131
CHRYSENE	10.0	<1	9.7	97	9.9	99	2	24	69-131
PHENANTHRENE	10.0	<1	9.8	98	10.6	106	8	26	63-124
PYRENE	10.0	<1	8.7	87	9.1	91	4	25	61-126
Surrogates:									
2-CHLOROANTHRACENE				83		88			28-138

Comments:

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
UG/L = PARTS PER BILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

"QC Report"

Title: Water Matrix
Batch: PAW093
Analysis Method: 8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method: 3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.

Dry Weight %: N/A
Sample Spiked: 705014-3

MS Date Analyzed: 09-MAY-97
MSD Date Analyzed: 09-MAY-97

MS Date Extracted: 06-MAY-97
MSD Date Extracted: 06-MAY-97

Parameters:	Spike Added	Sample Conc	MS Conc	MS %Rec	MSD Conc	MSD %Rec	RPD	RPD Lmts	Rec Lmts
ACENAPHTHYLENE	10.0	<1	5.3	53	6.4	64	19	51	18-146
BENZO(k)FLUORANTHENE	10.0	<1	3.6	36	4.7	47	27	40	26-137
CHRYSENE	10.0	<1	4.5	45	6.3	63	33	69	16-156
PHENANTHRENE	10.0	<1	6.9	69	8.5	85	21	36	30-145
PYRENE	10.0	<1	6.2	62	7.5	75	19	41	39-137
Surrogates:									
2-CHLOROANTHRACENE				60		75			28-138

Comments:

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
UG/L = PARTS PER BILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

Common notation for Organic reporting

N/S = NOT SUBMITTED
N/A = NOT APPLICABLE
D = DILUTED OUT
UG = MICROGRAMS
UG/L = PARTS PER BILLION.
UG/KG = PARTS PER BILLION.
MG/M3 = MILLIGRAM PER CUBIC METER.
PPMV = PART PER MILLION BY VOLUME.
MG/KG = PARTS PER MILLION.
MG/L = PARTS PER MILLION.
< = LESS THAN DETECTION LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS
Y = IMPROPER PRESERVATION, NO PRESERVATIVE PRESENT IN SAMPLE UPON RECEIPT.

SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

ORGANIC SOILS ARE REPORTED ON A DRYWEIGHT BASIS.

ND = NOT DETECTED ABOVE REPORTING LIMIT.

RPT LIMIT = REPORTING LIMITS BASED ON METHOD DETECTION LIMIT STUDIES.

RPD = RELATIVE PERCENT DIFFERENCE (OR DEVIATION)

AEN/GC/FID
AEN GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH FLAME IONIZATION DETECTOR (FID).

AEN/GC/FIX
AEN GAS CHROMATOGRAPHIC METHOD FOR ANALYSIS OF FIXED GASES EMPLOYING DIRECT INJECTION ON COLUMN WITH THERMAL CONDUCTIVITY DETECTOR (TCD) AND FLAME IONIZATION DETECTOR (FID).

AEN/GC/FPD
AEN GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH FLAME PHOTOMETRIC DETECTOR (FPD) IN SULFUR-SPECIFIC MODE.

AEN/GC/PID
AEN GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH PHOTOIONIZATION DETECTOR (PID).

AEN/GC/TCD
AEN GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH THERMAL CONDUCTIVITY DETECTOR (TCD).

SW-846 METHOD 9020
PARTICULATE MATTER IS REMOVED BY ALLOWING PARTICULATES TO SETTLE IN THE SAMPLE CONTAINER AND DECANTING THE SUPERNATANT LIQUID. EXCESSIVE PARTICULATES ARE REMOVED BY FILTRATION OF THE SUPERNATANT LIQUID.

AEN-PN USES THE MOST CURRENT PROMULGATED METHODS CONTAINED IN THE REFERENCE MANUALS.

SW = STEVE WILHITE
PL = PAUL LESCHENSKY
RW = ROBERT WOLFE
KS = KENDALL SMITH
KL = KERRY LEMONT
RP = ROB PEREZ
JBT = JENNIFER TORRANCE
LP = LAVERNE PETERSON
PLD = PAULA DOUGHTY

American Environmental Network (NM), Inc.
Albuquerque • Phoenix • Pensacola • Portland • Pleasant Hills • Columbia

CHAIN OF CUSTODY

DATE: 4/29-30/97 PAGE: 1 OF 2

AEN LAB I.D. 705309

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: Bob Menzie

COMPANY: Marathon O/C
ADDRESS: PO Box 552
Midland TX, 79702
PHONE: (915) 687-8312
FAX: (915) 687-8305

BILL TO:
COMPANY:
ADDRESS: Same as Above

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct/Inject		(M8015) Gas/Purge & Trap	~~Gasoline~~ (BTEX) ~~& MTBE (M8015/~~(8020))	BTXE/~~MTBE~~ (8020)	BTEX & Chlorinated Aromatics (602/8020)	BTEX/MTBE/EDC & EDB (8020/8010/Short)	Chlorinated Hydrocarbons (601/8010)	Cl 352.4	504 EDB ☐ / DBCP ☐	Polynuclear Aromatics (610/8310)	Volatile Organics (624/8240) GC/MS	Volatile Organics (8260) GC/MS	CATIONS	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	ANIONS	General Chemistry:	PAHs 8310		Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals:		NUMBER OF CONTAINERS
DI WATER	4/29/97	1400	WATER	-01						X																							2
INT RB	↓	1430		-02						X																							2
MW-89	4/30/97	0955		-03						X				X																			3
MW-89RB		1030		-04						X																							2
MW-88		1120		-05						X				X																			3
MW-88RB		1200		-06						X																							2
MW-96		1255		-07						X									X				X		X								6
MW-96 RB		1340		-08						X																							2
MW97		1445		-09						X									X				X		X								6
MW-97RB	↓	1530	↓	-10						X																							2

PROJECT INFORMATION

PROJ. NO.: 02335 0224.61
PROJ. NAME: Indian Basin Remediation
P.O. NO.:
SHIPPED VIA:

SAMPLE RECEIPT
[illegible]
Field

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐24hr ☐48hr ☐72hr ☐1 WEEK (NORMAL) ☒
CERTIFICATION REQUIRED: ☐NM ☐SDWA ☐OTHER
METHANOL PRESERVATION ☐
COMMENTS: FIXED FEE ☐

RELINQUISHED BY: 1.
Signature: Kevin Cook Time: 1800
Printed Name: Kevin Cook Date: 5/1/97
Company: FOCTI

RECEIVED BY: 1.
Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 2.
Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY (LAB): 2.
Signature: [illegible] Time: [illegible]
Printed Name: [illegible] Date: 05-02-97
American Environmental Network (NM), Inc.

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Albuquerque • Phoenix • Pensacola • Portland • Pleasant Hills • Columbia

CHAIN OF CUSTODY

DATE: 4/30→/97 PAGE: 2 OF 2

AEN LAB I.D.: 705304

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: Bob Menzie

COMPANY: Maralex O/C
ADDRESS: PO Box 552
Midland TX 79702
PHONE: (915) 687-8312
FAX: (915) 687-8305

BILL TO:
COMPANY: Same as above
ADDRESS:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.
MW-95	4/30/97	1635	WATER	-11
MW-95RA		1710		-12
MW-98		1800		-13
NA TRIP Blank	4/24/97	10:05	AQ	-04
BP 05-02-97				
TRIP Blank	4/24/97	10:05	AQ	-14

Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct/Inject	Chlorine 352.4	(M8015) Gas/Purge & Trap	Gasoline/BTEX & MTBE (M8015/8020)	BTXE~~MTBE~~ (8020)	BTEX & Chlorinated Aromatics (602/8020)	BTEX/MTBE/EDC & EDB (8020/8010/Short)	Chlorinated Hydrocarbons (601/8010)	PAHs 8310	504 EDB☐ / DBCP☐	Polynuclear Aromatics (610/8310)	Volatile Organics (624/8240) GC/MS	Volatile Organics (8260) GC/MS	CATIONS	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	ANIONS	General Chemistry:			Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals:		NUMBER OF CONTAINERS
					X				X					X			X	X										6
					X																						2
					X				X					X			X	X										6
																											1
					X																						1

PROJECT INFORMATION

PROJ. NO.: 02335022406
PROJ. NAME: Indian Basin Remediation
P.O. NO.:
SHIPPED VIA:

SAMPLE RECEIPT
TOTAL CONTAINERS:
CUSTODY SEALS:
RECEIVED INTACT:
TEMPERATURE:

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) X

CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER

METHANOL PRESERVATION ☐

COMMENTS: FIXED FEE ☐

BP 5/2/97

RELINQUISHED BY: 1.

Signature: Kevin Cook Time: 1800
Printed Name: Kevin Cook Date: 5/1/97
Company: FDGTL

RECEIVED BY: 1.

Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 2.

Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY (LAB): 2.

Signature:
Printed Name:
American Environmental Network (NM), Inc.

AEN Inc.: American Environmental Network (NM), Inc. • 2709-D Pan American Freeway, NE • Albuquerque, New Mexico 87107

DISTRIBUTION: White, Canary - [illegible] Pink - ORIGINATOR

American Environmental Network
Albuquerque, New Mexico

Interlab Chain of Custody

DATE: 05-05-97 PAGE: 1 of 1

NETWORK PROJECT MANAGER: KIMBERLY D. McNEILL

COMPANY: American Environmental Network
ADDRESS: 2709-D Pan American Freeway, NE
Albuquerque, NM 87107

CLIENT PROJECT MANAGER:
Kim McNeill

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
705309-07	4/30/97	12:55	AQ	1
-09		14:45		2
-11		16:35		3
-13		18:00		4

	Metals - TAL	Metals - PP List	Metals - RCRA	RCRA Metals by TCLP (1311)	Bromide	TOX	TOC	Gen Chemistry		Oil and Grease	BOD	COD	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	Polynuclear Aromatics (610/8310)	8240 (TCLP 1311) ZHE	8270 (TCLP 1311)			TO-14	Gross Alpha/Beta					NUMBER OF CONTAINERS
705309-07					X																							1
-09					X																							1
-11					X																							1
-13					X																							1

PROJECT INFORMATION

PROJECT NUMBER: 705309
PROJECT NAME: Marathon oil
QC LEVEL: STD IV
MS MSD BLANK

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS	4
CHAIN OF CUSTODY SEALS	NA
INTACT?	Y
RECEIVED GOOD COND./COLD	BLUE
LAB NUMBER	705069

DUE DATE: 05-23-97
RUSH SURCHARGE:
CLIENT [illegible]:
SPECIAL REPORTING REQUIREMENTS: ☐ YES ☐ NO

SAMPLES SENT TO:

SAN DIEGO	
Paragon	
RENTON	
PENSACOLA	
PORTLAND	
PHOENIX	X

RELINQUISHED BY: 1.
Signature: Brian Price Time: 1700
Printed Name: Brian Price Date: 05-05-97
Albuquerque

RECEIVED BY: 1.
Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 2.
Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: (LAB) 2.
Signature: Time:
Printed Name: Date:
Courier:

San Diego (619) 458-9141 • Phoenix (602) 496-4400 • Seattle (206) 228-8335 • Pensacola (904) 474-1001 • Portland (503) 604-0447 • Albuquerque (505) 344-3777

P.2
MAY 05 '97 18:20 FROM NEW MEXICO

American Environmental Network of Florida
PROJECT SAMPLE INSPECTION FORM

Lab Accession #: 705014 | Date Received: 03-May-97

1. Was there a Chain of Custody? Yes **(No*)**
2. Was Chain of Custody properly filled out and relinquished? Yes **(No*)**
3. Were samples received cold? **(Yes)** No* N/A (Criteria: 1° - 4°C: AEN-SOP 1055)
4. Were all samples properly labeled and identified? Yes **(No*)**
5. Did samples require splitting? Yes* **(No)** Req By: PM Client Other*
6. Were samples received in proper containers for analysis requested? **(Yes)** No*
7. Were all sample containers received intact? **(Yes)** No*
8. Were samples checked for preservative? *(Check pH of all H₂O requiring preservative except VOA vials that require zero headspace)** **(Yes)** No* N/A
9. Is there sufficient volume for analysis requested? **(Yes)** No*
10. Were samples received within Holding Time? (REFER TO AEN-SOP 1040) **(Yes)** No*
11. Is Headspace visible > ¼" in diameter in VOA vials?* If any headspace is evident, comment in out-of-control section. Yes* No **(N/A)**
12. If sent, were matrix spike bottles returned? Yes No* **(N/A)**
13. Was Project Manager notified of problems? (initials:______) Yes No* **(N/A)**

Airbill Number(s): 1725502807 | Shipped By: FEDEX

Cooler Number(s): MS | Shipping Charges: N/A

Cooler Weight(s): N/A | Cooler Temp(s) (°C): 1°C - CCK5

(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

1, 2 & 4. Project received without any paperwork at all. Project logged in from historical data. Project information taken from bottle labels.
COC and additional [illegible] sent on 5/5/97. Relogged for info on TWD. SF 5/5/97

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: PKE Date: 5/3/97 Logged By: PKE Date: 5/3/97

- *Note all Out-of-Control and/or questionable events on Comment Section of this form.*
- *Note who requested the splitting of samples on the Comment Section of this form.*
- *All preservatives for the State of North Carolina, the State of New York, and other requested samples are to be recorded on the sheet provided to record pH results (AEN-SOP 938, section 2.2.9).*
- *According to EPA, ¼" of headspace is allowed in 40 ml vials requiring volatile analysis, however, AEN makes it policy to record any headspace as out-of-control (AEN-SOP 938, section 2.2.12).*

FEBRUARY 24, 1997

American Environmental Network (NM), Inc.
Albuquerque • Phoenix • Pensacola • Portland • Pleasant Hills • Columbia

CHAIN OF CUSTODY

DATE: 4/30+/97 PAGE: 2 OF 2

AEN LAB I.D.: 125014

SHADED AREAS ARE FOR LAB USE ONLY

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: Bob Menzie

COMPANY: Marathon O/C
ADDRESS: PO Box 552
Midland TX 79702
PHONE: (915) 687-8312
FAX: (915) 687-8305

BILL TO:
COMPANY: Same as above
ADDRESS:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct/Inject	Chlorides 352.4	(M8015) Gas/Purge & Trap	Gasoline/BTEX & MTBE (M8015/8020)	BTXE MTBE (8020)	BTEX & Chlorinated Aromatics (602/8020)	BTEX/MTBE/EDC & EDB (8020/8010/Short)	Chlorinated Hydrocarbons (601/8010)	BTEX 8310	504 EDB / DBCP	Polynuclear Aromatics (610/8310)	Volatile Organics (624/8240) GC/MS	Volatile Organics (8260) GC/MS	Cations	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Anions	General Chemistry:			Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals:		NUMBER OF CONTAINERS
MW-95	4/30/97	1635	WATER	01					X	X				X					X				X										6
MW-95RB		1710		02					X	X																							2
MW-98		1800		03					X	X				X					X				X										6
NA TRIP Blank	4/29/97	10:05	AQ	04																													1
BP 05-02-97																																	
TRIP Blank	4/21/97	10:05	AQ	14																													1

PROJECT INFORMATION

PROJ. NO.: 02335022461
PROJ. NAME: Indian Basin Penetration
P.O. NO.:
SHIPPED VIA:

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) X
CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER
METHANOL PRESERVATION ☐
COMMENTS: FIXED FEE ☐

BP 5/2/97

RELINQUISHED BY: 1.

Signature: Kevin Cook Time: 1800
Printed Name: Kevin Cook Date: 5/1/97
Company: EDGE

RECEIVED BY:

Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 2

Signature Time
Printed Name Date
Company:

RECEIVED BY (LAB)

DISTRIBUTION: White, Canary - AEN Pink - ORIGINATOR

American Environmental Network
Albuquerque, New Mexico

Interlab Chain of Custody

~~405027~~ 405014
5/5/97
DATE: ~~05-02-97~~ PAGE: 1 of 1

NETWORK PROJECT MANAGER: KIMBERLY D. McNEILL

COMPANY: American Environmental Network
ADDRESS: 2709-D Pan American Freeway, NE
Albuquerque, NM 87107

CLIENT PROJECT MANAGER:
Kim McNeill

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Metals - TAL	Metals - PP List	Metals - RCRA	RCRA Metals by TCLP (1311)	8310	TOX	TOC	Gen Chemistry	Cd (352.4)	Cation / Anions	Oil and Grease	BOD	COD	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	Polynuclear Aromatics (610/8310)	8240 (TCLP 1311) ZHE	8270 (TCLP 1311)			TO-14	Gross Alpha/Beta				NUMBER OF CONTAINERS
705309-03	4-30-97	9:55	AQ	1									X																			
-05	1	11:20	AQ	2									X																			
-07	4-30-97	12:55	1	3					X					X																		
-09	1	14:45	1	4					X					X																		
-11	1	16:35	1	5					X					X																		
-13	1	18:00	1	6					X					X																		

PROJECT INFORMATION

PROJECT NUMBER: 705309
PROJECT NAME: Marathon OIL
QC LEVEL: (STD) IV
QC REQUIRED: MS MSD BLANK
TAT: (STANDARD) RUSH!

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS	
CHAIN OF CUSTODY SEALS	
INTACT?	
RECEIVED GOOD COND./COLD	
LAB NUMBER	

DUE DATE:
RUSH SURCHARGE:
CLIENT DISCOUNT:
SPECIAL QUALIFICATION REQUIRED: ( ) YES ( ) NO

SAMPLES SENT TO:

SAN DIEGO	
Paragon	
RENTON	
PENSACOLA	X
PORTLAND	
PHOENIX	

RELINQUISHED BY: 1.
Signature: Time: 1700
Printed Name: Brian Pike Date: 05-02-97
Albuquerque NM
Company:

RECEIVED BY: 1.
Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 2.
Signature: Time
Printed Name: Date
Company:

RECEIVED BY: (LAB) 2.
Signature: Time: 0945
Printed Name: Date: 5/5/97
Company: ALS FC

American Environmental Network (NM), Inc.
Albuquerque • Phoenix • Pensacola • Portland • Pleasant Hills • Columbia

CHAIN OF CUSTODY

DATE: 4/29-30/97 PAGE: 1 OF 2

AEN LAB ID: 705014 [redacted]

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY

PROJECT MANAGER:	Bob Menzie
COMPANY:	Marathon O/C
ADDRESS:	PO Box 552
	Midland TX, 79702
PHONE:	(915) 687-8312
FAX:	(915) 687-8305
BILL TO:	
COMPANY:	Same As Above
ADDRESS:	

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct/Inject	(M8015) Gas/Purge & Trap	Gasoline BTEX MTBE (8020)	BTXE (8020)	BTEX & Chlorinated Aromatics (602/8020)	BTEX/MTBE/EDC & EDB (8020/8010/Short)	Chlorinated Hydrocarbons (601/8010)	Cl 352.4	504 EDB ☐ / DBCP ☐	Polynuclear Aromatics (610/8310)	Volatile Organics (624/8240) GC/MS	Volatile Organics (8260) GC/MS	CATIONS	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	ANIONS	General Chemistry:	PAHs 8310	Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals:	NUMBER OF CONTAINERS
DI WATER	4/29/97	1400	WATER	[redacted]					X																					3
INT RB		1430							X																					3
MW-89	4/30/97	0955							X				X																	3
MW-89RB		1030							X																					3
MW-88		1120							X				X																	3
MW-88RB		1200							X																					3
MW-96		1255							X									X				X		X						6
MW-96 RB		1340							X																					3
MW97		1445							X									X				X		X						6
MW-97RB		1530							X																					3

PROJECT INFORMATION	PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS
PROJ. NO.: 02335022.061	(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒
PROJ. NAME: Indian Basin Remediation	CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER
P.O. NO.:	METHANOL PRESERVATION ☐
SHIPPED VIA:	COMMENTS: FIXED FEE ☐

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.
Signature: [redacted]	Signature
Time: 1800	Time
Printed Name: Kevin Cook	Printed Name
Date: 5/1/97	Date
Company: Foxtr	Company:
RECEIVED BY: 1.	RECEIVED BY: 2.
Signature:	[redacted]
Time:	
Printed Name:	
Date:	
Company:	

4/1/96 AEN Inc.: American Environmental Network (NM), Inc. • 2709-D Pan American Freeway, NE • Albuquerque, New Mexico 87107

DISTRIBUTION: White, Canary - AEN Pink - ORIGINATOR

American Environmental Network, Inc.

AEN I.D. 705377

June 18, 1997

FLUOR DANIEL GTI
3353 MOCHELSON DR.
IRVINE, CA 92698

Project Name MARATHON OIL IBGP
Project Number (none)

Attention: SARA BROTHERS

On 5/30/97 American Environmental Network (NM), Inc. (ADHS License No. AZ0015), received a request to analyze aqueous samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

EPA method 8240 was performed by American Environmental Network (NM) Inc., Albuquerque, NM.

All other analyses were performed by American Environmental Network (FL) Inc., 11 East Olive Road, Pensacola, FL.

If you have any questions or comments, please do not hesitate to contact us at (505)344-3777.

Kimberly D. McNeill
Project Manager

H. Mitchell Rubenstein, Ph. D.
General Manager

MR: mt

Enclosure

CLIENT	: FLUOR DANIEL GTI	AEN I.D.	: 705377
PROJECT #	: (none)	DATE RECEIVED	: 5/30/97
PROJECT NAME	: MARATHON OIL IBGP	REPORT DATE	: 6/18/97

AEN ID. #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	MW-46	AQUEOUS	5/29/97
02	MW-46	AQUEOUS	5/29/97
03	MW-46	AQUEOUS	5/29/97
04	MW-46	AQUEOUS	5/29/97
05	TRIP BLANK	AQUEOUS	5/23/97

"Method Report Summary"

Accession Number: 705622
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 705377
Project Name: MARATHON OIL IBGP
Project Location: FLUOR DANIEL
Test: TOTAL ALKALINITY

Client Sample Id:	Parameter:	Unit:	Result:
705377-01	ALKALINITY, TOTAL (2320B)	MG/L	990
	PH (150.1)	UNITS	7.5
	BICARBONATE, CACO3 (2330B)	MG/L	987
	CARBONATE, CACO3 (2330B)	MG/L	3
	CARBON DIOXIDE, FREE AS CACO3	MG/L	62
	HYDROXIDE (2330B) AS CACO3	MG/L	0

"FINAL REPORT FORMAT - SINGLE"

Accession: 705622
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 705377
Project Name: MARATHON OIL IBGP
Project Location: FLUOR DANIEL
Test: TOTAL ALKALINITY
Matrix: WATER
QC Level: II

Lab ID: 001 Sample Date/Time: 29-MAY-97 1000
Client Sample Id: 705377-01 Received Date: 31-MAY-97

Parameters:	Units:	Results:	Rpt Lmts:	Q:	Batch:	Analyst:
ALKALINITY, TOTAL (2320B)	MG/L	990	1		ASW018	ED
PH (150.1)	UNITS	7.5	NA		PHW112	AB
BICARBONATE, CACO3 (2330B)	MG/L	987	1		NONE	JL
CARBONATE, CACO3 (2330B)	MG/L	3	1		NONE	JL
CARBON DIOXIDE, FREE AS CACO3	MG/L	62	1		NONE	JL
HYDROXIDE (2330B) AS CACO3	MG/L	0	1		NONE	JL

Comments:

"WetChem Quality Control Report"

Parameter:	ALKALINITY	PH
Batch Id:	ASW018	PHW112
Blank Result:	<1	N/A
Anal. Method:	2320B	150.1
Prep. Method:	N/A	N/A
Analysis Date:	02-JUN-97	04-JUN-97
Prep. Date:	02-JUN-97	04-JUN-97

Sample Duplication

Sample Dup:	705432-1	705622-1
Rept Limit:	<4	N/A
Sample Result:	612	7.45
Dup Result:	612	7.44
Sample RPD:	0	0.01
Max RPD:	4	0.12
Dry Weight%	N/A	N/A

Matrix Spike

Sample Spiked:	705432-1	N/A
Rept Limit:	<4	N/A
Sample Result:	612	
Spiked Result:	657	
Spike Added:	50	
% Recovery:	90	
% Rec Limits:	77-122	
Dry Weight%	N/A	

ICV

ICV Result:	251	10.05
True Result:	250	10.00
% Recovery:	100	101
% Rec Limits:	90-110	90-110

LCS

LCS Result:		6.81
True Result:		6.87
% Recovery:		99
% Rec Limits:		96-103

American Environmental Network, Inc.

"Quality Control Comments"

Batch Id:	Comments:
ASW018	705622-1; 705677-1,3,4,6,9,10,11,12; WERE ADDED TO BATCH
ASW018	ON 04-JUNE-97

"FINAL REPORT FORMAT - SINGLE"

Accession: 705622
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 705377
Project Name: MARATHON OIL IBGP
Project Location: FLUOR DANIEL
Test: Group of Single Wetchem
Matrix: WATER
QC Level: II

Lab ID: 001 Sample Date/Time: 29-MAY-97 1000
Client Sample Id: 705377-01 Received Date: 31-MAY-97

Parameters:	Units:	Results:	Rpt Lmts:	Q:	Batch:	Analyst:
CHLORIDE (325.3)	MG/L	132	10	#	CIW050	RB
CONDUCTIVITY (120.1/2510 B)	UMH/CM	2100	1		CDW013	ED
FLUORIDE (340.2/4500-F C)	MG/L	1.3	0.2		FLW017	ED
NITRITE-NITRATE, NITROGEN (353.2)	MG/L	ND	0.1		N3W32A	MM
SULFATE (375.4)	MG/L	106	50	+	SEW041	MG
TOTAL DISSOLVED SOLIDS (160.1)	MG/L	1300	5		TDW032	ED

Comments:

----- Common Footnotes WetChem -----

N/A = NOT APPLICABLE.
N/S = NOT SUBMITTED.
N/C = SAMPLE AND DUPLICATE RESULTS ARE AT OR BELOW AEN REPORTING LIMIT; THEREFORE, THE RPD IS "NOT CALCULABLE" AND NO CONTROL LIMITS APPLY.
N/D = NOT DETECTED.
R = REACTIVE
T = TOTAL
G = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X AEN REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE RESULT IS AT OR BELOW AEN REPORTING LIMIT; THEREFORE, THE RESULTS ARE "IN CONTROL".
Q = THE ANALYTICAL (POST-DISTILLATION) SPIKE IS REPORTED DUE TO PERCENT RECOVERY BEING OUTSIDE ACCEPTANCE LIMITS ON THE MATRIX (PRE-DISTILLATION) SPIKE.
# = ELEVATED REPORTING LIMIT DUE TO INSUFFICIENT SAMPLE.
+ = ELEVATED REPORTING LIMIT DUE TO DILUTION INTO CALIBRATION RANGE.
* = ELEVATED REPORTING LIMIT DUE TO MATRIX INTERFERENCE. (DILUTION PRIOR TO ANALYSIS)
@ = ADJUSTED REPORTING LIMIT DUE TO SAMPLE MATRIX. (DILUTION PRIOR TO DIGESTION)
P = ANALYTICAL (POST DIGESTION) SPIKE.
I = DUPLICATE INJECTION.
& = AUTOMATED
F = SAMPLE SPIKED > 4 X SPIKE CONCENTRATION.
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H = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X AEN REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE RESULTS EXCEEDS THE AEN REPORTING LIMIT; THEREFORE, THE RESULTS ARE "OUT OF CONTROL".
A = SAMPLE AND DUPLICATE RESULTS ARE "OUT OF CONTROL".
Z = THE SAMPLE RESULT FOR THE SPIKE IS BELOW THE REPORTING LIMIT. HOWEVER, THIS RESULT IS REPORTED FOR ACCURATE QC CALCULATIONS.
NH= SAMPLE AND / OR DUPLICATE RESULT IS BELOW 5 X AEN REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE RESULTS EXCEEDS THE AEN REPORTING LIMIT; THEREFORE, THE RESULTS ARE "OUT OF CONTROL". SAMPLE IS NON-HOMOGENEOUS.
(*) = DETECTION LIMITS RAISED DUE TO CLP METHOD NOT REQUIRING A CONCENTRATION STEP FOR
(CA) = SEE CORRECTIVE ACTIONS FORM.
**= MATRIX INTERFERENCE
SW-846, 3rd Edition, latest EPA-approved edition.
EPA 600/4-79-020, Revised March 1983.
STANDARD METHODS, For the Examination of Water and Wastewater, latest EPA-approved edition.
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ANNUAL BOOK OF ASTM STANDARDS, VOLUMES 11.01 and 11.02, latest EPA-approved edition.
METHODS FOR THE DETERMINATION OF INORGANIC SUBSTANCES IN ENVIRONMENTAL SAMPLES, EPA600/R-93/100, AUGUST 1993
AEN-PN USES THE MOST CURRENT PROMULGATED METHODS FROM THE REFERENCES LISTED ABOVE.
METHODS FOR SOIL ANALYSIS, PART 2, CHEMICAL AND MICROBILOGICAL PROPERTIES, 2ND EDITION.

1. COLIFORM. COLIFORM PRECISION IS MEASURED BY THE ABSOLUTE DIFFERENCE BETWEEN THE LOGARITHM OF COLONIES PER 100 MLS OF SAMPLE ON DUPLICATE PLATES.
2. PH. PH PRECISION IS MEASURED BY THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE ANALYSIS.
3. FLASHPOINT. FLASHPOINT PRECISION IS MEASURED BY THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE ANALYSIS.

RPD = RELATIVE PERCENT DIFFERENCE (OR DEVIATION).
RPT LIMIT = REPORTING LIMITS BASED ON METHOD DETECTION LIMIT STUDIES.

DPH	= DOLLY P. HWANG	RB	= REBECCA BROWN	AB	= ANDY BROTHERTON
JL	= JAN LECLEAR	NSB	= NANCY S. BUTLER	MM	= MIKE MCKENZIE
ED	= ESTHER DANTIN	LV	= LASSANDRA VON APPEN	JTZ	= JONATHAN T. ZIENTARSKI
PLD	= PAULA L. DOUGHTY	RH	= RICKY HAGENDORFER	MG	= MARY GUTIERREZ

"Method Report Summary"

Accession Number: 705622
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 705377
Project Name: MARATHON OIL IBGP
Project Location: FLUOR DANIEL
Test: Group of Single Wetchem

Client Sample Id:	Parameter:	Unit:	Result:
705377-01	CHLORIDE (325.3)	MG/L	132
	CONDUCTIVITY (120.1/2510 B)	UMH/CM	2100
	FLUORIDE (340.2/4500-F C)	MG/L	1.3
	SULFATE (375.4)	MG/L	106
	TOTAL DISSOLVED SOLIDS (160.1)	MG/L	1300

"WetChem Quality Control Report"

Parameter:	CHLORIDE	CONDUCT'Y	FLUORIDE	NO2NO3	SULFATE	TDS
Batch Id:	CIW050	CDW013	FLW017	N3W32A	SEW041	TDW032
Blank Result:	<1	<1	<0.2	<0.1	<10	<5
Anal. Method:	325.3	120.1	340.2	353.2	375.4	160.1
Prep. Method:	N/A	N/A	N/A	N/A	N/A	N/A
Analysis Date:	09-JUN-97	10-JUN-97	10-JUN-97	09-JUN-97	09-JUN-97	05-JUN-97
Prep. Date:	09-JUN-97	10-JUN-97	10-JUN-97	09-JUN-97	09-JUN-97	03-JUN-97
Sample Duplication						
Sample Dup:	705720-1	705622-1	705727-1	705622-1	705677-1	705605-2
Rept Limit:	<1	<1	<0.2	<0.1	<50+	<5
Sample Result:	215.4	2060	<0.2	<0.1	68.5	106
Dup Result:	215.3	2050	<0.2	<0.1	70.5	114
Sample RPD:	0	0	N/C	N/C	3	7
Max RPD:	6	2	0.2	0.1	50	15
Dry Weight%	N/A	N/A	N/A	N/A	N/A	N/A
Matrix Spike						
Sample Spiked:	705720-1	N/A	705727-1	705662-1	705677-1	N/A
Rept Limit:	<1	N/A	<0.2	<0.1	<50+	N/A
Sample Result:	215.4		<0.2	<0.1	68.5	
Spiked Result:	268.7		0.843	0.98	166.5	
Spike Added:	55.0		0.800	1.0	100.0	
% Recovery:	97		105	98	98	
% Rec Limits:	88-113		81-127	70-127	64-150	
Dry Weight%	N/A		N/A	N/A	N/A	
ICV						
ICV Result:	96.2	1421	1.19	2.02	19.5	
True Result:	100	1421	1.20	2.00	20.0	
% Recovery:	96	100	99	101	98	
% Rec Limits:	90-110	90-110	90-110	90-110	90-110	
LCS						
LCS Result:						278
True Result:						293
% Recovery:						95
% Rec Limits:						77-122

"Quality Control Comments"

Batch Id:	Comments:
TDW032	705622-1 WAS ADDED TO BATCH ON 05-JUNE-97

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PLD	= PAULA L. DOUGHTY	RH	= RICKY HAGENDORFER	MG	= MARY GUTIERREZ

"FINAL REPORT FORMAT - SINGLE"

Accession: 705622
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 705377
Project Name: MARATHON OIL IBGP
Project Location: FLUOR DANIEL
Test: Group of Single Metals
Matrix: WATER
QC Level: II

Lab Id: 001
Client Sample Id: 705377-01
Sample Date/Time: 29-MAY-97 1000
Received Date: 31-MAY-97

Parameters:	Units:	Results:	Rpt Lmts:	Q:	Batch:	Analyst:
CALCIUM (200.7)	MG/L	140	0.5		I0W132	JR
MERCURY (245.1)	MG/L	ND	0.0002		M2W046	LV
MERCURY, DISSOLVED (245.1)	MG/L	ND	0.0002		M2D007	LV
POTASSIUM (200.7)	MG/L	3.6	0.1		X0W132	JR
MAGNESIUM (200.7)	MG/L	140	0.05		J0W132	JR
SODIUM (200.7)	MG/L	120	0.1		10W132	JR
SILVER (200.7)	MG/L	ND	0.005		A0W132	JR
SILVER, DISSOLVED (200.7)	MG/L	ND	0.005		A0D024	JR
ALUMINUM (200.7)	MG/L	2.6	0.1		L0W132	JR
ALUMINUM, DISSOLVED (200.7)	MG/L	ND	0.1		L0D024	JR
ARSENIC (200.7)	MG/L	0.006	0.005		R0W132	JR
ARSENIC, DISSOLVED (200.7)	MG/L	0.005	0.005		R0D024	JR
BORON (200.7)	MG/L	0.22	0.05		O0W132	JR
BORON, DISSOLVED (200.7)	MG/L	0.23	0.05		O0D024	JR
BARIUM (200.7)	MG/L	0.33	0.001		B0W132	JR
BARIUM, DISSOLVED (200.7)	MG/L	0.31	0.001		B0D024	JR
CADMIUM (200.7)	MG/L	ND	0.001		C0W132	JR
CADMIUM, DISSOLVED (200.7)	MG/L	ND	0.001		C0D024	JR
COBALT (200.7)	MG/L	ND	0.005		T0W132	JR
COBALT, DISSOLVED (200.7)	MG/L	ND	0.005		T0D024	JR
CHROMIUM (200.7)	MG/L	0.007	0.005		H0W132	JR
CHROMIUM, DISSOLVED (200.7)	MG/L	ND	0.005		H0D024	JR
COPPER (200.7)	MG/L	0.013	0.005		F0W132	JR
COPPER, DISSOLVED (200.7)	MG/L	ND	0.005		F0D024	JR
IRON (200.7)	MG/L	3.9	0.05		N0W132	JR
IRON, DISSOLVED (200.7)	MG/L	ND	0.05		N0D024	JR
MANGANESE (200.7)	MG/L	0.16	0.005		G0W132	JR
MANGANESE, DISSOLVED (200.7)	MG/L	0.068	0.005		G0D024	JR
MOLYBDENUM (200.7)	MG/L	ND	0.005		D0W132	JR
MOLYBDENUM, DISSOLVED (200.7)	MG/L	ND	0.005		D0D024	JR
NICKEL (200.7)	MG/L	0.009	0.005		E0W132	JR
NICKEL, DISSOLVED (200.7)	MG/L	ND	0.005		E0D024	JR
LEAD (200.7)	MG/L	ND	0.003		P0W132	JR
LEAD, DISSOLVED (200.7)	MG/L	ND	0.003		P0D024	JR
SELENIUM (200.7)	MG/L	ND	0.005		S0W132	JR
SELENIUM, DISSOLVED (200.7)	MG/L	ND	0.005		S0D024	JR
SILICON (200.7)	MG/L	20	0.1		20W132	JR
SILICON, DISSOLVED (200.7)	MG/L	15	0.1		20D024	JR
ZINC (200.7)	MG/L	0.03	0.02		50W132	JR
ZINC, DISSOLVED (200.7)	MG/L	ND	0.02		50D024	JR

"Method Report Summary"

Accession Number: 705622
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 705377
Project Name: MARATHON OIL IBGP
Project Location: FLUOR DANIEL
Test: Group of Single Metals

Client Sample Id:	Parameter:	Unit:	Result:
705377-01	CALCIUM (200.7)	MG/L	140
	POTASSIUM (200.7)	MG/L	3.6
	MAGNESIUM (200.7)	MG/L	140
	SODIUM (200.7)	MG/L	120
	ALUMINUM (200.7)	MG/L	2.6
	ARSENIC (200.7)	MG/L	0.006
	ARSENIC, DISSOLVED (200.7)	MG/L	0.005
	BORON (200.7)	MG/L	0.22
	BORON, DISSOLVED (200.7)	MG/L	0.23
	BARIUM (200.7)	MG/L	0.33
	BARIUM, DISSOLVED (200.7)	MG/L	0.31
	CHROMIUM (200.7)	MG/L	0.007
	COPPER (200.7)	MG/L	0.013
	IRON (200.7)	MG/L	3.9
	MANGANESE (200.7)	MG/L	0.16
	MANGANESE, DISSOLVED (200.7)	MG/L	0.068
	NICKEL (200.7)	MG/L	0.009
	SILICON (200.7)	MG/L	20
	SILICON, DISSOLVED (200.7)	MG/L	15
	ZINC (200.7)	MG/L	0.03

"Metals Quality Control Report"

Parameter:	CALCIUM	MERCURY	MERCURY	POTASSIUM	MAGNESIUM	SODIUM
Batch Id:	I0W132	M2W046	M2D007	X0W132	J0W132	10W132
Blank Result:	<0.5	<0.0002	<0.0002	<0.1	<0.05	<0.1
Anal. Method:	200.7	245.1	245.1	200.7	200.7	200.7
Prep. Method:	200.7	245.1	245.1	200.7	200.7	200.7
Analysis Date:	10-JUN-97	05-JUN-97	12-JUN-97	08-JUN-97	08-JUN-97	10-JUN-97
Prep. Date:	05-JUN-97	05-JUN-97	12-JUN-97	05-JUN-97	05-JUN-97	05-JUN-97
Sample Duplication						
Sample Dup:	705684-1	705651-1	705622-1	705684-1	705684-1	705684-1
Rept Limit:	<0.5	<0.0002	<0.0002	<0.1	<0.05	<0.1
Sample Result:	130	0.0056	0.0046	23	22	37
Dup Result:	130	0.0056	0.0046	23	22	37
Sample RPD:	0	0	0	0	0	0
Max RPD:	20	20	20	20	20	20
Dry Weight%	N/A	N/A	N/A	N/A	N/A	N/A
Matrix Spike						
Sample Spiked:	705684-1	705651-1	705622-1	705684-1	705684-1	705684-1
Rept Limit:	<0.5	<0.0002	<0.0002	<0.1	<0.05	<0.1
Sample Result:	110	<0.0002	<0.0002	2.0	2.3	18
Spiked Result:	130	0.0056	0.0046	23	22	37
Spike Added:	20F	0.0050	0.0050	20	20	20
% Recovery:	100	112	92	105	99	95
% Rec Limits:	75-125	75-125	75-125	75-125	75-125	75-125
Dry Weight%	N/A	N/A	N/A	N/A	N/A	N/A
ICV						
ICV Result:	5.23	0.0040	0.0042	4.96	4.98	4.91
True Result:	5.0	0.0040	0.0040	5.0	5.0	5.0
% Recovery:	105	100	105	99	100	98
% Rec Limits:	90-110	80-120	80-120	90-110	90-110	90-110
LCS						
LCS Result:	21	0.0053	0.0050	20	20	21
True Result:	20	0.0050	0.0050	20	20	20
% Recovery:	105	106	100	100	100	105
% Rec Limits:	80-120	80-120	80-120	80-120	80-120	80-120

"Metals Quality Control Report"

Parameter:	SILVER	SILVER	ALUMINUM	ALUMINUM	ARSENIC	ARSENIC
Batch Id:	A0W132	A0D024	L0W132	L0D024	R0W132	R0D024
Blank Result:	<0.005	N/A	<0.1	N/A	<0.005	N/A
Anal. Method:	200.7	200.7	200.7	200.7	200.7	200.7
Prep. Method:	200.7	N/A	200.7	N/A	200.7	N/A
Analysis Date:	08-JUN-97	10-JUN-97	08-JUN-97	10-JUN-97	08-JUN-97	10-JUN-97
Prep. Date:	05-JUN-97	N/A	05-JUN-97	N/A	05-JUN-97	N/A
Sample Duplication						
Sample Dup:	705684-1	705670-3	705684-1	705670-3	705684-1	705670-3
Rept Limit:	<0.005	<0.005	<0.1	<0.005	<0.005	<0.005
Sample Result:	2.0	1.8	3.2	1.9	2.1	2.0
Dup Result:	2.0	1.8	3.0	1.9	2.2	2.0
Sample RPD:	0	0	6	0	5	0
Max RPD:	20	20	20	20	20	20
Dry Weight%	N/A	N/A	N/A	N/A	N/A	N/A
Matrix Spike						
Sample Spiked:	705684-1	705670-3	705684-1	705670-3	705684-1	705670-3
Rept Limit:	<0.005	<0.005	<0.1	<0.005	<0.005	<0.005
Sample Result:	<0.005	<0.005	1.4	<0.005	<0.005	<0.005
Spiked Result:	2.0	1.8	3.2	1.9	2.1	2.0
Spike Added:	2.0	2.0	2.0	2.0	2.0	2.0
% Recovery:	100	90	90	95	105	100
% Rec Limits:	75-125	75-125	75-125	75-125	75-125	75-125
Dry Weight%	N/A	N/A	N/A	N/A	N/A	N/A
ICV						
ICV Result:	0.49	0.49	4.94	4.91	1.00	1.01
True Result:	0.5	0.5	5.0	5.0	1.0	1.0
% Recovery:	98	98	99	98	100	101
% Rec Limits:	90-110	90-110	90-110	90-110	90-110	90-110
LCS						
LCS Result:	2.0		2.0		2.1	
True Result:	2.0		2.0		2.0	
% Recovery:	100		100		105	
% Rec Limits:	80-120		80-120		80-120	

"Metals Quality Control Report"

Parameter:	BORON	BORON	BARIUM	BARIUM	CADMIUM	CADMIUM
Batch Id:	O0W132	O0D024	B0W132	B0D024	C0W132	C0D024
Blank Result:	<0.05	N/A	<0.001	N/A	<0.001	N/A
Anal. Method:	200.7	200.7	200.7	200.7	200.7	200.7
Prep. Method:	200.7	N/A	200.7	N/A	200.7	N/A
Analysis Date:	08-JUN-97	10-JUN-97	08-JUN-97	10-JUN-97	08-JUN-97	10-JUN-97
Prep. Date:	05-JUN-97	N/A	05-JUN-97	N/A	05-JUN-97	N/A
Sample Duplication						
Sample Dup:	705684-1	705670-3	705684-1	705670-3	705684-1	705670-3
Rept Limit:	<0.05	<0.05	<0.001	<0.001	<0.001	<0.001
Sample Result:	2.1	2.0	2.1	2.2	2.0	1.9
Dup Result:	2.1	2.0	2.1	2.2	2.1	1.8
Sample RPD:	0	0	0	0	5	5
Max RPD:	20	20	20	20	20	20
Dry Weight%	N/A	N/A	N/A	N/A	N/A	N/A
Matrix Spike						
Sample Spiked:	705684-1	705670-3	705684-1	705670-3	705684-1	705670-3
Rept Limit:	<0.05	<0.05	<0.001	<0.001	<0.001	<0.001
Sample Result:	<0.05	<0.05	0.018	0.33	<0.001	<0.001
Spiked Result:	2.1	2.0	2.1	2.2	2.0	1.9
Spike Added:	2.0	2.0	2.0	2.0	2.0	2.0
% Recovery:	105	100	104	94	100	95
% Rec Limits:	75-125	75-125	75-125	75-125	75-125	75-125
Dry Weight%	N/A	N/A	N/A	N/A	N/A	N/A
ICV						
ICV Result:	1.02	1.04	0.97	0.98	0.99	1.01
True Result:	1.0	1.0	1.0	1.0	1.0	1.0
% Recovery:	102	104	97	98	99	101
% Rec Limits:	90-110	90-110	90-110	90-110	90-110	90-110
LCS						
LCS Result:	2.0		2.1		2.0	
True Result:	2.0		2.0		2.0	
% Recovery:	100		105		100	
% Rec Limits:	80-120		80-120		80-120	

"Metals Quality Control Report"

Parameter:	COBALT	COBALT	CHROMIUM	CHROMIUM	COPPER	COPPER
Batch Id:	T0W132	T0D024	H0W132	H0D024	F0W132	F0D024
Blank Result:	<0.005	N/A	<0.005	N/A	<0.005	N/A
Anal. Method:	200.7	200.7	200.7	200.7	200.7	200.7
Prep. Method:	200.7	N/A	200.7	N/A	200.7	N/A
Analysis Date:	08-JUN-97	10-JUN-97	08-JUN-97	10-JUN-97	08-JUN-97	10-JUN-97
Prep. Date:	05-JUN-97	N/A	05-JUN-97	N/A	05-JUN-97	N/A
Sample Duplication						
Sample Dup:	705684-1	705670-3	705684-1	705670-3	705684-1	705670-3
Rept Limit:	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Sample Result:	2.1	1.9	2.1	1.9	2.4	2.0
Dup Result:	2.1	1.8	2.1	1.9	2.4	2.0
Sample RPD:	0	5	0	0	0	0
Max RPD:	20	20	20	20	20	20
Dry Weight%	N/A	N/A	N/A	N/A	N/A	N/A
Matrix Spike						
Sample Spiked:	705684-1	705670-3	705684-1	705670-3	705684-1	705670-3
Rept Limit:	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Sample Result:	<0.005	<0.005	<0.005	<0.005	0.24	<0.005
Spiked Result:	2.1	1.9	2.1	1.9	2.4	2.0
Spike Added:	2.0	2.0	2.0	2.0	2.0	2.0
% Recovery:	105	95	105	95	108	100
% Rec Limits:	75-125	75-125	75-125	75-125	75-125	75-125
Dry Weight%	N/A	N/A	N/A	N/A	N/A	N/A
ICV						
ICV Result:	0.97	0.98	1.00	1.02	1.00	0.99
True Result:	1.0	1.0	1.0	1.0	1.0	1.0
% Recovery:	97	98	100	102	100	99
% Rec Limits:	90-110	90-110	90-110	90-110	90-110	90-110
LCS						
LCS Result:	2.1		2.0		2.2	
True Result:	2.0		2.0		2.0	
% Recovery:	105		100		110	
% Rec Limits:	80-120		80-120		80-120	

"Metals Quality Control Report"

Parameter:	IRON	IRON	MANGANESE	MANGANESE	MOLYBDENUM	MOLYBDENUM
Batch Id:	N0W132	N0D024	G0W132	G0D024	D0W132	D0D024
Blank Result:	<0.05	N/A	<0.005	N/A	<0.005	N/A
Anal. Method:	200.7	200.7	200.7	200.7	200.7	200.7
Prep. Method:	200.7	N/A	200.7	N/A	200.7	N/A
Analysis Date:	10-JUN-97	10-JUN-97	08-JUN-97	10-JUN-97	08-JUN-97	10-JUN-97
Prep. Date:	05-JUN-97	N/A	05-JUN-97	N/A	05-JUN-97	N/A
Sample Duplication						
Sample Dup:	705684-1	705670-3	705684-1	705670-3	705684-1	705670-3
Rept Limit:	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005
Sample Result:	7.1	2.0	2.0	3.6	2.2	1.9
Dup Result:	7.1	2.0	2.1	3.6	2.2	1.9
Sample RPD:	0	0	5	0	0	0
Max RPD:	20	20	20	20	20	20
Dry Weight%	N/A	N/A	N/A	N/A	N/A	N/A
Matrix Spike						
Sample Spiked:	705684-1	705670-3	705684-1	705670-3	705684-1	705670-3
Rept Limit:	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005
Sample Result:	4.9	<0.05	0.026	1.8	<0.005	0.006
Spiked Result:	7.1	2.0	2.0	3.6	2.2	1.9
Spike Added:	2.0	2.0	2.0	2.0	2.0	2.0
% Recovery:	110	100	99	90	110	95
% Rec Limits:	75-125	75-125	75-125	75-125	75-125	75-125
Dry Weight%	N/A	N/A	N/A	N/A	N/A	N/A
ICV						
ICV Result:	5.18	5.18	0.98	0.99	0.99	1.01
True Result:	5.0	5.0	1.0	1.0	1.0	1.0
% Recovery:	104	104	98	99	99	101
% Rec Limits:	90-110	90-110	90-110	90-110	90-110	90-110
LCS						
LCS Result:	2.2		2.0		2.1	
True Result:	2.0		2.0		2.0	
% Recovery:	110		100		105	
% Rec Limits:	80-120		80-120		80-120	

"Metals Quality Control Report"

Parameter:	NICKEL	NICKEL	LEAD	LEAD	SELENIUM	SELENIUM
Batch Id:	E0W132	E0D024	P0W132	P0D024	S0W132	S0D024
Blank Result:	<0.005	N/A	<0.003	N/A	<0.005	N/A
Anal. Method:	200.7	200.7	200.7	200.7	200.7	200.7
Prep. Method:	200.7	N/A	200.7	N/A	200.7	N/A
Analysis Date:	08-JUN-97	10-JUN-97	08-JUN-97	10-JUN-97	10-JUN-97	10-JUN-97
Prep. Date:	05-JUN-97	N/A	05-JUN-97	N/A	05-JUN-97	N/A
Sample Duplication						
Sample Dup:	705684-1	705670-3	705684-1	705670-3	705684-1	705670-3
Rept Limit:	<0.005	<0.005	<0.003	<0.003	<0.005	<0.005
Sample Result:	2.2	1.9	2.1	1.9	1.9	2.0
Dup Result:	2.2	1.9	2.1	1.9	1.9	2.0
Sample RPD:	0	0	0	0	0	0
Max RPD:	20	20	20	20	20	20
Dry Weight%	N/A	N/A	N/A	N/A	N/A	N/A
Matrix Spike						
Sample Spiked:	705684-1	705670-3	705684-1	705670-3	705684-1	705670-3
Rept Limit:	<0.005	<0.005	<0.003	<0.003	<0.005	<0.005
Sample Result:	<0.005	<0.005	0.008	0.003	<0.005	<0.005
Spiked Result:	2.2	1.9	2.1	1.9	1.9	2.0
Spike Added:	2.0	2.0	2.0	2.0	2.0	2.0
% Recovery:	110	95	105	95	95	100
% Rec Limits:	75-125	75-125	75-125	75-125	75-125	75-125
Dry Weight%	N/A	N/A	N/A	N/A	N/A	N/A
ICV						
ICV Result:	0.98	1.00	0.99	1.01	1.01	1.01
True Result:	1.0	1.0	1.0	1.0	1.0	1.0
% Recovery:	98	100	99	101	101	101
% Rec Limits:	90-110	90-110	90-110	90-110	90-110	90-110
LCS						
LCS Result:	2.2		2.1		2.0	
True Result:	2.0		2.0		2.0	
% Recovery:	110		105		100	
% Rec Limits:	80-120		80-120		80-120	

"Metals Quality Control Report"

Parameter:	SILICON	SILICON	ZINC	ZINC
Batch Id:	20W132	20D024	50W132	50D024
Blank Result:	<0.1	N/A	<0.02	N/A
Anal. Method:	200.7	200.7	200.7	200.7
Prep. Method:	200.7	N/A	200.7	N/A
Analysis Date:	10-JUN-97	10-JUN-97	08-JUN-97	10-JUN-97
Prep. Date:	05-JUN-97	N/A	05-JUN-97	N/A
Sample Duplication				
Sample Dup:	705684-1	705670-3	705684-1	705670-3
Rept Limit:	<0.1	<0.1	<0.02	<0.02
Sample Result:	6.1	7.8	2.1	1.9
Dup Result:	5.9	7.8	2.1	1.9
Sample RPD:	3	0	0	0
Max RPD:	20	20	20	20
Dry Weight%	N/A	N/A	N/A	N/A
Matrix Spike				
Sample Spiked:	705684-1	705670-3	705684-1	705670-3
Rept Limit:	<0.1	<0.1	<0.02	<0.02
Sample Result:	4.3	5.8	0.05	0.04
Spiked Result:	6.1	7.8	2.1	1.9
Spike Added:	2.0	2.0	2.0	2.0
% Recovery:	90	100	103	93
% Rec Limits:	75-125	75-125	75-125	75-125
Dry Weight%	N/A	N/A	N/A	N/A
ICV				
ICV Result:	1.9	1.9	0.99	1.00
True Result:	2.0	2.0	1.0	1.0
% Recovery:	95	95	99	100
% Rec Limits:	90-110	90-110	90-110	90-110
LCS				
LCS Result:	2.0		2.1	
True Result:	2.0		2.0	
% Recovery:	100		105	
% Rec Limits:	80-120		80-120	

"Quality Control Comments"

Batch Id:	Comments:
I0W132	ANALYST: JR
I0W132	The results reported under "Sample Duplication" are the MS/MSD.
M2W046	ANALYST: LV
M2W046	The results reported under "Sample Duplication" are the MS/MSD.
M2D007	ANALYST: LV
M2D007	The results reported under "Sample Duplication" are the MS/MSD.
X0W132	ANALYST: JR
X0W132	The results reported under "Sample Duplication" are the MS/MSD.
J0W132	ANALYST: JR
J0W132	The results reported under "Sample Duplication" are the MS/MSD.
10W132	ANALYST: JR
10W132	The results reported under "Sample Duplication" are the MS/MSD.
A0W132	ANALYST: JR
A0W132	The results reported under "Sample Duplication" are the MS/MSD.
A0D024	ANALYST: JR
A0D024	The results reported under "Sample Duplication" are the MS/MSD.
L0W132	ANALYST: JR
L0W132	The results reported under "Sample Duplication" are the MS/MSD.
L0D024	ANALYST: JR
L0D024	The results reported under "Sample Duplication" are the MS/MSD.
R0W132	ANALYST: JR
R0W132	The results reported under "Sample Duplication" are the MS/MSD.
R0D024	ANALYST: JR
R0D024	The results reported under "Sample Duplication" are the MS/MSD.
O0W132	ANALYST: JR
O0W132	The results reported under "Sample Duplication" are the MS/MSD.
O0D024	ANALYST: JR
O0D024	The results reported under "Sample Duplication" are the MS/MSD.
B0W132	ANALYST: JR
B0W132	The results reported under "Sample Duplication" are the MS/MSD.
B0D024	ANALYST: JR
B0D024	The results reported under "Sample Duplication" are the MS/MSD.
C0W132	ANALYST: JR
C0W132	The results reported under "Sample Duplication" are the MS/MSD.
C0D024	ANALYST: JR
C0D024	The results reported under "Sample Duplication" are the MS/MSD.
T0W132	ANALYST: JR
T0W132	The results reported under "Sample Duplication" are the MS/MSD.
T0D024	ANALYST: JR
T0D024	The results reported under "Sample Duplication" are the MS/MSD.
H0W132	ANALYST: JR
H0W132	The results reported under "Sample Duplication" are the MS/MSD.
H0D024	ANALYST: JR
H0D024	The results reported under "Sample Duplication" are the MS/MSD.
F0W132	ANALYST: JR
F0W132	The results reported under "Sample Duplication" are the MS/MSD.
F0D024	ANALYST: JR
F0D024	The results reported under "Sample Duplication" are the MS/MSD.
N0W132	ANALYST: JR
N0W132	The results reported under "Sample Duplication" are the MS/MSD.
N0D024	ANALYST: JR
N0D024	The results reported under "Sample Duplication" are the MS/MSD.
G0W132	ANALYST: JR
G0W132	The results reported under "Sample Duplication" are the MS/MSD.
G0D024	ANALYST: JR

"Quality Control Comments"

Batch Id:	Comments:
G0D024	The results reported under "Sample Duplication" are the MS/MSD.
D0W132	ANALYST: JR
D0W132	The results reported under "Sample Duplication" are the MS/MSD.
D0D024	ANALYST: JR
D0D024	The results reported under "Sample Duplication" are the MS/MSD.
E0W132	ANALYST: JR
E0W132	The results reported under "Sample Duplication" are the MS/MSD.
E0D024	ANALYST: JR
E0D024	The results reported under "Sample Duplication" are the MS/MSD.
P0W132	ANALYST: JR
P0W132	The results reported under "Sample Duplication" are the MS/MSD.
P0D024	ANALYST: JR
P0D024	The results reported under "Sample Duplication" are the MS/MSD.
S0W132	ANALYST: JR
S0W132	The results reported under "Sample Duplication" are the MS/MSD.
S0D024	ANALYST: JR
S0D024	The results reported under "Sample Duplication" are the MS/MSD.
20W132	ANALYST: JR
20W132	The results reported under "Sample Duplication" are the MS/MSD.
20D024	ANALYST: JR
20D024	The results reported under "Sample Duplication" are the MS/MSD.
50W132	ANALYST: JR
50W132	The results reported under "Sample Duplication" are the MS/MSD.
50D024	ANALYST: JR
50D024	The results reported under "Sample Duplication" are the MS/MSD.

----- Common Footnotes Metals -----

N/A = NOT APPLICABLE.
N/S = NOT SUBMITTED.
N/C = SAMPLE AND DUPLICATE RESULTS ARE AT OR BELOW ATI REPORTING LIMIT; THEREFORE, THE RPD IS "NOT CALCULABLE" AND NO CONTROL LIMITS APPLY.
N/D = NOT DETECTED.
DISS. OR D = DISSOLVED
T & D = TOTAL AND DISSOLVED
R = REACTIVE
T = TOTAL
G = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X ATI REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE RESULT IS AT OR BELOW ATI REPORTING LIMIT; THEREFORE, THE RESULTS ARE "IN CONTROL".
Q = THE ANALYTICAL (POST-DIGESTION) SPIKE IS REPORTED DUE TO PERCENT RECOVERY BEING OUTSIDE ACCEPTANCE LIMITS ON THE MATRIX (PRE-DIGESTION) SPIKE.
# = ELEVATED REPORTING LIMIT DUE TO INSUFFICIENT SAMPLE.
+ = ELEVATED REPORTING LIMIT DUE TO DILUTION INTO CALIBRATION RANGE.
* = ELEVATED REPORTING LIMIT DUE TO MATRIX INTERFERENCE. (DILUTION PRIOR TO ANALYSIS)
@ = ADJUSTED REPORTING LIMIT DUE TO SAMPLE MATRIX. (DILUTION PRIOR TO DIGESTION)
P = ANALYTICAL (POST DIGESTION) SPIKE.
I = DUPLICATE INJECTION.
& = AUTOMATED
F = SAMPLE SPIKED > 4 X SPIKE CONCENTRATION.
N/C+ = NOT CALCULABLE
N/C* = NOT CALCULABLE; SAMPLE SPIKED > 4 X SPIKE CONCENTRATION.
H = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X ATI REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE RESULTS EXCEEDS THE ATI REPORTING LIMIT; THEREFORE, THE RESULTS ARE "OUT OF CONTROL".
A = SAMPLE AND DUPLICATE RESULTS ARE "OUT OF CONTROL".
Z = THE SAMPLE RESULT FOR THE SPIKE IS BELOW THE REPORTING LIMIT. HOWEVER, THIS RESULT IS REPORTED FOR ACCURATE QC CALCULATIONS.
NH= SAMPLE AND / OR DUPLICATE RESULT IS BELOW 5 X ATI REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE RESULTS EXCEEDS THE ATI REPORTING LIMIT; THEREFORE, THE RESULTS ARE "OUT OF CONTROL". SAMPLE IS NON-HOMOGENEOUS.
J = (FLORIDA DEP 'J' FLAG) - MATRIX SPIKE AND POST SPIKE RECOVERY IS OUT OF THE ACCEPTABLE RANGE. SEE OUT OF CONTROL EVENTS FORM.
U = (FLORIDA DEP 'U' FLAG) - THE COMPOUND WAS ANALYZED FOR, BUT NOT DETECTED.
S = METHOD OF STANDARD ADDITIONS (MSA) WAS PERFORMED ON THIS SAMPLE.

FROM ANALYSIS REPORT:
RL= REPORTING LIMIT BASED ON METHOD DETECTION LIMIT STUDIES.
Q= QUALIFIER (FOOTNOTE)

FROM QUALITY CONTROL REPORT:
RPD= RELATIVE PERCENT DEVIATION.
RPT LIMIT= REPORTING LIMIT BASED ON METHOD DETECTION LIMIT STUDIES.

NOTE: THE UNITS REPORTED ON THE QUALITY CONTROL REPORT ARE REPORTED ON AN AS RUN BASIS.

SW-846, 3rd Edition, latest revision.
EPA 600/4-79-020, Revised March 1983.
NIOSH Manual of Analytical Methods, 4th Edition.
Standard Methods For the Examination of Water and Wastewater, 18th Edition, 1992.
Methods For the Determination of Metals in Environmental Samples - Supplement I, EPA 600/R-94-111, May 1994.

GJ = GARY JACOBS
JLH = JAMES L. HERED
CD = CHRISTY DRAPER
JR = JOHN REED
LV = LASSANDRA VON APPEN

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8240		
CLIENT	: FLUOR DANIEL - GTI	AEN I.D. :	705377
PROJECT #	: (none)	DATE RECEIVED :	5/30/97
PROJECT NAME	: MARATHON OIL IBGP		

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
705377-01	MW-46	AQUEOUS	5/29/97	N/A	06/03/97	100

PARAMETER	DET. LIMIT		UNITS
Dichlorodifluoromethane	1.0	< 100	ug/L
Chloromethane	1.0	< 100	ug/L
Vinyl Chloride	1.0	< 100	ug/L
Bromomethane	1.0	< 100	ug/L
Chloroethane	1.0	< 100	ug/L
Trichlorofluoromethane	1.0	< 100	ug/L
Acetone	10	< 1000	ug/L
1,1-Dichloroethene	1.0	< 100	ug/L
Iodomethane	1.0	< 100	ug/L
Methylene Chloride	1.0	< 100	ug/L
cis-1,2-Dichloroethene	1.0	< 100	ug/L
1,1-Dichloroethane	1.0	< 100	ug/L
trans-1,2-Dichloroethene	1.0	< 100	ug/L
2-Butanone	10	< 1000	ug/L
Carbon Disulfide	1.0	< 100	ug/L
Chloroform	1.0	< 100	ug/L
1,2-Dichloroethane	1.0	< 100	ug/L
Vinyl Acetate	1.0	< 100	ug/L
1,1,1-Trichloroethane	1.0	< 100	ug/L
Carbon Tetrachloride	1.0	< 100	ug/L
Benzene	1.0	5000	ug/L
1,2-Dichloropropane	1.0	< 100	ug/L
Trichloroethene	1.0	< 100	ug/L
Bromodichloromethane	1.0	< 100	ug/L
2-Chloroethyl Vinyl Ether	10	< 1000	ug/L
cis-1,3-Dichloropropene	1.0	< 100	ug/L
trans-1,3-Dichloropropene	1.0	< 100	ug/L
1,1,2-Trichloroethane	1.0	< 100	ug/L
Toluene	1.0	1200	ug/L
1,2-Dibromoethane	1.0	< 100	ug/L
4-Methyl-2-Pentanone	10	< 1000	ug/L
2-Hexanone	10	< 1000	ug/L
Dibromochloromethane	1.0	< 100	ug/L
Tetrachloroethene	1.0	< 100	ug/L
Chlorobenzene	1.0	< 100	ug/L
Ethylbenzene	1.0	230	ug/L
m&p Xylenes	1.0	< 100	ug/L
o-Xylene	1.0	< 100	ug/L
Styrene	1.0	< 100	ug/L
Bromoform	1.0	< 100	ug/L
1,1,2,2-Tetrachloroethane	1.0	< 100	ug/L
1,3-Dichlorobenzene	1.0	< 100	ug/L
1,4-Dichlorobenzene	1.0	< 100	ug/L
1,2-Dichlorobenzene	1.0	< 100	ug/L

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8240		
CLIENT	: FLUOR DANIEL - GTI	AEN I.D. :	705377
PROJECT #	: (none)	DATE RECEIVED :	5/30/97
PROJECT NAME	: MARATHON OIL IBGP		

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
705377-01	MW-46	AQUEOUS	5/29/97	N/A	06/03/97	100

PARAMETER	DET. LIMIT	UNITS

SURROGATE % RECOVERY	
1,2-Dichloroethane-d4	92
	(76 - 114)
Toluene-d8	107
	(88 - 110)
Bromofluorobenzene	105
	(86 - 115)

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8240		
CLIENT	: FLUOR DANIEL - GTI	AEN I.D. :	705377
PROJECT #	: (none)	DATE RECEIVED :	5/30/97
PROJECT NAME	: MARATHON OIL IBGP		

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
705377-05	TRIP BLANK	AQUEOUS	5/23/97	N/A	06/03/97	1

PARAMETER	DET. LIMIT		UNITS
Dichlorodifluoromethane	1.0	< 1.0	ug/L
Chloromethane	1.0	< 1.0	ug/L
Vinyl Chloride	1.0	< 1.0	ug/L
Bromomethane	1.0	< 1.0	ug/L
Chloroethane	1.0	< 1.0	ug/L
Trichlorofluoromethane	1.0	< 1.0	ug/L
Acetone	10	< 10	ug/L
1,1-Dichloroethene	1.0	< 1.0	ug/L
Iodomethane	1.0	< 1.0	ug/L
Methylene Chloride	1.0	< 1.0	ug/L
cis-1,2-Dichloroethene	1.0	< 1.0	ug/L
1,1-Dichloroethane	1.0	< 1.0	ug/L
trans-1,2-Dichloroethene	1.0	< 1.0	ug/L
2-Butanone	10	< 10	ug/L
Carbon Disulfide	1.0	< 1.0	ug/L
Chloroform	1.0	< 1.0	ug/L
1,2-Dichloroethane	1.0	< 1.0	ug/L
Vinyl Acetate	1.0	< 1.0	ug/L
1,1,1-Trichloroethane	1.0	< 1.0	ug/L
Carbon Tetrachloride	1.0	< 1.0	ug/L
Benzene	1.0	< 1.0	ug/L
1,2-Dichloropropane	1.0	< 1.0	ug/L
Trichloroethene	1.0	< 1.0	ug/L
Bromodichloromethane	1.0	< 1.0	ug/L
2-Chloroethyl Vinyl Ether	10	< 10	ug/L
cis-1,3-Dichloropropene	1.0	< 1.0	ug/L
trans-1,3-Dichloropropene	1.0	< 1.0	ug/L
1,1,2-Trichloroethane	1.0	< 1.0	ug/L
Toluene	1.0	< 1.0	ug/L
1,2-Dibromoethane	1.0	< 1.0	ug/L
4-Methyl-2-Pentanone	10	< 10	ug/L
2-Hexanone	10	< 10	ug/L
Dibromochloromethane	1.0	< 1.0	ug/L
Tetrachloroethene	1.0	< 1.0	ug/L
Chlorobenzene	1.0	< 1.0	ug/L
Ethylbenzene	1.0	< 1.0	ug/L
m&p Xylenes	1.0	< 1.0	ug/L
o-Xylene	1.0	< 1.0	ug/L
Styrene	1.0	< 1.0	ug/L
Bromoform	1.0	< 1.0	ug/L
1,1,2,2-Tetrachloroethane	1.0	< 1.0	ug/L
1,3-Dichlorobenzene	1.0	< 1.0	ug/L
1,4-Dichlorobenzene	1.0	< 1.0	ug/L
1,2-Dichlorobenzene	1.0	< 1.0	ug/L

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8240		
CLIENT	: FLUOR DANIEL - GTI	AEN I.D. :	705377
PROJECT #	: (none)	DATE RECEIVED :	5/30/97
PROJECT NAME	: MARATHON OIL IBGP		

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
705377-05	TRIP BLANK	AQUEOUS	5/23/97	N/A	06/03/97	1

PARAMETER	DET. LIMIT	UNITS

SURROGATE % RECOVERY	
1,2-Dichloroethane-d4	96
	(76 - 114)
Toluene-d8	105
	(88 - 110)
Bromofluorobenzene	103
	(86 - 115)

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8240		
CLIENT	: FLUOR DANIEL - GTI	AEN I.D. :	705377
PROJECT #	: (none)		
PROJECT NAME	: MARATHON OIL IBGP		

SAMPLE ID #	BATCH	MATRIX	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
REAGENT BLANK	060397	AQUEOUS	N/A	06/03/97	1

PARAMETER	DET. LIMIT		UNITS
Dichlorodifluoromethane	1.0	< 1.0	ug/L
Chloromethane	1.0	< 1.0	ug/L
Vinyl Chloride	1.0	< 1.0	ug/L
Bromomethane	1.0	< 1.0	ug/L
Chloroethane	1.0	< 1.0	ug/L
Trichlorofluoromethane	1.0	< 1.0	ug/L
Acetone	10	< 10	ug/L
1,1-Dichloroethene	1.0	< 1.0	ug/L
Iodomethane	1.0	< 1.0	ug/L
Methylene Chloride	1.0	< 1.0	ug/L
cis-1,2-Dichloroethene	1.0	< 1.0	ug/L
1,1-Dichloroethane	1.0	< 1.0	ug/L
trans-1,2-Dichloroethene	1.0	< 1.0	ug/L
2-Butanone	10	< 10	ug/L
Carbon Disulfide	1.0	< 1.0	ug/L
Chloroform	1.0	< 1.0	ug/L
1,2-Dichloroethane	1.0	< 1.0	ug/L
Vinyl Acetate	1.0	< 1.0	ug/L
1,1,1-Trichloroethane	1.0	< 1.0	ug/L
Carbon Tetrachloride	1.0	< 1.0	ug/L
Benzene	1.0	< 1.0	ug/L
1,2-Dichloropropane	1.0	< 1.0	ug/L
Trichloroethene	1.0	< 1.0	ug/L
Bromodichloromethane	1.0	< 1.0	ug/L
2-Chloroethyl Vinyl Ether	10	< 10	ug/L
cis-1,3-Dichloropropene	1.0	< 1.0	ug/L
trans-1,3-Dichloropropene	1.0	< 1.0	ug/L
1,1,2-Trichloroethane	1.0	< 1.0	ug/L
Toluene	1.0	< 1.0	ug/L
1,2-Dibromoethane	1.0	< 1.0	ug/L
4-Methyl-2-Pentanone	10	< 10	ug/L
2-Hexanone	10	< 10	ug/L
Dibromochloromethane	1.0	< 1.0	ug/L
Tetrachloroethene	1.0	< 1.0	ug/L
Chlorobenzene	1.0	< 1.0	ug/L
Ethylbenzene	1.0	< 1.0	ug/L
m&p Xylenes	1.0	< 1.0	ug/L
o-Xylene	1.0	< 1.0	ug/L
Styrene	1.0	< 1.0	ug/L
Bromoform	1.0	< 1.0	ug/L
1,1,2,2-Tetrachloroethane	1.0	< 1.0	ug/L
1,3-Dichlorobenzene	1.0	< 1.0	ug/L
1,4-Dichlorobenzene	1.0	< 1.0	ug/L
1,2-Dichlorobenzene	1.0	< 1.0	ug/L

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8240		
CLIENT	: FLUOR DANIEL - GTI	AEN I.D. :	705377
PROJECT #	: (none)		
PROJECT NAME	: MARATHON OIL IBGP		

SAMPLE ID #	BATCH	MATRIX	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
REAGENT BLANK	060397	AQUEOUS	N/A	06/03/97	1

PARAMETER	DET. LIMIT	UNITS
SURROGATE % RECOVERY		
1,2-Dichloroethane-d4		84
		(76 - 114)
Toluene-d8		107
		(88 - 110)
Bromofluorobenzene		100
		(86 - 115)

Spike Recovery and RPD Summary Report - WATER

Method : C:\HPCHEM\1\METHODS\8260E4.M (RTE Integrator)
Title : AEN New Mexico GC/MS
Last Update : Tue Jun 03 14:22:57 1997
Response via : Initial Calibration

Non-Spiked Sample: WRB01.D

	Spike Sample	Spike Duplicate Sample
File ID :	060397S3.D	060397S2.D
Sample :	BS	BSD
Acq Time:	3 Jun 97 3:18 pm	3 Jun 97 2:37 pm

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC Limits RPD	QC Limits % Rec
1,1-Dichloroethene	0.0	50	57	56	115	112	3	14	61-145
Benzene	0.1	50	52	53	104	105	1	11	76-127
Trichloroethene	0.0	50	52	51	105	103	2	14	71-120
Toluene	0.2	50	51	50	102	100	2	13	76-125
Chlorobenzene	0.1	50	51	51	102	102	0	13	75-130

- Fails Limit Check

8260E4.M Tue Jun 03 15:46:57 1997

"FINAL REPORT FORMAT - SINGLE"

Accession:	705622
Client:	AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number:	705377
Project Name:	MARATHON OIL IBGP
Project Location:	FLUOR DANIEL
Test:	POLYNUCLEAR AROMATICS BY 8310
Analysis Method:	8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method:	3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Matrix:	WATER
QC Level:	II

Lab Id:	001	Sample Date/Time:	29-MAY-97 1000
Client Sample Id:	705377-01	Received Date:	31-MAY-97
Batch: PAW109		Extraction Date:	02-JUN-91
Blank: A	Dry Weight %: N/A	Analysis Date:	05-JUN-91

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/L	58	1	
ACENAPHTHYLENE	UG/L	ND	1	
ANTHRACENE	UG/L	ND	1	
BENZO(a)ANTHRACENE	UG/L	13	1	
BENZO(a)PYRENE	UG/L	5	1	
BENZO(b)FLUORANTHENE	UG/L	6	1	
BENZO(g,h,i)PERYLENE	UG/L	ND	1	
BENZO(k)FLUORANTHENE	UG/L	8	1	
CHRYSENE	UG/L	22	1	
DIBENZO(a,h)ANTHRACENE	UG/L	16	1	
FLUORANTHENE	UG/L	ND	1	
FLUORENE	UG/L	ND	1	
INDENO(1,2,3-cd)PYRENE	UG/L	2	1	
NAPHTHALENE	UG/L	5	1	
PHENANTHRENE	UG/L	3	1	
PYRENE	UG/L	ND	1	
1-METHYLNAPHTHALENE	UG/L	31	1	
2-METHYLNAPHTHALENE	UG/L	29	1	
2-CHLOROANTHRACENE	%REC/SURR	164*	28-138	
ANALYST	INITIALS	JBT		

Comments:
*SURROGATE RECOVERY OUTSIDE ACCEPTANCE LIMITS
DUE TO MATRIX INTERFERENCE.

"Method Report Summary"

Accession Number: 705622
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 705377
Project Name: MARATHON OIL IBGP
Project Location: FLUOR DANIEL
Test: POLYNUCLEAR AROMATICS BY 8310

Client Sample Id:	Parameter:	Unit:	Result:
705377-01	ACENAPHTHENE	UG/L	58
	BENZO(a)ANTHRACENE	UG/L	13
	BENZO(a)PYRENE	UG/L	5
	BENZO(b)FLUORANTHENE	UG/L	6
	BENZO(k)FLUORANTHENE	UG/L	8
	CHRYSENE	UG/L	22
	DIBENZO(a,h)ANTHRACENE	UG/L	16
	INDENO(1,2,3-cd)PYRENE	UG/L	2
	NAPHTHALENE	UG/L	5
	PHENANTHRENE	UG/L	3
	1-METHYLNAPHTHALENE	UG/L	31
	2-METHYLNAPHTHALENE	UG/L	29

"QC Report"

Title: Water Blank
Batch: PAW109
Analysis Method: 8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method: 3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.

Blank Id: A Date Analyzed: 05-JUN-91 Date Extracted: 02-JUN-91

Parameters:	Units:	Results:	Reporting Limits:
ACENAPHTHENE	UG/L	ND	1
ACENAPHTHYLENE	UG/L	ND	1
ANTHRACENE	UG/L	ND	1
BENZO(a)ANTHRACENE	UG/L	ND	1
BENZO(a)PYRENE	UG/L	ND	1
BENZO(b)FLUORANTHENE	UG/L	ND	1
BENZO(g,h,i)PERYLENE	UG/L	ND	1
BENZO(k)FLUORANTHENE	UG/L	ND	1
CHRYSENE	UG/L	ND	1
DIBENZO(a,h)ANTHRACENE	UG/L	ND	1
FLUORANTHENE	UG/L	ND	1
FLUORENE	UG/L	ND	1
INDENO(1,2,3-cd)PYRENE	UG/L	ND	1
NAPHTHALENE	UG/L	ND	1
PHENANTHRENE	UG/L	ND	1
PYRENE	UG/L	ND	1
1-METHYLNAPHTHALENE	UG/L	ND	1
2-METHYLNAPHTHALENE	UG/L	ND	1
2-CHLOROANTHRACENE	%REC/SURR	120	28-138
ANALYST	INITIALS	JBT	

Comments:

"QC Report"

Title: Water Reagent
Batch: PAW109
Analysis Method: 8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method: 3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.

RS Date Analyzed: 06-JUN-97
RSD Date Analyzed: 06-JUN-97
RS Date Extracted: 02-JUN-97
RSD Date Extracted: 02-JUN-97

Parameters:	Spike Added	Sample Conc	RS Conc	RS %Rec	RSD Conc	RSD %Rec	RPD	RPD Lmts	Rec Lmts
ACENAPHTHYLENE	10.0	<1	10.2	102	9.4	94	8	35	45-127
BENZO(k)FLUORANTHENE	10.0	<1	10.7	107	10.0	100	7	23	68-131
CHRYSENE	10.0	<1	9.9	99	9.3	93	6	24	69-131
PHENANTHRENE	10.0	<1	9.4	94	8.7	87	8	26	63-124
PYRENE	10.0	<1	10.3	103	9.8	98	5	25	61-126
Surrogates:									
2-CHLOROANTHRACENE				120		122			28-138

Comments:

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
UG/L = PARTS PER BILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

"QC Report"

Title: Water Matrix
Batch: PAW109
Analysis Method: 8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method: 3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.

Dry Weight %: N/A
Sample Spiked: 705622-1

MS Date Analyzed: 05-JUN-97
MSD Date Analyzed: 05-JUN-97

MS Date Extracted: 02-JUN-97
MSD Date Extracted: 02-JUN-97

Parameters:	Spike Added	Sample Conc	MS Conc	MS %Rec	MSD Conc	MSD %Rec	RPD	RPD Lmts	Rec Lmts
ACENAPHTHYLENE	10.0	<1	6.6	66	6.5	65	2	51	18-146
BENZO(k)FLUORANTHENE	10.0	<1	13.0	130	13.7	137	5	40	26-137
CHRYSENE	10.0	22.2	31.6	94	30.9	87	8	69	16-156
PHENANTHRENE	10.0	3.3	9.8	65	10.8	75	14	36	30-145
PYRENE	10.0	<1	9.1	91	8.6	86	6	41	39-137
Surrogates:									
2-CHLOROANTHRACENE				147*		150*			28-138

Comments:
MATRIX SPIKE/MATRIX SPIKE DUPLICATE HAD RECOVERY(S) AND/OR RPD(S) OUTSIDE ACCEPTANCE LIMITS DUE TO MATRIX INTERFERENCE. REFER TO REAGENT SPIKE/REAGENT SPIKE DUPLICATE DATA.

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
UG/L = PARTS PER BILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

Common notation for Organic reporting

N/S = NOT SUBMITTED
N/A = NOT APPLICABLE
D = DILUTED OUT
UG = MICROGRAMS
UG/L = PARTS PER BILLION.
UG/KG = PARTS PER BILLION.
MG/M3 = MILLIGRAM PER CUBIC METER.
PPMV = PART PER MILLION BY VOLUME.
MG/KG = PARTS PER MILLION.
MG/L = PARTS PER MILLION.
< = LESS THAN DETECTION LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS
Y = IMPROPER PRESERVATION, NO PRESERVATIVE PRESENT IN SAMPLE UPON RECEIPT.

SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

ORGANIC SOILS ARE REPORTED ON A DRYWEIGHT BASIS.

ND = NOT DETECTED ABOVE REPORTING LIMIT.

RPT LIMIT = REPORTING LIMITS BASED ON METHOD DETECTION LIMIT STUDIES.

RPD = RELATIVE PERCENT DIFFERENCE (OR DEVIATION)

AEN/GC/FID
AEN GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH FLAME IONIZATION DETECTOR (FID).

AEN/GC/FIX
AEN GAS CHROMATOGRAPHIC METHOD FOR ANALYSIS OF FIXED GASES EMPLOYING DIRECT INJECTION ON COLUMN WITH THERMAL CONDUCTIVITY DETECTOR (TCD) AND FLAME IONIZATION DETECTOR (FID).

AEN/GC/FPD
AEN GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH FLAME PHOTOMETRIC DETECTOR (FPD) IN SULFUR-SPECIFIC MODE.

AEN/GC/PID
AEN GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH PHOTOIONIZATION DETECTOR (PID).

AEN/GC/TCD
AEN GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH THERMAL CONDUCTIVITY DETECTOR (TCD).

SW-846 METHOD 9020
PARTICULATE MATTER IS REMOVED BY ALLOWING PARTICULATES TO SETTLE IN THE SAMPLE CONTAINER AND DECANTING THE SUPERNATANT LIQUID. EXCESSIVE PARTICULATES ARE REMOVED BY FILTRATION OF THE SUPERNATANT LIQUID.

AEN-PN USES THE MOST CURRENT PROMULGATED METHODS CONTAINED IN THE REFERENCE MANUALS.

SW = STEVE WILHITE
PL = PAUL LESCHENSKY
RW = ROBERT WOLFE
KS = KENDALL SMITH
KL = KERRY LEMONT
RP = ROB PEREZ
JBT = JENNIFER TORRANCE
LP = LAVERNE PETERSON
PLD = PAULA DOUGHTY

American Environmental Network (NM), Inc.
Albuquerque • Phoenix • Pensacola • Portland • Pleasant Hills • Columbia

CHAIN OF CUSTODY

DATE: 5-29-97 PAGE: 1 OF 1

AEN LAB ID: [illegible]

SHADED AREAS ARE FOR LAB USE ONLY

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: SARA BROTHERS

COMPANY: FLUOR DANIEL GTI
ADDRESS: 3353 MICHELSON DR. MAIL CODE 5129
IRVINE, CA 92698
PHONE: 714-975-3543
FAX: 714-975-5620

BILL TO:
COMPANY:
ADDRESS:

SAMPLE ID	DATE	TIME	MATRIX	CONT.	ANALYSIS REQUEST
MW-46	5-29-97	1000	WATER		X, *
MW-46					X
MW-46					X
MW-46					X
TRIP BLANK	5/29				X

Petroleum Hydrocarbons (418.1) TRPH
(MOD.8015) Diesel/Direct/Inject
(M8015) Gas/Purge & Trap
Gasoline/BTEX & MTBE (M8015/8020)
BTXE/MTBE (8020)
BTEX & Chlorinated Aromatics (602/8020)
BTEX/MTBE/EDC & EDB (8020/8010/Short)
Chlorinated Hydrocarbons (601/8010)
EPA 8310
504 EDB ☐ / DBCP ☐
Polynuclear Aromatics (610/8310)
Volatile Organics (624/8240) GC/MS
Volatile Organics (8260) GC/MS
Pesticides/PCB (608/8080)
Herbicides (615/8150)
Base/Neutral/Acid Compounds GC/MS (625/8270)
General Chemistry:
DISSOLVED METALS
TOTAL METALS
Priority Pollutant Metals (13)
Target Analyte List Metals (23)
RCRA Metals (8)
RCRA Metals by TCLP (Method 1311)
Metals:

PROJECT INFORMATION

PROJ. NO.:
PROJ. NAME: MARATHON OIL I.B.G.P.
P.O. NO.:
SHIPPED VIA: Fed ex

SAMPLE RECEIPT

TOTAL #:
CUSTODY:
RECEIVED INTACT:
BLUE ICE:

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒
CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER
METHANOL PRESERVATION ☐
COMMENTS: FIXED FEE ☐

CALL SARA BROTHERS 714-975-3543
FOR ANY QUESTIONS.

* Only 2 For 8240 + 1 empty
Not to be counted

RELINQUISHED BY:

Signature: [signature] Time: 1130
Printed Name: ROBERT A DAVIS JR Date: 5-29-97
Company: FDGTI

RECEIVED BY:

Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY:

Signature: Time: TO FED EXPRESS
Printed Name: Date
Company:

RECEIVED BY (LAB):

[signature] 10:40
[signature] 5-30-97
AMERICAN ENVIRONMENTAL NETWORK (NM)

4/1/9[illegible] Inc.: American Environmental Network (NM), Inc. • 2709-D Pan American Freeway, NE • Albuqu[illegible], New Mexico 87107

DISTRIBUTION: White, Canary - [illegible] Pink - ORIGINATOR

American Environmental Network
Albuquerque, New Mexico

Interlab Chain of Custody

DATE: 5-30 PAGE: 1 OF 1

NETWORK PROJECT MANAGER: KIMBERLY D. McNEILL

COMPANY: American Environmental Network
ADDRESS: 2709-D Pan American Freeway, NE
Albuquerque, NM 87107

705622

CLIENT PROJECT MANAGER:

Kim McNeill

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
705377-01	5-28	1000	AQ	
-02				1
-03				2
-04				3

	Metals - TAL	Metals - PP List	Metals - RCRA	RCRA Metals by TCLP (1311)	Metals total	Metals Dissolved	TOX	TOC	Gen Chemistry			Oil and Grease	BOD	COD	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	Polynuclear Aromatics (610/8310)	8240 (TCLP 1311) ZHE	8270 (TCLP 1311)		TO-14	Gross Alpha/Beta				NUMBER OF CONTAINERS
705377-01																			X									1
-02					X	X																						1
-03																												1
-04					X																							1

AI
.N1

PROJECT INFORMATION

PROJECT MANAGER: 705377
PROJECT NAME: Fluor Daniel
QC LEVEL: STD II IV
QC REQUIRED: MS MSD BLANK
TAT: STANDARD RUSH

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS	
CHAIN OF CUSTODY SEALS	
INTACT?	
RECEIVED GOOD COND./COLD	
LAB NUMBER	

DUE DATE: 6-19-97
RUSH SURCHARGE:
CLIENT DISCOUNT:
SPECIAL CONDITIONS/REQUIREMENTS: ☐ YES ☐ NO

Dissolved Metals
Not Preserved or Filtered

SAMPLES SENT TO:

SAN DIEGO	
Paragon	
RENTON	
PENSACOLA	X
PORTLAND	
PHOENIX	

RELINQUISHED BY: 1.

Signature: Time: 1700
Printed Name: Date: Brian Price 05-30-97
Company: Albuquerque NM

RECEIVED BY: 1.

Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 2

Signature: Time:
Printed Name: Date: 5/31/97
Company: FED EX

RECEIVED BY: (LAB) 2.

Signature: Time: 0945
Printed Name: R. ELSPERMAN Date: 5/31/97
Company: AEN

American Environmental Network of Florida

PROJECT SAMPLE INSPECTION FORM

Lab Accession #: 705622 Date Received: 31-May-97

1. Was there a Chain of Custody? (Yes) No*
2. Was Chain of Custody properly filled out and relinquished? (Yes) No*
3. Were samples received cold? (Criteria: 1° - 4°C: AEN-SOP 1055) (Yes) No* N/A
4. Were all samples properly labeled and identified? (Yes) No*
5. Did samples require splitting? Yes* (No) Req By: PM Client Other*
6. Were samples received in proper containers for analysis requested? (Yes) No*
7. Were all sample containers received intact? (Yes) No*
8. Were samples checked for preservative? *(Check pH of all H_2O requiring preservative except VOA vials that require zero headspace)*+ (Yes) No* N/A
9. Is there sufficient volume for analysis requested? (Yes) No*
10. Were samples received within Holding Time? (REFER TO AEN-SOP 1040) ~~(Yes)~~ (No*) PHE 6/4/97
11. Is Headspace visible > ¼" in diameter in VOA vials?* If any headspace is evident, comment in out-of-control section. Yes* No (N/A)
12. If sent, were matrix spike bottles returned? Yes No* (N/A)
13. Was Project Manager notified of problems? (initials:______) Yes No* (N/A)

Airbill Number(s): 218 3328 777

Shipped By: FEDEX

Cooler Number(s): N/S

Shipping Charges: N/A

Cooler Weight(s): N/A

Cooler Temp(s) (°C): 2°C - CCH5

(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

client Cooler
metals samples on hold in Sample Control -
notification received 6/4/97 @ 1125 from client for additional log-
in parameters, see attached. PH sample is out of hold time.

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: PHE Date: 5/31/97 Logged By: PHE Date: 5/31/97

Note all Out-of-Control and/or questionable events on Comment Section of this form.

♦ *Note who requested the splitting of samples on the Comment Section of this form.*

+ *All preservatives for the State of North Carolina, the State of New York, and other requested samples are to be recorded on the sh[eet] provided to record pH results (AEN-SOP 938, section 2.2.9).*

* *According to EPA, ¼" of headspace is allowed in 40 ml vials requiring volatile analysis, however, AEN makes it policy to record any headspace as out-of-control (AEN-SOP 938, section 2.2.12).*

American Environmental Network, Inc.

AEN I.D. 706390

July 10, 1997

MARATHON OIL COMPANY
P.O. BOX 552
MIDLAND, TX 79702-0552

Project Name Marathon Oil IB Gas Plant
Project Number (none)

Attention: BOB MENZIE

On 6/27/97 American Environmental Network (NM), Inc. (ADHS License No. AZ0015), received a request to analyze aqueous samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

EPA method 8020 was performed by American Environmental Network (NM) Inc., Albuquerque, NM.

EPA method 8020 was performed by American Environmental Network (FL) Inc., 11 East Olive Road, Pensacola, FL.

If you have any questions or comments, please do not hesitate to contact us at (505)344-3777.

Kimberly D. McNeill
Project Manager

H. Mitchell Rubenstein, Ph. D.
General Manager

MR: mt

Enclosure

2709-D Pan American Freeway, NE • Albuquerque, NM 87107 • (505) 344-3777 • Fax (602) 344-4413

CLIENT	: MARATHON OIL COMPANY	AEN I.D.	: 706390
PROJECT #	: (none)	DATE RECEIVED	: 6/27/97
PROJECT NAME	: Marathon Oil IB Gas Plant	REPORT DATE	: 7/10/97

AEN ID. #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	MW-61A	AQUEOUS	6/26/97
02	TRIP BLANK	AQUEOUS	6/16/97

"FINAL REPORT FORMAT - SINGLE"

Accession: 706478
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 706390
Project Name: MARATHON OIL CO.
Project Location: MOIB GAS PLANT
Test: Group of Single Wetchem
Matrix: WATER
QC Level: II

Lab ID: 001 Sample Date/Time: 26-JUN-97 1500
Client Sample Id: 706390-01 Received Date: 01-JUL-97

Parameters:	Units:	Results:	Rpt Lmts:	Q:	Batch:	Analyst:
CHLORIDE (325.3)	MG/L	12	1		CIW059	RB

Comments:

"Method Report Summary"

Accession Number: 706478
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 706390
Project Name: MARATHON OIL CO.
Project Location: MOIB GAS PLANT
Test: Group of Single Wetchem

Client Sample Id:	Parameter:	Unit:	Result:
706390-01	CHLORIDE (325.3)	MG/L	12

"WetChem Quality Control Report"

Parameter:	CHLORIDE
Batch Id:	CIW059
Blank Result:	<1
Anal. Method:	325.3
Prep. Method:	N/A
Analysis Date:	02-JUL-97
Prep. Date:	02-JUL-97

Sample Duplication

Sample Dup:	706476-1
Rept Limit:	<1
Sample Result:	13.0
Dup Result:	13.0
Sample RPD:	0
Max RPD:	6
Dry Weight%	N/A

Matrix Spike

Sample Spiked:	706476-1
Rept Limit:	<1
Sample Result:	13.0
Spiked Result:	67.6
Spike Added:	55.0
% Recovery:	99
% Rec Limits:	88-113
Dry Weight%	N/A

ICV

ICV Result:	93.9
True Result:	100
% Recovery:	94
% Rec Limits:	90-110

LCS

LCS Result:	
True Result:	
% Recovery:	
% Rec Limits:	

----- Common Footnotes WetChem -----

N/A = NOT APPLICABLE.
N/S = NOT SUBMITTED.
N/C = SAMPLE AND DUPLICATE RESULTS ARE AT OR BELOW AEN REPORTING LIMIT; THEREFORE, THE RPD IS "NOT CALCULABLE" AND NO CONTROL LIMITS APPLY.
N/D = NOT DETECTED.
R = REACTIVE
T = TOTAL
G = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X AEN REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE RESULT IS AT OR BELOW AEN REPORTING LIMIT; THEREFORE, THE RESULTS ARE "IN CONTROL".
Q = THE ANALYTICAL (POST-DISTILLATION) SPIKE IS REPORTED DUE TO PERCENT RECOVERY BEING OUTSIDE ACCEPTANCE LIMITS ON THE MATRIX (PRE-DISTILLATION) SPIKE.
# = ELEVATED REPORTING LIMIT DUE TO INSUFFICIENT SAMPLE.
+ = ELEVATED REPORTING LIMIT DUE TO DILUTION INTO CALIBRATION RANGE.
* = ELEVATED REPORTING LIMIT DUE TO MATRIX INTERFERENCE. (DILUTION PRIOR TO ANALYSIS)
@ = ADJUSTED REPORTING LIMIT DUE TO SAMPLE MATRIX. (DILUTION PRIOR TO DIGESTION)
P = ANALYTICAL (POST DIGESTION) SPIKE.
I = DUPLICATE INJECTION.
& = AUTOMATED
F = SAMPLE SPIKED > 4 X SPIKE CONCENTRATION.
N/C+ = NOT CALCULABLE
H = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X AEN REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE RESULTS EXCEEDS THE AEN REPORTING LIMIT; THEREFORE, THE RESULTS ARE "OUT OF CONTROL".
A = SAMPLE AND DUPLICATE RESULTS ARE "OUT OF CONTROL".
Z = THE SAMPLE RESULT FOR THE SPIKE IS BELOW THE REPORTING LIMIT. HOWEVER, THIS RESULT IS REPORTED FOR ACCURATE QC CALCULATIONS.
NH= SAMPLE AND / OR DUPLICATE RESULT IS BELOW 5 X AEN REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE RESULTS EXCEEDS THE AEN REPORTING LIMIT; THEREFORE, THE RESULTS ARE "OUT OF CONTROL". SAMPLE IS NON-HOMOGENEOUS.
(*) = DETECTION LIMITS RAISED DUE TO CLP METHOD NOT REQUIRING A CONCENTRATION STEP FOR CN
(CA) = SEE CORRECTIVE ACTIONS FORM.
**= MATRIX INTERFERENCE
SW-846, 3rd Edition, latest EPA-approved edition.
EPA 600/4-79-020, Revised March 1983.
STANDARD METHODS, For the Examination of Water and Wastewater, latest EPA-approved edition
NIOSH Manual of Analytical Methods, 4th Edition.
ANNUAL BOOK OF ASTM STANDARDS, VOLUMES 11.01 and 11.02, latest EPA-approved edition.
METHODS FOR THE DETERMINATION OF INORGANIC SUBSTANCES IN ENVIRONMENTAL SAMPLES, EPA600/R-93/100, AUGUST 1993
METHODS FOR SOIL ANALYSIS, PART 2, CHEMICAL AND MICROBILOGICAL PROPERTIES, 2ND EDITION.
AEN-PN USES THE MOST CURRENT PROMULGATED METHODS FROM THE REFERENCES LISTED ABOVE.

1. COLIFORM. COLIFORM PRECISION IS MEASURED BY THE ABSOLUTE DIFFERENCE BETWEEN THE LOGARITHM OF COLONIES PER 100 MLS OF SAMPLE ON DUPLICATE PLATES.
2. PH. PH PRECISION IS MEASURED BY THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE ANALYSIS.
3. FLASHPOINT. FLASHPOINT PRECISION IS MEASURED BY THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE ANALYSIS.
RPD = RELATIVE PERCENT DIFFERENCE (OR DEVIATION).
RPT LIMIT = REPORTING LIMITS BASED ON METHOD DETECTION LIMIT STUDIES.

DPH	= DOLLY P. HWANG	RB	= REBECCA BROWN	JL	= JAN LECLEAR
NSB	= NANCY S. BUTLER	MM	= MIKE MCKENZIE	ED	= ESTHER DANTIN
PLD	= PAULA L. DOUGHTY	LV	= LASSANDRA VON APPEN	JTZ	= JONATHAN T. ZIENTARSKI
RH	= RICKY HAGENDORFER	MG	= MARY GUTIERREZ	CR	= CYNTHIA ROBERTS

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL COMPANY AEN I.D.: 706390
PROJECT # : (none)
PROJECT NAME : Marathon Oil IB Gas Plant

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	MW-61A	AQUEOUS	6/26/97	NA	6/27/97	10
02	TRIP BLANK	AQUEOUS	6/16/97	NA	6/27/97	1

PARAMETER	DET. LIMIT	UNITS	01	02
BENZENE	0.5	**UG/L**	**22**	< 0.5
TOLUENE	0.5	**UG/L**	**11**	< 0.5
ETHYLBENZENE	0.5	**UG/L**	**5.4**	< 0.5
TOTAL XYLENES	0.5	**UG/L**	**26**	< 0.5
SURROGATE:				
BROMOFLUOROBENZENE (%)			101	97
SURROGATE LIMITS	(80 - 120)			

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS
REAGENT BLANK

TEST	: BTEX (EPA 8020)	AEN I.D.	: 706390
BLANK I. D.	: 062797	DATE EXRACTED	: NA
CLIENT	: MARATHON OIL COMPANY	DATE ANALYZED	: 6/27/97
PROJECT #	: (none)	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: Marathon Oil IB Gas Plant		

PARAMETER	UNITS	
BENZENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
ETHYLBENZENE	UG/L	<0.5
TOTAL XYLENES	UG/L	<0.5

SURROGATE:
BROMOFLUOROBENZENE (%) 104
SURROGATE LIMITS: (80 - 120)
CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS
REAGENT BLANK

TEST	: BTEX (EPA 8020)	AEN I.D.	: 706390
BLANK I. D.	: 063097	DATE EXRACTED	: NA
CLIENT	: MARATHON OIL COMPANY	DATE ANALYZED	: 6/30/97
PROJECT #	: (none)	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: Marathon Oil IB Gas Plant		

PARAMETER	UNITS	
BENZENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
ETHYLBENZENE	UG/L	<0.5
TOTAL XYLENES	UG/L	<0.5
SURROGATE:		
BROMOFLUOROBENZENE (%)		102
SURROGATE LIMITS:	(80 - 120)	

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY QUALITY CONTROL
MSMSD

TEST	: BTEX (EPA 8020)		
MSMSD #	: 063097	AEN I.D.	: 706390
CLIENT	: MARATHON OIL COMPANY	DATE EXRACTED	: NA
PROJECT #	: (none)	DATE ANALYZED	: 6/30/97
PROJECT NAME	: Marathon Oil IB Gas Plant	SAMPLE MATRIX	: AQUEOUS
		UNITS	: UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<0.5	10.0	10.1	101	9.7	97	4	(80 - 120)	20
TOLUENE	<0.5	10.0	9.3	93	9.2	92	1	(80 - 120)	20
ETHYLBENZENE	<0.5	10.0	10.0	100	9.8	98	2	(80 - 120)	20
TOTAL XYLENES	<0.5	30.0	30.3	101	29.6	99	2	(80 - 120)	20

CHEMIST NOTES:
N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

American Environmental Network (NM), Inc.
Albuquerque • Phoenix • Pensacola • Portland • Pleasant Hills • Columbia

CHAIN OF CUSTODY

DATE: 6/26/97 PAGE: 1 OF 1

SHADED AREAS ARE FOR LAB USE ONLY

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER:

COMPANY: FLUOR DANIEL GTI
ADDRESS: 2501 YALE BLVD SE #204
ALBUQUERQUE, NEW MEXICO 87106
PHONE: 505-242-3115
FAX: 505-242-1103

BILL TO: ROBERT MENZIE
COMPANY: MARATHON OIL COMPANY
ADDRESS:

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct/Inject	(M8015) Gas/Purge & Trap	Gasoline/BTEX & MTBE (M8015/8020)	BTXE/MTBE (8020)	BTEX & Chlorinated Aromatics (602/8020)	BTEX/MTBE/EDC & EDB (8020/8010/Short)	Chlorinated Hydrocarbons (601/8010)	8020 + ~~CHLORIDE~~	504 EDB ☐ / DBCP ☐	Polynuclear Aromatics (610/8310)	Volatile Organics (624/8240) GC/MS	Volatile Organics (8260) GC/MS	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	General Chemistry:	Chloride	Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals:	NUMBER OF CONTAINERS
MW-61A	6/26/97	15:00	Water	-01									X									X						
TRIP Blank	6/16/97	10:25	AQ	-02									X															

PROJECT INFORMATION	
PROJ. NO.:	
PROJ. NAME:	MARATHON OIL INDIAN BASIN GAS PLANT
PO NO.:	
SHIPPED VIA:	

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) [ ] 24hr [ ] 48hr [ ] 72hr [ ] 1 WEEK (NORMAL) [X]

CERTIFICATION REQUIRED: [ ] NM [ ] SDWA [ ] OTHER

METHANOL PRESERVATION [ ]

COMMENTS: FIXED FEE [ ]

RELINQUISHED BY: 1.
Signature: [signature] Time: 08:15
Printed Name: Casey T. Bussee Date: 6/27/97
Company: Fluor Daniel GTI

RECEIVED BY:
Signature: Time:
Printed Name: Date
Company

RELINQUISHED BY: 2.
Signature Time
Printed Name Date
Company

11/96 AEN Inc. American Environmental Network (NM), Inc. • 2709-D Pan American Freeway, NE • Albuquerque, New Mexico 87107

DISTRIBUTION: White, Canary - AEN Pink - ORIGINATOR

American Environmental Network of Florida
PROJECT SAMPLE INSPECTION FORM

Lab Accession #: 706478 Date Received: 01-Jul 97

1.	Was there a Chain of Custody?	(Yes)	No♠		8.	Were samples checked for preservative? *(Check pH of all H_2O requiring preservative except VOA vials that require zero headspace)*♦	(Yes)	No♠	N/A
2.	Was Chain of Custody properly filled out and relinquished?	(Yes)	No♠		9.	Is there sufficient volume for analysis requested?	(Yes)	No♠	
3.	Were samples received cold? (Criteria: 1° - 4°C: AEN-SOP 1055)	(Yes)	No♠	N/A	10.	Were samples received within Holding Time? (REFER TO AEN-SOP 1040)	(Yes)	No♠	
4.	Were all samples properly labeled and identified?	(Yes)	No♠		11.	Is Headspace visible > ¼" in diameter in VOA vials?* If any headspace is evident, comment in out-of-control section.	Yes♠	No	(N/A)
5.	Did samples require splitting? Req By: PM Client Other♦	Yes♠	(No)		12.	If sent, were matrix spike bottles returned?	Yes	No♠	(N/A)
6.	Were samples received in proper containers for analysis requested?	(Yes)	No♠		13.	Was Project Manager notified of problems? (initials:_____)	Yes	No♠	(N/A)
7.	Were all sample containers received intact?	(Yes)	No♠						

Airbill Number(s): 266346607 Shipped By: FedEx.

Cooler Number(s): AENABQ56 Shipping Charges: _____

Cooler Weight(s): 46LBS. Cooler Temp(s) (°C): 2 °C
CCK 5
(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: Jeff Colvin Date: 1 Jul 97 Logged By: D. Kitt Date: 01-JUL-97

♠ *Note all Out-of-Control and/or questionable events on Comment Section of this form.*

♦ *Note who requested the splitting of samples on the Comment Section of this form.*

✦ *All preservatives for the State of North Carolina, the State of New York, and other requested samples are to be recorded on the sheet provided to record pH results (AEN-SOP 938, section 2.2.9).*

▪ *According to EPA, ¼" of headspace is allowed in 40 ml vials requiring volatile analysis, however, AEN makes it policy to record any*

American Environmental Network
Albuquerque, New Mexico

Interlab Chain of Custody

DATE: 6/30 PAGE: 1 OF 1

NETWORK PROJECT MANAGER: KIMBERLY D. McNEILL

COMPANY: American Environmental Network
ADDRESS: 2709-D Pan American Freeway, NE
Albuquerque, NM 87107

706478

CLIENT PROJECT MANAGER:

Kim McNeill

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
706390 - 01	6/26/97	1500	AQ	

ANALYSIS REQUEST

Metals - TAL	Metals - PP List	Metals - RCRA	RCRA Metals by TCLP (1311)			TOX	TOC	Gen Chemistry	X Chloride	Oil and Grease	BOD	COD	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	Polynuclear Aromatics (610/8310)	8240 (TCLP 1311) ZHE	8270 (TCLP 1311)			TO-14	Gross Alpha/Beta					NUMBER OF CONTAINERS
									X																		1

PROJECT INFORMATION

PROJECT NUMBER: 706390
PROJECT NAME: Marathon Oil Co.
QC LEVEL: (STD) IV
QC REQUIRED: (STD) MS MSD BLANK
TAT: (STANDARD) RUSH

DUE DATE: 7/10
RUSH SURCHARGE:
CLIENT DISCOUNT:
SPECIAL CERTIFICATION REQUIRED: ☐YES ☐NO

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS	
CHAIN OF CUSTODY SEALS	
INTACT?	
RECEIVED GOOD COND./COLD	
LAB NUMBER	

SAMPLES SENT TO:

SAN DIEGO	
Paragon	
RENTON	
PENSACOLA	X
PORTLAND	
PHOENIX	

RELINQUISHED BY: 1.

Signature: [signature] Time: 1200
Printed Name: John Caldwell Date: 6/30/97
Company: Albuquerque

RECEIVED BY: 1.

Signature: Linda Kitt Time: 0900
Printed Name: Linda Kitt Date: 7/1/97
Company: AEN, ABQ

RELINQUISHED BY: 2.

Signature Time
Printed Name Date
Company

RECEIVED BY: (LAB) 2.

Signature: Time:
Printed Name: Date:
Company:

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

American Environmental Network (NM), Inc.
Albuquerque • [illegible]enix • Pensacola • Portland • Pleasant Hills • Columbia

CHAIN OF CUSTODY

DATE: 6/2[illegible]/97 PAGE 1 OF 1

AEN LAB I.D. [illegible]

PROJECT MANAGER:

COMPANY: FLUOR DANIEL GTI
ADDRESS: 2501 YALE BLVD SE #204
ALBUQUERQUE, NEW MEXICO 87106
PHONE: 505-242-8113
FAX: 505-242-1103
BILL TO: ROBERT MENZIE
COMPANY: MARATHON OIL COMPANY
ADDRESS:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct/Inject		(M8015) Gas/Purge & Trap	Gasoline/BTEX & MTBE (M8015/8020)	BTXE/MTBE (8020)	BTEX & Chlorinated Aromatics (602/8020)	BTEX/MTBE/EDC & EDB (8020/8010/Short)	Chlorinated Hydrocarbons (601/8010)	8020 + ~~CHLORIDE~~ BP 6-27	504 EDB ☐ / DBCP ☐	Polynuclear Aromatics (610/8310)	Volatile Organics (624/8240) GC/MS	Volatile Organics (8260) GC/MS		Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)		General Chemistry:	Chloride		Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals		NUMBER OF CONTAINERS
MW-61A	6/26/97	15:00	Water	-01										X											X								8
TRIP Blank	6/16/97	10:25	AQ	-02										X																			1

PROJECT INFORMATION

PROJ NO:
PROJ NAME: MARATHON OIL INDIAN BASIN GAS PLANT
PO NO:
SHIPPED VIA:

SAMPLE RECEIPT [illegible]

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) [ ] 24hr [ ] 48hr [ ] 72hr [ ] 1 WEEK (NORMAL) [X]

CERTIFICATION REQUIRED: [ ] NM [ ] SDWA [ ] OTHER

METHANOL PRESERVATION [ ]

COMMENTS: FIXED FEE [ ]

RELINQUISHED BY: 1.

Signature: [signature] Time: 08:15
Printed Name: Casey T. Busero Date: 6/27/97
Company: Fluor Daniel GTI

1. RECEIVED BY:

Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 2.

Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: (LAB) [illegible]

1/1/96 AEN Inc.: American Environmental Network (NM), Inc. • 2709-D Pan American Freeway, NE • Albuquerque, New Mexico 87107

DISTRIBUTION: White, Canary - AEN Pink - ORIGINATOR

American Environmental Network, Inc.

AEN I.D. 707353

August 8, 1997

MARATHON OIL COMPANY
P.O. BOX 552
MIDLAND, TX 79702-0552

Project Name Indian Basin Remediation
Project Number 023350224

Attention: BOB MENZIE

On 7/21/97 American Environmental Network (NM), Inc. (ADHS License No. AZ0015), received a request to analyze **aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

Sample "MW-65" was broken by the laboratory and not analyzed for EPA method 8020.

Due to a shipping error, some chloride samples arrived at our Pensacola facility at 12 degrees Celsius. These samples are noted in the report as being out of EPA compliance.

Per Mr. Menzie, samples "MW-50", "MW-49", "MW-44", MW-43"and "MW-46" were analyzed for EPA method 8240 instead of EPA method 8020.

EPA method 325.2 was analyzed by American Environmental Network (FL) Inc., 11 East Olive Road, Pensacola, FL.

EPA method 8310 was performed by American Environmental Network (NC) Inc., 3000 Weston Parkway, Cary, NC.

EPA methods 8020 and 8240 was performed by American Environmental Network (NM) Inc., Albuquerque, NM.

All other analyses were performed by American Environmental Network (AZ) Inc., 9830 South 51st Street, B113, Phoenix, AZ.

If you have any questions or comments, please do not hesitate to contact us at (505)344-3777.

Kimberly D. McNeill
Project Manager

H. Mitchell Rubenstein, Ph. D.
General Manager

MR: mt

Enclosure

37	MW-41	AQUEOUS	7/18/97
38	MW-39	AQUEOUS	7/18/97
39	MW-46	AQUEOUS	7/18/97
40	MW-77	AQUEOUS	7/18/97
41	MW-106	AQUEOUS	7/18/97
42	MW-65	AQUEOUS	7/18/97
43	MW-74	AQUEOUS	7/18/97
44	MW-62	AQUEOUS	7/18/97
45	TRIP BLANK	AQUEOUS	7/10/97

CLIENT	: MARATHON OIL COMPANY	AEN I D.	707353
PROJECT #	: 023350224	DATE RECEIVED	7/21/97
PROJECT NAME	: Indian Basin Remediation	REPORT DATE	8/8/97

AEN ID. #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	DI H2O	AQUEOUS	7/15/97
02	INT RB	AQUEOUS	7/15/97
03	MW-57	AQUEOUS	7/15/97
04	MW-57RB	AQUEOUS	7/15/97
05	MW-60	AQUEOUS	7/15/97
06	MW-60RB	AQUEOUS	7/15/97
07	MW-61A	AQUEOUS	7/15/97
08	MW-61ARB	AQUEOUS	7/16/97
09	MW-63	AQUEOUS	7/16/97
10	MW-63RB	AQUEOUS	7/16/97
11	MW-66	AQUEOUS	7/16/97
12	MW-64	AQUEOUS	7/16/97
13	MW-66RB	AQUEOUS	7/16/97
14	MW-67	AQUEOUS	7/16/97
15	MW-67RB	AQUEOUS	7/16/97
16	MW-55	AQUEOUS	7/16/97
17	MW-55RB	AQUEOUS	7/16/97
18	MW-54	AQUEOUS	7/16/97
19	MW-54RB	AQUEOUS	7/17/97
20	MW-90	AQUEOUS	7/17/97
21	MW-79	AQUEOUS	7/17/97
22	MW-90RB	AQUEOUS	7/17/97
23	MW-78	AQUEOUS	7/17/97
24	MW-78RB	AQUEOUS	7/17/97
25	MW-61	AQUEOUS	7/17/97
26	MW-61RB	AQUEOUS	7/17/97
27	MW-71	AQUEOUS	7/17/97
28	MW-71RB	AQUEOUS	7/17/97
29	MW-104	AQUEOUS	7/17/97
30	MW-104RB	AQUEOUS	7/17/97
31	MW-108	AQUEOUS	7/17/97
32	MW-69	AQUEOUS	7/18/97
33	MW-50	AQUEOUS	7/18/97
34	MW-49	AQUEOUS	7/18/97
35	MW-44	AQUEOUS	7/18/97
36	MW-43	AQUEOUS	7/18/97

GENERAL CHEMISTRY RESULTS

ATI I.D. : 707324

CLIENT : AMERICAN ENV. NETWORK OF NM, INC.
PROJECT # : 707353
PROJECT NAME : MARATHON

PARAMETER	UNITS	01 (104)	02 (108)
CARBONATE (CACO3)	MG/L	<1	<1
BICARBONATE (CACO3)	MG/L	268	297
HYDROXIDE (CACO3)	MG/L	<1	<1
TOTAL ALKALINITY (AS CACO3)	MG/L	268	297
BROMIDE (EPA 300.0)	MG/L	<0.3	<0.3
CHLORIDE (EPA 325.2)	MG/L	11.6	3.2
CONDUCTIVITY, (UMHOS/CM)		815	585
FLUORIDE (EPA 340.2)	MG/L	0.80	0.40
NO2/NO3-N, TOTAL (353.2)	MG/L	0.72	2.6
PH (EPA 150.1)	UNITS	7.6	7.6
SULFATE (EPA 375.2)	MG/L	200	33
T. DISSOLVED SOLIDS (160.1)	MG/L	580	360

CLIENT : AMERICAN ENV. NETWORK OF NM, INC.
PROJECT # : 707353
PROJECT NAME : MARATHON

ATI I.D. : 707324

ATI #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	707353-29	AQUEOUS	07/17/97
02	707353-31	AQUEOUS	07/17/97

----- TOTALS -----

MATRIX	# SAMPLES
AQUEOUS	2

ATI STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

METALS RESULTS

ATI I.D. : 707324

CLIENT : AMERICAN ENV. NETWORK OF NM, INC.
PROJECT # : 707353
PROJECT NAME : MARATHON

PARAMETER	UNITS	01	02
CALCIUM (EPA 200.7/6010)	MG/L	126	88.7
POTASSIUM (EPA 200.7/6010)	MG/L	<1.0	1.5
MAGNESIUM (EPA 200.7/6010)	MG/L	47.6	34.6
SODIUM (EPA 200.7/6010)	MG/L	11.1	4.9
SILICA (EPA 200.7/6010)	MG/L	20.5	23.0

GENERAL CHEMISTRY - QUALITY CONTROL

CLIENT : AMERICAN ENV. NETWORK OF NM, INC.
PROJECT # : 707353
PROJECT NAME : MARATHON ATI I.D. : 707324

PARAMETER	UNITS	ATI I.D.	SAMPLE RESULT	DUP. RESULT	RPD	SPIKED SAMPLE	SPIKE CONC	% REC
CARBONATE	MG/L	70899917	<1	<1	NA	NA	NA	NA
BICARBONATE	MG/L		136	138	1	NA	NA	NA
HYDROXIDE	MG/L		<1	<1	NA	NA	NA	NA
TOTAL ALKALINITY	MG/L		136	138	1	NA	NA	NA
BROMIDE	MG/L	70719308	<0.3	<0.3	NA	2.4	2.0	120
CHLORIDE	MG/L	70732402	3.2	3.2	0	13.7	10.0	105
CONDUCTIVITY(UMHOS/CM)		70725001	2700	2710	0.4	NA	NA	NA
FLUORIDE	MG/L	70799917	1.85	1.85	0	4.03	2.00	109
NITRITE/NITRATE-N	MG/L	70732302	0.36	0.37	3	2.2	2.0	92
PH	UNITS	70729701	8.0	8.0	0	NA	NA	NA
SULFATE	MG/L	70725001	530	550	4	930	400	100
TOTAL DISSOLVED SOLIDS	MG/L	70731901	<10	<10	NA	NA	NA	NA

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

METALS - QUALITY CONTROL

CLIENT : AMERICAN ENV. NETWORK OF NM, INC.
PROJECT # : 707353
PROJECT NAME : MARATHON ATI I.D. : 707324

PARAMETER	UNITS	ATI I.D.	SAMPLE RESULT	DUP. RESULT	RPD	SPIKED SAMPLE	SPIKE CONC	% REC
CALCIUM	MG/L	70727001	107	105	2	157	50.0	100
POTASSIUM	MG/L	70727001	3.2	4.0	22	54.2	50.0	102
MAGNESIUM	MG/L	70727001	56.2	57.4	2	83.8	25.0	110
SODIUM	MG/L	70727001	68.6	66.4	3	124	50.0	111
SILICA	MG/L	70899903	24.4	23.7	3	46.6	21.4	104

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

DATE: 08-07-97

ION BALANCE

AEN ACCESSION NUMBER: 70732401
SAMPLE IDENTIFICATION: 707353-29 MW-154
CLIENT: AMERICAN ENVIR. NETWORK OF NM, INC.

ANIONS	RESULT MG/L	FACTOR ME/L	TOTAL	
ALKALINITY (AS $CaCO_3$)	268.000	0.02000	5.36000	
CHLORIDE	11.600	0.02821	0.32724	
FLUORIDE	0.800	0.05264	0.04211	
NITRATE AS N (NO_3(NO_3-N X 4.43)	0.720	0.01613	0.05145	
SiO_3 (SILICON X 2.71)	25.974	0.02629	0.68284	
SULFATE	200.000	0.02082	4.16400	
		TOTAL ANIONS		10.62764

CATIONS	RESULT	FACTOR	TOTAL	
CALCIUM	126.000	0.04990	6.2874	
POTASSIUM	<1.0	0.02558	0.00000	
MAGNESIUM	47.600	0.08229	3.91700	
SODIUM	11.100	0.04350	0.48285	
		TOTAL CATIONS		10.68725
		%RPD (<10%)*		-0.56
TOTAL ANIONS/CATIONS	(CALCULATED)	584.594		
TOTAL DISSOLVED SOLIDS	(ANALYZED)	580	%RPD (<15%)*	0.79
ELECTRICAL COND.		815	TDS/EC RATIO (0.65+/-0.10)	0.71

* If either Total Cations or Total Anions <10, then the %RPD Limit is not applicable.

DATE: 08-07-97

ION BALANCE

AEN ACCESSION NUMBER: 70732402
SAMPLE IDENTIFICATION: 707353-31
CLIENT: AMERICAN ENVIR. NETWORK OF NM, INC.

ANIONS	RESULT MG/L	FACTOR ME/L	TOTAL	
ALKALINITY (AS $CaCO_3$)	297.000	0.02000	5.94000	
CHLORIDE	3.200	0.02821	0.09027	
FLUORIDE	0.400	0.05264	0.02106	
NITRATE AS N (NO_3(NO_3-N X 4.43)	2.600	0.01613	0.18579	
SiO_3 (SILICON X 2.71)	29.141	0.02629	0.76612	
SULFATE	33.000	0.02082	0.68706	
		TOTAL ANIONS		7.69029

CATIONS	RESULT	FACTOR	TOTAL	
CALCIUM	88.700	0.04990	4.42613	
POTASSIUM	1.500	0.02558	0.03837	
MAGNESIUM	34.600	0.08229	2.84723	
SODIUM	4.900	0.04350	0.21315	
		TOTAL CATIONS		7.524884
		%RPD (<10%)*		2.17
TOTAL ANIONS/CATIONS	(CALCULATED)	376.241		
TOTAL DISSOLVED SOLIDS	(ANALYZED)	360	%RPD (<15%)*	4.41
ELECTRICAL COND.		585	TDS/EC RATIO (0.65+/-0.10)	0.62

* If either Total Cations or Total Anions <10, then the %RPD Limit is not applicable.

DATE OF ANALYSIS REPORT

AEN ID: 707324

07-Aug-97

METHOD	SAMPLE #	DATE	ANALYST
ALKALINITY (EPA 310.1)	01	07/29/97	DIPTI A. SHAH
	02	07/29/97	DIPTI A. SHAH
BROMIDE (EPA 300.0)	01	07/29/97	CARLENE MCCUTCHEON
	02	07/29/97	CARLENE MCCUTCHEON
CALCIUM (EPA 200.7/6010)	01	08/01/97	MARK R. NIEMCZYNSKI
	02	08/01/97	MARK R. NIEMCZYNSKI
CHLORIDE (EPA 325.2)	01	07/31/97	CARLENE MCCUTCHEON
	02	07/31/97	CARLENE MCCUTCHEON
CONDUCTIVITY, (UMHOS/CM)	01	07/23/97	PAUL STRICKLER
	02	07/23/97	PAUL STRICKLER
FLUORIDE (EPA 340.2)	01	07/29/97	DANIELLE M. SPEHAR
	02	07/29/97	DANIELLE M. SPEHAR
MAGNESIUM (EPA 200.7/6010)	01	08/01/97	MARK R. NIEMCZYNSKI
	02	08/01/97	MARK R. NIEMCZYNSKI
NO2/NO3-N, TOTAL (353.2)	01	07/31/97	MELISSA HUGHES
	02	07/31/97	MELISSA HUGHES
PH (EPA 150.1)	01	07/28/97	DANIELLE M. SPEHAR
	02	07/28/97	DANIELLE M. SPEHAR
POTASSIUM (EPA 200.7/6010)	01	08/01/97	MARK R. NIEMCZYNSKI
	02	08/01/97	MARK R. NIEMCZYNSKI
SILICA (EPA 200.7/6010)	01	08/01/97	MARK R. NIEMCZYNSKI
	02	08/01/97	MARK R. NIEMCZYNSKI
SODIUM (EPA 200.7/6010)	01	08/01/97	MARK R. NIEMCZYNSKI
	02	08/01/97	MARK R. NIEMCZYNSKI
SULFATE (EPA 375.2)	01	07/31/97	CARLENE MCCUTCHEON
	02	07/31/97	CARLENE MCCUTCHEON
T. DISSOLVED SOLIDS (160.1)	01	07/23/97	CARLENE MCCUTCHEON
	02	07/23/97	CARLENE MCCUTCHEON

Methods for Chemical Analysis of Water and Wastes, EPA-600 4-79-020, March 1983

Methods for the Determination of Inorganic Substances in Environmental Samples, EPA-600-R-93/100

"FINAL REPORT FORMAT - MULTIPLE"

Accession: 707344
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 707353
Project Name: MARATHON OIL CO.
Project Location: INDIAN BASIN REMEDIATION
Test: Group of Single Wetchem

Client ID:	Lab ID:	Matrix:	Date/Time Sampled:	Date Received:
707353-3	001	WATER	15-JUL-97 1440	24-JUL-97
707353-05	002	WATER	15-JUL-97 1600	24-JUL-97
707353-07	003	WATER	15-JUL-97 1705	24-JUL-97
707353-09	004	WATER	16-JUL-97 0955	24-JUL-97
707353-11	005	WATER	16-JUL-97 1140	23-JUL-97
707353-12	006	WATER	18-JUL-97 1210	23-JUL-97
707353-14	007	WATER	16-JUL-97 1335	24-JUL-97
707353-16	008	WATER	16-JUL-97 1450	24-JUL-97
707353-18	009	WATER	16-JUL-97 1620	24-JUL-97
707353-20	010	WATER	17-JUL-97 0845	24-JUL-97
707353-21	011	WATER	17-JUL-97 0900	24-JUL-97
707353-23	012	WATER	17-JUL-97 1035	24-JUL-97
707353-25	013	WATER	17-JUL-97 1145	24-JUL-97
707353-27	014	WATER	17-JUL-97 1430	23-JUL-97
707353-32	015	WATER	18-JUL-97 1244	24-JUL-97
707353-33	016	WATER	18-JUL-97 1315	23-JUL-97
707353-34	017	WATER	18-JUL-97 1340	23-JUL-97
707353-35	018	WATER	18-JUL-97 1410	24-JUL-97
707353-36	019	WATER	18-JUL-97 1420	24-JUL-97
707353-37	020	WATER	18-JUL-97 1445	24-JUL-97
707353-38	021	WATER	18-JUL-97 1500	24-JUL-97
707353-39	022	WATER	18-JUL-97 1515	24-JUL-97
707353-40	023	WATER	18-JUL-97 1535	23-JUL-97
707353-41	024	WATER	18-JUL-97 1555	24-JUL-97
707353-43	025	WATER	18-JUL-97 1645	24-JUL-97
707353-44	026	WATER	18-JUL-97 1710	24-JUL-97

"FINAL REPORT FORMAT - MULTIPLE"

Accession: 707344
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 707353
Project Name: MARATHON OIL CO.
Project Location: INDIAN BASIN REMEDIATION
Test: Group of Single Wetchem
QcLevel: II

Parameter:	Unit:	Result:	R.L:	Batch:	Q:
Client ID: 707353-3 MW-57 7/15			Lab ID: 001		
CHLORIDE (325.3)	MG/L	36	5	CIW066	#R

Comments:
R = IMPROPER PRESERVATION, SAMPLE TEMPERATURE EXCEEDED EPA TEMPERATURE REQUIREMENT UPON RECEIPT.

Client ID: 707353-05 MW-60 7/15			Lab ID: 002		
CHLORIDE (325.3)	MG/L	11	1	CIW066	R

Comments:
R = IMPROPER PRESERVATION, SAMPLE TEMPERATURE EXCEEDED EPA TEMPERATURE REQUIREMENT UPON RECEIPT.

Client ID: 707353-07 MW-61A 7/15			Lab ID: 003		
CHLORIDE (325.3)	MG/L	10	1	CIW066	R

Comments:
R = IMPROPER PRESERVATION, SAMPLE TEMPERATURE EXCEEDED EPA TEMPERATURE REQUIREMENT UPON RECEIPT.

Client ID: 707353-09 MW-63 7/16			Lab ID: 004		
CHLORIDE (325.3)	MG/L	9	1	CIW066	R

Comments:
R = IMPROPER PRESERVATION, SAMPLE TEMPERATURE EXCEEDED EPA TEMPERATURE REQUIREMENT UPON RECEIPT.

Client ID: 707353-11 MW-66 7/16			Lab ID: 005		
CHLORIDE (325.3)	MG/L	8	1	CIW066	

Comments:

Client ID: 707353-12 MW-01 7/16			Lab ID: 006		
CHLORIDE (325.3)	MG/L	12	1	CIW066	

Comments:

Client ID: 707353-14 MW-67 7/16			Lab ID: 007		
CHLORIDE (325.3)	MG/L	7	1	CIW066	R

Comments:
R = IMPROPER PRESERVATION, SAMPLE TEMPERATURE EXCEEDED EPA TEMPERATURE REQUIREMENT UPON RECEIPT.

"FINAL REPORT FORMAT - MULTIPLE"

Accession: 707344
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 707353
Project Name: MARATHON OIL CO.
Project Location: INDIAN BASIN REMEDIATION
Test: Group of Single Wetchem
QcLevel: II

Parameter:	Unit:	Result:	R.L:	Batch:	Q:
Client ID: 707353-16 MW-55 7116			Lab ID: 008		
CHLORIDE (325.3)	MG/L	300	5	CIW066	+R

Comments:
R = IMPROPER PRESERVATION, SAMPLE TEMPERATURE EXCEEDED EPA TEMPERATURE REQUIREMENT UPON RECEIPT.

Client ID: 707353-18 MW-54 7116			Lab ID: 009		
CHLORIDE (325.3)	MG/L	160	1	CIW066	R

Comments:
R = IMPROPER PRESERVATION, SAMPLE TEMPERATURE EXCEEDED EPA TEMPERATURE REQUIREMENT UPON RECEIPT.

Client ID: 707353-20 MW-90 7117			Lab ID: 010		
CHLORIDE (325.3)	MG/L	19	5	CIW066	#R

Comments:
R = IMPROPER PRESERVATION, SAMPLE TEMPERATURE EXCEEDED EPA TEMPERATURE REQUIREMENT UPON RECEIPT.

Client ID: 707353-21 MW-79 7117			Lab ID: 011		
CHLORIDE (325.3)	MG/L	24	1	CIW066	R

Comments:
R = IMPROPER PRESERVATION, SAMPLE TEMPERATURE EXCEEDED EPA TEMPERATURE REQUIREMENT UPON RECEIPT.

Client ID: 707353-23 MW-78 7117			Lab ID: 012		
CHLORIDE (325.3)	MG/L	48	1	CIW066	R

Comments:
R = IMPROPER PRESERVATION, SAMPLE TEMPERATURE EXCEEDED EPA TEMPERATURE REQUIREMENT UPON RECEIPT.

Client ID: 707353-25 MW-61 7117			Lab ID: 013		
CHLORIDE (325.3)	MG/L	390	5	CIW066	+R

Comments:
R = IMPROPER PRESERVATION, SAMPLE TEMPERATURE EXCEEDED EPA TEMPERATURE REQUIREMENT UPON RECEIPT.

Client ID: 707353-27 7117			Lab ID: 014		
CHLORIDE (325.3)	MG/L	16	1	CIW066	

Comments:

"FINAL REPORT FORMAT - MULTIPLE"

Accession: 707344
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 707353
Project Name: MARATHON OIL CO.
Project Location: INDIAN BASIN REMEDIATION
Test: Group of Single Wetchem
QcLevel: II

Parameter:	Unit:	Result:	R.L:	Batch:	Q:
Client ID: 707353-32		69 7/18	Lab ID: 015		
CHLORIDE (325.3)	MG/L	64	1	CIW066	R
Comments: R = IMPROPER PRESERVATION, SAMPLE TEMPERATURE EXCEEDED EPA TEMPERATURE REQUIREMENT UPON RECEIPT.					
		So 7/18			
Client ID: 707353-33			Lab ID: 016		
CHLORIDE (325.3)	MG/L	330	5	CIW066	+
Comments:					
Client ID: 707353-34		49 7/18	Lab ID: 017		
CHLORIDE (325.3)	MG/L	350	5	CIW066	+
Comments:					
Client ID: 707353-35		42 7/18	Lab ID: 018		
CHLORIDE (325.3)	MG/L	310	5	CIW066	+R
Comments: R = IMPROPER PRESERVATION, SAMPLE TEMPERATURE EXCEEDED EPA TEMPERATURE REQUIREMENT UPON RECEIPT.					
		42 7/18			
Client ID: 707353-36			Lab ID: 019		
CHLORIDE (325.3)	MG/L	230	5	CIW066	+R
Comments: R = IMPROPER PRESERVATION, SAMPLE TEMPERATURE EXCEEDED EPA TEMPERATURE REQUIREMENT UPON RECEIPT.					
Client ID: 707353-37		7/18	Lab ID: 020		
CHLORIDE (325.3)	MG/L	140	1	CIW066	R
Comments: R = IMPROPER PRESERVATION, SAMPLE TEMPERATURE EXCEEDED EPA TEMPERATURE REQUIREMENT UPON RECEIPT.					
Client ID: 707353-38		39 7/18	Lab ID: 021		
CHLORIDE (325.3)	MG/L	160	5	CIW067	#R
Comments: R = IMPROPER PRESERVATION, SAMPLE TEMPERATURE EXCEEDED EPA TEMPERATURE REQUIREMENT UPON RECEIPT.					

"FINAL REPORT FORMAT - MULTIPLE"

Accession: 707344
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 707353
Project Name: MARATHON OIL CO.
Project Location: INDIAN BASIN REMEDIATION
Test: Group of Single Wetchem
QcLevel: II

Parameter:	Unit:	Result:	R.L:	Batch:	Q:
Client ID: 707353-39 -46 7/18			Lab ID: 022		
CHLORIDE (325.3)	MG/L	180	1	CIW067	R

Comments:
R = IMPROPER PRESERVATION, SAMPLE TEMPERATURE EXCEEDED EPA TEMPERATURE REQUIREMENT UPON RECEIPT.

Client ID: 707353-40 22 7-18			Lab ID: 023		
CHLORIDE (325.3)	MG/L	150	1	CIW067	

Comments:

Client ID: 707353-41 106 7 -18			Lab ID: 024		
CHLORIDE (325.3)	MG/L	5	1	CIW067	R

Comments:
R = IMPROPER PRESERVATION, SAMPLE TEMPERATURE EXCEEDED EPA TEMPERATURE REQUIREMENT UPON RECEIPT.

Client ID: 707353-43 74 7 18			Lab ID: 025		
CHLORIDE (325.3)	MG/L	260	5	CIW067	+R

Comments:
R = IMPROPER PRESERVATION, SAMPLE TEMPERATURE EXCEEDED EPA TEMPERATURE REQUIREMENT UPON RECEIPT.

Client ID: 707353-44 62 7 7-18			Lab ID: 026		
CHLORIDE (325.3)	MG/L	100	1	CIW067	R

Comments:
R = IMPROPER PRESERVATION, SAMPLE TEMPERATURE EXCEEDED EPA TEMPERATURE REQUIREMENT UPON RECEIPT.

"Method Report Summary"

Accession Number: 707344
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 707353
Project Name: MARATHON OIL CO.
Project Location: INDIAN BASIN REMEDIATION
Test: Group of Single Wetchem

Client Sample Id:	Parameter:	Unit:	Result:
707353-3	CHLORIDE (325.3)	MG/L	36
707353-05	CHLORIDE (325.3)	MG/L	11
707353-07	CHLORIDE (325.3)	MG/L	10
707353-09	CHLORIDE (325.3)	MG/L	9
707353-11	CHLORIDE (325.3)	MG/L	8
707353-12	CHLORIDE (325.3)	MG/L	12
707353-14	CHLORIDE (325.3)	MG/L	7
707353-16	CHLORIDE (325.3)	MG/L	300
707353-18	CHLORIDE (325.3)	MG/L	160
707353-20	CHLORIDE (325.3)	MG/L	19
707353-21	CHLORIDE (325.3)	MG/L	24
707353-23	CHLORIDE (325.3)	MG/L	48
707353-25	CHLORIDE (325.3)	MG/L	390
707353-27	CHLORIDE (325.3)	MG/L	16
707353-32	CHLORIDE (325.3)	MG/L	64
707353-33	CHLORIDE (325.3)	MG/L	330
707353-34	CHLORIDE (325.3)	MG/L	350
707353-35	CHLORIDE (325.3)	MG/L	310
707353-36	CHLORIDE (325.3)	MG/L	230

"Method Report Summary"

Accession Number: 707344
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 707353
Project Name: MARATHON OIL CO.
Project Location: INDIAN BASIN REMEDIATION
Test: Group of Single Wetchem

Client Sample Id:	Parameter:	Unit:	Result:
707353-37	CHLORIDE (325.3)	MG/L	140
707353-38	CHLORIDE (325.3)	MG/L	160
707353-39	CHLORIDE (325.3)	MG/L	180
707353-40	CHLORIDE (325.3)	MG/L	150
707353-41	CHLORIDE (325.3)	MG/L	5
707353-43	CHLORIDE (325.3)	MG/L	260
707353-44	CHLORIDE (325.3)	MG/L	100

"WetChem Quality Control Report"

Parameter:	CHLORIDE	CHLORIDE
Batch Id:	CIW066	CIW067
Blank Result:	<1	<1
Anal. Method:	325.3	325.3
Prep. Method:	N/A	N/A
Analysis Date:	25-JUL-97	25-JUL-97
Prep. Date:	25-JUL-97	25-JUL-97

Sample Duplication

Sample Dup:	707344-1	707344-21
Rept Limit:	<5#	<5#
Sample Result:	35.9	155.5
Dup Result:	36.2	156.0
Sample RPD:	1	0
Max RPD:	6	6
Dry Weight%	N/A	N/A

Matrix Spike

Sample Spiked:	707344-1	707344-21
Rept Limit:	<5#	<5#
Sample Result:	35.9	155.5
Spiked Result:	306.9	420.2
Spike Added:	275	275.0
% Recovery:	99	96
% Rec Limits:	88-113	88-113
Dry Weight%	N/A	N/A

ICV

ICV Result:	90.6	92.2
True Result:	100	100
% Recovery:	91	92
% Rec Limits:	90-110	90-110

LCS

LCS Result:		
True Result:		
% Recovery:		
% Rec Limits:		

----- Common Footnotes WetChem -----

N/A = NOT APPLICABLE.
N/S = NOT SUBMITTED.
N/C = SAMPLE AND DUPLICATE RESULTS ARE AT OR BELOW AEN REPORTING LIMIT; THEREFORE, THE RPD IS "NOT CALCULABLE" AND NO CONTROL LIMITS APPLY.
N/D = NOT DETECTED.
R = REACTIVE
T = TOTAL
G = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X AEN REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE RESULT IS AT OR BELOW AEN REPORTING LIMIT; THEREFORE, THE RESULTS ARE "IN CONTROL".
Q = THE ANALYTICAL (POST-DISTILLATION) SPIKE IS REPORTED DUE TO PERCENT RECOVERY BEING OUTSIDE ACCEPTANCE LIMITS ON THE MATRIX (PRE-DISTILLATION) SPIKE.
# = ELEVATED REPORTING LIMIT DUE TO INSUFFICIENT SAMPLE.
+ = ELEVATED REPORTING LIMIT DUE TO DILUTION INTO CALIBRATION RANGE.
* = ELEVATED REPORTING LIMIT DUE TO MATRIX INTERFERENCE. (DILUTION PRIOR TO ANALYSIS)
@ = ADJUSTED REPORTING LIMIT DUE TO SAMPLE MATRIX. (DILUTION PRIOR TO DIGESTION)
P = ANALYTICAL (POST DIGESTION) SPIKE.
I = DUPLICATE INJECTION.
& = AUTOMATED
F = SAMPLE SPIKED > 4 X SPIKE CONCENTRATION.
N/C+ = NOT CALCULABLE
H = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X AEN REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE RESULTS EXCEEDS THE AEN REPORTING LIMIT; THEREFORE, THE RESULTS ARE "OUT OF CONTROL".
A = SAMPLE AND DUPLICATE RESULTS ARE "OUT OF CONTROL".
Z = THE SAMPLE RESULT FOR THE SPIKE IS BELOW THE REPORTING LIMIT. HOWEVER, THIS RESULT IS REPORTED FOR ACCURATE QC CALCULATIONS.
NH= SAMPLE AND / OR DUPLICATE RESULT IS BELOW 5 X AEN REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE RESULTS EXCEEDS THE AEN REPORTING LIMIT; THEREFORE, THE RESULTS ARE "OUT OF CONTROL". SAMPLE IS NON-HOMOGENEOUS.
(*) = DETECTION LIMITS RAISED DUE TO CLP METHOD NOT REQUIRING A CONCENTRATION STEP FOR CN.
(CA) = SEE CORRECTIVE ACTIONS FORM.
**= MATRIX INTERFERENCE
SW-846, 3rd Edition, latest EPA-approved edition.
EPA 600/4-79-020, Revised March 1983.
STANDARD METHODS, For the Examination of Water and Wastewater, latest EPA-approved edition.
NIOSH Manual of Analytical Methods, 4th Edition.
ANNUAL BOOK OF ASTM STANDARDS, VOLUMES 11.01 and 11.02, latest EPA-approved edition.
METHODS FOR THE DETERMINATION OF INORGANIC SUBSTANCES IN ENVIRONMENTAL SAMPLES, EPA600/R-93/100, AUGUST 1993
METHODS FOR SOIL ANALYSIS, PART 2, CHEMICAL AND MICROBILOGICAL PROPERTIES, 2ND EDITION.
AEN-PN USES THE MOST CURRENT PROMULGATED METHODS FROM THE REFERENCES LISTED ABOVE.

1. COLIFORM. COLIFORM PRECISION IS MEASURED BY THE ABSOLUTE DIFFERENCE BETWEEN THE LOGARITHM OF COLONIES PER 100 MLS OF SAMPLE ON DUPLICATE PLATES.
2. PH. PH PRECISION IS MEASURED BY THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE ANALYSIS.
3. FLASHPOINT. FLASHPOINT PRECISION IS MEASURED BY THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE ANALYSIS.

RPD = RELATIVE PERCENT DIFFERENCE (OR DEVIATION).
RPT LIMIT = REPORTING LIMITS BASED ON METHOD DETECTION LIMIT STUDIES.

DPH = DOLLY P. HWANG	RB = REBECCA BROWN	JL = JAN LECLEAR
NSB = NANCY S. BUTLER	MM = MIKE MCKENZIE	ED = ESTHER DANTIN
PLD = PAULA L. DOUGHTY	LV = LASSANDRA VON APPEN	JTZ = JONATHAN T. ZIENTARSKI
RH = RICKY HAGENDORFER	MG = MARY GUTIERREZ	CR = CYNTHIA ROBERTS

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL COMPANY AEN I.D.: 707353
PROJECT # : 023350224
PROJECT NAME : Indian Basin Remediation

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	DI H20	AQUEOUS	7/15/97	NA	7/21/97	1
02	INT RB	AQUEOUS	7/15/97	NA	7/21/97	1
03	MW-57	AQUEOUS	7/15/97	NA	7/21/97	1

PARAMETER	DET. LIMIT	UNITS	01	02	03
BENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOLUENE	0.5	**UG/L**	**0.6**	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOTAL XYLENES	0.5	**UG/L**	**12 ***	< 0.5	< 0.5

SURROGATE:				
BROMOFLUOROBENZENE (%)		105	94	105
SURROGATE LIMITS	(80 - 120)			

CHEMIST NOTES:
*-COMPOUND RESULT NOT CONFIRMED BY MASS SPECTROSCOPY. RESULT IS DUE TO COELUTING COMPOUND.

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL COMPANY AEN I.D.: 707353
PROJECT # : 023350224
PROJECT NAME : Indian Basin Remediation

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
04	MW-57RB	AQUEOUS	7/15/97	NA	7/21/97	1
05	MW-60	AQUEOUS	7/15/97	NA	7/21/97	1
06	MW-60RB	AQUEOUS	7/15/97	NA	7/21/97	1

PARAMETER	DET. LIMIT	UNITS	04	05	06
BENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOLUENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOTAL XYLENES	0.5	UG/L	< 0.5	< 0.5	< 0.5
SURROGATE:					
BROMOFLUOROBENZENE (%)			100	95	102
SURROGATE LIMITS	(80 - 120)				

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL COMPANY AEN I.D.: 707353
PROJECT # : 023350224
PROJECT NAME : Indian Basin Remediation

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
07	MW-61A	AQUEOUS	7/15/97	NA	7/22/97	20
08	MW-61ARB	AQUEOUS	7/16/97	NA	7/21/97	1
09	MW-63	AQUEOUS	7/16/97	NA	7/21/97	1

PARAMETER	DET. LIMIT	UNITS	07	08	09
BENZENE	0.5	**UG/L**	**16**	< 0.5	< 0.5
TOLUENE	0.5	UG/L	< 10	< 0.5	< 0.5
ETHYLBENZENE	0.5	**UG/L**	**10**	< 0.5	< 0.5
TOTAL XYLENES	0.5	**UG/L**	**93**	< 0.5	< 0.5
SURROGATE:					
BROMOFLUOROBENZENE (%)			102	102	95
SURROGATE LIMITS	(80 - 120)				

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL COMPANY AEN I.D.: 707353
PROJECT # : 023350224
PROJECT NAME : Indian Basin Remediation

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
10	MW-63RB	AQUEOUS	7/16/97	NA	7/21/97	1
11	MW-66	AQUEOUS	7/16/97	NA	7/21/97	1
12	MW-64	AQUEOUS	7/16/97	NA	7/21/97	50

PARAMETER	DET. LIMIT	UNITS	10	11	12
BENZENE	0.5	**UG/L**	< 0.5	< 0.5	**84**
TOLUENE	0.5	UG/L	< 0.5	< 0.5	< 25
ETHYLBENZENE	0.5	**UG/L**	< 0.5	< 0.5	**130**
TOTAL XYLENES	0.5	**UG/L**	**3.1**	< 0.5	**310**
SURROGATE:					
BROMOFLUOROBENZENE (%)			80	100	100
SURROGATE LIMITS	(80 - 120)				

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL COMPANY AEN I.D.: 707353
PROJECT # : 023350224
PROJECT NAME : Indian Basin Remediation

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
13	MW-66RB	AQUEOUS	7/16/97	NA	7/21/97	1
14	MW-67	AQUEOUS	7/16/97	NA	7/22/97	200
15	MW-67RB	AQUEOUS	7/16/97	NA	7/21/97	1

PARAMETER	DET. LIMIT	UNITS	13	14	15
BENZENE	0.5	UG/L	< 0.5	**160**	< 0.5
TOLUENE	0.5	UG/L	< 0.5	**330**	**1.3**
ETHYLBENZENE	0.5	UG/L	< 0.5	**110**	**1.1**
TOTAL XYLENES	0.5	UG/L	< 0.5	**1200**	**15**
SURROGATE:					
BROMOFLUOROBENZENE (%)			99	107	104
SURROGATE LIMITS	(80 - 120)				

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL COMPANY AEN I.D.: 707353
PROJECT # : 023350224
PROJECT NAME : Indian Basin Remediation

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
16	MW-55	AQUEOUS	7/16/97	NA	7/21/97	1
17	MW-55RB	AQUEOUS	7/16/97	NA	7/21/97	1
18	MW-54	AQUEOUS	7/16/97	NA	7/22/97	1

PARAMETER	DET. LIMIT	UNITS	16	17	18
BENZENE	0.5	**UG/L**	**140**	**1.9**	**0.9**
TOLUENE	0.5	**UG/L**	**11**	< 0.5	**3.2**
ETHYLBENZENE	0.5	**UG/L**	**110**	**1.3**	**2.1**
TOTAL XYLENES	0.5	**UG/L**	**9.2**	**1.2**	**17**
SURROGATE:					
BROMOFLUOROBENZENE (%)			108	97	103
SURROGATE LIMITS	(80 - 120)				

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL COMPANY AEN I.D.: 707353
PROJECT # : 023350224
PROJECT NAME : Indian Basin Remediation

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
19	MW-54RB	AQUEOUS	7/17/97	NA	7/22/97	1
20	MW-90	AQUEOUS	7/17/97	NA	7/22/97	1
21	MW-79	AQUEOUS	7/17/97	NA	7/22/97	1

PARAMETER	DET. LIMIT	UNITS	19	20	21
BENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOLUENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOTAL XYLENES	0.5	UG/L	< 0.5	< 0.5	< 0.5

SURROGATE:
BROMOFLUOROBENZENE (%) 92 100 103
SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL COMPANY AEN I.D.: 707353
PROJECT # : 023350224
PROJECT NAME : Indian Basin Remediation

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
22	MW-90RB	AQUEOUS	7/17/97	NA	7/22/97	1
23	MW-78	AQUEOUS	7/17/97	NA	7/22/97	10
24	MW-78RB	AQUEOUS	7/17/97	NA	7/22/97	1

PARAMETER	DET. LIMIT	UNITS	22	23	24
BENZENE	0.5	**UG/L**	< 0.5	**8.2**	< 0.5
TOLUENE	0.5	**UG/L**	< 0.5	**10**	**0.6**
ETHYLBENZENE	0.5	**UG/L**	< 0.5	**6.6**	< 0.5
TOTAL XYLENES	0.5	**UG/L**	**0.6**	**16**	**1.1**

SURROGATE:				
BROMOFLUOROBENZENE (%)		96	99	101
SURROGATE LIMITS	(80 - 120)			

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL COMPANY AEN I.D.: 707353
PROJECT # : 023350224
PROJECT NAME : Indian Basin Remediation

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
25	MW-61	AQUEOUS	7/17/97	NA	7/22/97	1
26	MW-61RB	AQUEOUS	7/17/97	NA	7/22/97	1
27	MW-71	AQUEOUS	7/17/97	NA	7/22/97	1

PARAMETER	DET. LIMIT	UNITS	25	26	27
BENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOLUENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOTAL XYLENES	0.5	UG/L	< 0.5	< 0.5	< 0.5
SURROGATE:					
BROMOFLUOROBENZENE (%)			104	93	99
SURROGATE LIMITS	(80 - 120)				

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL COMPANY AEN I.D.: 707353
PROJECT # : 023350224
PROJECT NAME : Indian Basin Remediation

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
28	MW-71RB	AQUEOUS	7/17/97	NA	7/22/97	1
29	MW-104	AQUEOUS	7/17/97	NA	7/22/97	1
30	MW-104RB	AQUEOUS	7/17/97	NA	7/22/97	1

PARAMETER	DET. LIMIT	UNITS	28	29	30
BENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOLUENE	0.5	**UG/L**	< 0.5	**0.5**	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOTAL XYLENES	0.5	**UG/L**	< 0.5	**0.7**	< 0.5

SURROGATE:
BROMOFLUOROBENZENE (%) 104 100 101
SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL COMPANY AEN I.D.: 707353
PROJECT # : 023350224
PROJECT NAME : Indian Basin Remediation

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
31	MW-108	AQUEOUS	7/17/97	NA	7/22/97	1
32	MW-69	AQUEOUS	7/18/97	NA	7/22/97	5
37	MW-41	AQUEOUS	7/18/97	NA	7/23/97	5

PARAMETER	DET. LIMIT	UNITS	31	32	37
BENZENE	0.5	**UG/L**	< 0.5	**930**	**280**
TOLUENE	0.5	**UG/L**	< 0.5	**23**	**6.9**
ETHYLBENZENE	0.5	**UG/L**	< 0.5	**410**	**6.9**
TOTAL XYLENES	0.5	**UG/L**	< 0.5	**1100**	**23**
SURROGATE:					
BROMOFLUOROBENZENE (%)			104	101	101
SURROGATE LIMITS	(80 - 120)				

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL COMPANY AEN I.D.: 707353
PROJECT # : 023350224
PROJECT NAME : Indian Basin Remediation

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
38	MW-39	AQUEOUS	7/18/97	NA	7/23/97	1
40	MW-77	AQUEOUS	7/18/97	NA	7/23/97	5
41	MW-106	AQUEOUS	7/18/97	NA	7/23/97	1

PARAMETER	DET. LIMIT	UNITS	38	40	41
BENZENE	0.5	UG/L	< 0.5	14	< 0.5
TOLUENE	0.5	UG/L	< 0.5	30	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	11	< 0.5
TOTAL XYLENES	0.5	UG/L	< 0.5	71	< 0.5

SURROGATE:

BROMOFLUOROBENZENE (%)		101	100	100
SURROGATE LIMITS	(80 - 120)			

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL COMPANY AEN I.D.: 707353
PROJECT # : 023350224
PROJECT NAME : Indian Basin Remediation

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
43	MW-74	AQUEOUS	7/18/97	NA	7/23/97	100
44	MW-62	AQUEOUS	7/18/97	NA	7/23/97	20
45	TRIP BLANK	AQUEOUS	7/10/97	NA	7/23/97	1

PARAMETER	DET. LIMIT	UNITS	43	44	45
BENZENE	0.5	UG/L	**180**	**20**	< 0.5
TOLUENE	0.5	UG/L	**320**	**19**	< 0.5
ETHYLBENZENE	0.5	UG/L	**180**	**58**	< 0.5
TOTAL XYLENES	0.5	UG/L	**1900**	**210**	< 0.5

SURROGATE:
BROMOFLUOROBENZENE (%) **135 *** 116 100
SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:
*** BFB AT 135 DUE TO MATRIX INTERFERENCE**

GAS CHROMOTOGRAPHY RESULTS
REAGENT BLANK

TEST	: BTEX (EPA 8020)	AEN I.D.	: 707353
BLANK I. D.	: 072197-A	DATE EXRACTED	: NA
CLIENT	: MARATHON OIL COMPANY	DATE ANALYZED	: 7/21/97
PROJECT #	: 023350224	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: Indian Basin Remediation		

PARAMETER	UNITS	
BENZENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
ETHYLBENZENE	UG/L	<0.5
TOTAL XYLENES	UG/L	<0.5

SURROGATE:
BROMOFLUOROBENZENE (%) 103
SURROGATE LIMITS: (80 - 120)
CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS
REAGENT BLANK

TEST	: BTEX (EPA 8020)	AEN I.D.	: 707353
BLANK I. D.	: 072197-B	DATE EXRACTED	: NA
CLIENT	: MARATHON OIL COMPANY	DATE ANALYZED	: 7/21/97
PROJECT #	: 023350224	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: Indian Basin Remediation		

PARAMETER	UNITS	
BENZENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
ETHYLBENZENE	UG/L	<0.5
TOTAL XYLENES	UG/L	<0.5

SURROGATE:
BROMOFLUOROBENZENE (%) 101
SURROGATE LIMITS: (80 - 120)
CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS
REAGENT BLANK

TEST	: BTEX (EPA 8020)	AEN I.D.	: 707353
BLANK I. D.	: 072297	DATE EXRACTED	: NA
CLIENT	: MARATHON OIL COMPANY	DATE ANALYZED	: 7/22/97
PROJECT #	: 023350224	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: Indian Basin Remediation		

PARAMETER	UNITS	
BENZENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
ETHYLBENZENE	UG/L	<0.5
TOTAL XYLENES	UG/L	<0.5

SURROGATE:
BROMOFLUOROBENZENE (%) 101
SURROGATE LIMITS: (80 - 120)
CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS
REAGENT BLANK

TEST	: BTEX (EPA 8020)	AEN I.D.	: 707353
BLANK I. D.	: 072397	DATE EXRACTED	: NA
CLIENT	: MARATHON OIL COMPANY	DATE ANALYZED	: 7/23/97
PROJECT #	: 023350224	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: Indian Basin Remediation		

PARAMETER	UNITS	
BENZENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
ETHYLBENZENE	UG/L	<0.5
TOTAL XYLENES	UG/L	<0.5

SURROGATE:
BROMOFLUOROBENZENE (%) 99
SURROGATE LIMITS: (80 - 120)
CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY QUALITY CONTROL
MSMSD

TEST	: BTEX (EPA 8020)		
MSMSD #	: 707353-06	AEN I D	707353
CLIENT	: MARATHON OIL COMPANY	DATE EXRACTED	NA
PROJECT #	: 023350224	DATE ANALYZED	7/21/97
PROJECT NAME	: Indian Basin Remediation	SAMPLE MATRIX	AQUEOUS
		UNITS	UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<0.5	10.0	9.7	97	9.4	94	3	(80 - 120)	20
TOLUENE	<0.5	10.0	9.5	95	9.3	93	2	(80 - 120)	20
ETHYLBENZENE	<0.5	10.0	9.9	99	9.6	96	3	(80 - 120)	20
TOTAL XYLENES	<0.5	30.0	29.9	100	29.0	97	3	(80 - 120)	20

CHEMIST NOTES:
N/A

$$\% \text{ Recovery} = \frac{\text{(Spike Sample Result - Sample Result)}}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{\text{(Sample Result - Duplicate Result)}}{\text{Average Result}} \times 100$$

GAS CHROMOTOGRAPHY QUALITY CONTROL
MSMSD

TEST	: BTEX, MTBE (EPA 8020)		
MSMSD #	: 707353-21	AEN I.D.	: 707353
CLIENT	: MARATHON OIL COMPANY	DATE EXRACTED	: NA
PROJECT #	: 023350224	DATE ANALYZED	: 7/23/97
PROJECT NAME	: Indian Basin Remediation	SAMPLE MATRIX	: AQUEOUS
		UNITS	: UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<0.5	10.0	9.6	96	9.4	94	2	(80 - 120)	20
TOLUENE	<0.5	10.0	9.3	93	9.1	91	2	(80 - 120)	20
ETHYLBENZENE	<0.5	10.0	9.7	97	9.6	96	1	(80 - 120)	20
TOTAL XYLENES	<0.5	30.0	30.0	100	29.3	98	2	(80 - 120)	20

CHEMIST NOTES:
N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8240		
CLIENT	: MARATHON OIL CO.	AEN I.D. :	707353
PROJECT #	: 023350224	DATE RECEIVED :	7/21/97
PROJECT NAME	: INDIAN BASIN REMEDIATION		

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
707353-33	MW-50	AQUEOUS	7/18/97	N/A	07/23/97	1

PARAMETER	DET. LIMIT		UNITS
Dichlorodifluoromethane	1.0	< 1.0	ug/L
Chloromethane	1.0	< 1.0	ug/L
Vinyl Chloride	1.0	< 1.0	ug/L
Bromomethane	1.0	< 1.0	ug/L
Chloroethane	1.0	< 1.0	ug/L
Trichlorofluoromethane	1.0	< 1.0	ug/L
Acetone	10	< 10	ug/L
1,1-Dichloroethene	1.0	< 1.0	ug/L
Iodomethane	1.0	< 1.0	ug/L
Methylene Chloride	1.0	< 1.0	ug/L
cis-1,2-Dichloroethene	1.0	< 1.0	ug/L
1,1-Dichloroethane	1.0	< 1.0	ug/L
trans-1,2-Dichloroethene	1.0	< 1.0	ug/L
2-Butanone	10	< 10	ug/L
Carbon Disulfide	1.0	< 1.0	ug/L
Chloroform	1.0	< 1.0	ug/L
1,2-Dichloroethane	1.0	< 1.0	ug/L
Vinyl Acetate	1.0	< 1.0	ug/L
1,1,1-Trichloroethane	1.0	< 1.0	ug/L
Carbon Tetrachloride	1.0	< 1.0	ug/L
Benzene	1.0	< 1.0	ug/L
1,2-Dichloropropane	1.0	< 1.0	ug/L
Trichloroethene	1.0	< 1.0	ug/L
Bromodichloromethane	1.0	< 1.0	ug/L
2-Chloroethyl Vinyl Ether	10	< 10	ug/L
cis-1,3-Dichloropropene	1.0	< 1.0	ug/L
trans-1,3-Dichloropropene	1.0	< 1.0	ug/L
1,1,2-Trichloroethane	1.0	< 1.0	ug/L
Toluene	1.0	< 1.0	ug/L
1,2-Dibromoethane	1.0	< 1.0	ug/L
4-Methyl-2-Pentanone	10	< 10	ug/L
2-Hexanone	10	< 10	ug/L
Dibromochloromethane	1.0	< 1.0	ug/L
Tetrachloroethene	1.0	< 1.0	ug/L
Chlorobenzene	1.0	< 1.0	ug/L
Ethylbenzene	1.0	< 1.0	ug/L
m&p Xylenes	1.0	< 1.0	ug/L
o-Xylene	1.0	< 1.0	ug/L
Styrene	1.0	< 1.0	ug/L
Bromoform	1.0	< 1.0	ug/L

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8240		
CLIENT	: MARATHON OIL CO.	AEN I.D. :	707353
PROJECT #	: 023350224	DATE RECEIVED :	7/21/97
PROJECT NAME	: INDIAN BASIN REMEDIATION		

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
707353-33	MW-50	AQUEOUS	7/18/97	N/A	07/23/97	1

PARAMETER	DET. LIMIT		UNITS
1,1,2,2-Tetrachloroethane	1.0	< 1.0	ug/L
1,3-Dichlorobenzene	1.0	< 1.0	ug/L
1,4-Dichlorobenzene	1.0	< 1.0	ug/L
1,2-Dichlorobenzene	1.0	< 1.0	ug/L

SURROGATE % RECOVERY

1,2-Dichloroethane-d4	86	(76 - 114)
Toluene-d8	95	(88 - 110)
Bromofluorobenzene	105	(86 - 115)

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8240		
CLIENT	: MARATHON OIL CO.	AEN I.D. :	707353
PROJECT #	: 023350224	DATE RECEIVED :	7/21/97
PROJECT NAME	: INDIAN BASIN REMEDIATION		

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
707353-34	MW-49	AQUEOUS	7/18/97	N/A	07/23/97	1

PARAMETER	DET. LIMIT		UNITS
Dichlorodifluoromethane	1.0	< 1.0	ug/L
Chloromethane	1.0	< 1.0	ug/L
Vinyl Chloride	1.0	< 1.0	ug/L
Bromomethane	1.0	< 1.0	ug/L
Chloroethane	1.0	< 1.0	ug/L
Trichlorofluoromethane	1.0	< 1.0	ug/L
Acetone	10	< 10	ug/L
1,1-Dichloroethene	1.0	< 1.0	ug/L
Iodomethane	1.0	< 1.0	ug/L
Methylene Chloride	1.0	< 1.0	ug/L
cis-1,2-Dichloroethene	1.0	< 1.0	ug/L
1,1-Dichloroethane	1.0	< 1.0	ug/L
trans-1,2-Dichloroethene	1.0	< 1.0	ug/L
2-Butanone	10	< 10	ug/L
Carbon Disulfide	1.0	< 1.0	ug/L
Chloroform	1.0	< 1.0	ug/L
1,2-Dichloroethane	1.0	< 1.0	ug/L
Vinyl Acetate	1.0	< 1.0	ug/L
1,1,1-Trichloroethane	1.0	< 1.0	ug/L
Carbon Tetrachloride	1.0	< 1.0	ug/L
Benzene	1.0	**130**	**ug/L**
1,2-Dichloropropane	1.0	< 1.0	ug/L
Trichloroethene	1.0	< 1.0	ug/L
Bromodichloromethane	1.0	< 1.0	ug/L
2-Chloroethyl Vinyl Ether	10	< 10	ug/L
cis-1,3-Dichloropropene	1.0	< 1.0	ug/L
trans-1,3-Dichloropropene	1.0	< 1.0	ug/L
1,1,2-Trichloroethane	1.0	< 1.0	ug/L
Toluene	1.0	< 1.0	ug/L
1,2-Dibromoethane	1.0	< 1.0	ug/L
4-Methyl-2-Pentanone	10	< 10	ug/L
2-Hexanone	10	< 10	ug/L
Dibromochloromethane	1.0	< 1.0	ug/L
Tetrachloroethene	1.0	< 1.0	ug/L
Chlorobenzene	1.0	< 1.0	ug/L
Ethylbenzene	1.0	**35**	**ug/L**
m&p Xylenes	1.0	**9.8**	**ug/L**
o-Xylene	1.0	< 1.0	ug/L
Styrene	1.0	< 1.0	ug/L
Bromoform	1.0	< 1.0	ug/L

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8240		
CLIENT	: MARATHON OIL CO.	AEN I.D. :	707353
PROJECT #	: 023350224	DATE RECEIVED :	7/21/97
PROJECT NAME	: INDIAN BASIN REMEDIATION		

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
707353-34	MW-49	AQUEOUS	7/18/97	N/A	07/23/97	1

PARAMETER	DET. LIMIT		UNITS
1,1,2,2-Tetrachloroethane	1.0	< 1.0	ug/L
1,3-Dichlorobenzene	1.0	< 1.0	ug/L
1,4-Dichlorobenzene	1.0	< 1.0	ug/L
1,2-Dichlorobenzene	1.0	< 1.0	ug/L

SURROGATE % RECOVERY	
1,2-Dichloroethane-d4	111 (76 - 114)
Toluene-d8	89 (88 - 110)
Bromofluorobenzene	101 (86 - 115)

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8240		
CLIENT	: MARATHON OIL CO.	AEN I.D. :	707353
PROJECT #	: 023350224	DATE RECEIVED :	7/21/97
PROJECT NAME	: INDIAN BASIN REMEDIATION		

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
707353-35	MW-44	AQUEOUS	7/18/97	N/A	07/23/97	10

PARAMETER	DET. LIMIT		UNITS
Dichlorodifluoromethane	1.0	< 10	ug/L
Chloromethane	1.0	< 10	ug/L
Vinyl Chloride	1.0	< 10	ug/L
Bromomethane	1.0	< 10	ug/L
Chloroethane	1.0	< 10	ug/L
Trichlorofluoromethane	1.0	< 10	ug/L
Acetone	10	< 100	ug/L
1,1-Dichloroethene	1.0	< 10	ug/L
Iodomethane	1.0	< 10	ug/L
Methylene Chloride	1.0	< 10	ug/L
cis-1,2-Dichloroethene	1.0	< 10	ug/L
1,1-Dichloroethane	1.0	< 10	ug/L
trans-1,2-Dichloroethene	1.0	< 10	ug/L
2-Butanone	10	< 100	ug/L
Carbon Disulfide	1.0	< 10	ug/L
Chloroform	1.0	< 10	ug/L
1,2-Dichloroethane	1.0	< 10	ug/L
Vinyl Acetate	1.0	< 10	ug/L
1,1,1-Trichloroethane	1.0	< 10	ug/L
Carbon Tetrachloride	1.0	< 10	ug/L
Benzene	1.0	**750**	**ug/L**
1,2-Dichloropropane	1.0	< 10	ug/L
Trichloroethene	1.0	< 10	ug/L
Bromodichloromethane	1.0	< 10	ug/L
2-Chloroethyl Vinyl Ether	10	< 100	ug/L
cis-1,3-Dichloropropene	1.0	< 10	ug/L
trans-1,3-Dichloropropene	1.0	< 10	ug/L
1,1,2-Trichloroethane	1.0	< 10	ug/L
Toluene	1.0	< 10	ug/L
1,2-Dibromoethane	1.0	< 10	ug/L
4-Methyl-2-Pentanone	10	< 100	ug/L
2-Hexanone	10	< 100	ug/L
Dibromochloromethane	1.0	< 10	ug/L
Tetrachloroethene	1.0	< 10	ug/L
Chlorobenzene	1.0	< 10	ug/L
Ethylbenzene	1.0	**45**	**ug/L**
m&p Xylenes	1.0	< 10	ug/L
o-Xylene	1.0	< 10	ug/L
Styrene	1.0	< 10	ug/L
Bromoform	1.0	< 10	ug/L

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8240		
CLIENT	: MARATHON OIL CO.	AEN I.D. :	707353
PROJECT #	: 023350224	DATE RECEIVED :	7/21/97
PROJECT NAME	: INDIAN BASIN REMEDIATION		

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
707353-35	MW-44	AQUEOUS	7/18/97	N/A	07/23/97	10

PARAMETER	DET. LIMIT		UNITS
1,1,2,2-Tetrachloroethane	1.0	< 10	ug/L
1,3-Dichlorobenzene	1.0	< 10	ug/L
1,4-Dichlorobenzene	1.0	< 10	ug/L
1,2-Dichlorobenzene	1.0	< 10	ug/L

SURROGATE % RECOVERY	
1,2-Dichloroethane-d4	96 (76 - 114)
Toluene-d8	92 (88 - 110)
Bromofluorobenzene	106 (86 - 115)

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8240		
CLIENT	: MARATHON OIL CO.	AEN I.D. :	707353
PROJECT #	: 023350224	DATE RECEIVED :	7/21/97
PROJECT NAME	: INDIAN BASIN REMEDIATION		

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
707353-36	MW-43	AQUEOUS	7/18/97	N/A	07/23/97	1

PARAMETER	DET. LIMIT		UNITS
Dichlorodifluoromethane	1.0	< 1.0	ug/L
Chloromethane	1.0	< 1.0	ug/L
Vinyl Chloride	1.0	< 1.0	ug/L
Bromomethane	1.0	< 1.0	ug/L
Chloroethane	1.0	< 1.0	ug/L
Trichlorofluoromethane	1.0	< 1.0	ug/L
Acetone	10	< 10	ug/L
1,1-Dichloroethene	1.0	< 1.0	ug/L
Iodomethane	1.0	< 1.0	ug/L
Methylene Chloride	1.0	< 1.0	ug/L
cis-1,2-Dichloroethene	1.0	< 1.0	ug/L
1,1-Dichloroethane	1.0	< 1.0	ug/L
trans-1,2-Dichloroethene	1.0	< 1.0	ug/L
2-Butanone	10	< 10	ug/L
Carbon Disulfide	1.0	< 1.0	ug/L
Chloroform	1.0	< 1.0	ug/L
1,2-Dichloroethane	1.0	< 1.0	ug/L
Vinyl Acetate	1.0	< 1.0	ug/L
1,1,1-Trichloroethane	1.0	< 1.0	ug/L
Carbon Tetrachloride	1.0	< 1.0	ug/L
Benzene	1.0	**110**	**ug/L**
1,2-Dichloropropane	1.0	< 1.0	ug/L
Trichloroethene	1.0	< 1.0	ug/L
Bromodichloromethane	1.0	< 1.0	ug/L
2-Chloroethyl Vinyl Ether	10	< 10	ug/L
cis-1,3-Dichloropropene	1.0	< 1.0	ug/L
trans-1,3-Dichloropropene	1.0	< 1.0	ug/L
1,1,2-Trichloroethane	1.0	< 1.0	ug/L
Toluene	1.0	< 1.0	ug/L
1,2-Dibromoethane	1.0	< 1.0	ug/L
4-Methyl-2-Pentanone	10	< 10	ug/L
2-Hexanone	10	< 10	ug/L
Dibromochloromethane	1.0	< 1.0	ug/L
Tetrachloroethene	1.0	< 1.0	ug/L
Chlorobenzene	1.0	< 1.0	ug/L
Ethylbenzene	1.0	**4.1**	**ug/L**
m&p Xylenes	1.0	< 1.0	ug/L
o-Xylene	1.0	< 1.0	ug/L
Styrene	1.0	< 1.0	ug/L
Bromoform	1.0	< 1.0	ug/L

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8240		
CLIENT	: MARATHON OIL CO.	AEN I.D. :	707353
PROJECT #	: 023350224	DATE RECEIVED :	7/21/97
PROJECT NAME	: INDIAN BASIN REMEDIATION		

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
707353-36	MW-43	AQUEOUS	7/18/97	N/A	07/23/97	1

PARAMETER	DET. LIMIT		UNITS
1,1,2,2-Tetrachloroethane	1.0	< 1.0	ug/L
1,3-Dichlorobenzene	1.0	< 1.0	ug/L
1,4-Dichlorobenzene	1.0	< 1.0	ug/L
1,2-Dichlorobenzene	1.0	< 1.0	ug/L

SURROGATE % RECOVERY	
1,2-Dichloroethane-d4	99 (76 - 114)
Toluene-d8	92 (88 - 110)
Bromofluorobenzene	107 (86 - 115)

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8240		
CLIENT	: MARATHON OIL CO.	AEN I.D. :	707353
PROJECT #	: 023350224	DATE RECEIVED :	7/21/97
PROJECT NAME	: INDIAN BASIN REMEDIATION		

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
707353-39	MW-46	AQUEOUS	7/18/97	N/A	07/23/97	50

PARAMETER	DET. LIMIT		UNITS
Dichlorodifluoromethane	1.0	< 50	ug/L
Chloromethane	1.0	< 50	ug/L
Vinyl Chloride	1.0	< 50	ug/L
Bromomethane	1.0	< 50	ug/L
Chloroethane	1.0	< 50	ug/L
Trichlorofluoromethane	1.0	< 50	ug/L
Acetone	10	< 500	ug/L
1,1-Dichloroethene	1.0	< 50	ug/L
Iodomethane	1.0	< 50	ug/L
Methylene Chloride	1.0	< 50	ug/L
cis-1,2-Dichloroethene	1.0	< 50	ug/L
1,1-Dichloroethane	1.0	< 50	ug/L
trans-1,2-Dichloroethene	1.0	< 50	ug/L
2-Butanone	10	< 500	ug/L
Carbon Disulfide	1.0	< 50	ug/L
Chloroform	1.0	< 50	ug/L
1,2-Dichloroethane	1.0	< 50	ug/L
Vinyl Acetate	1.0	< 50	ug/L
1,1,1-Trichloroethane	1.0	< 50	ug/L
Carbon Tetrachloride	1.0	< 50	ug/L
Benzene	1.0	**6100**	**ug/L**
1,2-Dichloropropane	1.0	< 50	ug/L
Trichloroethene	1.0	< 50	ug/L
Bromodichloromethane	1.0	< 50	ug/L
2-Chloroethyl Vinyl Ether	10	< 500	ug/L
cis-1,3-Dichloropropene	1.0	< 50	ug/L
trans-1,3-Dichloropropene	1.0	< 50	ug/L
1,1,2-Trichloroethane	1.0	< 50	ug/L
Toluene	1.0	**1900**	**ug/L**
1,2-Dibromoethane	1.0	< 50	ug/L
4-Methyl-2-Pentanone	10	< 500	ug/L
2-Hexanone	10	< 500	ug/L
Dibromochloromethane	1.0	< 50	ug/L
Tetrachloroethene	1.0	< 50	ug/L
Chlorobenzene	1.0	< 50	ug/L
Ethylbenzene	1.0	**270**	**ug/L**
m&p Xylenes	1.0	**130**	**ug/L**
o-Xylene	1.0	< 50	ug/L
Styrene	1.0	< 50	ug/L
Bromoform	1.0	< 50	ug/L

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8240		
CLIENT	: MARATHON OIL CO.	AEN I.D. :	707353
PROJECT #	: 023350224	DATE RECEIVED :	7/21/97
PROJECT NAME	: INDIAN BASIN REMEDIATION		

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
707353-39	MW-46	AQUEOUS	7/18/97	N/A	07/23/97	50

PARAMETER	DET. LIMIT		UNITS
1,1,2,2-Tetrachloroethane	1.0	< 50	ug/L
1,3-Dichlorobenzene	1.0	< 50	ug/L
1,4-Dichlorobenzene	1.0	< 50	ug/L
1,2-Dichlorobenzene	1.0	< 50	ug/L

SURROGATE % RECOVERY		
1,2-Dichloroethane-d4	108	(76 - 114)
Toluene-d8	89	(88 - 110)
Bromofluorobenzene	102	(86 - 115)

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8240		
CLIENT	: MARATHON OIL CO.	AEN I.D. :	707353
PROJECT #	: 023350224		
PROJECT NAME	: INDIAN BASIN REMEDIATION		

SAMPLE ID #	BATCH	MATRIX	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
REAGENT BLANK	071797	AQUEOUS	N/A	07/17/97	1

PARAMETER	DET. LIMIT		UNITS
Dichlorodifluoromethane	1.0	< 1.0	ug/L
Chloromethane	1.0	< 1.0	ug/L
Vinyl Chloride	1.0	< 1.0	ug/L
Bromomethane	1.0	< 1.0	ug/L
Chloroethane	1.0	< 1.0	ug/L
Trichlorofluoromethane	1.0	< 1.0	ug/L
Acetone	10	< 10	ug/L
1,1-Dichloroethene	1.0	< 1.0	ug/L
Iodomethane	1.0	< 1.0	ug/L
Methylene Chloride	1.0	< 1.0	ug/L
cis-1,2-Dichloroethene	1.0	< 1.0	ug/L
1,1-Dichloroethane	1.0	< 1.0	ug/L
trans-1,2-Dichloroethene	1.0	< 1.0	ug/L
2-Butanone	10	< 10	ug/L
Carbon Disulfide	1.0	< 1.0	ug/L
Chloroform	1.0	< 1.0	ug/L
1,2-Dichloroethane	1.0	< 1.0	ug/L
Vinyl Acetate	1.0	< 1.0	ug/L
1,1,1-Trichloroethane	1.0	< 1.0	ug/L
Carbon Tetrachloride	1.0	< 1.0	ug/L
Benzene	1.0	< 1.0	ug/L
1,2-Dichloropropane	1.0	< 1.0	ug/L
Trichloroethene	1.0	< 1.0	ug/L
Bromodichloromethane	1.0	< 1.0	ug/L
2-Chloroethyl Vinyl Ether	10	< 10	ug/L
cis-1,3-Dichloropropene	1.0	< 1.0	ug/L
trans-1,3-Dichloropropene	1.0	< 1.0	ug/L
1,1,2-Trichloroethane	1.0	< 1.0	ug/L
Toluene	1.0	< 1.0	ug/L
1,2-Dibromoethane	1.0	< 1.0	ug/L
4-Methyl-2-Pentanone	10	< 10	ug/L
2-Hexanone	10	< 10	ug/L
Dibromochloromethane	1.0	< 1.0	ug/L
Tetrachloroethene	1.0	< 1.0	ug/L
Chlorobenzene	1.0	< 1.0	ug/L
Ethylbenzene	1.0	< 1.0	ug/L
m&p Xylenes	1.0	< 1.0	ug/L
o-Xylene	1.0	< 1.0	ug/L
Styrene	1.0	< 1.0	ug/L
Bromoform	1.0	< 1.0	ug/L

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8240		
CLIENT	: MARATHON OIL CO.	AEN I.D. :	707353
PROJECT #	: 023350224		
PROJECT NAME	: INDIAN BASIN REMEDIATION		

SAMPLE ID #	BATCH	MATRIX	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
REAGENT BLANK	071797	AQUEOUS	N/A	07/17/97	1

PARAMETER	DET. LIMIT		UNITS
1,1,2,2-Tetrachloroethane	1.0	< 1.0	ug/L
1,3-Dichlorobenzene	1.0	< 1.0	ug/L
1,4-Dichlorobenzene	1.0	< 1.0	ug/L
1,2-Dichlorobenzene	1.0	< 1.0	ug/L

SURROGATE % RECOVERY	
1,2-Dichloroethane-d4	84 (76 - 114)
Toluene-d8	102 (88 - 110)
Bromofluorobenzene	100 (86 - 115)

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8240		
CLIENT	: MARATHON OIL CO.	AEN I.D. :	707353
PROJECT #	: 023350224		
PROJECT NAME	: INDIAN BASIN REMEDIATION		

SAMPLE ID #	BATCH	MATRIX	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
REAGENT BLANK	072297	AQUEOUS	N/A	07/22/97	1

PARAMETER	DET. LIMIT		UNITS
Dichlorodifluoromethane	1.0	< 1.0	ug/L
Chloromethane	1.0	< 1.0	ug/L
Vinyl Chloride	1.0	< 1.0	ug/L
Bromomethane	1.0	< 1.0	ug/L
Chloroethane	1.0	< 1.0	ug/L
Trichlorofluoromethane	1.0	< 1.0	ug/L
Acetone	10	< 10	ug/L
1,1-Dichloroethene	1.0	< 1.0	ug/L
Iodomethane	1.0	< 1.0	ug/L
Methylene Chloride	1.0	< 1.0	ug/L
cis-1,2-Dichloroethene	1.0	< 1.0	ug/L
1,1-Dichloroethane	1.0	< 1.0	ug/L
trans-1,2-Dichloroethene	1.0	< 1.0	ug/L
2-Butanone	10	< 10	ug/L
Carbon Disulfide	1.0	< 1.0	ug/L
Chloroform	1.0	< 1.0	ug/L
1,2-Dichloroethane	1.0	< 1.0	ug/L
Vinyl Acetate	1.0	< 1.0	ug/L
1,1,1-Trichloroethane	1.0	< 1.0	ug/L
Carbon Tetrachloride	1.0	< 1.0	ug/L
Benzene	1.0	< 1.0	ug/L
1,2-Dichloropropane	1.0	< 1.0	ug/L
Trichloroethene	1.0	< 1.0	ug/L
Bromodichloromethane	1.0	< 1.0	ug/L
2-Chloroethyl Vinyl Ether	10	< 10	ug/L
cis-1,3-Dichloropropene	1.0	< 1.0	ug/L
trans-1,3-Dichloropropene	1.0	< 1.0	ug/L
1,1,2-Trichloroethane	1.0	< 1.0	ug/L
Toluene	1.0	< 1.0	ug/L
1,2-Dibromoethane	1.0	< 1.0	ug/L
4-Methyl-2-Pentanone	10	< 10	ug/L
2-Hexanone	10	< 10	ug/L
Dibromochloromethane	1.0	< 1.0	ug/L
Tetrachloroethene	1.0	< 1.0	ug/L
Chlorobenzene	1.0	< 1.0	ug/L
Ethylbenzene	1.0	< 1.0	ug/L
m&p Xylenes	1.0	< 1.0	ug/L
o-Xylene	1.0	< 1.0	ug/L
Styrene	1.0	< 1.0	ug/L
Bromoform	1.0	< 1.0	ug/L

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8240		
CLIENT	: MARATHON OIL CO.	AEN I.D. :	707353
PROJECT #	: 023350224		
PROJECT NAME	: INDIAN BASIN REMEDIATION		

SAMPLE ID #	BATCH	MATRIX	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
REAGENT BLANK	072297	AQUEOUS	N/A	07/22/97	1

PARAMETER	DET. LIMIT		UNITS
1,1,2,2-Tetrachloroethane	1.0	< 1.0	ug/L
1,3-Dichlorobenzene	1.0	< 1.0	ug/L
1,4-Dichlorobenzene	1.0	< 1.0	ug/L
1,2-Dichlorobenzene	1.0	< 1.0	ug/L

SURROGATE % RECOVERY	
1,2-Dichloroethane-d4	91
	(76 - 114)
Toluene-d8	90
	(88 - 110)
Bromofluorobenzene	104
	(86 - 115)

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8240		
CLIENT	: MARATHON OIL CO.	AEN I.D. :	707353
PROJECT #	: 023350224		
PROJECT NAME	: INDIAN BASIN REMEDIATION		

SAMPLE ID #	BATCH	MATRIX	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
REAGENT BLANK	072397	AQUEOUS	N/A	07/23/97	1

PARAMETER	DET. LIMIT		UNITS
Dichlorodifluoromethane	1.0	< 1.0	ug/L
Chloromethane	1.0	< 1.0	ug/L
Vinyl Chloride	1.0	< 1.0	ug/L
Bromomethane	1.0	< 1.0	ug/L
Chloroethane	1.0	< 1.0	ug/L
Trichlorofluoromethane	1.0	< 1.0	ug/L
Acetone	10	< 10	ug/L
1,1-Dichloroethene	1.0	< 1.0	ug/L
Iodomethane	1.0	< 1.0	ug/L
Methylene Chloride	1.0	< 1.0	ug/L
cis-1,2-Dichloroethene	1.0	< 1.0	ug/L
1,1-Dichloroethane	1.0	< 1.0	ug/L
trans-1,2-Dichloroethene	1.0	< 1.0	ug/L
2-Butanone	10	< 10	ug/L
Carbon Disulfide	1.0	< 1.0	ug/L
Chloroform	1.0	< 1.0	ug/L
1,2-Dichloroethane	1.0	< 1.0	ug/L
Vinyl Acetate	1.0	< 1.0	ug/L
1,1,1-Trichloroethane	1.0	< 1.0	ug/L
Carbon Tetrachloride	1.0	< 1.0	ug/L
Benzene	1.0	< 1.0	ug/L
1,2-Dichloropropane	1.0	< 1.0	ug/L
Trichloroethene	1.0	< 1.0	ug/L
Bromodichloromethane	1.0	< 1.0	ug/L
2-Chloroethyl Vinyl Ether	10	< 10	ug/L
cis-1,3-Dichloropropene	1.0	< 1.0	ug/L
trans-1,3-Dichloropropene	1.0	< 1.0	ug/L
1,1,2-Trichloroethane	1.0	< 1.0	ug/L
Toluene	1.0	< 1.0	ug/L
1,2-Dibromoethane	1.0	< 1.0	ug/L
4-Methyl-2-Pentanone	10	< 10	ug/L
2-Hexanone	10	< 10	ug/L
Dibromochloromethane	1.0	< 1.0	ug/L
Tetrachloroethene	1.0	< 1.0	ug/L
Chlorobenzene	1.0	< 1.0	ug/L
Ethylbenzene	1.0	< 1.0	ug/L
m&p Xylenes	1.0	< 1.0	ug/L
o-Xylene	1.0	< 1.0	ug/L
Styrene	1.0	< 1.0	ug/L
Bromoform	1.0	< 1.0	ug/L

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8240		
CLIENT	: MARATHON OIL CO.	AEN I.D. :	707353
PROJECT #	: 023350224		
PROJECT NAME	: INDIAN BASIN REMEDIATION		

SAMPLE ID #	BATCH	MATRIX	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
REAGENT BLANK	072397	AQUEOUS	N/A	07/23/97	1

PARAMETER	DET. LIMIT		UNITS
1,1,2,2-Tetrachloroethane	1.0	< 1.0	ug/L
1,3-Dichlorobenzene	1.0	< 1.0	ug/L
1,4-Dichlorobenzene	1.0	< 1.0	ug/L
1,2-Dichlorobenzene	1.0	< 1.0	ug/L

SURROGATE % RECOVERY	
1,2-Dichloroethane-d4	104 (76 - 114)
Toluene-d8	88 (88 - 110)
Bromofluorobenzene	106 (86 - 115)

Spike Recovery and RPD Summary Report - WATER

Method : C:\HPCHEM\1\METHODS\8260E4.M (RTE Integrator)
Title : AEN New Mexico GC/MS
Last Update : Thu Jul 17 09:55:57 1997
Response via : Initial Calibration

Non-Spiked Sample: WRB03.D

	Spike Sample	Spike Duplicate Sample
File ID :	WBS01.D	WBS02.D
Sample :	WBS 071797	WBSD 071797
Acq Time:	18 Jul 97 7:57 am	18 Jul 97 8:35 am

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC Limits RPD	QC Limits % Rec
1,1-Dichloroethene	0.0	50	66	61	131	123	7	14	61-145
Benzene	0.2	50	60	57	120	114	5	11	76-127
Trichloroethene	0.2	50	58	55	115	110	5	14	71-120
Toluene	0.3	50	60	58	119	116	3	13	76-125
Chlorobenzene	0.2	50	49	48	97	95	3	13	75-130

- Fails Limit Check

American Environmental Network (NM), Inc.
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CHAIN OF CUSTODY

DATE: 7/15-16/97 PAGE: 1 OF 5

AEN LAB I.D. 70735[redacted]

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: Bob Marque

COMPANY: Marathon O/C
ADDRESS: Po Box 552
Midland Tx 79702
PHONE: (915) 687-8312
FAX: (915) 687-8305

BILL TO:
COMPANY: Same As Above
ADDRESS:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct/Inject	(M8015) Gas/Purge & Trap	Gasoline (BTEX & MTBE (M8015/8020))	BTXE/MTBE (8020)	BTEX & Chlorinated Aromatics (602/8020)	BTEX/MTBE/EDC & EDB (8020/8010/Short)	Chlorinated Hydrocarbons (601/8010)	Chlorides 325.2	504 EDB [ ] / DBCP [ ]	Polynuclear Aromatics (610/8310)	Volatile Organics (624/8240) GC/MS	Volatile Organics (8260) GC/MS	PAHs 8310	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	General Chemistry:			Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals:		NUMBER OF CONTAINERS
DI H2O	7/15/97	1330	Water	-01				X																						2
Int RB		1345		-02				X																						2
MW-57		1440		-03				X					X																	4
MW-57RB		1505		-04				X					X																	4
MW-60		1600		-05				X					X																	4
MW-60RB		1615		-06				X																						2
MW-61A		1705		-07				X					X																	4
MW-61ARB	7/16/97	0845		-08				X																						2
MW-63		0955		-09				X					X																	4
MW-63 RB		1020		-10				X																						2

PROJECT INFORMATION	
PROJ. NO.:	02325022H
PROJ. NAME:	Indian Basin Remediation
P.O. NO.:	
SHIPPED VIA:	

SAMPLE RECEIPT	
NO. CONTAINERS	28
CUSTODY SEALS	Y/N/NA
RECEIVED INTACT	yes
BLUE ICE/ICE	Y/N

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) [ ] 24hr [ ] 48hr [ ] 72hr [ ] 1 WEEK (NORMAL) X

CERTIFICATION REQUIRED: [ ] NM [ ] SDWA [ ] OTHER

METHANOL PRESERVATION [ ]

COMMENTS: FIXED FEE [ ]

From Field

RELINQUISHED BY: 1.	
Signature:	Time: 1030
Printed Name: Kevin Cobb	Date: 7/21/97
Company: FPGTF	

RECEIVED BY: 1.	
Signature:	Time:
Printed Name:	Date:
Company:	

RELINQUISHED BY: 2	
Signature:	
Printed Name:	Date:
Company:	

RECEIVED BY: (LAB) 2	
Signature:	Time: 10:30
Printed Name: Brad Poole	Date: 7-21-97
American Environmental Network (NM), Inc.	

American Environmental Network (NM), Inc.
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CHAIN OF CUSTODY

DATE: 7/16-17/97 PAGE: 2 OF 5

AEN LAB I.D. 707353

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PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: Bob Menzie

COMPANY: Marathon O.C
ADDRESS: PO Box 552
Midland TX 79702
PHONE: (915) 687-8312
FAX: (915) 687-8305

BILL TO:
COMPANY:
ADDRESS: Same As Above

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	BTEX/~~MTBE~~ (8020)	Chloride 325.2	PAH's 8310	NUMBER OF CONTAINERS
MW-66	7/16/97	1140	water	-11	X	X		4
MW-64	↓	1210	↓	-12	X	X		4
MW-66RB	↓	1230	↓	-13	X			2
MW-67	↓	1335	↓	-14	X	X		4
MW-67RB	↓	1400	↓	-15	X			2
MW-55	↓	1450	↓	-16	X	X	X	6
MW-55RB	↓	1520	↓	-17	X	X (struck, KK)	X (struck, KK)	2
MW-54	↓	1620	↓	-18	X	X	X	6
MW-54RB	7/17/97	0810	↓	-19	X			2
MW-90	↓	0845	↓	-20	X	X		4

Other analysis columns (not marked): Petroleum Hydrocarbons (418.1) TRPH; (MOD.8015) Diesel/Direct/Inject; (M8015) Gas/Purge & Trap; Gasoline/BTEX & MTBE (M8015/8020); BTEX & Chlorinated Aromatics (602/8020); BTEX/MTBE/EDC & EDB (8020/8010/Short); Chlorinated Hydrocarbons (601/8010); 504 EDB ☐ / DBCP ☐; Polynuclear Aromatics (610/8310); Volatile Organics (624/8240) GC/MS; Volatile Organics (8260) GC/MS; Pesticides/PCB (608/8080); Herbicides (615/8150); Base/Neutral/Acid Compounds GC/MS (625/8270); General Chemistry:; Priority Pollutant Metals (13); Target Analyte List Metals (23); RCRA Metals (8); RCRA Metals by TCLP (Method 1311); Metals:

PROJECT INFORMATION

PROJ. NO. 02335 0224
PROJ. NAME: Indian Basin Remediation
P.O. NO.:
SHIPPED VIA:

SAMPLE RECEIPT
NO. CONTAINERS: 36
CUSTODY SEALS: Y/N/NA
RECEIVED INTACT: yes
BLUE ICE/ICE: 4°

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) [ ] 24hr [ ] 48hr [ ] 72hr [ ] 1 WEEK (NORMAL) [X]
CERTIFICATION REQUIRED: [ ] NM [ ] SDWA [ ] OTHER
METHANOL PRESERVATION [ ]
COMMENTS: FIXED FEE [ ]
From Field

RELINQUISHED BY: 1.
Signature: Kevin Cook Time: 1030
Printed Name: Kevin Cook Date: 7/21/97
Company: EOTT

RECEIVED BY: 1.
Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 2.
Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: (LAB) 2.
Signature: [signature] Time: 1030
Printed Name: Brian Price Date: 7-21-97
American Environmental Network (NM), Inc.

4/1/96 AEN Inc.: American Environmental Network (NM), Inc. • 2709-D Pan American Freeway, NE • Albuquerque, New Mexico 87107

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CHAIN OF CUSTODY

DATE: 7/12/97 PAGE: 3 OF 5

AEN LAB I.D. 70235[illegible]

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: Bob Mezzie

COMPANY: Marathon OC
ADDRESS: PO Box 552
Midland TX 79702
PHONE: (915) 687-8312
FAX: (915) 687-8305

BILL TO:
COMPANY:
ADDRESS: Spare RB Above

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct/Inject	(M8015) Gas/Purge & Trap	Gasoline (BTEX & MTBE (M8015/8020))	BTXE/MTBE (8020)	BTEX & Chlorinated Aromatics (602/8020)	BTEX/MTBE/EDC & EDB (8020/8010/Short)	Chlorinated Hydrocarbons (601/8010)	Chlorine 325.2	504 EDB / DBCP	Polynuclear Aromatics (610/8310)	Volatile Organics (624/8240) GC/MS	Volatile Organics (8260) GC/MS	PAHs 8310	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Cations/Anions	General Chemistry:				Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals:	NUMBER OF CONTAINERS
MW-79	7/12/97	0820	WATER	-21				X					X					X				X										2
MW-80 RB		0930		-22				X					X																			2
MW-78		1035		-23				X					X																			2
MW-78RB		1100		-24				X																								2
MW-61		1145		-25				X					X																			2
MW-61RB		1205		-26				X																								2
MW-71		1430		-27				X					X																			2
MW-71RB		1510		-28				X																								2
MW-104		1645		-29				X					X					X				X										2
MW-104RB	↓	1715	↓	-30				X																								2

PROJECT INFORMATION	
PROJ NO:	02335022V
PROJ NAME:	Indian Basin Remediation
PO NO:	
SHIPPED VIA:	

SAMPLE RECEIPT	
NO. CONTAINERS	36
CUSTODY SEALS	Y/N/NA
RECEIVED INTACT	yes
BLUE ICE/ICE	ice

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) [ ]24hr [ ]48hr [ ]72hr [ ]1 WEEK (NORMAL) X

CERTIFICATION REQUIRED: [ ]NM [ ]SDWA [ ]OTHER

METHANOL PRESERVATION [ ]

COMMENTS: FIXED FEE [ ]

From Field

RELINQUISHED BY: 1.	
Signature	Time 1030
Printed Name Kevin Cook	Date 7/12/97
Company FOCUS	

RECEIVED BY: 1.	
Signature	Time
Printed Name	Date
Company	

RELINQUISHED BY: 2.	
Signature	
Printed Name	Date
Company	

RECEIVED BY: (LAB) 2.	
Signature	Time 10:30
Printed Name Brian Price	Date 7-21-97
American Environmental Network (NM), Inc.	

DISTRIBUTION White, Canary - AEN Pink - ORIGINATOR

American Environmental Network (NM), Inc.
Albuquerque • Phoenix • Pensacola • Portland • Pleasant Hills • Columbia

CHAIN OF CUSTODY

DATE: 7/17-18/97 PAGE: 4 OF 5

AEN LAB I.D. 707353

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: Bob Marzic

COMPANY: Marathon O.C.
ADDRESS: PO Box 552
Midland, Tx 79702
PHONE: (915) 687-8312
FAX: (915) 687-8305

BILL TO:
COMPANY:
ADDRESS: Same as above

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct/Inject	(M8015) Gas/Purge & Trap	Gasoline (BTEX & MTBE (M8020))	BTXE/MTBE (8020)	BTEX & Chlorinated Aromatics (602/8020)	BTEX/MTBE/EDC & EDB (8020/8010/Short)	Chlorinated Hydrocarbons (601/8010)	Chloride 325.2 / 504 EDB / DBCP	Polynuclear Aromatics (610/8310)	Volatile Organics (624/8240) GC/MS	Volatile Organics (8260) GC/MS	PAHs 8310	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	CATIONS / ANIONS	General Chemistry:			Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals:		NUMBER OF CONTAINERS
MW-108	7/17/97	1820	Water	-31				X				X					X			X										8
MW-69	7/18/97	1244		-32				X				X					X													6
MW-50		1315		-33				X	dilute			X		X			X													6
MW-49		1340		-34				X	dilute			X		X			X													6
MW-44		1410		-35				X	dilute			X		X																4
MW-43		1420		-36				X	dilute			X		X			X													6
MW-41		1445		-37				X				X					X													6
MW-39		1500		-38				X				X					X													5
MW-46 KC		1515		-39				X	dilute			X		X																4
MW-77		1535		-40				X				X																		4

PROJECT INFORMATION	
PROJ. NO.:	023350224
PROJ. NAME:	Ethan Zorn Remediation
P.O. NO.:	
SHIPPED VIA:	
SAMPLE RECEIPT	
NO. CONTAINERS:	54
CUSTODY SEALS:	Y/N/NA
RECEIVED INTACT:	yes
BLUE ICE/ICE:	Y

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) [ ]24hr [ ]48hr [ ]72hr [ ]1 WEEK (NORMAL) [X]

CERTIFICATION REQUIRED: [ ]NM [ ]SDWA [ ]OTHER

METHANOL PRESERVATION [ ]

COMMENTS: FIXED FEE [ ]

From Field

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.
Signature: Kevin Cook	Signature:
Time: 1030	Time:
Printed Name: Kevin Cook	Printed Name:
Date: 7/21/97	Date:
Company: EOTT	Company:
RECEIVED BY: 1.	**RECEIVED BY: (LAB) 2.**
Signature:	Signature: 10:30
Time:	Printed Name: Brian Pace 7-21-97
Printed Name:	American Environmental Network (NM), Inc.
Date:	
Company:	

American Environmental Network (NM), Inc.
Albuquerque • Phoenix • Pensacola • Portland • Pleasant Hills • Columbia

CHAIN OF CUSTODY

DATE: 7/18/97 PAGE: 5 OF 5

AEN LAB I.D. 707353

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: Bob Mewzie

COMPANY: Marathon OC
ADDRESS: PO Box 552
Midland, TX 79702
PHONE: (915) 687-8312
FAX: (915) 687-8305

BILL TO:
COMPANY: Same As Above
ADDRESS:

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	Gasoline (BTEX & MTBE (M8015/8020))	Chlorinated Hydrocarbons (601/8010) Chlorides 325.2	504 EDB / DBCP	PAHs 8310	NUMBER OF CONTAINERS
mw-106	7/11/97	1555	Water	-41	X	X	X		4
mw-65		1620		-42	X	X	X		4
mw-74		1645		-43	X	X		X	4
mw-62	↓	1710	↓	-44	X	X			4
TRIP BLANK	7-10	1130	AQ	-45	X				2

ANALYSIS REQUEST

Petroleum Hydrocarbons (418.1) TRPH
(MOD.8015) Diesel/Direct/Inject
(M8015) Gas/Purge & Trap
Gasoline (BTEX & MTBE (M8015/8020))
BTXE/MTBE (8020)
BTEX & Chlorinated Aromatics (602/8020)
BTEX/MTBE:EDC & EDB (8020/8010/Short)
Chlorinated Hydrocarbons (601/8010)
Chlorides 325.2
504 EDB / DBCP
Polynuclear Aromatics (610/8310)
Volatile Organics (624/8240) GC/MS
Volatile Organics (8260) GC/MS
PAHs 8310
Pesticides/PCB (608/8080)
Herbicides (615/8150)
Base/Neutral/Acid Compounds GC/MS (625/8270)
General Chemistry:
Priority Pollutant Metals (13)
Target Analyte List Metals (23)
RCRA Metals (8)
RCRA Metals by TCLP (Method 1311)
Metals:

PROJECT INFORMATION

PROJ. NO.: 02350224
PROJ. NAME: Indian Basin Remediation
P.O. NO.:
SHIPPED VIA:

SAMPLE RECEIPT

NO. CONTAINERS: 15
CUSTODY SEALS: Y (N) NA
RECEIVED INTACT: yes
BLUE ICE/ICE: ice

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) [ ] 24hr [ ] 48hr [ ] 72hr [ ] 1 WEEK (NORMAL) X

CERTIFICATION REQUIRED: [ ] NM [ ] SDWA [ ] OTHER

METHANOL PRESERVATION [ ]

COMMENTS: FIXED FEE [ ]

From Field

RELINQUISHED BY: 1.

Signature: Ke-Cook Time: 1080
Printed Name: Kevin Cook Date: 7/21/97
Company: FOCT

RECEIVED BY: 1.

Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 2

Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: (LAB) 2

Signature: Time: 10:30
Printed Name: Brian Price Date: 7-21-97
American Environmental Network (NM), Inc.

American Environmental Network
Albuquerque, New Mexico

Interlab Chain of Custody

DATE: 7-22-97 PAGE: 1 OF 1

NETWORK PROJECT MANAGER: KIMBERLY D. McNEILL

COMPANY: American Environmental Network
ADDRESS: 2709-D Pan American Freeway, NE
Albuquerque, NM 87107

CLIENT PROJECT MANAGER:
Kim McNeill

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Metals - TAL	Metals - PP List	Metals - RCRA	RCRA Metals by TCLP (1311)	CATION/ANIONS	TOX	TOC	Gen Chemistry		Oil and Grease	BOD	COD	Pesticides/PCB (608/8080)	Herbicides (815/8150)	Base/Neutral Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	Polynuclear Aromatics (810/8310)	8240 (TCLP 1311) ZHE	8270 (TCLP 1311)			TO-14	Gross Alpha/Beta				NUMBER OF CONTAINERS
707353-27	7-17	1645	AQ	1					X																						2
1 -31	7-17	1800	AQ	2					X																						2

PROJECT INFORMATION

PROJECT NUMBER: 707353
PROJECT NAME: Marathon Oil Co.
QC LEVEL: STD. IV
QC REQUIRED: MS MSD BLANK
TAT: STANDARD RUSH

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS: 4
CHAIN OF CUSTODY SEALS: Y
INTACT?: Y
RECEIVED GOOD COND./COLD: BLUE
LAB NUMBER: 707324

DUE DATE: 8-1-97
RUSH SURCHARGE: _____
CLIENT DISCOUNT: _____
SPECIAL CERTIFICATION REQUIRED: [ ] YES [ ] NO

SAMPLES SENT TO:

SAN DIEGO	
Paragon	
RENTON	
PENSACOLA	
PORTLAND	
PHOENIX	X

RELINQUISHED BY: 1.
Signature: [signature] Time: 1700
Printed Name: Brian Price Date: 7-22-97
Albuquerque AMA
Company:

RECEIVED BY: 1.
Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 2.
Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: (LAB) 2.
Signature: [signature] Time: 1013
Printed Name: Heather Loescher Date: 7/23/97
Company: AEN PHX

OCD List

EXHIBIT A

ITEM ANALYSIS DESCRIPTION

025 Cations and Anions (General Chemistry)

Method:
From 40 CFR 136.3
List of approved inorganic test procedures.

250 ml

Analysis	Method	
Fluoride	340.2	12
Bromide Br	300.0	15
Calcium	200.7	15
Potassium		9
Magnesium	~~200.7~~	9
Sodium	200.7	9
Bicarbonate > Total Alk	200.7	9
Carbonate	310.1	
		> 25 Total Alk
Chloride	310.1	
Sulfate	325.2	12
Total dissolved solids	375.2	15
Cation/Anion Balance (5%)	160.1	15
Ph	--	
Conductivity		
Nitrate	150.1	same as total Alk
Silicea	120.1	15

20%

Should be Nitrate/Nitrite due to hold time

American Environmental Network of Florida
PROJECT SAMPLE INSPECTION FORM

Lab Accession #: 707344 Date Received 23-Jul-97

1. Was there a Chain of Custody? Yes **(No◆)**
2. Was Chain of Custody properly filled out and relinquished? Yes No◆ **(N/A)**
3. Were samples received cold? **(Yes)** No◆ N/A (Criteria: 1° - 4°C: AEN-SOP 1055)
4. Were all samples properly labeled and identified? **(Yes)** No◆
5. Did samples require splitting? Yes◆ **(No)** Req By: PM Client Other◆
6. Were samples received in proper containers for analysis requested? **(Yes)** No◆
7. Were all sample containers received intact? **(Yes)** No◆
8. Were samples checked for preservative? *(Check pH of all H_2O requiring preservative except VOA vials that require zero headspace)*+ **(Yes)** No◆ N/A
9. Is there sufficient volume for analysis requested? **(Yes)** No◆
10. Were samples received within Holding Time? (REFER TO AEN-SOP 1040) Yes No◆
11. Is Headspace visible > ¼" in diameter in VOA vials?* If any headspace is evident, comment in out-of-control section. Yes◆ No **(N/A)**
12. If sent, were matrix spike bottles returned? Yes No◆ **(N/A)**
13. Was Project Manager notified of problems? (initials:______) Yes No◆ **(N/A)**

Airbill Number(s): 2780349205 **Shipped By:** Fedx

Cooler Number(s): N/S **Shipping Charges:** N/A

Cooler Weight(s): N/A **Cooler Temp(s) (°C):** 1.5°C
PCK6
(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

- Samples received without a COC, all information taken from bottles and IWO LK 7/23
- COC's received on 7/24/97 L.K 7/24 LK 7/24
- Samples 707353-29 & 707353-30&31 shipped to AEN, AZ.
- Samples received on 7/24/97 was @ 12°C LK 7/24/97

SPOKE WITH KIM MCNEILL - SHE IS CHECKING WITH THE CLIENT TO SEE IF THEY STILL WANT IT ANALYZED. LL 7/25 @ 0845
PER KIM MCNEILL - CLIENT STILL WANTS SAMPLES ANALYZED. LL 7/25 @ 1110
(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: L. Kitt **Date:** 23-Jul-97 **Logged By:** L. Kitt **Date** 24-Jul-97

◆ *Note all Out-of-Control and/or questionable events on Comment Section of this form.*
◆ *Note who requested the splitting of samples on the Comment Section of this form.*
\+ *All preservatives for the State of North Carolina, the State of New York, and other requested samples are to be recorded on the sheet provided to record pH results (AEN-SOP 938, section 2.2.9).*
* *According to EPA, ¼" of headspace is allowed in 40 ml vials requiring volatile analysis, however, AEN makes it policy to record any headspace as out-of-control (AEN-SOP 938, section 2.2.12).*

American Environmental Network
Albuquerque, New Mexico

Interlab Chain of Custody

DATE: 7-22 PAGE 1. OF 5.

NETWORK PROJECT MANAGER: KIMBERLY D. McNEILL

COMPANY: American Environmental Network
ADDRESS: 2709-D Pan American Freeway, NE
Albuquerque, NM 87107

707344

CLIENT PROJECT MANAGER:

Kim McNeill

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
707353-01	7-15	1330	AQ	
-02		1345		
-03		1440		
-04		1505		
-05		1600		
-06		1615		
-07		1705		
-08	7-16	0945		
-09		0955		

SAMPLE ID	Metals - TAL	Metals - PP List	Metals - RCRA	RCRA Metals by TCLP (1311)	Chloride	TOX	TOC	Gen Chemistry		Oil and Grease	BOD	COD	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	Polynuclear Aromatics (610/8310)	8240 (TCLP 1311) ZHE	8270 (TCLP 1311)			TO-14	Gross Alpha/Beta				NUMBER OF CONTAINERS
707353-01																											
-02																											
-03					X																						
-04																											
-05					X																						
-06																											
-07					X																						
-08																											
-09					X																						

PROJECT INFORMATION

PROJECT NUMBER: 707353
PROJECT NAME: Marathon Oil Co
QC LEVEL: (STD) IV
~~QC REQUIRED~~: MS MSD BLANK
TAT: (STANDARD) RUSH!

DUE DATE: 7-30-97
RUSH SURCHARGE: _____
CLIENT DISCOUNT: _____
SPECIAL CERTIFICATION REQUIRED: [ ] YES [ ] NO

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS	
CHAIN OF CUSTODY SEALS	
INTACT?	
RECEIVED GOOD COND./COLD	
LAB NUMBER	

SAMPLES SENT TO:

SAN DIEGO	
Paragon	
RENTON	
PENSACOLA	X
PORTLAND	
PHOENIX	

RELINQUISHED BY: 1.

Signature: [signature] Time: 1700
Printed Name: Brian Price Date: 7-22-97
Albuquerque NM

RECEIVED BY: 1.

Signature: [signature] Time: 0848
Printed Name: Linda Kitt Date: 7/24/97
Company: AEN 171

RELINQUISHED BY: 2.

Signature Time
Printed Name Date
Company

RECEIVED BY: (LAB) 2.

Signature: Time:
Printed Name: Date:
Company:

American Environmental Network
Albuquerque, New Mexico

Interlab Chain of Custody

DATE: 7-22 PAGE 2 OF 5

NETWORK PROJECT MANAGER: KIMBERLY D. McNEILL

COMPANY: American Environmental Network
ADDRESS: 2709-D Pan American Freeway, NE
Albuquerque, NM 87107

707344

CLIENT PROJECT MANAGER: Kim McNeill

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Metals - TAL	Metals - PP List	Metals - RCRA	RCRA Metals by TCLP (1311)	Chloride	TOX	TOC	Gen Chemistry	Oil and Grease	BOD	COD	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	[redacted]	8240 (TCLP 1311) ZHE	8270 (TCLP 1311)	TC-14	Gross Alpha/Beta	NUMBER OF CONTAINERS
707353 -10	7-16	1020	AQ																						
-11		1140							X																
-12		1210							X																
-13		1230																							
-14		1335							X																
-15		1400																							
-16		1450							X																
-17		1520																							
-18		1620							X																

PROJECT INFORMATION

PROJECT NUMBER: 707353
PROJECT NAME: Marathon Oil Co
QC LEVEL: (STD) IV
QC REQUIRED: MS MSD BLANK
TAT: (STANDARD) RUSH!

DUE DATE: 7-30-97
RUSH SURCHARGE: ______
CLIENT DISCOUNT: ______
SPECIAL CERTIFICATION REQUIRED: ☐YES ☐NO

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS
CHAIN OF CUSTODY SEALS
INTACT?
RECEIVED GOOD COND./COLD
LAB NUMBER

SAMPLES SENT TO:

SAN DIEGO	
Paragon	
RENTON	
PENSACOLA	X
PORTLAND	
PHOENIX	

RELINQUISHED BY: 1.
Signature: [signature] Time: 1700
Printed Name: Brian Price Date: 7-22-97
Albuquerque NM

RECEIVED BY: 1.
Signature: Linda Kitt Time: 0848
Printed Name: Linda Kitt Date: 7/24/97
Company: AEN/FL

RELINQUISHED BY: 2.
Signature Time
Printed Name Date
Company

RECEIVED BY: (LAB) 2.
Signature: Time:
Printed Name: Date:
Company:

Labs: San Diego (619) 458-9141 • Phoenix (602) 496-4400 • Seattle (206) 228-8335 • Pensacola (904) 474-1001 • Portland (503) 684-0447 • Albuquerque (505) 344-3777

American Environmental Network
Albuquerque, New Mexico

Interlab Chain of Custody

DATE: 7-22 PAGE: 3 [redacted]

NETWORK PROJECT MANAGER: KIMBERLY D. McNEILL

COMPANY: American Environmental Network
ADDRESS: 2709-D Pan American Freeway, NE
Albuquerque, NM 87107

707344

CLIENT PROJECT MANAGER: Kim McNeill

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Metals - TAL	Metals - PP List	Metals - RCRA	RCRA Metals by TCLP (1311)	Chloride	TOX	TOC	Gen Chemistry	Oil and Grease	BOD	COD	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	[redacted]	8240 (TCLP 1311) ZHE	8270 (TCLP 1311)	TO-14	Gross Alpha/Beta	NUMBER OF CONTAINERS
707353-18	7-17	0810	AQ																						
-20	7-17-97	8:45							X																
-21	7-17-97	0900							X																
-22		0930																							
-23		1035							X																
-24		1100																							
-25		1145							X																
-26		1205																							
-27		1430							X																

PROJECT INFORMATION

PROJECT NUMBER: 707353
PROJECT NAME: Marathon Oil Co
QC LEVEL: (STD) IV
QC REQUIRED: MS MSD BLANK
TAT (STANDARD) RUSH!
DUE DATE: 7-30-97
RUSH SURCHARGE: ______
CLIENT DISCOUNT: ______
SPECIAL CERTIFICATION REQUIRED: [ ] YES [ ] NO

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS
CHAIN OF CUSTODY SEALS
INTACT?
RECEIVED GOOD COND./COLD
LAB NUMBER

SAMPLES SENT TO:

SAN DIEGO
Paragon
RENTON
PENSACOLA X
PORTLAND
PHOENIX

RELINQUISHED BY: 1.
Signature: [signature] Time: 1700
Printed Name: Brian Price Date: 7-22-97
Albuquerque NM

RECEIVED BY: 1.
Signature: Linda Kitt Time: 0848
Printed Name: Linda Kitt Date: 7/24/97
Company: AEN/PI

RELINQUISHED BY: 2.
Signature Time
Printed Name Date
Company

RECEIVED BY: (LAB) 2.
Signature: Time:
Printed Name: Date:
Company:

Labs: San Diego (619) 458-9141 • Phoenix (602) 496-4400 • Seattle (206) 228-8335 • Pensacola (904) 474-1001 • Portland (503) 684-0447 • Albuquerque (505) 344-3777

American Environmental Network
Albuquerque, New Mexico

Interlab Chain of Custody

DATE: 7-22 PAGE 4 OF 5

NETWORK PROJECT MANAGER: KIMBERLY D. McNEILL

COMPANY: American Environmental Network
ADDRESS: 2709-D Pan American Freeway, NE
Albuquerque, NM 87107

707344

CLIENT PROJECT MANAGER:

Kim McNeill

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
707353-28	7-17	1510	AQ	
-29	7-17	1645		
-30	7-17	1715		
-31	7-19	~~1244~~ 1320		
-32		~~1315~~ 1241		
-33		1315		
-34		1340		
-35		1410		
-36		1420		

Analysis columns: Metals - TAL; Metals - PP List; Metals - RCRA; RCRA Metals by TCLP (1311); Cl, F, SO4; TOX; TOC; Gen Chemistry; Oil and Grease; BOD; COD; Pesticides/PCB (608/8080); Herbicides (615/8150); Base/Neutral Acid Compounds GC/MS (625/8270); Volatile Organics GC/MS (624/8240); 8240 (TCLP 1311) ZHE; 8270 (TCLP 1311); TO-14; Gross Alpha/Beta; NUMBER OF CONTAINERS

- TOX: X — No BP 7-22
- Volatile Organics GC/MS (624/8240): X — No BP 7-22
- Cl, F, SO4: X
- RCRA Metals by TCLP (1311): X
- 8240 (TCLP 1311) ZHE: X
- 8270 (TCLP 1311): X
- TOC: X
- Gen Chemistry: X
- Oil and Grease: X
- BOD: X
- COD: X
- Pesticides/PCB (608/8080): X
- Herbicides (615/8150): X
- Base/Neutral Acid Compounds GC/MS (625/8270): X
- TO-14: X
- Gross Alpha/Beta: X

PROJECT INFORMATION

PROJECT NUMBER: 707353
PROJECT NAME: Marathon Oil Co
QC LEVEL (I) II IV
QC REQUIRED MS MSD BLANK
TAT (STANDARD) RUSH!

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS
CHAIN OF CUSTODY SEALS
INTACT?
RECEIVED GOOD COND./COLD
LAB NUMBER

DUE DATE: 7-30-97 -30 = No cl of 8310
RUSH SURCHARGE:
CLIENT DISCOUNT:
SPECIAL CERTIFICATION REQUIRED: YES NO

SAMPLES SENT TO:

SAN DIEGO
Paragon
RENTON
PENSACOLA X
PORTLAND
PHOENIX

RELINQUISHED BY: 1.

Signature: Time: 1700
Printed Name: Brian Price Date: 7-22-97
Albuquerque NM

RECEIVED BY: 1.

Signature: Time: 0848
Printed Name: Linda Kitt Date: 7/24/97
Company: AEN

RELINQUISHED BY: 2.

Signature Time
Printed Name Date
Company

RECEIVED BY: (LAB) 2.

Signature: Time:
Printed Name: Date:
Company:

American Environmental Network
Albuquerque, New Mexico

Interlab Chain of Custody

DATE: 7-22 PAGE 5 of 6

NETWORK PROJECT MANAGER: KIMBERLY D. McNEILL

COMPANY: American Environmental Network
ADDRESS: 2709-D Pan American Freeway, NE
Albuquerque, NM 87107

707344

CLIENT PROJECT MANAGER:

Kim McNeill

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
707353 -37	7-18	1445	AQ	
-38		1500		
-39		1515		
-40		1535		
-41		1555		
-42		1620		
-43		1645		
-44		1710		
-45	7-10	1130		

Analysis columns: Metals - TAL; Metals - PP List; Metals - RCRA; RCRA Metals by TCLP (1311); [illegible]; TOX; TOC; Gen Chemistry; Oil and Grease; BOD; COD; Pesticides/PCB (608/8080); Herbicides (615/8150); Base/Neutral Acid Compounds GC/MS (625/8270); Volatile Organics GC/MS (624/8240); [redacted]; 8240 (TCLP 1311) ZHE; 8270 (TCLP 1311); TO-14; Gross Alpha/Beta; NUMBER OF CONTAINERS

PROJECT INFORMATION	
PROJECT NUMBER:	707353-
PROJECT NAME:	Marathon Oil Co.
QC LEVEL:	STD IV
QC REQUIRED:	MS MSD BLANK
TAT	STANDARD RUSH!

SAMPLE RECEIPT	
TOTAL NUMBER OF CONTAINERS	
CHAIN OF CUSTODY SEALS	
INTACT?	
RECEIVED GOOD COND./COLD	
LAB NUMBER	

DUE DATE: 7-30
RUSH SURCHARGE: _____
CLIENT DISCOUNT: _____
SPECIAL CERTIFICATION REQUIRED: ☐ YES ☐ NO

SAMPLES SENT TO:
- SAN DIEGO
- Paragon
- RENTON
- PENSACOLA X
- PORTLAND
- PHOENIX

RELINQUISHED BY: 1.
Signature: [signature] Time: 1700
Printed Name: Brian Price Date: 7-22-97
Company: Albuquerque NM

RECEIVED BY: 1.
Signature: [signature] Time: 0849
Printed Name: Linda Kitt Date: 7/24/97
Company: AEN, ABQ

RELINQUISHED BY: 2.
Signature Time
Printed Name Date
Company

RECEIVED BY: (LAB) 2.
Signature: Time:
Printed Name: Date:
Company:

American Environmental Network (NM), Inc.
Albuquerque • Phoenix • Pensacola • Portland • Pleasant Hills • Columbia

CHAIN OF CUSTODY

DATE: 7/15-16/97 PAGE: 1 OF 5

AEN LAB ID: [redacted]

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER:	Bob Mercer
COMPANY:	Marathon O/C
ADDRESS:	PO Box 552
	Midland TX 79702
PHONE:	(915) 687-8312
FAX:	(915) 687-8305
BILL TO:	
COMPANY:	Same as above
ADDRESS:	

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct/Inject	(M8015) Gas/Purge & Trap	Gasoline (BTEX + MTBE (M8015/8020))	BTXE/MTBE (8020)	BTEX & Chlorinated Aromatics (602/8020)	BTEX/MTBE/EDC & EDB (8020/8010/Short)	Chlorinated Hydrocarbons (601/8010)	Chlorine 325.2	504 EDB☐ / DBCP☐	Polynuclear Aromatics (610/8310)	Volatile Organics (624/8240) GC/MS	Volatile Organics (8260) GC/MS	PAHs 8310	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	General Chemistry:			Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals:		NUMBER OF CONTAINERS
DI H2O	7/15/97	1330	water	-01				X																							2
Init RB		1345		-02				X																							2
MW-57		1440		-03				X					X																		4
MW-57RB		1505		-04				X																							4
MW-60		1600		-05				X					X																		4
MW-60RB		1615		-06				X																							4
MW-64		1705		-07				X					X																		4
MW-61ARB	7/16/97	0845		-08				X																							2
MW-63		0955		-09				X					X																		4
MW-63 RB		1020		-10				X																							2

PROJECT INFORMATION	
PROJ NO:	02775.0224
PROJ NAME:	Indian Basin Remediation
PO NO:	
SHIPPED VIA:	

SAMPLE RECEIPT	
NO. CONTAINERS:	28
CUSTODY SEALS:	N/A/N/A
RECEIVED INTACT:	Y/N/S
BLUE ICE/ICE:	Y/N

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒

CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER

METHANOL PRESERVATION ☐

COMMENTS: FIXED FEE ☐

From Field

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.
Signature: Kevin Cook — Time: 1030	Signature: — Time:
Printed Name: Kevin Cook — Date: 7/21/97	Printed Name: — Date:
Company: FPGTI	Company:
RECEIVED BY: 1.	RECEIVED BY: (LAB) 2.
Signature: — Time:	Signature: — Time: 10:30
Printed Name: — Date:	Printed Name: [redacted] — Date: 7-21-97
Company:	Company: American Environmental Network (NM), Inc.

DISTRIBUTION: White, Canary - AEN Pink - ORIGINATOR

American Environmental Network (NM), Inc.
Albuquerque • Phoenix • Pensacola • Portland • Pleasant Hills • Columbia

CHAIN OF CUSTODY

DATE: 7/16-17/97 PAGE: 2 OF 5

AEN LAB I.D. [illegible]

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: Bob Menzie

COMPANY: Marathon O.C

ADDRESS: PO Box 552
Midland TX 79702

PHONE: (915) 687-8312

FAX: (915) 687-8305

BILL TO:

COMPANY:

ADDRESS: Same As Above

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct/Inject	(M8015) Gas/Purge & Trap	Gasoline/BTEX & MTBE (M8015/8020)	BTX&~~MTBE~~ (8020)	BTEX & Chlorinated Aromatics (602/8020)	BTEX/MTBE/EDC & EDB (8020/8010/Short)	Chlorinated Hydrocarbons (601/8010)	Chlorides 325.2	504 EDB☐ / DBCP☐	Polynuclear Aromatics (610/8310)	Volatile Organics (624/8240) GC/MS	Volatile Organics (8260) GC/MS	PAH's 8310	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	General Chemistry:	Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals:	NUMBER OF CONTAINERS
MW-66	7/16/97	1140	water	-11					X				X															5
MW-64		1220		-12					X				X															5
MW-66RB		1230		-13					X				X															5
MW-67		1335		-14					X				X															5
MW-67RB		1400		-15					X				X															5
MW-55		1450		-16					X				X					X										6
MW-55RB		1520		-17					X				X	KK				X										6
MW-54		1620		-18					X				X					X										6
MW-54RB	7/17/97	0810		-19					X																			4
MW-90		0845		-20																								

PROJECT INFORMATION	PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS
PROJ NO: 02335-0024	(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) X
PROJ NAME: Indian Basin Remediation	CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER
P.O. NO.:	METHANOL PRESERVATION ☐
SHIPPED VIA:	COMMENTS: FIXED FEE ☐

SAMPLE RECEIPT

NO. CONTAINERS	36
CUSTODY SEAL	N/A
RECEIVED INTACT	YES
BLUE ICE/ICE	ICE

From Field

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.
Signature: Kevin Cook Time: 1030	Signature: Time:
Printed Name: Kevin Cook Date: 7/16/97	Printed Name: Date:
Company: FOGTT	Company:
RECEIVED BY: 1.	RECEIVED BY: (LAB) 2.
Signature: Time:	Signature: 1030
Printed Name: Date:	Printed Name: 7-21-97
Company:	American Environmental Network (NM) Inc.

DISTRIBUTION: White, Canary - AEN Pink - ORIGINATOR

American Environmental Network (NM), Inc.
Albuquerque • Phoenix • Pensacola • Portland • Pleasant Hills • Columbia

CHAIN OF CUSTODY

DATE: 7/12/97 PAGE: 3 OF 5

AEN LAB ID: [redacted]

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PROJECT MANAGER:	Bob Mercie
COMPANY:	Marathon OC
ADDRESS:	PO Box 552
	Midland TX 79702
PHONE:	(915) 687-8312
FAX:	(915) 687-8305
BILL TO:	
COMPANY:	
ADDRESS:	Same As Above

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct/Inject	(M8015) Gas/Purge & Trap	Gasoline (BTEX & MTBE (M8015/8020))	BTXE/MTBE (8020)	BTEX & Chlorinated Aromatics (602/8020)	BTEX/MTBE/EDC & EDB (8020/8010/Short)	Chlorinated Hydrocarbons (601/8010)	Chlorine 325.2	504 EDB☐ / DBCP☐	Polynuclear Aromatics (610/8310)	Volatile Organics (624/8240) GC/MS	Volatile Organics (8260) GC/MS	PAHs 8310	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Cations/Anions	General Chemistry:				Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals		NUMBER OF CONTAINERS
MW-79	7/12/97	0800	WATER	-21				X				X					X															2
MW-80 RB		0930		-22				X																								2
MW-78		1035		-23				X				X																				2
MW-78 RB		1100		-24				X																								2
MW-61		1145		-25				X				X																				2
MW-61 RB		1205		-26				X																								2
MW-71		1430		-27				X				X																				2
MW-71 RB		1510		-28				X																								2
MW-104		1645		-29				X				X						X				X										2
MW-104 FB	↓	1715	↓	-30				X																								2

PROJECT INFORMATION	PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS
PROJ NO: 023350224	(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) X
PROJ NAME: Indian Basin Remediation	CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER
P.O. NO:	METHANOL PRESERVATION ☐
SHIPPED VIA:	COMMENTS: FIXED FEE ☐

SAMPLE RECEIPT	
NO. CONTAINERS:	36
CUSTODY SEALS:	N/A
RECEIVED INTACT:	Yes
BLUE ICE/ICE:	Yes

From Field

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.
Signature: [redacted] Time: 1030	Signature: Time:
Printed Name: Kevin Cook Date: 7/12/97	Printed Name: Date:
Company: FOGTI	Company:
RECEIVED BY:	RECEIVED BY: (LAB)
Signature: Time:	Signature: [redacted] Time: 10:30
Printed Name: Date:	Printed Name: [redacted] Date: 7-21-97
Company:	American Environmental Network (NM), Inc.

American Environmental Network (NM), Inc.
Albuquerque • Phoenix • Pensacola • Portland • Pleasant Hills • Columbia

CHAIN OF CUSTODY

DATE: 7/17-18/97 PAGE: 4 OF 5

AEN LAB I.D. 70735583

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SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER: Bob Mazzie

COMPANY: Marathon O.C.
ADDRESS: PO Box 552
Midland, Tx 79702
PHONE: (915) 687-8312
FAX: (915) 687-8305

BILL TO:
COMPANY:
ADDRESS: Same as above

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct/Inject	(M8015) Gas/Purge & Trap	Gasoline (BTEX & MTBE (M602/8020)	BTXE/MTBE (8020)	BTEX & Chlorinated Aromatics (602/8020)	BTEX/MTBE/EDC & EDB (8020/8010/Short)	Chlorinated Hydrocarbons (601/8010)	Chloride 325.2	504 EDB ☐ / DBCP ☐	Polynuclear Aromatics (610/8310)	Volatile Organics (624/8240) GC/MS	Volatile Organics (8260) GC/MS	PAHs 8310	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC-MS (625/8270)	CATIONS / ANIONS	General Chemistry:				Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals:		NUMBER OF CONTAINERS
MW-108	7/17/97	1820	Water	-31				X					X					X				X											8
MW-69	7/18/97	1244		-32				X					X					X															5
MW-50		1315		-33				X					X					X															6
MW-49		1340		-34				X					X					X															
MW-44		1410		-35				X					X																				4
MW-43		1420		-36				X					X					X															5
MW-41		1445		-37				X					X					X															6
MW-39		1500		-38				X					X					X															5
MW-46 RC		1515		-39				X					X																				4
MW-77	↓	1535	↓	-40				X					X																				4

PROJECT INFORMATION

PROJ NO: 023750224
PROJ NAME: Indian Basin Remediation
PO NO:
SHIPPED VIA:

SAMPLE RECEIPT

NO. CONTAINERS: 31
CUSTODY SEALS: NONE
RECEIVED INTACT: Yes
BLUE ICE/ICE: Ice

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☑

CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER

METHANOL PRESERVATION ☐

COMMENTS: FIXED FEE ☐

From Field

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.
Signature: Time: 1030	Signature: Time:
Printed Name: Kevin Cook Date: 7/21/97	Printed Name: Date:
Company: EOTT	Company:
RECEIVED BY:	**RECEIVED BY: (LAB) 1 2**
Signature: Time:	Signature: Time: 10:30
Printed Name: Date:	Printed Name: Date: 7-21-97
Company:	American Environmental Network (NM), Inc.

American Environmental Network (NM), Inc.

Albuquerque • Phoenix • Pensacola • Portland • Pleasant Hills • Columbia

CHAIN OF CUSTODY

DATE: 7/18/97 PAGE: 5 OF 5

AEN LAB I.D. [redacted]

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PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: Bob Menzie

COMPANY: Marathon OC

ADDRESS: PO Box 552
Midland, TX 79702

PHONE: (915) 687-8312

FAX: (915) 687-8305

BILL TO:

COMPANY: As Above

ADDRESS: Above

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.
mw-106	7/18/97	1555	Water	-41
mw-65		1620		-42
mw-74		1645		-43
mw-62	↓	1710	↓	-44
TRIP BLANK	7-10	1130	AQ	-45

Petroleum Hydrocarbons (418.1) TRPH
(MOD.8015) Diesel/Direct/Inject
(M8015) Gas/Purge & Trap
Gasoline/BTEX & MTBE (M8015/8020)
BTXE/MTBE (8020)
BTEX & Chlorinated Aromatics (602/8020)
BTEX/MTBE/EDC & EDB (8020/8010/Short)
Chlorinated Hydrocarbons (601/8010)
Chlorides 325.2
504 EDB☐ / DBCP☐
Polynuclear Aromatics (610/8310)
Volatile Organics (624/8240) GC/MS
Volatile Organics (8260) GC/MS
PAHs 8310
Pesticides/PCB (608/8080)
Herbicides (615/8150)
Base/Neutral/Acid Compounds GC/MS (625/8270)
General Chemistry:
Priority Pollutant Metals (13)
Target Analyte List Metals (23)
RCRA Metals (8)
RCRA Metals by TCLP (Method 1311)
Metals:
NUMBER OF CONTAINERS

mw-106	7/18/97	1555	Water	-41
mw-65		1620		-42
mw-74		1645		-43
mw-62	↓	1710	↓	-44
TRIP BLANK	7-10	1130	AQ	-45

mw-106	7/18/97	1555	Water	-41
mw-65		1620		-42
mw-74		1645		-43
mw-62	↓	1710	↓	-44
TRIP BLANK	7-10	1130	AQ	-45

PROJECT INFORMATION

PROJ NO: 023750124

PROJ NAME: Indian Basin Remediation

PO NO:

SHIPPED VIA:

SAMPLE RECEIPT

NO CONTAINERS: 15

CUSTODY SEALS: 0 N/A

RECEIVED INTACT: Y

BLUE ICE/ICE: Y

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) [ ]24hr [ ]48hr [ ]72hr [ ]1 WEEK (NORMAL) [X]

CERTIFICATION REQUIRED: [ ]NM [ ]SDWA [ ]OTHER

METHANOL PRESERVATION [ ]

COMMENTS: FIXED FEE [ ]

From Field

RELINQUISHED BY: 1.

Signature: [signature] Time: 1430

Printed Name: Kevin Cook Date: 7/21/97

Company: FOCE

RECEIVED BY: 1.

Signature: Time:

Printed Name: Date:

Company:

RELINQUISHED BY: 2.

Signature: Time:

Printed Name: Date:

Company:

RECEIVED BY: (LAB) 2.

Signature: [signature] Time: 10:30

Printed Name: Brian Bradley Date: 7-21-97

American Environmental Network (NM) Inc.

4/1/96 AEN Inc.: American Environmental Network (NM), Inc. • 2709-D Pan American Freeway, NE • Albuquerque, New Mexico 87107

DISTRIBUTION: White, Canary - AEN Pink - ORIGINATOR

IEA, Inc.
3000 Weston Parkway
Cary, NC 27513

Phone 919-677-0090
Fax 919-677-0427

IEA
An Aquarion Company

August 4, 1997

Kim McNeill
American Environmental Network
2709D PanAmerican Freeway NE
Albuquerque, NM 87107

IEA Project No.: 2399042/9707421
IEA Reference No.: W9707407
Client Project I.D.: INDIAN BASIN REMEDIATION

Dear Ms. McNeill:

Transmitted herewith are the results of analyses on 12 samples submitted to our laboratory.

The samples were received intact.

Analyses were performed according to approved methodologies and meet the requirements of the IEA Quality Assurance Program except where noted. Please see the enclosed reports for your results and a copy of the Chain of Custody documentation.

Thank you for selecting IEA for your sample analysis. Please do not hesitate to call me at 1-919-677-0090 or 1-800-444-9919 should you have any questions regarding this report. We look forward to serving you in the future.

Very truly yours,

IEA, Inc.

Darlene Branoff
Project Manager

IEA-NORTH CAROLINA CERTIFICATIONS

Certifying State	Program Type	Lab ID #
Alabama	DW	40210
Arizona	DW,WW (Radiolog. Only)	AZ0572
California	DW, WW, HW Radiolog.	1768
Connecticut	DW, WW, Radiolog.	PH-0135
Kansas	DW, HW, WW, Radiolog.	E-10158
Kennucky	DW	90049
Maryland	DW, Radiolog.	259
Massachusetts	DW, WW	M-NC039
New Jersey	DW, WW Radiolog.	67719 67681
New York	Radiolog.	11422
North Carolina	DW WW Radiolog.	DW 37720 WW 84 Rad 37720
South Carolina	DW,WW,HW	99021
Tennessee	DW UST App List	02914
Utah	Radiolog. RCRA	E-206 E-226
Virginia	DW, Radiolog.	00179
West Virginia	DW	9908C
Wisconsin	WW	998051010

DW = Drinking Water WW = Wastewater HW = Hazardous Waste Radiolog. = Radiological

IEA **SDG NARRATIVE PAH FRACTION**

PROJECT: 2399-042 SDG: 07421 METHOD: 8310

Samples: (12) Water Samples

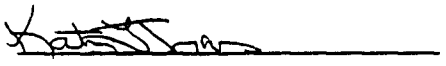
The samples were received at Industrial and Environmental Analysts, Inc. (IEA) on July 23, 1997. Each sample was assigned a 9-character "IEA" lab identification number (lab ID) and an abbreviated client ID which is referenced on the IEA Assigned Number Index. All analyses are performed in accordance with EPA approved methodologies and meet the requirements of the IEA Quality Assurance Program. Please see the enclosed data package for your results and Chain of Custody documentation.

Any nonconformances associated with the analysis of the samples in this project are as follows:

The surrogate recovery was low for samples 9707421-03, 07, 10. No target compounds were reported in the samples. The samples were not re-extracted per conversation with the client.

The remaining analyses proceeded with no deviations from the method.

I certify that this data package is in compliance with the procedures and methods defined for this project, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data (if applicable) as submitted has been authorized by the laboratory manager or his designee, as verified by the following signature.



08/01/97

Katrina L. Travis
GC Volatile Supervisor
IEA, Inc.

Industrial & Environmental Analysts, Inc. (IEA)
POLYNUCLEAR AROMATICS HYDROCARBONS (PNA)
SW-846 METHOD 8310

IEA Project Number:	2399-042	Date Received:	N/A
IEA Sample Number:	9707421	Date Sampled:	N/A
Client Name:	American Environ. Network	Date Extracted:	07/23/97
Client Project ID:	INDIAN BASIN REMEDIATION	Date Analyzed:	07/31/97
Sample Identification:	QC Blank	Analysis By:	Casto
Matrix:	Water	Dilution Factor:	1.0
Associated QC Blank:	610B242	Time Analyzed:	1627
QC Batch Number:	242		

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
1	Naphthalene	1.0	BQL
2	Acenaphthylene	1.0	BQL
3	Acenaphthene	1.0	BQL
4	Fluorene	1.0	BQL
5	Phenanthrene	1.0	BQL
6	Anthracene	1.0	BQL
7	Fluoranthene	1.0	BQL
8	Pyrene	1.0	BQL
9	Benzo(a)anthracene	1.0	BQL
10	Chrysene	1.0	BQL
11	Benzo(b)fluoranthene	1.0	BQL
12	Benzo(k)fluoranthene	1.0	BQL
13	Benzo(a)pyrene	1.0	BQL
14	Dibenzo(a,h)anthracene	1.0	BQL
15	Benzo(g,h,i)perylene	1.0	BQL
16	Indeno(1,2,3-cd)pyrene	1.0	BQL
	Additional Compounds:		
17	1-Methylnaphthalene	1.0	BQL
18	2-Methylnaphthalene	1.0	BQL

Surrogate Compounds:	Acceptance Criteria	% Recovery
Carbazole	50 - 150	102

Comments:
Quantitation limits and results have been adjusted for any dilution factors.
BQL = Below Quantitation Limit
N/A = Not Applicable
Corresponding Samples: 9707421-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11
12

Industrial & Environmental Analysts, Inc. (IEA)
POLYNUCLEAR AROMATICS HYDROCARBONS (PNA)
SW-846 METHOD 8310

IEA Project Number:	2399-042	Date Received:	07/23/97
IEA Sample Number:	9707421-01	Date Sampled:	07/16/97
Client Name:	American Environ. Network	Date Extracted:	07/23/97
Client Project ID:	INDIAN BASIN REMEDIATION	Date Analyzed:	07/31/97
Sample Identification:	707353-16 SS	Analysis By:	Casto
Matrix:	Water	Dilution Factor:	1.0
Associated QC Blank:	610B242	Time Analyzed:	1954
QC Batch Number:	242		

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
1	Naphthalene	1.0	12
2	Acenaphthylene	1.0	BQL
3	Acenaphthene	1.0	BQL
4	Fluorene	1.0	BQL
5	Phenanthrene	1.0	BQL
6	Anthracene	1.0	BQL
7	Fluoranthene	1.0	BQL
8	Pyrene	1.0	BQL
9	Benzo(a)anthracene	1.0	BQL
10	Chrysene	1.0	BQL
11	Benzo(b)fluoranthene	1.0	BQL
12	Benzo(k)fluoranthene	1.0	BQL
13	Benzo(a)pyrene	1.0	BQL
14	Dibenzo(a,h)anthracene	1.0	BQL
15	Benzo(g,h,i)perylene	1.0	BQL
16	Indeno(1,2,3-cd)pyrene	1.0	BQL
	Additional Compounds:		
17	1-Methylnaphthalene	1.0	BQL
18	2-Methylnaphthalene	1.0	BQL

Surrogate Compounds:	Acceptance Criteria	% Recovery
Carbazole	50 - 150	107

Comments:
Quantitation limits and results have been adjusted for any dilution factors.
BQL = Below Quantitation Limit

Industrial & Environmental Analysts, Inc. (IEA)
POLYNUCLEAR AROMATICS HYDROCARBONS (PNA)
SW-846 METHOD 8310

IEA Project Number:	2399-042	Date Received:	07/23/97
IEA Sample Number:	9707421-02	Date Sampled:	07/16/97
Client Name:	American Environ. Network	Date Extracted:	07/23/97
Client Project ID:	INDIAN BASIN REMEDIATION	Date Analyzed:	07/31/97
Sample Identification:	707353-18 S4	Analysis By:	Casto
Matrix:	Water	Dilution Factor:	1.0
Associated QC Blank:	610B242	Time Analyzed:	2028
QC Batch Number:	242		

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
1	Naphthalene	1.0	BQL
2	Acenaphthylene	1.0	BQL
3	Acenaphthene	1.0	BQL
4	Fluorene	1.0	BQL
5	Phenanthrene	1.0	BQL
6	Anthracene	1.0	BQL
7	Fluoranthene	1.0	BQL
8	Pyrene	1.0	BQL
9	Benzo(a)anthracene	1.0	BQL
10	Chrysene	1.0	BQL
11	Benzo(b)fluoranthene	1.0	BQL
12	Benzo(k)fluoranthene	1.0	BQL
13	Benzo(a)pyrene	1.0	BQL
14	Dibenzo(a,h)anthracene	1.0	BQL
15	Benzo(g,h,i)perylene	1.0	BQL
16	Indeno(1,2,3-cd)pyrene	1.0	BQL
	Additional Compounds:		
17	1-Methylnaphthalene	1.0	BQL
18	2-Methylnaphthalene	1.0	BQL

Surrogate Compounds:	Acceptance Criteria	% Recovery
Carbazole	50 - 150	88

Comments:
Quantitation limits and results have been adjusted for any dilution factors.
BQL = Below Quantitation Limit

Industrial & Environmental Analysts, Inc. (IEA)
POLYNUCLEAR AROMATICS HYDROCARBONS (PNA)
SW-846 METHOD 8310

IEA Project Number:	2399-042	Date Received:	07/23/97
IEA Sample Number:	9707421-03	Date Sampled:	07/17/97
Client Name:	American Environ. Network	Date Extracted:	07/23/97
Client Project ID:	INDIAN BASIN REMEDIATION	Date Analyzed:	07/31/97
Sample Identification:	707353-21 79	Analysis By:	Casto
Matrix:	Water	Dilution Factor:	1.0
Associated QC Blank:	610B242	Time Analyzed:	2103
QC Batch Number:	242		

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
1	Naphthalene	1.0	BQL
2	Acenaphthylene	1.0	BQL
3	Acenaphthene	1.0	BQL
4	Fluorene	1.0	BQL
5	Phenanthrene	1.0	BQL
6	Anthracene	1.0	BQL
7	Fluoranthene	1.0	BQL
8	Pyrene	1.0	BQL
9	Benzo(a)anthracene	1.0	BQL
10	Chrysene	1.0	BQL
11	Benzo(b)fluoranthene	1.0	BQL
12	Benzo(k)fluoranthene	1.0	BQL
13	Benzo(a)pyrene	1.0	BQL
14	Dibenzo(a,h)anthracene	1.0	BQL
15	Benzo(g,h,i)perylene	1.0	BQL
16	Indeno(1,2,3-cd)pyrene	1.0	BQL
	Additional Compounds:		
17	1-Methylnaphthalene	1.0	BQL
18	2-Methylnaphthalene	1.0	BQL

Surrogate Compounds:	Acceptance Criteria	% Recovery
Carbazole	50 - 150	47 *

Comments:
Quantitation limits and results have been adjusted for any dilution factors.
BQL = Below Quantitation Limit
* = Outside method limit.

Industrial & Environmental Analysts, Inc. (IEA)
POLYNUCLEAR AROMATICS HYDROCARBONS (PNA)
SW-846 METHOD 8310

IEA Project Number:	2399-042	Date Received:	07/23/97
IEA Sample Number:	9707421-04	Date Sampled:	07/17/97
Client Name:	American Environ. Network	Date Extracted:	07/23/97
Client Project ID:	INDIAN BASIN REMEDIATION	Date Analyzed:	07/31/97
Sample Identification:	707353-29 104	Analysis By:	Casto
Matrix:	Water	Dilution Factor:	1.0
Associated QC Blank:	610B242	Time Analyzed:	2137
QC Batch Number:	242		

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
1	Naphthalene	1.0	BQL
2	Acenaphthylene	1.0	BQL
3	Acenaphthene	1.0	BQL
4	Fluorene	1.0	BQL
5	Phenanthrene	1.0	BQL
6	Anthracene	1.0	BQL
7	Fluoranthene	1.0	BQL
8	Pyrene	1.0	BQL
9	Benzo(a)anthracene	1.0	BQL
10	Chrysene	1.0	BQL
11	Benzo(b)fluoranthene	1.0	BQL
12	Benzo(k)fluoranthene	1.0	BQL
13	Benzo(a)pyrene	1.0	BQL
14	Dibenzo(a,h)anthracene	1.0	BQL
15	Benzo(g,h,i)perylene	1.0	BQL
16	Indeno(1,2,3-cd)pyrene	1.0	BQL
	Additional Compounds:		
17	1-Methylnaphthalene	1.0	BQL
18	2-Methylnaphthalene	1.0	BQL

Surrogate Compounds:	Acceptance Criteria	% Recovery
Carbazole	50 - 150	115

Comments:
Quantitation limits and results have been adjusted for any dilution factors.
BQL = Below Quantitation Limit

Industrial & Environmental Analysts, Inc. (IEA)
POLYNUCLEAR AROMATICS HYDROCARBONS (PNA)
SW-846 METHOD 8310

IEA Project Number:	2399-042	Date Received:	07/23/97
IEA Sample Number:	9707421-05	Date Sampled:	07/18/97
Client Name:	American Environ. Network	Date Extracted:	07/23/97
Client Project ID:	INDIAN BASIN REMEDIATION	Date Analyzed:	07/31/97
Sample Identification:	707353-31	Analysis By:	Casto
Matrix:	Water 10%	Dilution Factor:	1.0
Associated QC Blank:	610B242	Time Analyzed:	2212
QC Batch Number:	242		

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
1	Naphthalene	1.0	BQL
2	Acenaphthylene	1.0	BQL
3	Acenaphthene	1.0	BQL
4	Fluorene	1.0	BQL
5	Phenanthrene	1.0	BQL
6	Anthracene	1.0	BQL
7	Fluoranthene	1.0	BQL
8	Pyrene	1.0	BQL
9	Benzo(a)anthracene	1.0	BQL
10	Chrysene	1.0	BQL
11	Benzo(b)fluoranthene	1.0	BQL
12	Benzo(k)fluoranthene	1.0	BQL
13	Benzo(a)pyrene	1.0	BQL
14	Dibenzo(a,h)anthracene	1.0	BQL
15	Benzo(g,h,i)perylene	1.0	BQL
16	Indeno(1,2,3-cd)pyrene	1.0	BQL
	Additional Compounds:		
17	1-Methylnaphthalene	1.0	BQL
18	2-Methylnaphthalene	1.0	BQL

Surrogate Compounds:	Acceptance Criteria	% Recovery
Carbazole	50 - 150	105

Comments:
Quantitation limits and results have been adjusted for any dilution factors.
BQL = Below Quantitation Limit

Industrial & Environmental Analysts, Inc. (IEA)
POLYNUCLEAR AROMATICS HYDROCARBONS (PNA)
SW-846 METHOD 8310

IEA Project Number:	2399-042	Date Received:	07/23/97
IEA Sample Number:	9707421-06	Date Sampled:	07/18/97
Client Name:	American Environ. Network	Date Extracted:	07/23/97
Client Project ID:	INDIAN BASIN REMEDIATION	Date Analyzed:	07/31/97
Sample Identification:	707353-32 67	Analysis By:	Casto
Matrix:	Water	Dilution Factor:	1.0
Associated QC Blank:	610B242	Time Analyzed:	2246
QC Batch Number:	242		

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
1	Naphthalene	1.0	BQL
2	Acenaphthylene	1.0	BQL
3	Acenaphthene	1.0	BQL
4	Fluorene	1.0	BQL
5	Phenanthrene	1.0	BQL
6	Anthracene	1.0	BQL
7	Fluoranthene	1.0	BQL
8	Pyrene	1.0	BQL
9	Benzo(a)anthracene	1.0	BQL
10	Chrysene	1.0	BQL
11	Benzo(b)fluoranthene	1.0	BQL
12	Benzo(k)fluoranthene	1.0	BQL
13	Benzo(a)pyrene	1.0	BQL
14	Dibenzo(a,h)anthracene	1.0	BQL
15	Benzo(g,h,i)perylene	1.0	BQL
16	Indeno(1,2,3-cd)pyrene	1.0	BQL
	Additional Compounds:		
17	1-Methylnaphthalene	1.0	BQL
18	2-Methylnaphthalene	1.0	BQL

Surrogate Compounds:	Acceptance Criteria	% Recovery
Carbazole	50 - 150	97

Comments:
Quantitation limits and results have been adjusted for any dilution factors.
BQL = Below Quantitation Limit

Industrial & Environmental Analysts, Inc. (IEA)
POLYNUCLEAR AROMATICS HYDROCARBONS (PNA)
SW-846 METHOD 8310

IEA Project Number:	2399-042	Date Received:	07/23/97
IEA Sample Number:	9707421-07	Date Sampled:	07/18/97
Client Name:	American Environ. Network	Date Extracted:	07/23/97
Client Project ID:	INDIAN BASIN REMEDIATION	Date Analyzed:	07/31/97
Sample Identification:	707353-33 GD	Analysis By:	Casto
Matrix:	Water	Dilution Factor:	1.0
Associated QC Blank:	610B242	Time Analyzed:	2320
QC Batch Number:	242		

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
1	Naphthalene	1.0	BQL
2	Acenaphthylene	1.0	BQL
3	Acenaphthene	1.0	BQL
4	Fluorene	1.0	BQL
5	Phenanthrene	1.0	BQL
6	Anthracene	1.0	BQL
7	Fluoranthene	1.0	BQL
8	Pyrene	1.0	BQL
9	Benzo(a)anthracene	1.0	BQL
10	Chrysene	1.0	BQL
11	Benzo(b)fluoranthene	1.0	BQL
12	Benzo(k)fluoranthene	1.0	BQL
13	Benzo(a)pyrene	1.0	BQL
14	Dibenzo(a,h)anthracene	1.0	BQL
15	Benzo(g,h,i)perylene	1.0	BQL
16	Indeno(1,2,3-cd)pyrene	1.0	BQL
	Additional Compounds:		
17	1-Methylnaphthalene	1.0	BQL
18	2-Methylnaphthalene	1.0	BQL

Surrogate Compounds:	Acceptance Criteria	% Recovery
Carbazole	50 - 150	51

Comments:
Quantitation limits and results have been adjusted for any dilution factors.
BQL = Below Quantitation Limit

Industrial & Environmental Analysts, Inc. (IEA)
POLYNUCLEAR AROMATICS HYDROCARBONS (PNA)
SW-846 METHOD 8310

IEA Project Number:	2399-042	Date Received:	07/23/97
IEA Sample Number:	9707421-08	Date Sampled:	07/18/97
Client Name:	American Environ. Network	Date Extracted:	07/23/97
Client Project ID:	INDIAN BASIN REMEDIATION	Date Analyzed:	07/31/97
Sample Identification:	707353-34 49	Analysis By:	Casto
Matrix:	Water	Dilution Factor:	1.0
Associated QC Blank:	610B242	Time Analyzed:	2355
QC Batch Number:	242		

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
1	Naphthalene	1.0	BQL
2	Acenaphthylene	1.0	BQL
3	Acenaphthene	1.0	BQL
4	Fluorene	1.0	BQL
5	Phenanthrene	1.0	BQL
6	Anthracene	1.0	BQL
7	Fluoranthene	1.0	BQL
8	Pyrene	1.0	BQL
9	Benzo(a)anthracene	1.0	BQL
10	Chrysene	1.0	BQL
11	Benzo(b)fluoranthene	1.0	BQL
12	Benzo(k)fluoranthene	1.0	BQL
13	Benzo(a)pyrene	1.0	BQL
14	Dibenzo(a,h)anthracene	1.0	BQL
15	Benzo(g,h,i)perylene	1.0	BQL
16	Indeno(1,2,3-cd)pyrene	1.0	BQL
	Additional Compounds:		
17	1-Methylnaphthalene	1.0	BQL
18	2-Methylnaphthalene	1.0	BQL

Surrogate Compounds:	Acceptance Criteria	% Recovery
Carbazole	50 - 150	88

Comments:
Quantitation limits and results have been adjusted for any dilution factors.
BQL = Below Quantitation Limit

Industrial & Environmental Analysts, Inc. (IEA)
POLYNUCLEAR AROMATICS HYDROCARBONS (PNA)
SW-846 METHOD 8310

IEA Project Number:	2399-042	Date Received:	07/23/97
IEA Sample Number:	9707421-09	Date Sampled:	07/18/97
Client Name:	American Environ. Network	Date Extracted:	07/23/97
Client Project ID:	INDIAN BASIN REMEDIATION	Date Analyzed:	08/01/97
Sample Identification:	707353-36 43	Analysis By:	Casto
Matrix:	Water	Dilution Factor:	1.0
Associated QC Blank:	610B242	Time Analyzed:	0138
QC Batch Number:	242		

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
1	Naphthalene	1.0	BQL
2	Acenaphthylene	1.0	BQL
3	Acenaphthene	1.0	BQL
4	Fluorene	1.0	BQL
5	Phenanthrene	1.0	BQL
6	Anthracene	1.0	BQL
7	Fluoranthene	1.0	BQL
8	Pyrene	1.0	BQL
9	Benzo(a)anthracene	1.0	BQL
10	Chrysene	1.0	BQL
11	Benzo(b)fluoranthene	1.0	BQL
12	Benzo(k)fluoranthene	1.0	BQL
13	Benzo(a)pyrene	1.0	BQL
14	Dibenzo(a,h)anthracene	1.0	BQL
15	Benzo(g,h,i)perylene	1.0	BQL
16	Indeno(1,2,3-cd)pyrene	1.0	BQL
	Additional Compounds:		
17	1-Methylnaphthalene	1.0	BQL
18	2-Methylnaphthalene	1.0	BQL

Surrogate Compounds:	Acceptance Criteria	% Recovery
Carbazole	50 - 150	63

Comments:
Quantitation limits and results have been adjusted for any dilution factors.
BQL = Below Quantitation Limit

Industrial & Environmental Analysts, Inc. (IEA)
POLYNUCLEAR AROMATICS HYDROCARBONS (PNA)
SW-846 METHOD 8310

IEA Project Number:	2399-042	Date Received:	07/23/97
IEA Sample Number:	9707421-10	Date Sampled:	07/18/97
Client Name:	American Environ. Network	Date Extracted:	07/23/97
Client Project ID:	INDIAN BASIN REMEDIATION	Date Analyzed:	08/01/97
Sample Identification:	707353-37 41	Analysis By:	Casto
Matrix:	Water	Dilution Factor:	1.0
Associated QC Blank:	610B242	Time Analyzed:	0213
QC Batch Number:	242		

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
1	Naphthalene	1.0	BQL
2	Acenaphthylene	1.0	BQL
3	Acenaphthene	1.0	BQL
4	Fluorene	1.0	BQL
5	Phenanthrene	1.0	BQL
6	Anthracene	1.0	BQL
7	Fluoranthene	1.0	BQL
8	Pyrene	1.0	BQL
9	Benzo(a)anthracene	1.0	BQL
10	Chrysene	1.0	BQL
11	Benzo(b)fluoranthene	1.0	BQL
12	Benzo(k)fluoranthene	1.0	BQL
13	Benzo(a)pyrene	1.0	BQL
14	Dibenzo(a,h)anthracene	1.0	BQL
15	Benzo(g,h,i)perylene	1.0	BQL
16	Indeno(1,2,3-cd)pyrene	1.0	BQL
	Additional Compounds:		
17	1-Methylnaphthalene	1.0	BQL
18	2-Methylnaphthalene	1.0	BQL

Surrogate Compounds:	Acceptance Criteria	% Recovery
Carbazole	50 - 150	27 *

Comments:
Quantitation limits and results have been adjusted for any dilution factors.
BQL = Below Quantitation Limit
* = Outside method limit.

Industrial & Environmental Analysts, Inc. (IEA)
POLYNUCLEAR AROMATICS HYDROCARBONS (PNA)
SW-846 METHOD 8310

IEA Project Number:	2399-042	Date Received:	07/23/97
IEA Sample Number:	9707421-11	Date Sampled:	07/18/97
Client Name:	American Environ. Network	Date Extracted:	07/23/97
Client Project ID:	INDIAN BASIN REMEDIATION	Date Analyzed:	08/01/97
Sample Identification:	707353-38	Analysis By:	Casto
Matrix:	Water	Dilution Factor:	1.0
Associated QC Blank:	610B242	Time Analyzed:	0247
QC Batch Number:	242		

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
1	Naphthalene	1.0	BQL
2	Acenaphthylene	1.0	BQL
3	Acenaphthene	1.0	BQL
4	Fluorene	1.0	BQL
5	Phenanthrene	1.0	BQL
6	Anthracene	1.0	BQL
7	Fluoranthene	1.0	BQL
8	Pyrene	1.0	BQL
9	Benzo(a)anthracene	1.0	BQL
10	Chrysene	1.0	BQL
11	Benzo(b)fluoranthene	1.0	BQL
12	Benzo(k)fluoranthene	1.0	BQL
13	Benzo(a)pyrene	1.0	BQL
14	Dibenzo(a,h)anthracene	1.0	BQL
15	Benzo(g,h,i)perylene	1.0	BQL
16	Indeno(1,2,3-cd)pyrene	1.0	BQL
	Additional Compounds:		
17	1-Methylnaphthalene	1.0	BQL
18	2-Methylnaphthalene	1.0	BQL

Surrogate Compounds:	Acceptance Criteria	% Recovery
Carbazole	50 - 150	82

Comments:
Quantitation limits and results have been adjusted for any dilution factors.
BQL = Below Quantitation Limit

Industrial & Environmental Analysts, Inc. (IEA)
POLYNUCLEAR AROMATICS HYDROCARBONS (PNA)
SW-846 METHOD 8310

IEA Project Number:	2399-042	Date Received:	07/23/97
IEA Sample Number:	9707421-12	Date Sampled:	07/18/97
Client Name:	American Environ. Network	Date Extracted:	07/23/97
Client Project ID:	INDIAN BASIN REMEDIATION	Date Analyzed:	08/01/97
Sample Identification:	707353-43	Analysis By:	Casto
Matrix:	Water	Dilution Factor:	1.0
Associated QC Blank:	610B242	Time Analyzed:	0322
QC Batch Number:	242		

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
1	Naphthalene	1.0	8.4
2	Acenaphthylene	1.0	2.5
3	Acenaphthene	1.0	BQL
4	Fluorene	1.0	3.8
5	Phenanthrene	1.0	5.6
6	Anthracene	1.0	BQL
7	Fluoranthene	1.0	23
8	Pyrene	1.0	12
9	Benzo(a)anthracene	1.0	1.5
10	Chrysene	1.0	BQL
11	Benzo(b)fluoranthene	1.0	BQL
12	Benzo(k)fluoranthene	1.0	BQL
13	Benzo(a)pyrene	1.0	BQL
14	Dibenzo(a,h)anthracene	1.0	BQL
15	Benzo(g,h,i)perylene	1.0	BQL
16	Indeno(1,2,3-cd)pyrene	1.0	BQL
	Additional Compounds:		
17	1-Methylnaphthalene	1.0	BQL
18	2-Methylnaphthalene	1.0	BQL

Surrogate Compounds:	Acceptance Criteria	% Recovery
Carbazole	50 - 150	68

Comments:
Quantitation limits and results have been adjusted for any dilution factors.
BQL = Below Quantitation Limit

Industrial & Environmental Analysts, Inc. (IEA)
PAH WATER LABORATORY CONTROL SAMPLE (LCS)

IEA Project No:2399-042
IEA Sample No: LCS242

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC LIMITS REC
naphthalene	20	22	110	66-110
acenaphthylene	20	14	70	66-109
acenaphthene	20	15	75	61-111
fluorene	20	16	80	65-110
phenanthrene	20	17	85	72-115
anthracene	20	17	85	73-124
fluoranthene	20	17	85	73-118
benzo(k)fluoranthene	20	17	85	76-119

Corresponding Samples:9707421-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12

Industrial & Environmental Analysts, Inc. (IEA)
PAH WATER MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

IEA Project No:2399-042
IEA Sample No: 9707421-01

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC
naphthalene	20	12	21	45	D-122
acenaphthylene	20	BQL	11	55	D-139
acenaphthene	20	BQL	20	100	D-124
fluorene	20	BQL	16	80	D-142
phenanthrene	20	BQL	16	80	D-155
anthracene	20	BQL	18	90	D-126
fluoranthene	20	BQL	15	75	14-123
benzo(k)fluoranthene	20	BQL	5.8	29	D-159

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC#	% RPD #	QC LIMITS REC
naphthalene	20	25	65	36 *	D-122
acenaphthylene	20	11	55	0	D-139
acenaphthene	20	40	200 *	67 *	D-124
fluorene	20	16	80	0	D-142
phenanthrene	20	16	80	0	D-155
anthracene	20	17	85	6	D-126
fluoranthene	20	13	65	14	14-123
benzo(k)fluoranthene	20	4.9	25	17	D-159

Corresponding Samples: 9707421-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12
The %RPD limit for all compounds is 20%.
D = Detected

American Environmental Network
Albuquerque, New Mexico

Interlab Chain of Custody

DATE: 7-22 PAGE 2 OF 5

NETWORK PROJECT MANAGER: KIMBERLY D. McNEILL

COMPANY: American Environmental Network
ADDRESS: 2709-D Pan American Freeway, NE
Albuquerque, NM 87107

SHORT HOLDING TIME

CLIENT PROJECT MANAGER: Kim McNeill

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
707353 - 10	7-16	1020	AQ	
- 11		1140		
- 12		1210		
- 13		1230		
- 14		1335		
- 15		1400		
- 16		1450		
- 17		1520		
- 18		1620		

Metals - TAL	Metals - PP List	Metals - RCRA	RCRA Metals by TCLP (1311)	[redacted]	TOX	TOC	Gen Chemistry		Oil and Grease	BOD	COD	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	Polynuclear Aromatics (610/8310)	824C (TCLP 1311) ZHE	8270 (TCLP 1311)			TO-14	Gross Alpha/Beta				NUMBER OF CONTAINERS
																X										
																X										

PROJECT INFORMATION

PROJECT NUMBER: 707353
PROJECT NAME: Marathon Oil Co
QC LEVEL: (STD) IV
QC REQUIRED: MS MSD BLANK
TAT: (STANDARD) RUSH

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS:
CHAIN OF CUSTODY SEALS:
INTACT?:
RECEIVED GOOD COND./COLD:
LAB NUMBER:

DUE DATE: 7-30-97
RUSH SURCHARGE:
CLIENT DISCOUNT:
SPECIAL CERTIFICATION REQUIRED ( ) YES ( ) NO

SAMPLES SENT TO:

SAN DIEGO
Paragon
RENTON
PENSACOLA
PORTLAND
PHOENIX

RELINQUISHED BY: 1.

Signature: [signature] Time: 1700
Printed Name: Brian Price Date: 7-22-97
Albuquerque NM
Company:

RECEIVED BY: 1.

Signature: [signature] Time: 7/23/97 0930
Printed Name: Will Spritzer Date:
Company: ESN

RELINQUISHED BY: 2

Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: (LAB) 2.

Signature: Time:
Printed Name: Date:
Company:

American Environmental Network
Albuquerque, New Mexico

Interlab Chain of Custody

DATE: 7-22 PAGE: 3 OF 5

NETWORK PROJECT MANAGER: KIMBERLY D. McNEILL

COMPANY: American Environmental Network
ADDRESS: 2709-D Pan American Freeway, NE
Albuquerque, NM 87107

SHORT HOLDING TIME

CLIENT PROJECT MANAGER:
Kim McNeill

ANALYSIS REQUEST (columns): Metals - TAL; Metals - PP List; Metals - RCRA; RCRA Metals by TCLP (1311); [unlabeled]; [unlabeled]; TOX; TOC; Gen Chemistry; [unlabeled]; [unlabeled]; Oil and Grease; BOD; COD; Pesticides/PCB (608/8080); Herbicides (615/8150); Base/Neutral Acid Compounds GC/MS (625/8270); Volatile Organics GC/MS (624/8240); Polynuclear Aromatics (610/8310); 8240 (TCLP 1311) ZHE; 8270 (TCLP 1311); [unlabeled]; [unlabeled]; TC-14; Gross Alpha/Beta; [unlabeled]; [unlabeled]; NUMBER OF CONTAINERS

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	[unlabeled column after RCRA Metals by TCLP (1311)]	Polynuclear Aromatics (610/8310)
707353-19	7-17	0810	AQ			
-20	7-17-97	8:45	↓		X	
-21	7-17-97	0900	↓		X	X
-22	↓	0930	↓		X	
-23	↓	1035	↓		X	
-24	↓	1100	↓		X	
-25	↓	1145	↓		X	
-26	↓	1205	↓		X	
-27	↓	1430	↓		X	

PROJECT INFORMATION
PROJECT NUMBER:
PROJECT NAME:
QC LEVEL STD. IV
QC REQUIRED: MS MSD BLANK
TAT STANDARD RUSH!

DUE DATE:
RUSH SURCHARGE:
CLIENT DISCOUNT:
SPECIAL CERTIFICATION REQUIRED: [ ] YES [ ] NO

SAMPLE RECEIPT
TOTAL NUMBER OF CONTAINERS
CHAIN OF CUSTODY SEALS
INTACT?
RECEIVED GOOD COND./COLD
LAB NUMBER

SAMPLES SENT TO:
SAN DIEGO
Paragon
RENTON
PENSACOLA
PORTLAND
PHOENIX

RELINQUISHED BY: 1.
Signature: Time:
Printed Name: Date:
Albuquerque

RELINQUISHED BY: 2.
Signature Time
Printed Name Date
Company

RECEIVED BY: 1.
Signature: [signature] Time: 7/23/97/1052
Printed Name: Bill Springer Date:
Company: IEA

RECEIVED BY: (LAB) 2.
Signature: Time:
Printed Name: Date:
Company:

Labs San Diego (619) 458-9141 • Phoenix (602) 496-4400 • Seattle (206) 228-8335 • Pensacola (904) 474-1001 • Portland (503) 684-0447 • Albuquerque (505) 344-3777

2399-042 402

American Environmental Network
Albuquerque, New Mexico

Interlab Chain of Custody

DATE: 7-22 PAGE 1 OF

NETWORK PROJECT MANAGER: KIMBERLY D. McNEILL

COMPANY: American Environmental Network
ADDRESS: 2709-D Pan American Freeway, NE
Albuquerque, NM 87107

CLIENT PROJECT MANAGER:
Kim McNeill

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
707353-28	7-17	1510	AQ	
-29	7-17	1645		
-30	7-17	1715		
-31	7-17	~~1310~~ ~~1244~~ 1249		
-32		~~1315~~		
-33		1315		
-34		1340		
-35		1410		
-36		1420		

Analyses: Metals - TAL; Metals - PP List; Metals - RCRA; RCRA Metals by TCLP (1311); TOX; TOC; Gen Chemistry; Oil and Grease; BOD; COD; Pesticides/PCB (608/8080); Herbicides (615/8150); Base/Neutral Acid Compounds GC/MS (625/8270); Volatile Organics GC/MS (624/8240); Polynuclear Aromatics (610/8310); 8240 (TCLP 1311) ZHE; 8270 (TCLP 1311); TO-14; Gross Alpha/Beta; NUMBER OF CONTAINERS

- RCRA Metals by TCLP (1311): 1 — No Cl 7-22
- Volatile Organics GC/MS (624/8240): X — No Cl 7-22
- Polynuclear Aromatics (610/8310): X
- 8240 (TCLP 1311) ZHE: No Cl 7-22
- TOC: 0

PROJECT INFORMATION	SAMPLE RECEIPT
PROJECT NUMBER: 707353	TOTAL NUMBER OF CONTAINERS
PROJECT NAME: Marathon Oil Co	CHAIN OF CUSTODY SEALS
QC LEVEL: STD IV	INTACT?
QC REQUIRED: MS MSD BLANK	RECEIVED GOOD COND./COLD
TAT STANDARD RUSH!	LAB NUMBER

DUE DATE: 7-30-97
RUSH SURCHARGE:
CLIENT DISCOUNT:
SPECIAL CERTIFICATION REQUIRED: [ ] YES [ ] NO

-30 = No Cl of 8310

SAMPLES SENT TO:
SAN DIEGO
Paragon
RENTON
PENSACOLA
PORTLAND
PHOENIX

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.
Signature: Time: 1700	Signature Time
Printed Name: Brian Price Date: 7-22-97	Printed Name Date
Albuquerque NM	Company:
RECEIVED BY: 1.	**RECEIVED BY: (LAB) 2.**
Signature: Time: 7/23/97 1052	Signature: Time:
Printed Name: BTP Springer Date:	Printed Name: Date:
Company: IEA	Company:

Labs: San Diego (619) 458-9141 • Phoenix (602) 496-4400 • Seattle (206) 228-8335 • Pensacola (904) 474-1001 • Portland (503) 684-0447 • Albuquerque (505) 344-3777

4C 2399-042

American Environmental Network
Albuquerque, New Mexico

Interlab Chain of Custody

DATE: 7-22 PAGE: 5 OF 5

NETWORK PROJECT MANAGER: KIMBERLY D. McNEILL

COMPANY: American Environmental Network
ADDRESS: 2709-D Pan American Freeway, NE
Albuquerque, NM 87107

CLIENT PROJECT MANAGER:
Kim McNeill

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Metals - TAL	Metals - PP List	Metals - RCRA	RCRA Metals by TCLP (1311)	TOX	TOC	Gen Chemistry	Oil and Grease	BOD	COD	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	Polynuclear Aromatics (610/8310)	8240 (TCLP 1311) ZHE	8270 (TCLP 1311)	TO-14	Gross Alpha/Beta			NUMBER OF CONTAINERS
707353 -37	7-18	1445	AQ																X							
-38		1500																	X							
-39		1515																								
-40		1535																								
-41		1555																								
-42		1620																								
-43		1645																	X							
-44		1710																								
-45	7-10	1130																								

PROJECT INFORMATION

PROJECT NUMBER: 707353-
PROJECT NAME: Marathon Oil Co.
QC LEVEL: STD. II IV
QC REQUIRED: MS MSD BLANK
TAT: STANDARD RUSH

DUE DATE: 7-30
RUSH SURCHARGE:
CLIENT DISCOUNT:
SPECIAL CERTIFICATION REQUIRED: ☐YES ☐NO

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS	
CHAIN OF CUSTODY SEALS	
INTACT?	
RECEIVED GOOD COND./COLD	
LAB NUMBER	

SAMPLES SENT TO:

SAN DIEGO
Paragon
RENTON
PENSACOLA
PORTLAND
PHOENIX

RELINQUISHED BY: 1.

Signature: Time: 1700
Printed Name: Brian Price Date: 7-22-97
Albuquerque NM

RECEIVED BY: 1.

Signature: Time: 7/22/97 1053
Printed Name: Bill Springer Date:
Company: IET

RELINQUISHED BY:

Signature Time
Printed Name Date
Company

RECEIVED BY: (LAB)

Signature: Time:
Printed Name: Date:
Company:

Labs: San Diego (619) 458-9141 • Phoenix (602) 496-4400 • Seattle (206) 228-8335 • Pensacola (904) 474-1001 • Portland (503) 684-0447 • Albuquerque (505) 344-3777

UST 2399.047

American Environmental Network, Inc.

AEN I.D. 710369

October 31, 1997

Marathon Oil Company
P.O. Box 552
Midland, TX 79702

Project Name/Number: INDIAN BASIN REMEDIATION 023350224.63

Attention: Paul Peacock

On 10/16/97, American Environmental Network (NM) Inc., (ADHS License No. AZ0015), received a request to analyze **aqueous** samples. Samples were sent directly to American Environmental Network (AZ) Inc. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

All analyses were performed by American Environmental Network (AZ) Inc., 9830 S. 51st Street, Suite B-113, Phoenix, AZ.

If you have any questions or comments, please do not hesitate to contact us at (505) 344-3777.

Kimberly D. McNeill
Project Manager

H. Mitchell Rubenstein, Ph.D.
General Manager

MR:jt

Enclosure

2709-D Pan American Freeway, NE • Albuquerque, NM 87107 • (505) 344-3777 • Fax (602) 344-4413

CLIENT	: MARATHON OIL COMPANY	DATE RECEIVED	: 10/16/97
PROJECT #	: 023350224.63		
PROJECT NAME	: INDIAN BASIN REMEDIATION	REPORT DATE	: 10/31/97

AEN ID: 710369

	AEN ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	710369-01	MW-70	AQUEOUS	10/15/97
02	710369-02	MW-63	AQUEOUS	10/15/97
03	710369-03	MW-89	AQUEOUS	10/15/97
04	710369-04	MW-66	AQUEOUS	10/15/97
05	710369-05	MW-88	AQUEOUS	10/15/97
06	710369-06	MW-6/A	AQUEOUS	10/15/97

---TOTALS---

MATRIX	#SAMPLES
AQUEOUS	6

AEN STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

AEN I.D. 710238

October 29, 1997

American Environmental Network-NM
2709-D Pan American Frwy, NE
Albuquerque, NM 87107

Project Name/Number: Marathon Oil/710369

Attention: Kimberly D. McNeill

On 10/16/97, American Environmental Network (Arizona), Inc., received a request to analyze aqueous sample(s). The sample(s) were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

If you have any questions or comments, please do not hesitate to contact us at (602) 496-4400.

Linda Eshelman
Project Manager
LE/acc
Enclosure

ADHS License No. AZ0061
Sherman McCutcheon, General Manager

CLIENT : AMERICAN ENV. NETWORK OF NM, INC. DATE RECEIVED : 10/16/97
PROJECT # : 710369
PROJECT NAME : MARATHON OIL REPORT DATE : 10/29/97
ATI I.D. : 710238

ATI #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	710369-01	AQUEOUS	10/15/97
02	710369-02	AQUEOUS	10/15/97
03	710369-03	AQUEOUS	10/15/97
04	710369-04	AQUEOUS	10/15/97
05	710369-05	AQUEOUS	10/15/97
06	710369-06	AQUEOUS	10/15/97

----- TOTALS -----

MATRIX	# SAMPLES
AQUEOUS	6

ATI STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

GENERAL CHEMISTRY RESULTS

ATI I.D. : 710238

CLIENT : AMERICAN ENV. NETWORK OF NM, INC. DATE RECEIVED : 10/16/97
PROJECT # : 710369
PROJECT NAME : MARATHON OIL REPORT DATE : 10/29/97

PARAMETER	UNITS	01	02	03	04	05
AMMONIA AS N (EPA 350.3)	MG/L	<0.03	<0.03	<0.03	<0.03	1.20
NITRATE AS N (EPA 353.2)	MG/L	2.7	6.6	<0.06	0.33	<0.06
PHOSPHATE, ORTHO (EPA 365.3)	MG/L	0.30	0.25	0.24	0.22	<0.5
KJELDAHL NITROGEN (351.2)	MG/L	<0.2	<0.2	<0.2	<0.2	1.1

GENERAL CHEMISTRY RESULTS

ATI I.D. : 710238

CLIENT : AMERICAN ENV. NETWORK OF NM, INC.
PROJECT # : 710369
PROJECT NAME : MARATHON OIL

DATE RECEIVED : 10/16/97
REPORT DATE : 10/29/97

PARAMETER	UNITS	06
AMMONIA AS N (EPA 350.3)	MG/L	0.08
NITRATE AS N (EPA 353.2)	MG/L	<0.06
PHOSPHATE, ORTHO (EPA 365.3)	MG/L	<2.5
KJELDAHL NITROGEN (351.2)	MG/L	0.4

GENERAL CHEMISTRY - QUALITY CONTROL

CLIENT : AMERICAN ENV. NETWORK OF NM, INC.
PROJECT # : 710369
PROJECT NAME : MARATHON OIL ATI I.D. : 710238

PARAMETER	UNITS	ATI I.D.	SAMPLE RESULT	DUP. RESULT	RPD	SPIKED SAMPLE	SPIKE CONC	% REC
AMMONIA AS NITROGEN	MG/L	71008101	0.09	0.09	0	0.49	0.50	80
NITRATE AS NITROGEN	MG/L	71020501	0.09	0.08	12	2.06	2.00	98
PHOSPHATE, ORTHO	MG/L	71023804	0.22	0.17	26	0.66	0.50	88
TOT KJELDAHL NITROGEN	MG/L	71023801	<0.2	<0.2	NA	1.7	2.0	85

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

DATE OF ANALYSIS REPORT

AEN ID: 710238

29-Oct-97

METHOD	SAMPLE #	DATE	ANALYST
AMMONIA AS N (EPA 350.3)	01	10/21/97	DIPTI A. SHAH
	02	10/21/97	DIPTI A. SHAH
	03	10/21/97	DIPTI A. SHAH
	04	10/21/97	DIPTI A. SHAH
	05	10/21/97	DIPTI A. SHAH
	06	10/21/97	DIPTI A. SHAH
KJELDAHL NITROGEN (351.2)	01	10/27/97	MELISSA HUGHES
	02	10/27/97	MELISSA HUGHES
	03	10/27/97	MELISSA HUGHES
	04	10/27/97	MELISSA HUGHES
	05	10/27/97	MELISSA HUGHES
	06	10/27/97	MELISSA HUGHES
NITRATE AS N (EPA 353.2)	01	10/22/97	MELISSA HUGHES
	02	10/22/97	MELISSA HUGHES
	03	10/22/97	MELISSA HUGHES
	04	10/22/97	MELISSA HUGHES
	05	10/22/97	MELISSA HUGHES
	06	10/22/97	MELISSA HUGHES
PHOSPHATE, ORTHO (EPA 365.3)	01	10/16/97	MARLA WILSON
	02	10/16/97	MARLA WILSON
	03	10/16/97	MARLA WILSON
	04	10/16/97	MARLA WILSON
	05	10/16/97	MARLA WILSON
	06	10/16/97	MARLA WILSON

Methods for Chemical Analysis of Water and Wastes, EPA-600 4-79-020, March 1983

American Environmental Network (NM), Inc.
Albuquerque • Phoenix • Pensacola • Portland • Pleasant Hills • Columbia

CHAIN OF CUSTODY

DATE: 10/15/97 PAGE: 1 OF 1

AEN LAB I.D. 710238

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER: Paul Peneda

COMPANY: Marathon O/C
ADDRESS: P.O. Box 552
Midland Tx 79702
PHONE: (915) 687-8312
FAX: (915) 687-8305

BILL TO:
COMPANY: Same As Above
ADDRESS:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct/Inject	Nitrate, Ammonia, TKN, orthophosphate	(M8015) Gas/Purge & Trap	Gasoline/BTEX & MTBE (M8015/8020)	BTXE/MTBE (8020)	BTEX & Chlorinated Aromatics (602/8020)	BTEX/MTBE/EDC & EDB (8020/8010/Short)	Chlorinated Hydrocarbons (601/8010)	504 EDB ☐ / DBCP ☐	Polynuclear Aromatics (610/8310)	Volatile Organics (624/8240) GC/MS	Volatile Organics (8260) GC/MS	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	General Chemistry:	Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals:	NUMBER OF CONTAINERS
mw-70	10/15/97	0935	WATER	1			X																				N
mw-63		1110		2			X																				N
mw-89		1255		3			X																				N
mw-66		1335		4			X																				N
mw-88		1455		5			X																				N
mw-61A	↓	1550	↓	6			X																				N

PROJECT INFORMATION

PROJ NO: 023350224.67
PROJ NAME: Indian Basin Remediation
P.O. NO:
SHIPPED VIA:

SAMPLE RECEIPT

NO. CONTAINERS	12
CUSTODY SEALS	Y/N/(NA)
RECEIVED INTACT	Y
BLUE ICE/ICE	ICE

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) X 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☐

CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER

METHANOL PRESERVATION ☐

COMMENTS: FIXED FEE ☐

Watch Holding Times

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.
Signature: Kevin Cook Time: 1800	Signature: Time:
Printed Name: Kevin Cook Date: 10/15/97	Printed Name: Date:
Company: FDGTI	Company:
RECEIVED BY: 1.	**RECEIVED BY: (LAB) 2.**
Signature: Time:	Signature: Time: 0957
Printed Name: Date:	Printed Name: Heather Ocasio Date: 10/16/97
Company:	American Environmental Network (NM), Inc

DISTRIBUTION White, Canary - AEN Pink - ORIGINATOR

American Environmental Network
Albuquerque, New Mexico

Interlab Chain of Custody

DATE _____ PAGE ___ OF

NETWORK PROJECT MANAGER: KIMBERLY D. McNEILL

COMPANY: American Environmental Network
ADDRESS: 2709-D Pan American Freeway, NE
Albuquerque, NM 87107

CLIENT PROJECT MANAGER:

Kim McNeill

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
710369-01	10-15	0935	AQ	
-02		1110		
-03		1235		
-04		1335		
-05		1455		
-06		1550		

ANALYSIS REQUEST

Metals - TAL	Metals - PP List	Metals - RCRA	RCRA Metals by TCLP (1311)		TOX	TOC	Gen Chemistry: NO_3, Ammonia, TKN, ortho phosphate		Oil and Grease	BOD	COD	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral Acid Compounds GCMS (625/8270)	Volatile Organics GCMS (624/8240)	Polynuclear Aromatics (610/8310)	8240 TCLP (1311) ZHE	8270 TCLP (1311)							NUMBER OF CONTAINERS
							X	X																	
							X	X																	
							X	X																	
							X	X																	
							X	X																	
							X	X																	

PROJECT INFORMATION

PROJECT NUMBER: 710369
PROJECT NAME: Marathon OIL
QC LEVEL: STD IV
QC REQUIRED: MS MSD BLANK
TAT: STANDARD RUSH

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS:
CHAIN OF CUSTODY SEALS:
INTACT?
RECEIVED GOOD COND./COLD
LAB NUMBER

DUE DATE: 10-16
RUSH AUTHORIZATION:
CLIENT DISCOUNT:
SPECIAL CERTIFICATIONS REQUIRED: YES / NO

Sent Direct to PM x by client

SAMPLES SENT TO:

SAN DIEGO	
Paragon	
DENTON	
PENSACOLA	
PORTLAND	
PHOENIX	X

RELINQUISHED BY: 1.
Signature: _____ Time: 1700
Printed Name: Brian Price Date: 10-16-97
Company: Albuquerque NM

RECEIVED BY: 1.
Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 2
Signature Time
Printed Name Date
Company

RECEIVED BY: (LAB) 2
Signature Time:
Printed Name: Date
Company:

Labs: San Diego (619) 458 9141 • Phoenix (602) 496 4400 • Seattle (206) 228 8335 • Pensacola (904) 474-1001 • Portland (503) 684-0447 • Albuquerque (505) 344 3777

Rechecked by: BP

American Environmental Network, Inc.

AEN I.D. **710371**

November 4, 1997

Marathon Oil Company
P.O. Box 552
Midland, TX 79702

Project Name/Number: INDIAN BASIN REMEDIATION 023350224.63

Attention: Paul Peacock

On **10/17/97**, American Environmental Network (NM) Inc., (ADHS License No. AZ0015), received a request to analyze **aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

All analyses were performed by American Environmental Network (AZ) Inc., 9830 S. 51st Street, Suite B-113, Phoenix, AZ.

If you have any questions or comments, please do not hesitate to contact us at (505) 344-3777.

Kimberly D. McNeill
Project Manager

H. Mitchell Rubenstein, Ph.D.
General Manager

MR:jt

Enclosure

2709-D Pan American Freeway, NE • Albuquerque, NM 87107 • (505) 344-3777 • Fax (602) 344-4413

CLIENT : MARATHON OIL COMPANY DATE RECEIVED : 10/17/97
PROJECT # : 023350224.63
PROJECT NAME : INDIAN BASIN REMEDIATION REPORT DATE : 11/04/97

AEN ID: 710371

	AEN ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	710371-01	MW-71	AQUEOUS	10/16/97
02	710371-02	MW-60	AQUEOUS	10/16/97
03	710371-03	MW-87	AQUEOUS	10/16/97
04	710371-04	MW-87A	AQUEOUS	10/16/97
05	710371-05	MW-96	AQUEOUS	10/16/97

---TOTALS---

MATRIX	#SAMPLES
AQUEOUS	5

AEN STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

AEN I.D. 710269

October 31, 1997

American Environmental Network-NM
2709-D Pan American Frwy, NE
Albuquerque, NM 87107

Project Name/Number: MOC/710371

Attention: Kimberly D. McNeill

On 10/17/97, American Environmental Network (Arizona), Inc., received a request to analyze aqueous sample(s). The sample(s) were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

If you have any questions or comments, please do not hesitate to contact us at (602) 496-4400.

Linda Eshelman
Project Manager
LE/acc
Enclosure

ADHS License No. AZ0061
Sherman McCutcheon, General Manager

CLIENT : AMERICAN ENV. NETWORK OF NM, INC. DATE RECEIVED : 10/17/97
PROJECT # : 710371
PROJECT NAME : MARATHON OIL REPORT DATE : 10/31/97
ATI I.D. : 710269

ATI #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	710371-01	AQUEOUS	10/16/97
02	710371-02	AQUEOUS	10/16/97
03	710371-03	AQUEOUS	10/16/97
04	710371-04	AQUEOUS	10/16/97
05	710371-05	AQUEOUS	10/16/97

----- TOTALS -----

MATRIX	# SAMPLES
AQUEOUS	5

ATI STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

GENERAL CHEMISTRY RESULTS

ATI I.D. : 710269

CLIENT : AMERICAN ENV. NETWORK OF NM, INC.
PROJECT # : 710371
PROJECT NAME : MARATHON OIL

DATE RECEIVED : 10/17/97
REPORT DATE : 10/31/97

PARAMETER	UNITS	01	02	03	04	05
AMMONIA AS N (EPA 350.3)	MG/L	0.63	0.07	<0.03	0.17	<0.03
NITRATE AS N (EPA 353.2)	MG/L	0.06	0.28	0.52	<0.06	0.38
PHOSPHATE, ORTHO (EPA 365.3)	MG/L	0.18	0.06	0.06	0.09	0.08
KJELDAHL NITROGEN (351.2)	MG/L	0.6	<0.2	<0.2	0.9	<0.2

GENERAL CHEMISTRY - QUALITY CONTROL

CLIENT : AMERICAN ENV. NETWORK OF NM, INC.
PROJECT # : 710371
PROJECT NAME : MARATHON OIL ATI I.D. : 710269

PARAMETER	UNITS	ATI I.D.	SAMPLE RESULT	DUP. RESULT	RPD	SPIKED SAMPLE	SPIKE CONC	% REC
AMMONIA AS NITROGEN	MG/L	71026901	0.63	0.63	0	1.79	1.00	116
NITRATE AS NITROGEN	MG/L	71026901	0.06	0.06	0	2.04	2.00	99
PHOSPHATE, ORTHO	MG/L	71026905	0.08	0.08	0	0.59	0.50	102
TOT KJELDAHL NITROGEN	MG/L	71023801	<0.2	<0.2	NA	1.7	2.0	85
TOT KJELDAHL NITROGEN	MG/L	71032701	3.0	3.1	3	5.5	2.0	125

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

DATE OF ANALYSIS REPORT

AEN ID: 710269

31-Oct-97

METHOD	SAMPLE #	DATE	ANALYST
AMMONIA AS N (EPA 350.3)	01	10/28/97	DIPTI A. SHAH
	02	10/28/97	DIPTI A. SHAH
	03	10/28/97	DIPTI A. SHAH
	04	10/28/97	DIPTI A. SHAH
	05	10/28/97	DIPTI A. SHAH
KJELDAHL NITROGEN (351.2)	01	10/27/97	MELISSA HUGHES
	02	10/27/97	MELISSA HUGHES
	03	10/27/97	MELISSA HUGHES
	04	10/27/97	MELISSA HUGHES
	05	10/27/97	MELISSA HUGHES
NITRATE AS N (EPA 353.2)	01	10/29/97	MELISSA HUGHES
	02	10/29/97	MELISSA HUGHES
	03	10/29/97	MELISSA HUGHES
	04	10/29/97	MELISSA HUGHES
	05	10/29/97	MELISSA HUGHES
PHOSPHATE, ORTHO (EPA 365.3)	01	10/17/97	CARLENE MCCUTCHEON
	02	10/17/97	CARLENE MCCUTCHEON
	03	10/17/97	CARLENE MCCUTCHEON
	04	10/17/97	CARLENE MCCUTCHEON
	05	10/17/97	CARLENE MCCUTCHEON

Methods for Chemical Analysis of Water and Wastes, EPA-600 4-79-020, March 1983

DATE OF ANALYSIS REPORT

AEN ID: 710269

31-Oct-97

METHOD	SAMPLE #	DATE	ANALYST
AMMONIA AS N (EPA 350.3)	01	10/28/97	DIPTI A. SHAH
	02	10/28/97	DIPTI A. SHAH
	03	10/28/97	DIPTI A. SHAH
	04	10/28/97	DIPTI A. SHAH
	05	10/28/97	DIPTI A. SHAH
KJELDAHL NITROGEN (351.2)	01	10/27/97	MELISSA HUGHES
	02	10/27/97	MELISSA HUGHES
	03	10/27/97	MELISSA HUGHES
	04	10/27/97	MELISSA HUGHES
	05	10/27/97	MELISSA HUGHES
NITRATE AS N (EPA 353.2)	01	10/29/97	MELISSA HUGHES
	02	10/29/97	MELISSA HUGHES
	03	10/29/97	MELISSA HUGHES
	04	10/29/97	MELISSA HUGHES
	05	10/29/97	MELISSA HUGHES
PHOSPHATE, ORTHO (EPA 365.3)	01	10/17/97	CARLENE MCCUTCHEON
	02	10/17/97	CARLENE MCCUTCHEON
	03	10/17/97	CARLENE MCCUTCHEON
	04	10/17/97	CARLENE MCCUTCHEON
	05	10/17/97	CARLENE MCCUTCHEON

Methods for Chemical Analysis of Water and Wastes, EPA-600 4-79-020, March 1983

American Environmental Network (NM), Inc.
Albuquerque • Phoenix • Pensacola • Portland • Pleasant Hills • Columbia

CHAIN OF CUSTODY
DATE: 10/16/97 PAGE: 1 OF 1

AEN LAB I.D. 710269

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: Paul Peacock

COMPANY: Macarthur o/c
ADDRESS: PO Box 552
Midland TX 79702
PHONE: (915) 687-8312
FAX: (915) 687 8305

BILL TO:
COMPANY: Same as above
ADDRESS:

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	Nitrate AEN, Ammonia, TKN, orthophosphate	NUMBER OF CONTAINERS
MW-71	10/16/97	1025	Water	1	X	2
mw-60	↓	1210	↓	2	X	2
mw-87	↓	1325	↓	3	X	2
MW-87A	↓	1445	↓	4	X	2
mw-96	↓	1545	↓	5	X	2

ANALYSIS REQUEST: Petroleum Hydrocarbons (418.1) TRPH; (MOD.8015) Diesel/Direct/Inject; Nitrate AEN, Ammonia, TKN, orthophosphate; (M8015) Gas/Purge & Trap; Gasoline/BTEX & MTBE (M8015/8020); BTXE/MTBE (8020); BTEX & Chlorinated Aromatics (602/8020); BTEX/MTBE/EDC & EDB (8020/8010/Short); Chlorinated Hydrocarbons (601/8010); 504 EDB ☐ / DBCP ☐; Polynuclear Aromatics (610/8310); Volatile Organics (624/8240) GC/MS; Volatile Organics (8260) GC/MS; Pesticides/PCB (608/8080); Herbicides (615/8150); Base/Neutral/Acid Compounds GC/MS (625/8270); General Chemistry:; Priority Pollutant Metals (13); Target Analyte List Metals (23); RCRA Metals (8); RCRA Metals by TCLP (Method 1311); Metals:; NUMBER OF CONTAINERS

PROJECT INFORMATION

PROJ NO: 02335022 4.63
PROJ NAME: Indian Basin Remediation
PO NO:
SHIPPED VIA:

SAMPLE RECEIPT

NO. CONTAINERS	10
CUSTODY SEALS	Y/N/(NA)
RECEIVED INTACT	Y
BLUE ICE/ICE	ICE

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) [X] 24hr [ ] 48hr [ ] 72hr [ ] 1 WEEK (NORMAL) [ ]

CERTIFICATION REQUIRED: [ ] NM [ ] SDWA [ ] OTHER

METHANOL PRESERVATION [ ]

COMMENTS: FIXED FEE [ ]
Watch Holding Times

RELINQUISHED BY: 1.
Signature: Kevin Cook Time: 1700
Printed Name: Kevin Cook Date: 10/16/97
Company: EDGTI

RECEIVED BY: 1.
Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 2.
Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: (LAB) 2.
Signature: Heather Vasquez Time: 0957
Printed Name: Heather Vasquez Date: 10/17/97
American Environmental Network (NM), Inc

American Environmental Network
Albuquerque, New Mexico

Interlab Chain of Custody

DATE 10-16 PAGE 1 OF 1

OCT 17 '97 12:18PM AEN NEW MEXICO

NETWORK PROJECT MANAGER: KIMBERLY D. McNEILL

COMPANY: American Environmental Network
ADDRESS: 2709-D Pan American Freeway, NE
Albuquerque, NM 87107

CLIENT PROJECT MANAGER:

Kim McNeill

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
710371-01	10-16	0825	AQ	
-02		1210		
-03		1325		
-04		1445		
-05		1515		

Analyses: Metals - TAL; Metals - PP List; Metals - RCRA; RCRA Metals by TCLP (1311); NO3 Ammonia TKN Alkalinity Phosphorus; TOX; TOC; Gen Chemistry; Oil and Grease; BOD; COD; Pesticides/PCB (608/8080); Herbicides (615/8150); Base/Neutral/Acid Compounds GCMS (625/8270); Volatile Organics GCMS (624/8240); Benzene/Toluene/Ethylbenzene/Xylenes (602/8020); 8240 (TCLP 1311) ZHE; 8270 (TCLP 1311); TCLP; Gross Alpha/Beta; NUMBER OF CONTAINERS

PROJECT INFORMATION

PROJECT NUMBER: 710371
PROJECT NAME: M O.C.
QC LEVEL: STD II IV
SPECIAL REPORTING: MS MSD BLANK
SAMPLE: STANDARD RUSH

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS:
CHAIN OF CUSTODY SEALS:
INTACT?
RECEIVED GOOD COND/COLD:
LAB NUMBER:

DUE DATE: 10-22-97
RUSH BY/SURCHARGE:
LAB USE ONLY:
SPECIAL CERTIFICATION REQUIRED: YES NO

Direct to Mx

SAMPLES SENT TO:

SAN DIEGO
Paragon
RENTON
PENSACOLA
PORTLAND
PINELLAS X

RELINQUISHED BY: 1.
Signature: Time: 1700
Printed Name: Date:
Albuquerque NM
Company:

RECEIVED BY: 1.
Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 2
Signature Time
Printed Name Date
Company

RECEIVED BY: (LAB) 2.
Signature: Time:
Printed Name: Date:
Company:

Rechecked by: BL

P.2

American Environmental Network, Inc.

AEN I.D. **710392**

November 5, 1997

Marathon Oil Company
P.O. Box 552
Midland, TX 79702

Project Name/Number: INDIAN BASIN REMEDIATION 023350224.63

Attention: Paul Peacock

On **10/18/97**, American Environmental Network (NM) Inc., (ADHS License No. AZ0015), received a request to analyze **aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

All analyses were performed by American Environmental Network (AZ) Inc., 9830 S. 51st Street, Suite B-113, Phoenix, AZ.

If you have any questions or comments, please do not hesitate to contact us at (505) 344-3777.

Kimberly D. McNeill
Project Manager

H. Mitchell Rubenstein, Ph.D.
General Manager

MR:jt

Enclosure

2709-D Pan American Freeway, NE • Albuquerque, NM 87107 • (505) 344-3777 • Fax (602) 344-4413

CLIENT	: MARATHON OIL COMPANY	DATE RECEIVED	: 10/18/97
PROJECT #	: 023350224.63		
PROJECT NAME	: INDIAN BASIN REMEDIATION	REPORT DATE	: 11/05/97

AEN ID: 710392

	AEN ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	710392-01	MW-97	AQUEOUS	10/17/97
02	710392-02	MW-86	AQUEOUS	10/17/97
03	710392-03	MW-94	AQUEOUS	10/17/97
04	710392-04	MW-68	AQUEOUS	10/17/97

---TOTALS---

MATRIX	#SAMPLES
AQUEOUS	4

AEN STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

AEN I.D. 710290

October 31, 1997

American Environmental Network-NM
2709-D Pan American Frwy, NE
Albuquerque, NM 87107

Project Name/Number: Marathon Oil/710392

Attention: Kimberly D. McNeill

On 10/18/97, American Environmental Network (Arizona), Inc., received a request to analyze aqueous sample(s). The sample(s) were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

If you have any questions or comments, please do not hesitate to contact us at (602) 496-4400.

Marcia A. Smith
Project Manager
MS/acc
Enclosure

ADHS License No. AZ0061
Sherman McCutcheon, General Manager

CLIENT : AMERICAN ENV. NETWORK OF NM, INC. DATE RECEIVED : 10/18/97
PROJECT # : 710392
PROJECT NAME : MARATHON OIL REPORT DATE : 10/31/97
ATI I.D. : 710290

ATI #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	710392-01	AQUEOUS	10/17/97
02	710392-02	AQUEOUS	10/17/97
03	710392-03	AQUEOUS	10/17/97
04	710392-04	AQUEOUS	10/17/97

----- TOTALS -----

MATRIX	# SAMPLES
AQUEOUS	4

ATI STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

GENERAL CHEMISTRY - QUALITY CONTROL

CLIENT : AMERICAN ENV. NETWORK OF NM, INC.
PROJECT # : 710392
PROJECT NAME : MARATHON OIL ATI I.D. : 710290

PARAMETER	UNITS	ATI I.D.	SAMPLE RESULT	DUP. RESULT	RPD	SPIKED SAMPLE	SPIKE CONC	% REC
AMMONIA AS NITROGEN	MG/L	71026901	0.63	0.63	0	1.79	1.00	116
NITRATE AS NITROGEN	MG/L	71029004	0.08	0.06	29	2.00	2.00	96
PHOSPHATE, ORTHO	MG/L	71029003	<0.05	<0.05	NA	0.63	0.50	126
TOT KJELDAHL NITROGEN	MG/L	71032701	3.0	3.1	3	5.5	2.0	125

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

GENERAL CHEMISTRY RESULTS

ATI I.D. : 710290

CLIENT : AMERICAN ENV. NETWORK OF NM, INC.
PROJECT # : 710392
PROJECT NAME : MARATHON OIL

DATE RECEIVED : 10/18/97
REPORT DATE : 10/31/97

PARAMETER	UNITS	01	02	03	04
AMMONIA AS N (EPA 350.3)	MG/L	<0.03	2.77	<0.03	<0.03
NITRATE AS N (EPA 353.2)	MG/L	1.71	1.91	2.4	0.08
PHOSPHATE, ORTHO (EPA 365.3)	MG/L	0.43	0.5	<0.05	0.41
KJELDAHL NITROGEN (351.2)	MG/L	<0.2	14	<0.2	1.8

DATE OF ANALYSIS REPORT

AEN ID: 710290

31-Oct-97

METHOD	SAMPLE #	DATE	ANALYST
AMMONIA AS N (EPA 350.3)	01	10/28/97	DIPTI A. SHAH
	02	10/28/97	DIPTI A. SHAH
	03	10/28/97	DIPTI A. SHAH
	04	10/28/97	DIPTI A. SHAH
KJELDAHL NITROGEN (351.2)	01	10/27/97	MELISSA HUGHES
	02	10/27/97	MELISSA HUGHES
	03	10/27/97	MELISSA HUGHES
	04	10/27/97	MELISSA HUGHES
NITRATE AS N (EPA 353.2)	01	10/29/97	MELISSA HUGHES
	02	10/29/97	MELISSA HUGHES
	03	10/29/97	MELISSA HUGHES
	04	10/29/97	MELISSA HUGHES
PHOSPHATE, ORTHO (EPA 365.3)	01	10/18/97	CARLENE MCCUTCHEON
	02	10/18/97	CARLENE MCCUTCHEON
	03	10/18/97	CARLENE MCCUTCHEON
	04	10/18/97	CARLENE MCCUTCHEON

Methods for Chemical Analysis of Water and Wastes, EPA-600 4-79-020, March 1983

American Environmental Network (Arizona), Inc.

AEN

CHAIN OF CUSTODY

DATE 10/17/97 PAGE 1 OF 1

AEN LAB I.D. 710290

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

REPORT: Attn. to: Paul Peacock

COMPANY: Marathon O/C

ADDRESS: PO Box 552
Midland TX 79702

PHONE: (915) 687-8312

FAX: (915) 687 8305

BILL TO:

COMPANY: same as above

ADDRESS:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	COMPOSITE OR GRAB	Nitrates/Nitrites/Ammonia/TKN/Orthophosphate	Petroleum Hydrocarbons (418.1)	Fuel Fingerprint	(MOD.8015) Gas	(BLS-191) Diesel	BTXE/MTBE (8020/602)	Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	Volatiles 502.2 (SDWA/UST)	Pesticides/PCB (608/8080/505/508)	Herbicides (615/8150/515)	Semi-Volatiles GC/MS (Tics/No Tics)	Volatile Organics GC/MS (624/8240/8260)	Polynuclear Aromatics (610/8310)	RCRA Metals by Total Digestion	RCRA Metals by TCLP (1311)	NUMBER OF CONTAINERS
MW-97	10/17/97	0905	Water	1	G	X																2
MW-86		1035		2	G	X																N
MW-94		1050		3	G	X																N
MW-68		1110		4	G	X																N

PROJECT INFORMATION

PROJ NO. 023550224.63

PROJ NAME: Finding Best Remediation

PO NO:

SHIPPED VIA:

☐ UST (72 hr ext) ☐ NPDES ☐ SDWA ☐ RCRA ☐ OTHER

SAMPLE RECEIPT

NO. CONTAINERS	8	
CUSTODY SEALS	Y / N	NA
RECEIVED INTACT	Y	N / NA
RECEIVED ICE	Y	N / NA

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☒ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☐ 2 WEEKS

Comments: Watch Holding Times

SAMPLED & RELINQUISHED BY: 1.

Signature: Kevin Cook Time: 1800

Printed Name: Kevin Cook Date: 10/17/97

Company: EQ&T Phone: (505) 242-3113

RELINQUISHED BY: 2.

Signature: Time:

Printed Name: Date:

Company:

RELINQUISHED BY: 3.

Signature: Time:

Printed Name: Date:

Company:

RECEIVED BY: 1.

Signature: Time:

Printed Name: Date:

Company:

RECEIVED BY: 2.

Signature: Time:

Printed Name: Date:

Company:

RECEIVED BY: (LAB) 3.

Signature: Time:

Printed Name: Date:

Heather Warrington 10/18/97

American Environmental Network

AEN Labs Albuquerque (505) 344-3777 • Columbia (410) 730-8525 • Pensacola (904) 474-1001 • Pleasant Hill (510) 930-9090 • Portland (503) 684-0447

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OCT 21 '97 08:13AM AEN P.2/2

American Environmental Network (Arizona), Inc.

CHAIN OF CUSTODY

DATE 10/17/97 PAGE 1 OF 1

70190

PROJECT MANAGER: Paul Pocock

COMPANY: Metropolitan c/c
ADDRESS: PO Box 552
Midland TX 79702
PHONE: (915) 687-9312
FAX: (915) 687 8305

BILL TO:
COMPANY:
ADDRESS: Same as above

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	COMPOSITE OR GRAB	Nitrate N, Bromide, TDS, ...	Petroleum Hydrocarbons (418.1)	(MOD.8015) Fuel Fingerprint	(M8015) Gas	(BLS-191) Diesel	BTXE/MTBE (8020/602)	Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	Volatiles 502.2 (SDWA/UST)	Pesticides/PCB (608/8080/505/508)	Herbicides (615/8150/515)	Semi-Volatiles GC/MS (Tics/No Tics)	Volatile Organics GC/MS (624/8240/8260)	Polynuclear Aromatics (610/8310)	RCRA Metals by Total Digestion	RCRA Metals by TCLP (1311)	NUMBER OF CONTAINERS
MW-97	10/17/97	0905	Water	1	G	X																2 -01
MW-86	↓	1035	↓	2	G	X																2 -02
MW-94	↓	1050	↓	3	G	X																2 -03
MW-68	↓	1110	↓	4	G	X																2 -04

PROJECT INFORMATION

PROJ. NO.: 02335029.63
PROJ. NAME: Indian Basin Ranch
P.O. NO.:
SHIPPED VIA:

☐ UST (72 hr. rul) ☐ NPDES ☐ SDWA ☐ RCRA ☐ OTHER

SAMPLE RECEIPT

NO. CONTAINERS: 8
CUSTODY SEALS: Y / N / (NA)
RECEIVED INTACT: (Y) / N / NA
RECEIVED ICE: (Y) / N / NA

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☒ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☐ 2 WEEKS

Comments: Watch Holding Times

SAMPLED & RELINQUISHED BY: 1.

Signature: [signature] Time: 1800
Printed Name: Kevin Cook Date: 10/17/97
Company: EDG&E Phone: (505) 242-3113

RELINQUISHED BY: 2.

Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 3.

Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: 1.

Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: 2.

Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: (LAB) 3.

Signature: [signature] Time: 1257
Printed Name: [illegible] Date: 10/17/97
American Environmental Network

AEN Labs: Albuquerque (505) 344-3777 • Columbia (410) 730-8525 • Pensacola (904) 474-1001 • Pleasant Hill (510) 930-9090 • Portland (503) 684-0447

DISTRIBUTION: White, Canary AEN (Arizona), Inc. • Pink - ORIGINATOR

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

American Environmental Network, Inc.

AEN I.D. 710379

December 18, 1997

MARATHON OIL COMPANY
P.O. BOX 552
MIDLAND, TX 79702-0552

Project Name Indian Basin Remediation
Project Number 023350224.63

Attention: PAUL PEACOCK

On 10/17/97 American Environmental Network (NM), Inc. (ADHS License No. AZ0015), received a request to analyze **aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

EPA Method 8020 was performed by AEN(NM), Inc., Albuquerque, NM.

Potassium and sodium analyses were performed by AEN(OR), Portland, OR.

All other analyses were performed by AEN(AZ), Phoenix, AZ.

If you have any questions or comments, please do not hesitate to contact us at (505)344-3777.

H. Mitchell Rubenstein, Ph. D.
General Manager

MR: mt

Enclosure

2709-D Pan American Freeway, NE • Albuquerque, NM 87107 • (505) 344-3777 • Fax (505) 344-4413

CLIENT	: MARATHON OIL COMPANY	AEN I.D.	: 710379
PROJECT #	: 023350224.63	DATE RECEIVED	: 10/17/97
PROJECT NAME	: Indian Basin Remediation	REPORT DATE	: 12/18/97

AEN ID. #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	DI H20	AQUEOUS	10/15/97
02	INT RB	AQUEOUS	10/15/97
03	MW-70RB	AQUEOUS	10/15/97
04	MW-70	AQUEOUS	10/15/97
05	MW-63	AQUEOUS	10/15/97
06	MW-63RB	AQUEOUS	10/15/97
07	MW-89	AQUEOUS	10/15/97
08	MW-89RB	AQUEOUS	10/15/97
09	MW-66	AQUEOUS	10/15/97
10	MW-66RB	AQUEOUS	10/15/97
11	MW-88	AQUEOUS	10/15/97
12	MW-88RB	AQUEOUS	10/15/97
13	MW-61A	AQUEOUS	10/15/97
14	MW-61ARB	AQUEOUS	10/16/97
15	MW-71	AQUEOUS	10/16/97
16	MW-71RB	AQUEOUS	10/16/97
17	MW-60	AQUEOUS	10/16/97
18	MW-60RB	AQUEOUS	10/16/97
19	MW-87	AQUEOUS	10/16/97
20	MW-87RB	AQUEOUS	10/16/97
21	MW-87A	AQUEOUS	10/16/97
22	MW-87ARB	AQUEOUS	10/16/97
23	MW-96	AQUEOUS	10/16/97
24	MW-96RB	AQUEOUS	10/17/97
25	MW-97	AQUEOUS	10/17/97
26	WEST STRIPPER RO Reset ON	AQUEOUS	10/17/97
27	MW-86	AQUEOUS	10/17/97
28	MW-94	AQUEOUS	10/17/97
29	MW-68	AQUEOUS	10/17/97
30	TRIP BLANK	AQUEOUS	10/10/97

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL COMPANY AEN I.D.: 710379
PROJECT # : 023350224.63
PROJECT NAME : Indian Basin Remediation

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	DI H20	AQUEOUS	10/15/97	NA	10/21/97	1
02	INT RB	AQUEOUS	10/15/97	NA	10/21/97	1
03	MW-70RB	AQUEOUS	10/15/97	NA	10/21/97	1

PARAMETER	DET. LIMIT	UNITS	01	02	03
BENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOLUENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOTAL XYLENES	0.5	UG/L	< 0.5	< 0.5	< 0.5
SURROGATE:					
BROMOFLUOROBENZENE (%)			90	90	84
SURROGATE LIMITS	(80 - 120)				

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL COMPANY AEN I.D.: 710379
PROJECT # : 023350224.63
PROJECT NAME : Indian Basin Remediation

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
04	MW-70	AQUEOUS	10/15/97	NA	10/21/97	1
05	MW-63	AQUEOUS	10/15/97	NA	10/21/97	1
06	MW-63RB	AQUEOUS	10/15/97	NA	10/21/97	1

PARAMETER	DET. LIMIT	UNITS	04	05	06
BENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOLUENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOTAL XYLENES	0.5	UG/L	< 0.5	< 0.5	< 0.5
SURROGATE:					
BROMOFLUOROBENZENE (%)			88	86	89
SURROGATE LIMITS	(80 - 120)				

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL COMPANY AEN I.D.: 710379
PROJECT # : 023350224.63
PROJECT NAME : Indian Basin Remediation

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
07	MW-89	AQUEOUS	10/15/97	NA	10/21/97	1
08	MW-89RB	AQUEOUS	10/15/97	NA	10/21/97	1
09	MW-66	AQUEOUS	10/15/97	NA	10/21/97	1

PARAMETER	DET. LIMIT	UNITS	07	08	09
BENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOLUENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOTAL XYLENES	0.5	UG/L	< 0.5	< 0.5	< 0.5
SURROGATE:					
BROMOFLUOROBENZENE (%)			87	82	93
SURROGATE LIMITS	(80 - 120)				

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL COMPANY AEN I.D.: 710379
PROJECT # : 023350224.63
PROJECT NAME : Indian Basin Remediation

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
10	MW-66RB	AQUEOUS	10/15/97	NA	10/21/97	1
11	MW-88	AQUEOUS	10/15/97	NA	10/21/97	1
12	MW-88RB	AQUEOUS	10/15/97	NA	10/21/97	1

PARAMETER	DET. LIMIT	UNITS	10	11	12
BENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOLUENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOTAL XYLENES	0.5	UG/L	< 0.5	< 0.5	< 0.5
SURROGATE:					
BROMOFLUOROBENZENE (%)			84	94	89
SURROGATE LIMITS	(80 - 120)				

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL COMPANY AEN I.D.: 710379
PROJECT # : 023350224.63
PROJECT NAME : Indian Basin Remediation

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
13	MW-61A	AQUEOUS	10/15/97	NA	10/22/97	10
14	MW-61ARB	AQUEOUS	10/16/97	NA	10/21/97	1
15	MW-71	AQUEOUS	10/16/97	NA	10/21/97	1

PARAMETER	DET. LIMIT	UNITS	13	14	15
BENZENE	0.5	**UG/L**	**35**	< 0.5	< 0.5
TOLUENE	0.5	**UG/L**	**13**	< 0.5	< 0.5
ETHYLBENZENE	0.5	**UG/L**	**22**	< 0.5	< 0.5
TOTAL XYLENES	0.5	**UG/L**	**95**	< 0.5	< 0.5
SURROGATE:					
BROMOFLUOROBENZENE (%)			88	85	92
SURROGATE LIMITS	(80 - 120)				

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL COMPANY AEN I.D.: 710379
PROJECT # : 023350224.63
PROJECT NAME : Indian Basin Remediation

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
16	MW-71RB	AQUEOUS	10/16/97	NA	10/21/97	1
17	MW-60	AQUEOUS	10/16/97	NA	10/21/97	1
18	MW-60RB	AQUEOUS	10/16/97	NA	10/21/97	1

PARAMETER	DET. LIMIT	UNITS	16	17	18
BENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOLUENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOTAL XYLENES	0.5	UG/L	< 0.5	< 0.5	< 0.5
SURROGATE:					
BROMOFLUOROBENZENE (%)			97	89	93
SURROGATE LIMITS	(80 - 120)				

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL COMPANY AEN I.D.: 710379
PROJECT # : 023350224.63
PROJECT NAME : Indian Basin Remediation

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
19	MW-87	AQUEOUS	10/16/97	NA	10/21/97	1
20	MW-87RB	AQUEOUS	10/16/97	NA	10/22/97	1
21	MW-87A	AQUEOUS	10/16/97	NA	10/22/97	1

PARAMETER	DET. LIMIT	UNITS	19	20	21
BENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOLUENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOTAL XYLENES	0.5	UG/L	< 0.5	< 0.5	< 0.5
SURROGATE:					
BROMOFLUOROBENZENE (%)			92	89	88
SURROGATE LIMITS	(80 - 120)				

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL COMPANY AEN I.D.: 710379
PROJECT # : 023350224.63
PROJECT NAME : Indian Basin Remediation

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
22	MW-87ARB	AQUEOUS	10/16/97	NA	10/22/97	1
23	MW-96	AQUEOUS	10/16/97	NA	10/22/97	1
24	MW-96RB	AQUEOUS	10/17/97	NA	10/22/97	1

PARAMETER	DET. LIMIT	UNITS	22	23	24
BENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOLUENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOTAL XYLENES	0.5	UG/L	< 0.5	< 0.5	< 0.5
SURROGATE:					
BROMOFLUOROBENZENE (%)			92	91	87
SURROGATE LIMITS	(80 - 120)				

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL COMPANY AEN I.D.: 710379
PROJECT # : 023350224.63
PROJECT NAME : Indian Basin Remediation

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
25	MW-97	AQUEOUS	10/17/97	NA	10/22/97	1
27	MW-86	AQUEOUS	10/17/97	NA	10/22/97	200
28	MW-94	AQUEOUS	10/17/97	NA	10/22/97	1

PARAMETER	DET. LIMIT	UNITS	25	27	28
BENZENE	0.5	**UG/L**	< 0.5	**510**	< 0.5
TOLUENE	0.5	**UG/L**	< 0.5	**360**	< 0.5
ETHYLBENZENE	0.5	**UG/L**	< 0.5	**580**	< 0.5
TOTAL XYLENES	0.5	**UG/L**	< 0.5	**1400**	< 0.5

SURROGATE:

BROMOFLUOROBENZENE (%)		93	85	90
SURROGATE LIMITS	(80 - 120)			

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : MARATHON OIL COMPANY AEN I.D.: 710379
PROJECT # : 023350224.63
PROJECT NAME : Indian Basin Remediation

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
29	MW-68	AQUEOUS	10/17/97	NA	10/22/97	200
30	TRIP BLANK	AQUEOUS	10/10/97	NA	10/22/97	1

PARAMETER	DET. LIMIT	UNITS	29	30
BENZENE	0.5	**UG/L**	**740**	< 0.5
TOLUENE	0.5	UG/L	100	< 0.5
ETHYLBENZENE	0.5	**UG/L**	**490**	< 0.5
TOTAL XYLENES	0.5	**UG/L**	**3800**	< 0.5

SURROGATE:
BROMOFLUOROBENZENE (%) 96 89
SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS
REAGENT BLANK

TEST	: BTEX (EPA 8020)	AEN I.D.	: 710379
BLANK I. D.	: 102197	DATE EXTRACTED	: NA
CLIENT	: MARATHON OIL COMPANY	DATE ANALYZED	: 10/21/97
PROJECT #	: 023350224.63	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: Indian Basin Remediation		

PARAMETER	UNITS	
BENZENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
ETHYLBENZENE	UG/L	<0.5
TOTAL XYLENES	UG/L	<0.5
SURROGATE:		
BROMOFLUOROBENZENE (%)		95
SURROGATE LIMITS:	(80 - 120)	

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS
REAGENT BLANK

TEST	: BTEX (EPA 8020)	AEN I.D.	: 710379
BLANK I. D.	: 102197-B	DATE EXRACTED	: NA
CLIENT	: MARATHON OIL COMPANY	DATE ANALYZED	: 10/21/97
PROJECT #	: 023350224.63	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: Indian Basin Remediation		

PARAMETER	UNITS	
BENZENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
ETHYLBENZENE	UG/L	<0.5
TOTAL XYLENES	UG/L	<0.5
SURROGATE:		
BROMOFLUOROBENZENE (%)		90
SURROGATE LIMITS:	(80 - 120)	

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS
REAGENT BLANK

TEST	: BTEX (EPA 8020)	AEN I.D.	: 710379
BLANK I. D.	: 102297	DATE EXRACTED	: NA
CLIENT	: MARATHON OIL COMPANY	DATE ANALYZED	: 10/22/97
PROJECT #	: 023350224.63	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: Indian Basin Remediation		

PARAMETER	UNITS	
BENZENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
ETHYLBENZENE	UG/L	<0.5
TOTAL XYLENES	UG/L	<0.5
SURROGATE:		
BROMOFLUOROBENZENE (%)		88
SURROGATE LIMITS:	(80 - 120)	

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY QUALITY CONTROL
MSMSD

TEST	: BTEX (EPA 8020)		
MSMSD #	: 710379-04	AEN I.D.	: 710379
CLIENT	: MARATHON OIL COMPANY	DATE EXTRACTED	: NA
PROJECT #	: 023350224.63	DATE ANALYZED	: 10/21/97
PROJECT NAME	: Indian Basin Remediation	SAMPLE MATRIX	: AQUEOUS
		UNITS	: UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<0.5	10.0	9.1	91	9.3	93	2	(80 - 120)	20
TOLUENE	<0.5	10.0	9.0	90	9.4	94	4	(80 - 120)	20
ETHYLBENZENE	<0.5	10.0	9.7	97	9.9	99	2	(80 - 120)	20
TOTAL XYLENES	<0.5	30.0	29.6	99	30.4	101	3	(80 - 120)	20

CHEMIST NOTES:
N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

GAS CHROMOTOGRAPHY QUALITY CONTROL
MSMSD

TEST	: BTEX (EPA 8020)		
MSMSD #	: 710379-09	AEN I.D.	: 710379
CLIENT	: MARATHON OIL COMPANY	DATE EXTRACTED	: NA
PROJECT #	: 023350224.63	DATE ANALYZED	: 10/21/97
PROJECT NAME	: Indian Basin Remediation	SAMPLE MATRIX	: AQUEOUS
		UNITS	: UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<0.5	10.0	8.5	85	8.9	89	5	(80 - 120)	20
TOLUENE	<0.5	10.0	8.6	86	8.9	89	3	(80 - 120)	20
ETHYLBENZENE	<0.5	10.0	9.1	91	9.5	95	4	(80 - 120)	20
TOTAL XYLENES	<0.5	30.0	28.1	94	29.1	97	3	(80 - 120)	20

CHEMIST NOTES:
N/A

$$\%\ \text{Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

American Environmental Network (NM), Inc.
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CHAIN OF CUSTODY

DATE: 10/15/97 PAGE: 1 OF 1

AEN LAB I.D. 710379

SHADED AREAS ARE FOR LAB USE ONLY

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: ~~Bob Mewis~~ Paul Peacock

COMPANY: Marathon Oil

ADDRESS: PO Box 552
Midland TX 79702

PHONE: (915) 687-8312

FAX: (915) 687-8305

BILL TO:

COMPANY: Same As Above

ADDRESS:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.
DI H2O	10/15/97	0800	WATER	-01
Int RB		0805		-02
mw-70RB		1025		-03
mw-70		0935		-04
mw-63		1110		-05
mw-63RB		1130		-06
mw-89		1235		-07
mw-89RB		1250		-08
mw-66		1335		-09
mw-66RB		1410		-10

Petroleum Hydrocarbons (418.1) TRPH
(MOD.8015) Diesel/Direct/Inject
(M8015) Gas/Purge & Trap
Gasoline/BTEX & MTBE (M8015/8020)
BTXE MTBE (8020)
BTEX & Chlorinated Aromatics (602/8020)
BTEX/MTBE/EDC & EDB (8020/8010/Short)
Chlorinated Hydrocarbons (601/8010)
504 EDB ☐ / DBCP ☐
Polynuclear Aromatics (610/8310)
Volatile Organics (624/8240) GC/MS
Volatile Organics (8260) GC/MS
Pesticides/PCB (608/8080)
Herbicides (615/8150)
Base/Neutral/Acid Compounds GC/MS (625/8270)
General Chemistry:
Priority Pollutant Metals (13)
Target Analyte List Metals (23)
RCRA Metals (8)
RCRA Metals by TCLP (Method 1311)
Metals:
NUMBER OF CONTAINERS

PROJECT INFORMATION

PROJ. NO.: 02335022A.63

PROJ. NAME: Indian Basin Remediation

P.O. NO.:

SHIPPED VIA:

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ~~24hr~~ 1 Day [ ] 48hr [ ] 72hr [ ] 1 WEEK (NORMAL) [X]

CERTIFICATION REQUIRED: [ ] NM [ ] SDWA [ ] OTHER

METHANOL PRESERVATION [ ]

COMMENTS: FIXED FEE [ ]

RELINQUISHED BY: 1.

Signature: Kevin Cook Time: 1730

Printed Name: Kevin Cook Date: 10/17/97

Company: FOEF

RECEIVED BY:

Signature: Time:

Printed Name: Date:

Company:

RELINQUISHED BY: 2.

Signature Time

Printed Name Date

Company

RECEIVED BY:

DISTRIBUTION: White, Canary - AEN Pink - ORIGINATC

American Environmental Network (NM), Inc.

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CHAIN OF CUSTODY

DATE: 10/15–16/97 PAGE: 2 OF 4

AEN LAB I.D. 710379

SHADED AREAS ARE FOR LAB USE ONLY

PROJECT MANAGER: Paul Peacock

COMPANY: Marathon Oil
ADDRESS: PO Box 552
Midland TX 79702
PHONE: (915) 687-8312
FAX: (915) 687-8305

BILL TO:
COMPANY: Same As Above
ADDRESS:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	Petroleum Hydrocarbons (418.1) TRPH	BTXE/~~MTBE~~ (8020)
mw-88	10/15/97	1455	Water	-11	6	X
mw-88RB	↓	1505	↓	-12	↓	X
mw-61A	↓	1555	↓	-13	↓	X
mw-61ARB	10/16/97	0700	↓	-14	↓	X
mw-71	↓	1025	↓	-15	↓	X
mw-71RB	↓	1100	↓	-16	↓	X
mw-60	↓	1210	↓	-17	↓	X
mw-60RB	↓	1235	↓	-18	↓	X
mw-87	↓	1325	↓	-19	↓	X
mw-87RB	↓	1335	↓	-20	↓	X

Other analyses listed (not marked): (MOD.8015) Diesel/Direct/Inject; (M8015) Gas/Purge & Trap; Gasoline/BTEX & MTBE (M8015/8020); BTEX & Chlorinated Aromatics (602/8020); BTEX/MTBE/EDC & EDB (8020/8010/Short); Chlorinated Hydrocarbons (601/8010); 504 EDB ☐ / DBCP ☐; Polynuclear Aromatics (610/8310); Volatile Organics (624/8240) GC/MS; Volatile Organics (8260) GC/MS; Pesticides/PCB (608/8080); Herbicides (615/8150); Base/Neutral Acid Compounds GC/MS (625/8270); General Chemistry:; Priority Pollutant Metals (13); Target Analyte List Metals (23); RCRA Metals (8); RCRA Metals by TCLP (Method 1311); Metals:

PROJECT INFORMATION

PROJ. NO.: 023350224.63
PROJ. NAME: Indian Basin Remediation
P.O. NO.:
SHIPPED VIA:

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) [ ] 24hr [ ] 48hr [ ] 72hr [ ] 1 WEEK (NORMAL) [X]

CERTIFICATION REQUIRED: [ ] NM [ ] SDWA [ ] OTHER

METHANOL PRESERVATION [ ]

COMMENTS: FIXED FEE [ ]

RELINQUISHED BY: 1.

Signature: Kevin Cook Time: 1730
Printed Name: Kevin Cook Date: 10/17/97
Company: FD&E

RECEIVED BY:
Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 2

Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY (LAB):

PLEASE FILL THIS FORM IN COMPLETELY.

American Environmental Network (Arizona), Inc.

CHAIN OF CUSTODY

DATE 10/16/97 PAGE 3 OF 4

AEN LAB I.D. 710374

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

REPORT: Attn. to: Paul Peacock

COMPANY: Marathon O/C
ADDRESS: PO BOX 552
Midland TX 79702
PHONE: (915) 687-8310
FAX: (915) 687-8305

BILL TO:
COMPANY:
ADDRESS: Same as Above

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	COMPOSITE OR GRAB	Gravity Chemistry	Petroleum Hydrocarbons (418.1)	(MOD.8015) Fuel Fingerprint	(M8015) Gas	(BLS-191) Diesel	BTXE/MTBE (8020/602)	Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	Volatiles 502.2 (SDWA/UST)	Pesticides/PCB (608/8080/505/508)	Herbicides (615/8150/515)	Semi-Volatiles GC/MS (Tics/No Tics)	Volatile Organics GC/MS (624/8240/8260)	Polynuclear Aromatics (610/8310)	RCRA Metals by Total Digestion	RCRA Metals by TCLP (1311)	NUMBER OF CONTAINERS
MW-87A	10/16/97	1445	WATER	-21	G						X											2
MW-87ARB		1510		-22	G						X											2
MW-96		1545		-23	G						X											2
MW-96 RB	10/17/97	0800		-24	G						X											2
MW-97		0905		-25	G						X											2
West Stripper Rd Reset Ck		0800		-26	G	X																1
MW-86		1035		-27	G						X											2
MW-94		1050		-28	G						X											2
MW-69		1110		-29	G						X											2

PROJECT INFORMATION		SAMPLE RECEIPT	
PROJ. NO.: 023750224.63	[ ] UST (72 hr ext.)	NO. CONTAINERS	16
PROJ. NAME: Indian Basin Remediation	[ ] NPDES	CUSTODY SEALS	Y / N / NA
P.O. NO.:	[ ] SDWA	RECEIVED INTACT	Y / N / NA
SHIPPED VIA:	[ ] RCRA	RECEIVED ICE	(Y) N / NA
	[ ] OTHER		

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) [ ] 24hr [ ] 48hr [ ] 72hr [ ] 1 WEEK (NORMAL) [X] 2 WEEKS

Comments: temp 2°-

SAMPLED & RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Kevin Cook Time: 1730	Signature: Time:	Signature Time
Printed Name: Kevin Cook Date: 10/17/97	Printed Name: Date	Printed Name Date
Company: EPCTF Phone:	Company:	Company

RECEIVED BY: 1.	RECEIVED BY: 2.	RECEIVED BY: (LAB) 3.
Signature: Time:	Signature: Time:	Signature: Time: 1730
Printed Name: Date:	Printed Name: Date:	Printed Name: Brian Price Date: 10-17-97
Company:	Company:	American Environmental Network

DISTRIBUTION: White - Return to AEN (Arizona), Inc. • Pink - ORIGINATOR

American Environmental Network (NM), Inc.

Albuquerque • Phoenix • Pensacola • Portland • Pleasant Hills • Columbia

CHAIN OF CUSTODY

DATE: 10-16-97 PAGE: 4 OF 4

AEN LAB I.D. 710379

SHADED AREAS ARE FOR LAB USE ONLY

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: Paul Peacock

COMPANY: Marathon Oil CO.

ADDRESS:

PHONE:

FAX:

BILL TO:

COMPANY:

ADDRESS:

ANALYSIS REQUEST

- Petroleum Hydrocarbons (418.1) TRPH
- (MOD.8015) Diesel/Direct/Inject
- (M8015) Gas/Purge & Trap
- Gasoline/BTEX & MTBE (M8015/8020)
- ~~BTXE/MTBE~~ (8020) — X
- BTEX & Chlorinated Aromatics (602/8020)
- BTEX/MTBE/EDC & EDB (8020/8010/Short)
- Chlorinated Hydrocarbons (601/8010)
- 504 EDB ☐ / DBCP ☐
- Polynuclear Aromatics (610/8310)
- Volatile Organics (624/8240) GC/MS
- Volatile Organics (8260) GC/MS
- Pesticides/PCB (608/8080)
- Herbicides (615/8150)
- Base/Neutral/Acid Compounds GC/MS (625/8270)
- General Chemistry:
- Priority Pollutant Metals (13)
- Target Analyte List Metals (23)
- RCRA Metals (8)
- RCRA Metals by TCLP (Method 1311)
- Metals:
- NUMBER OF CONTAINERS

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	Analysis marked	NUMBER OF CONTAINERS
TRIP Blank	10-10	15:40	AO	-30	BTXE/MTBE (8020) X	1

PROJECT INFORMATION

PROJ NO.: 0233 50224.62

PROJ NAME: Indian Basin Re[illegible]

PO NO.:

SHIPPED VIA:

SAMPLE RECEIPT

Yes

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) [ ] 24hr [ ] 48hr [ ] 72hr [ ] 1 WEEK (NORMAL) X

CERTIFICATION REQUIRED: [ ] NM [ ] SDWA [ ] OTHER

METHANOL PRESERVATION [ ]

COMMENTS: FIXED FEE [ ]

RELINQUISHED BY: 1.

Signature: Kevin Cook Time: 1130

Printed Name: Kevin Cook Date: 10/17/97

Company: FDGTI

RELINQUISHED BY: 2.

Signature: Time:

Printed Name: Date:

Company:

RECEIVED BY: 1.

Signature: Time:

Printed Name: Date:

Company:

RECEIVED BY: (LAB) 2.

Signature: [illegible] Time: 1130

Printed Name: Brigaloe Date: 10-17-97

American Environmental Network (NM), Inc.

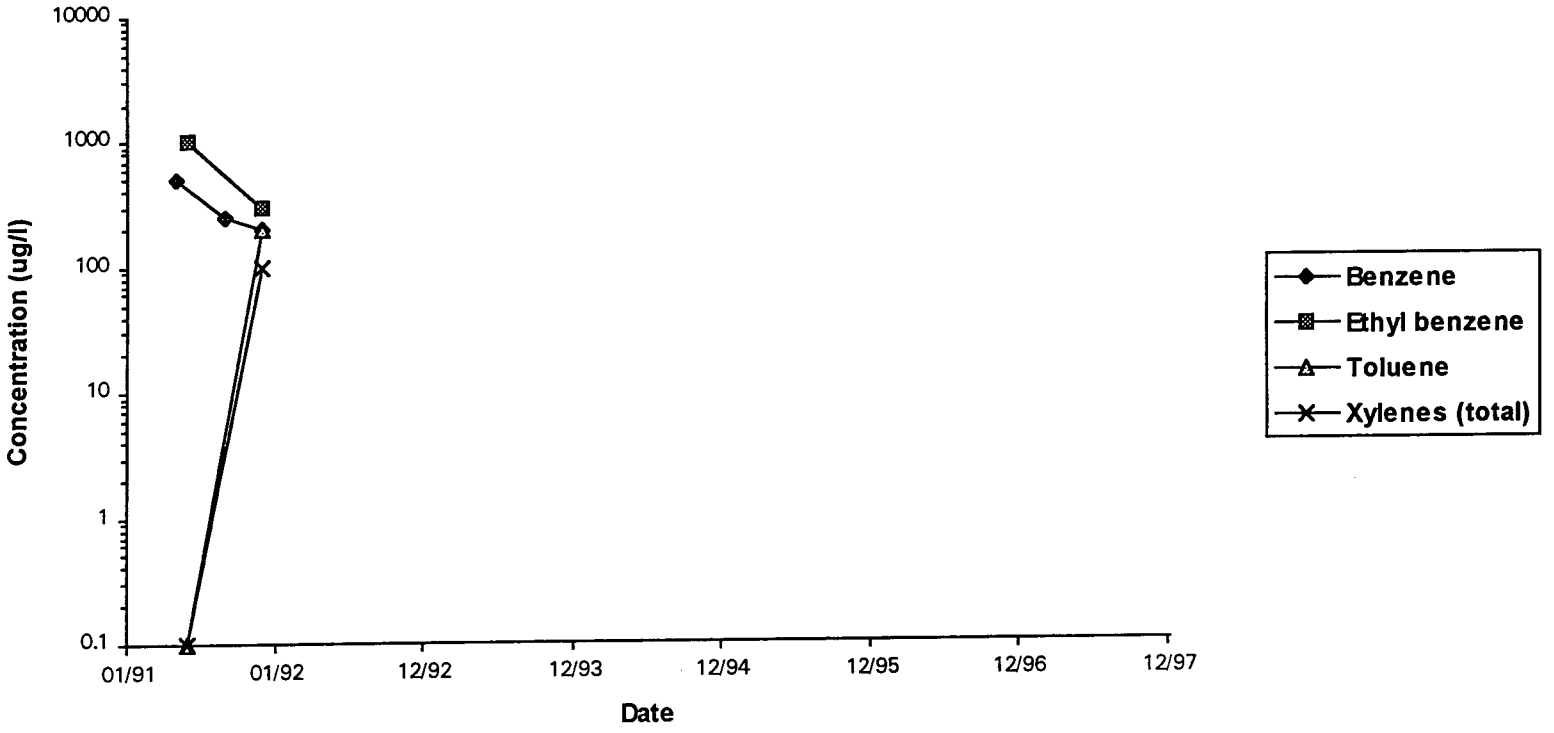
APPENDIX D

BTEX CONCENTRATIONS VS. TIME PLOTS

SHALLOW ZONE CONCENTRATION VS TIME PLOTS

CONCENTRATION VS TIME
MW-001

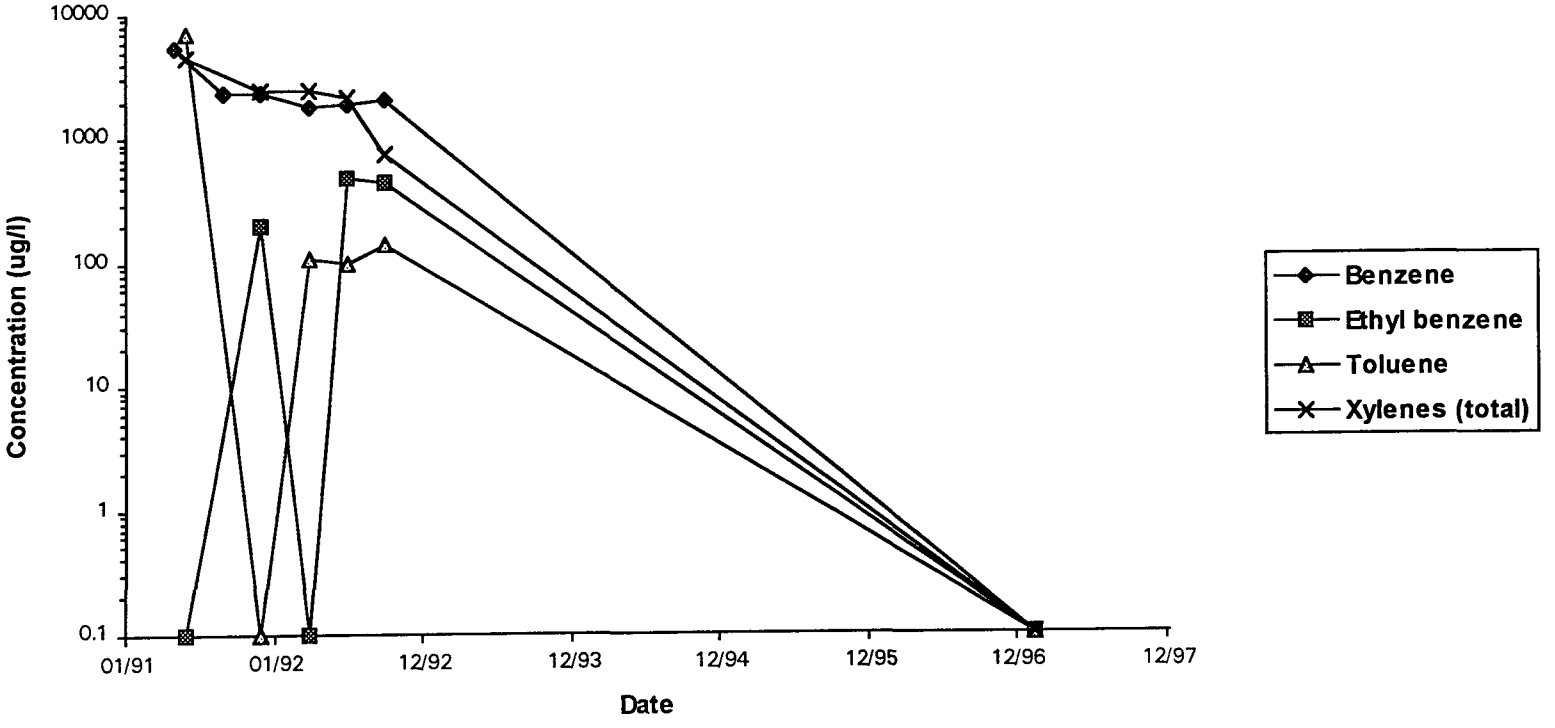
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-010

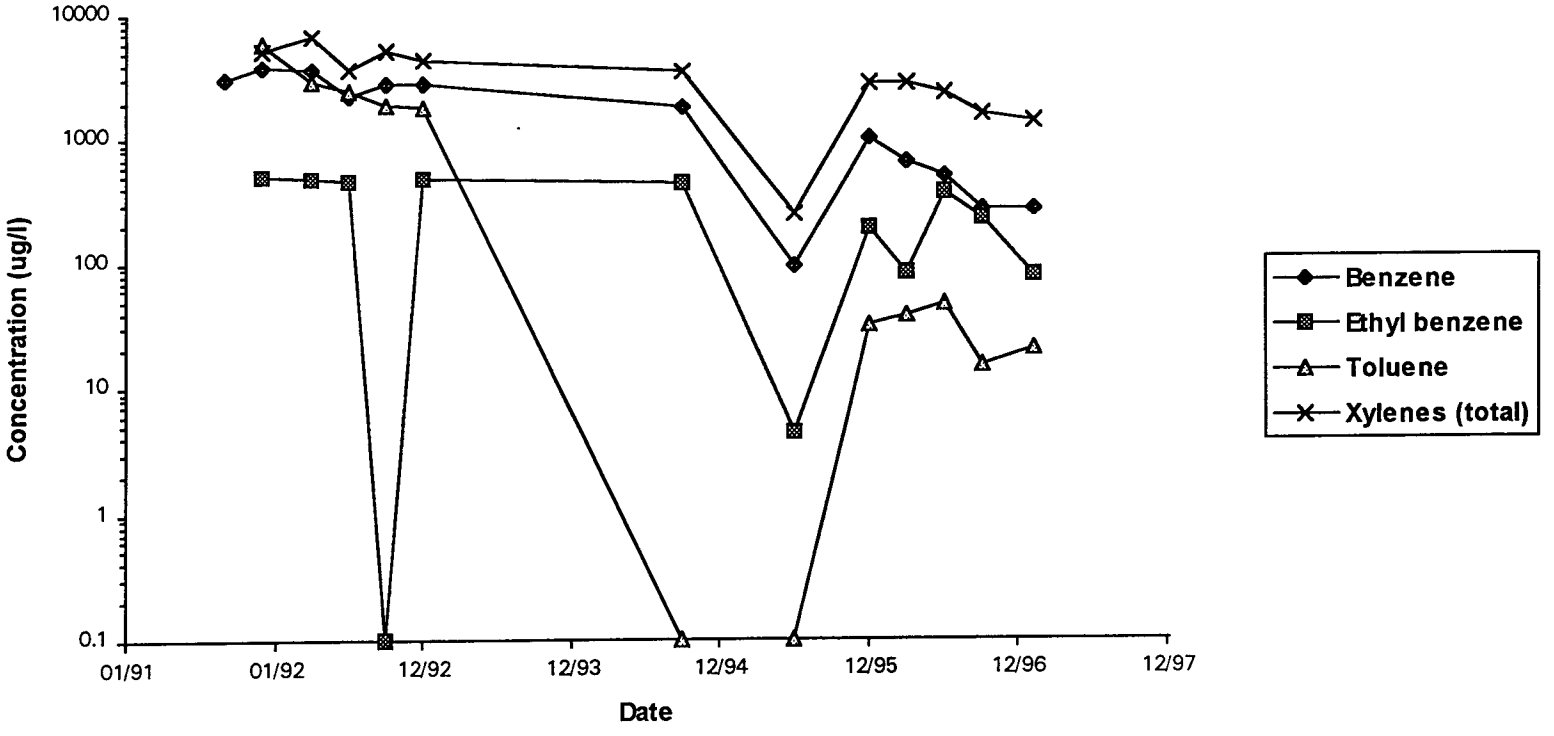
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-011

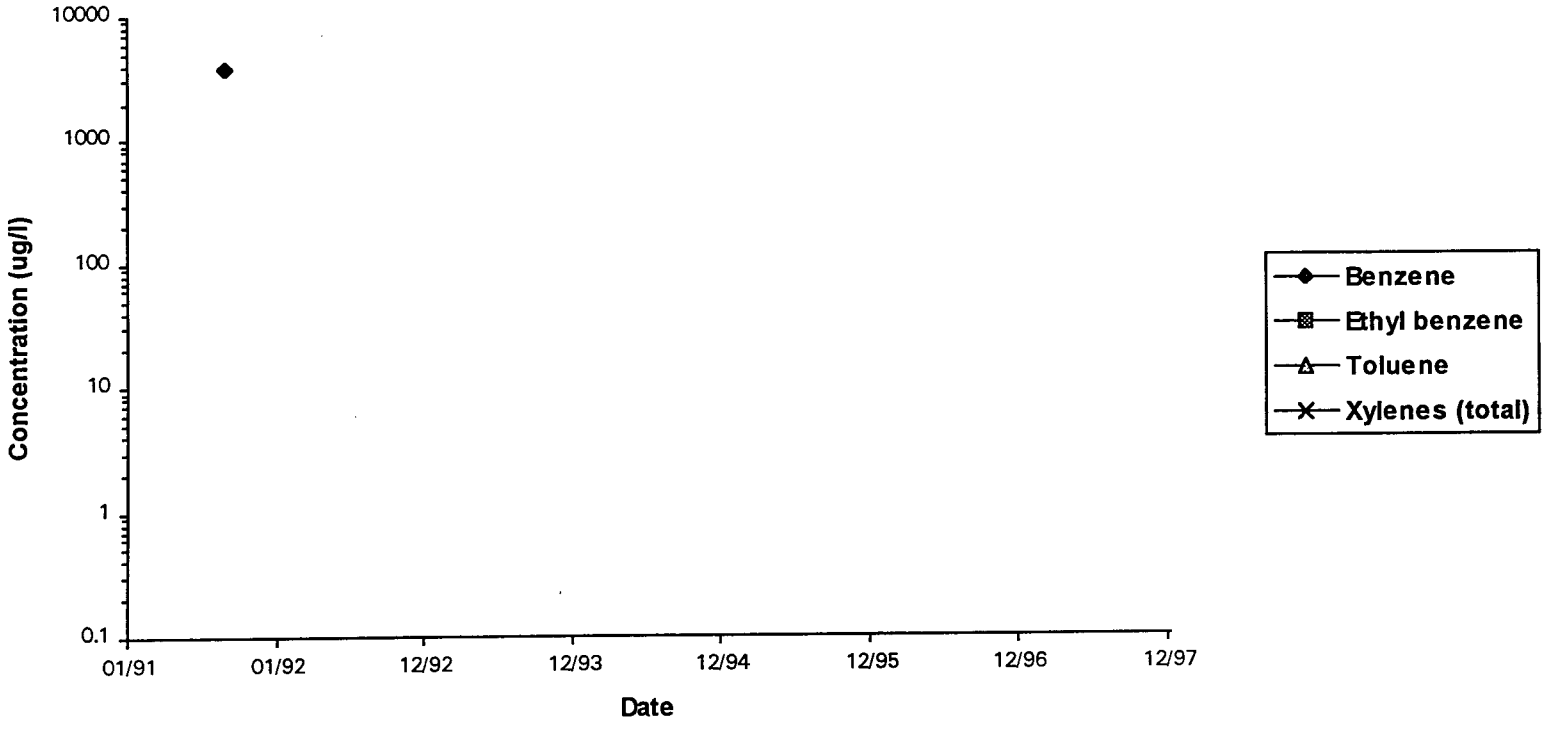
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-012

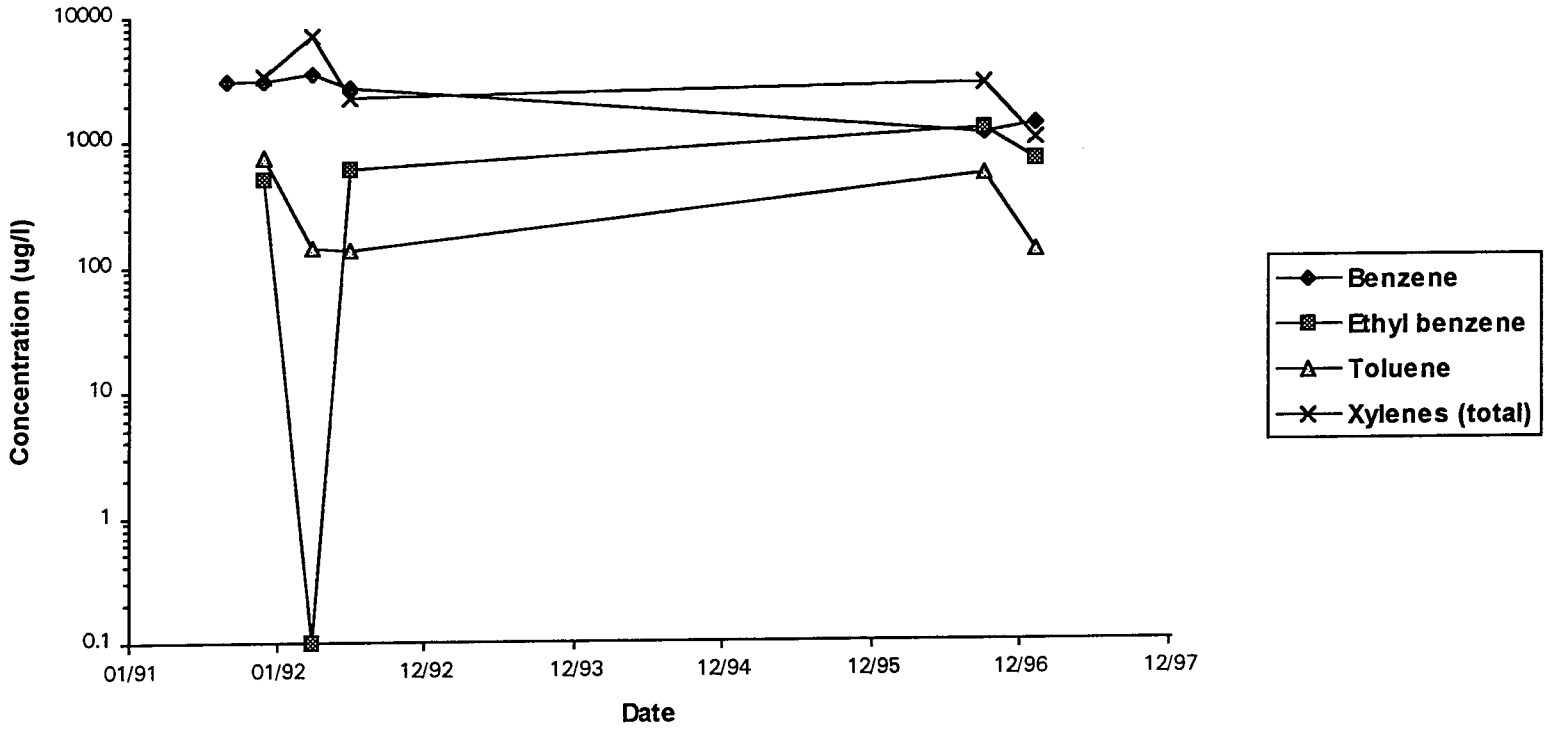
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-013

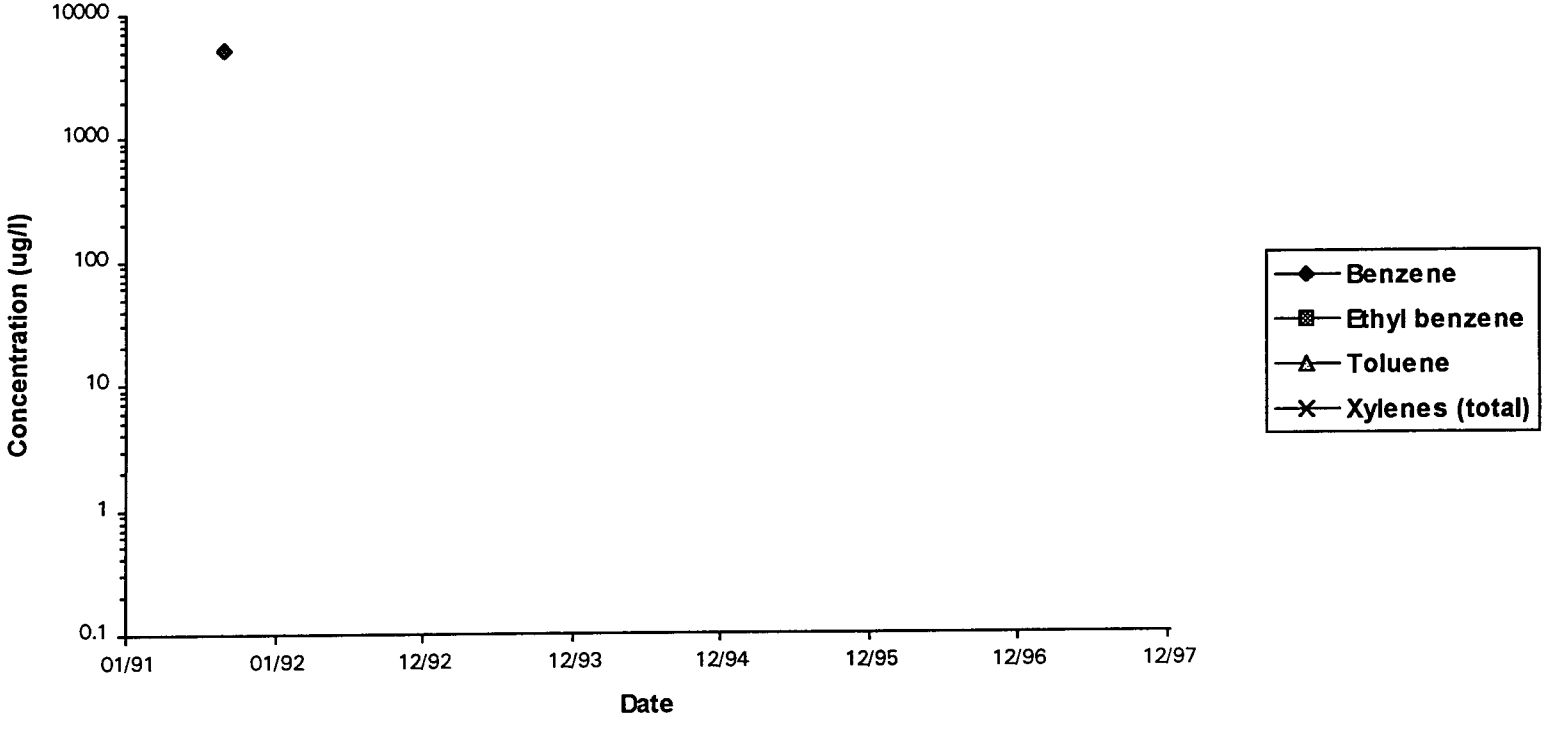
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-014

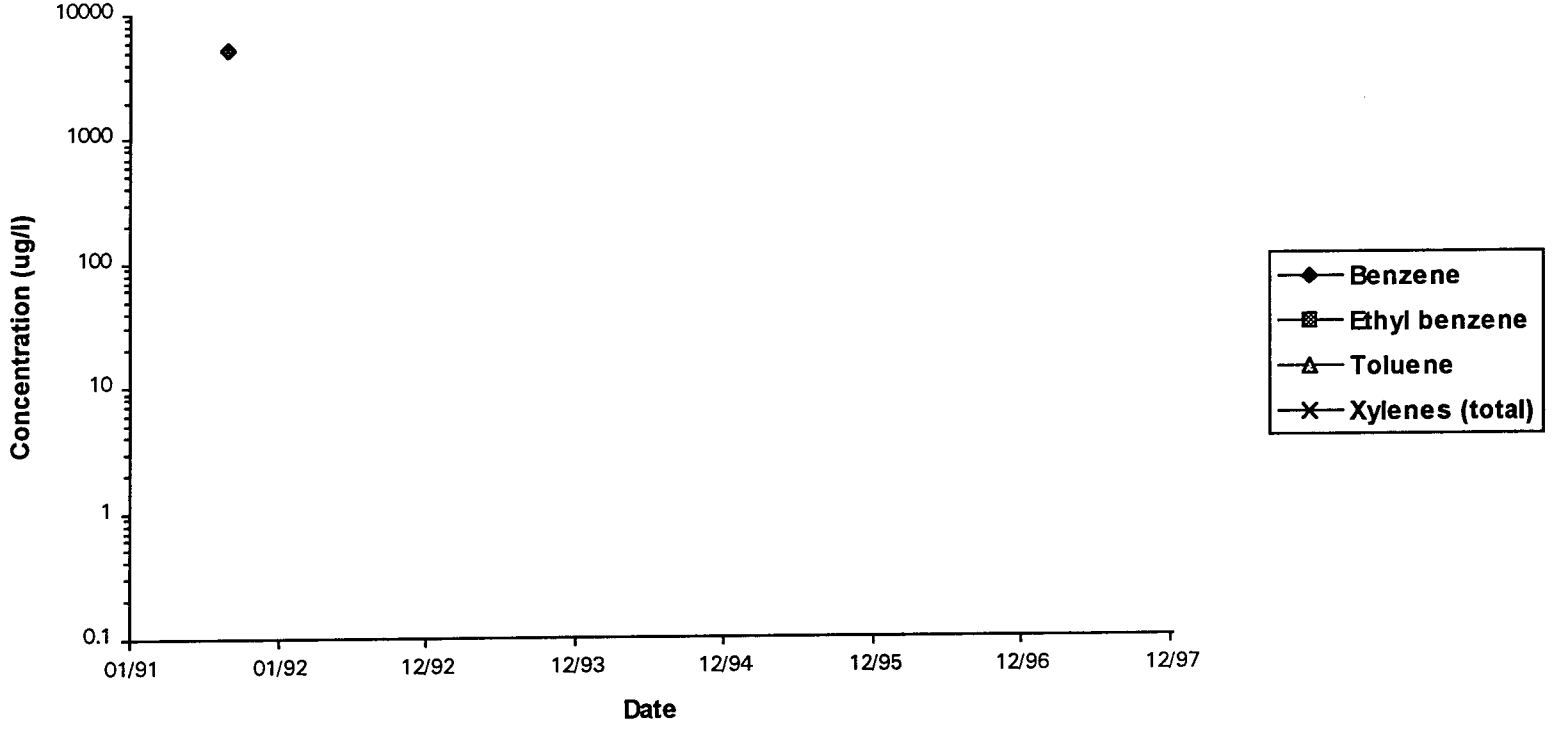
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-015

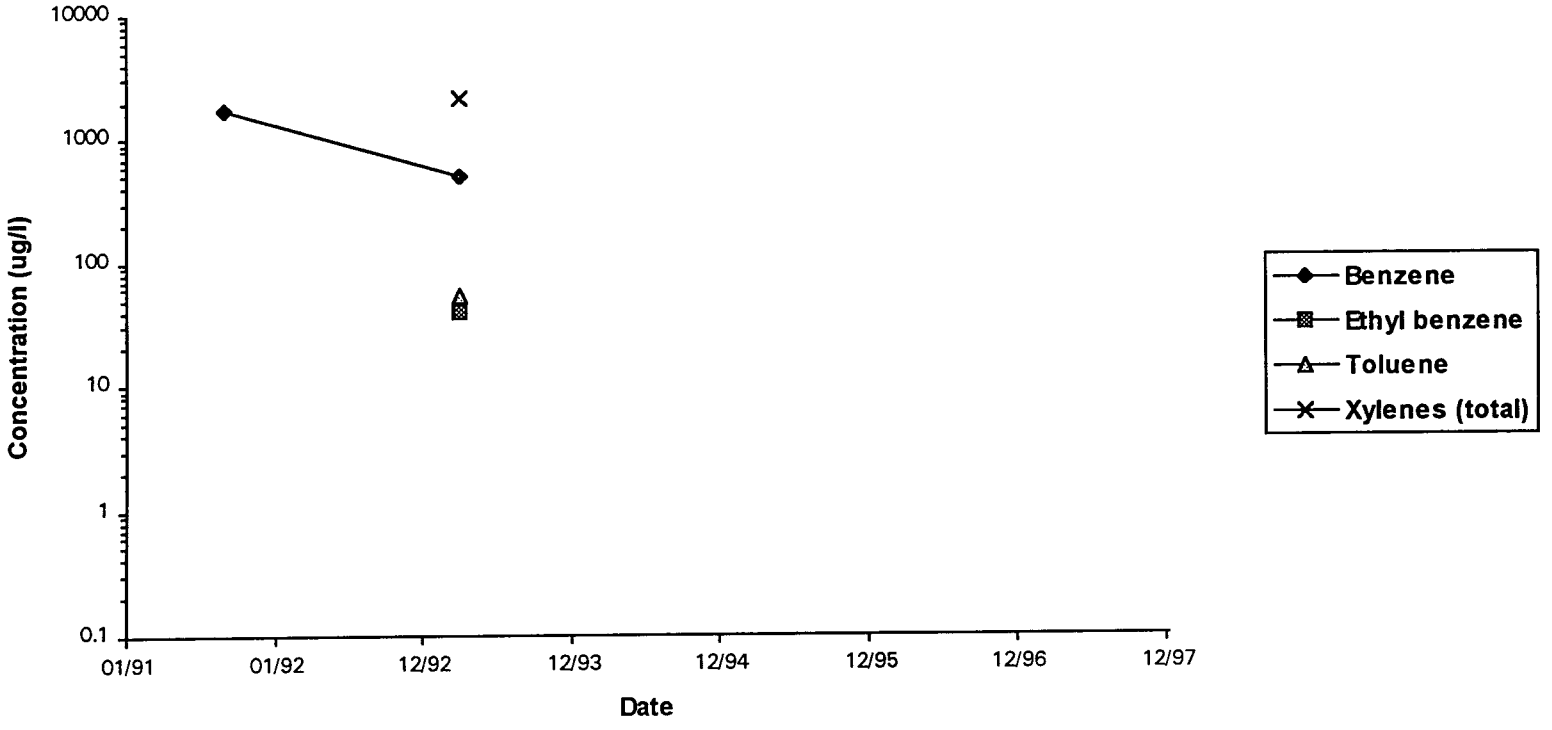
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-016

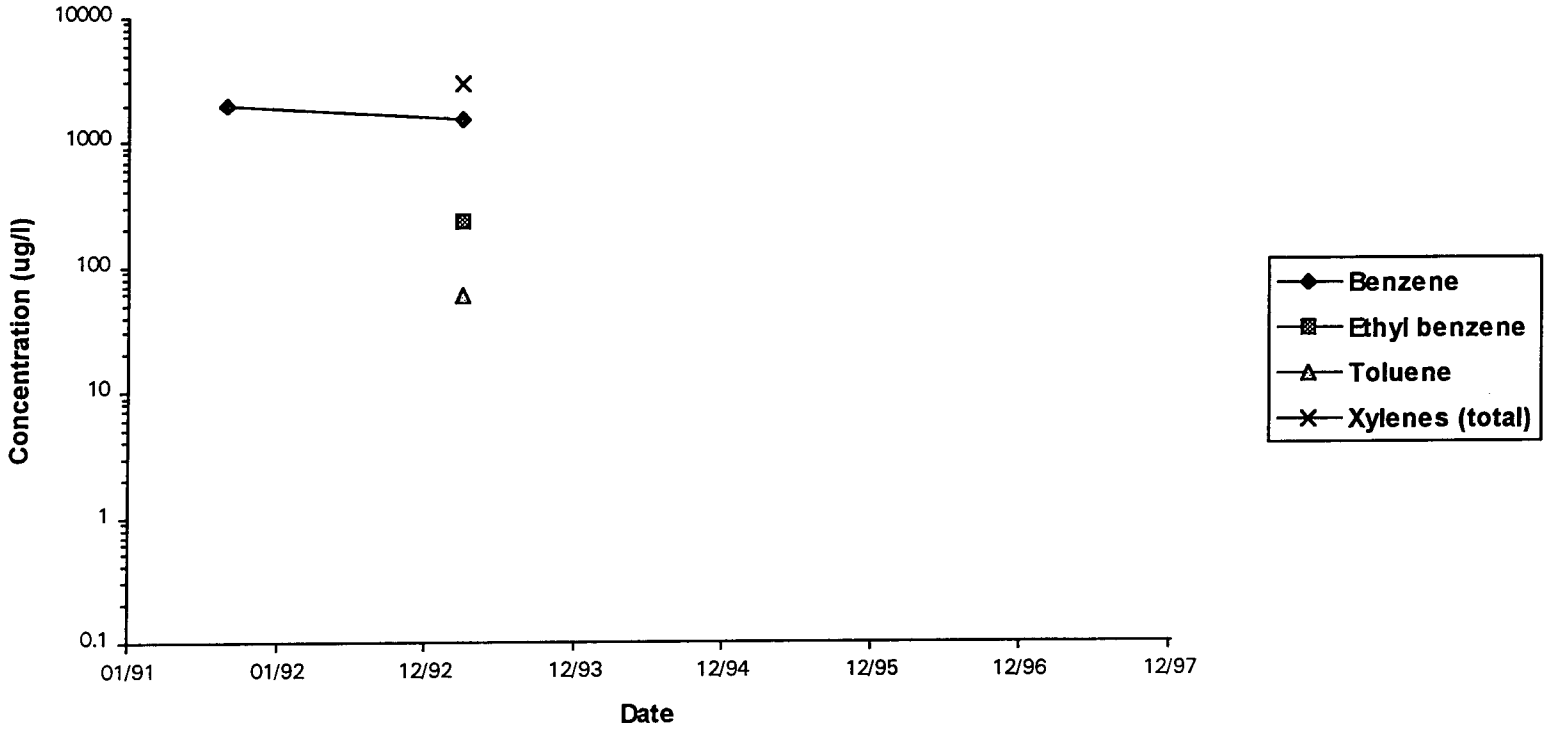
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-017

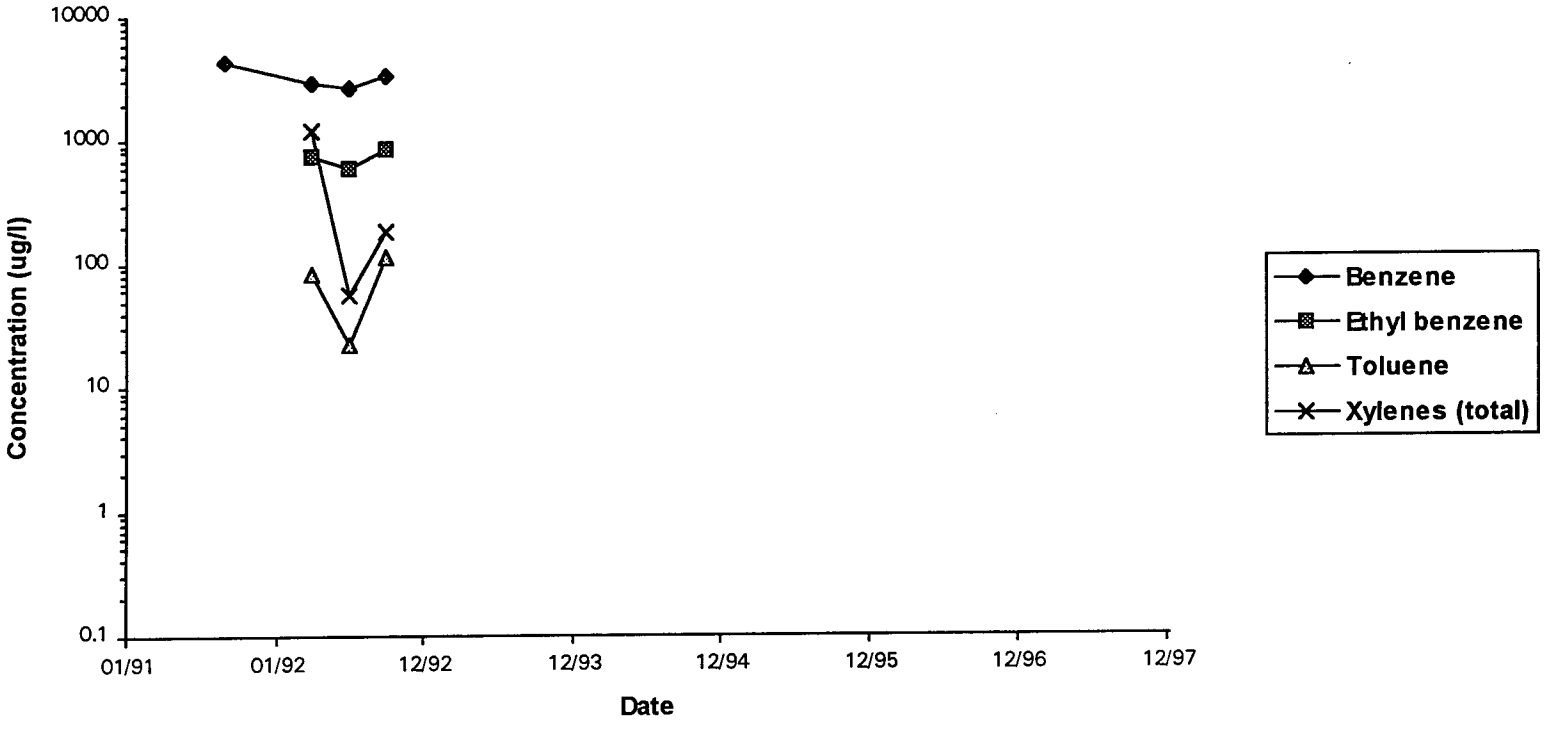
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-018

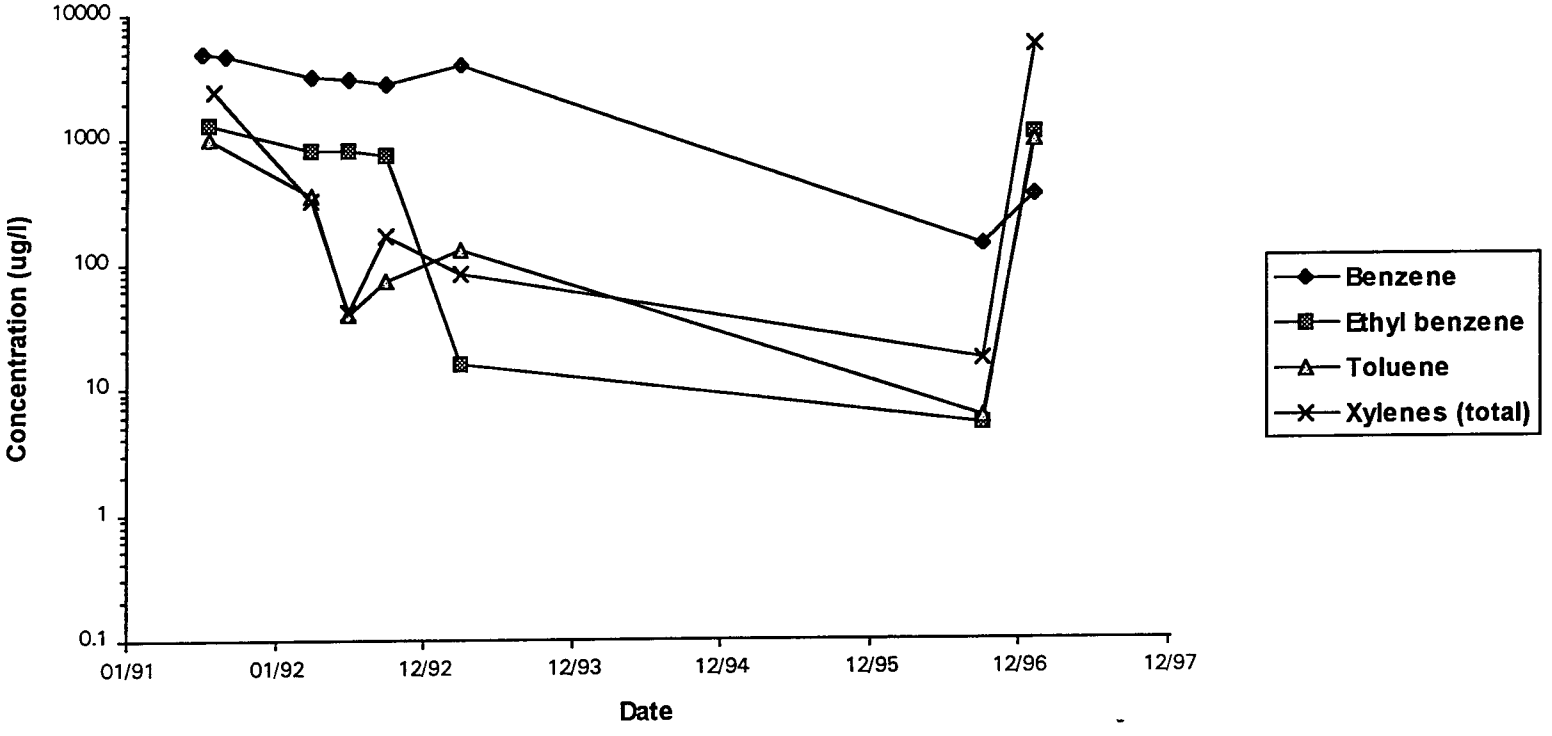
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-019

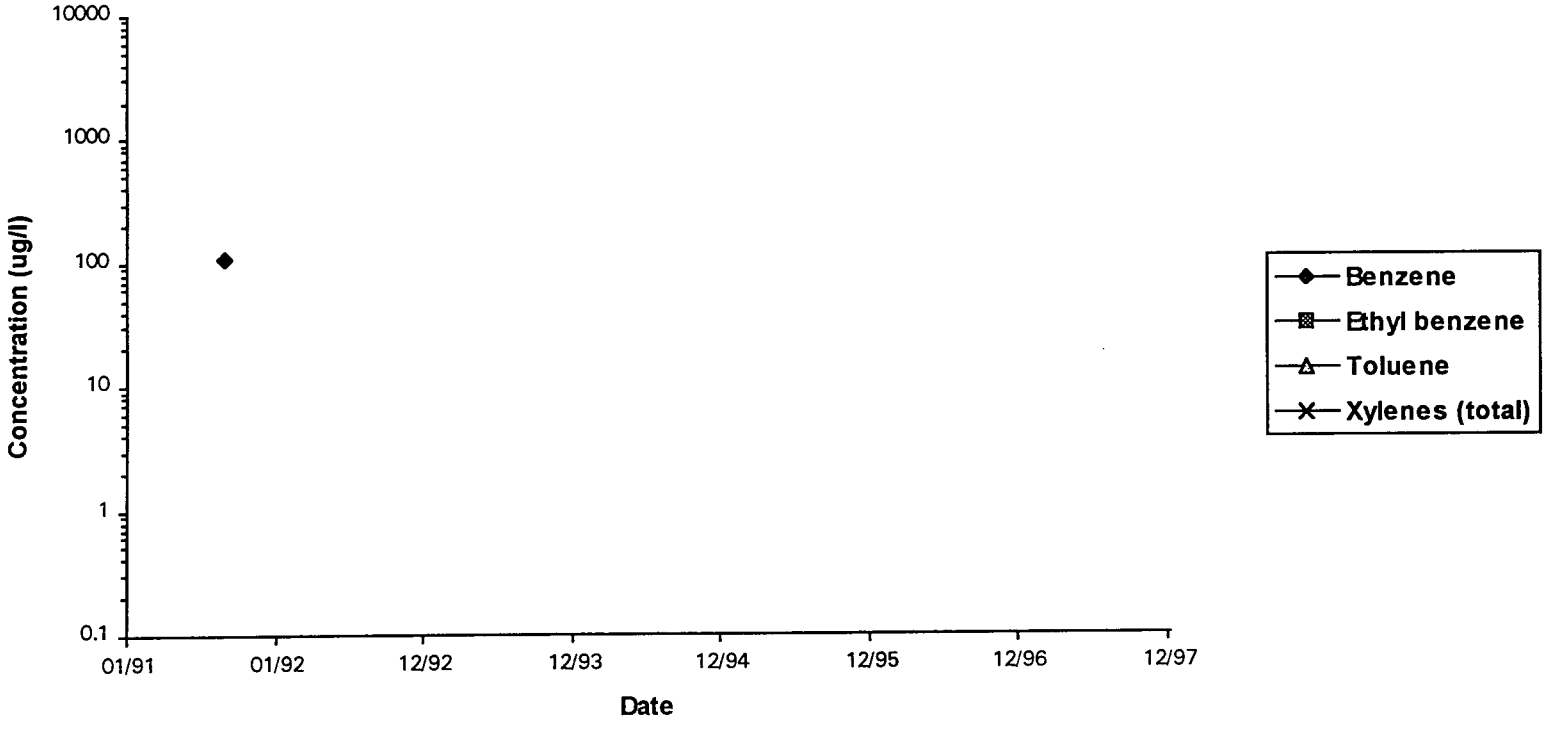
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-020

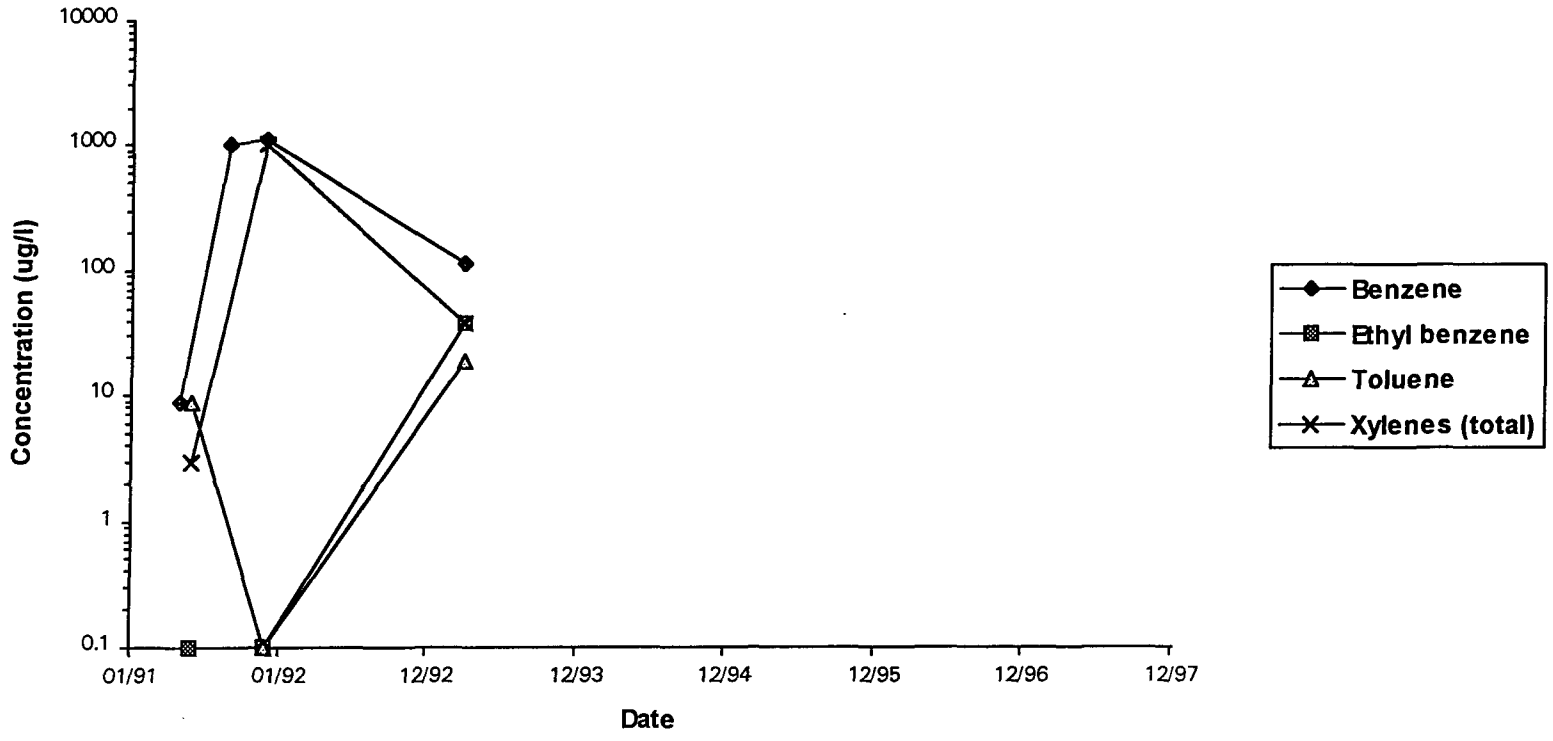
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-021

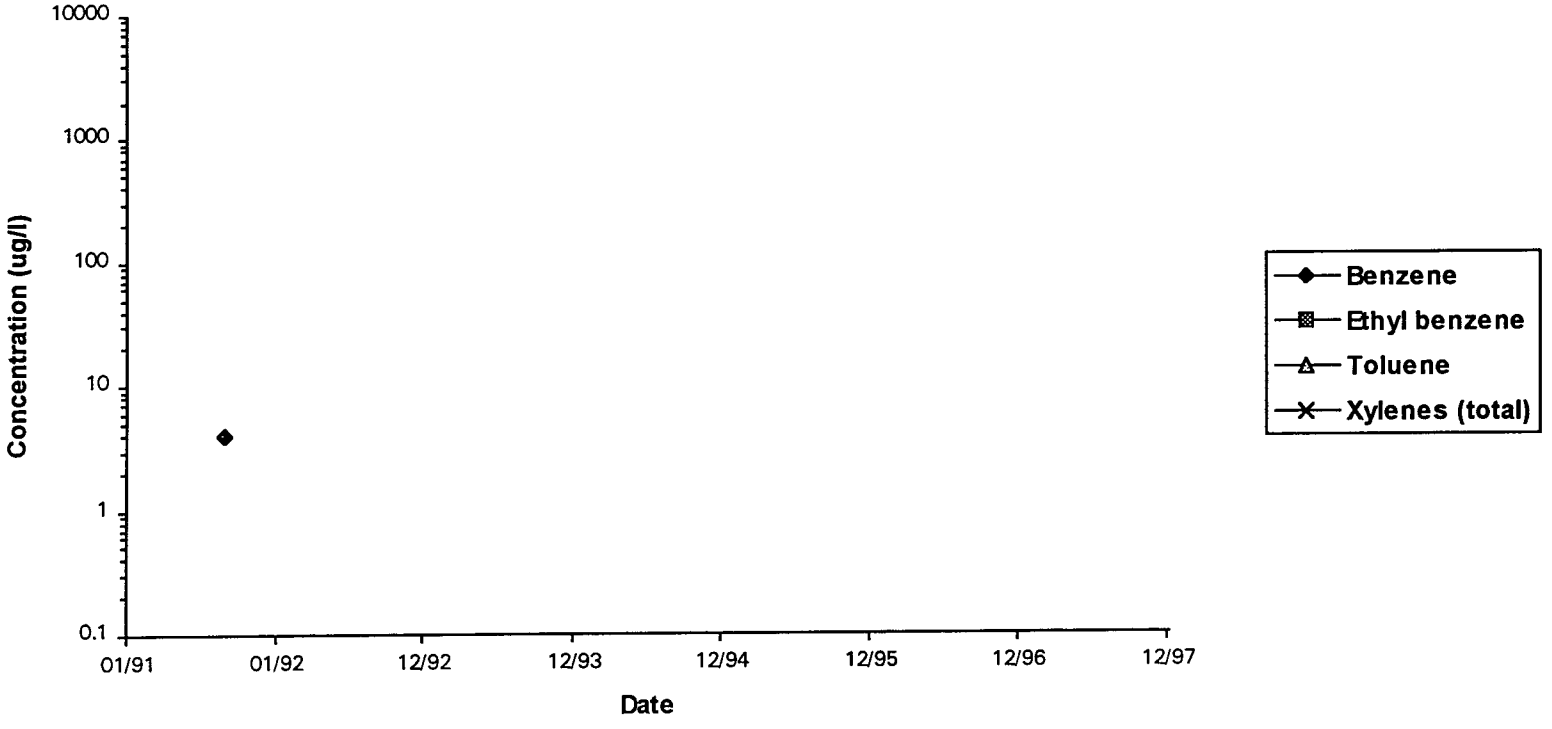
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-022

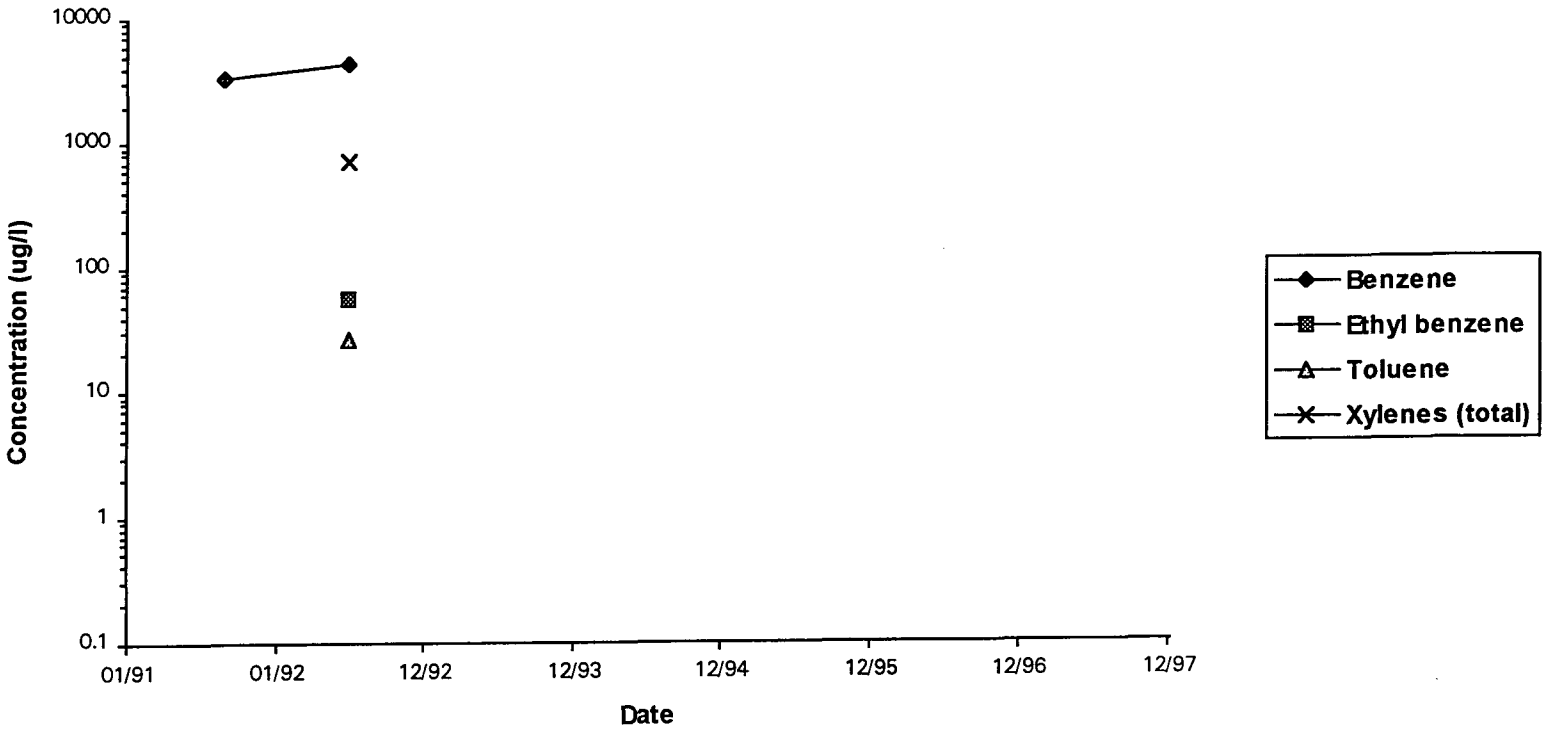
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-024

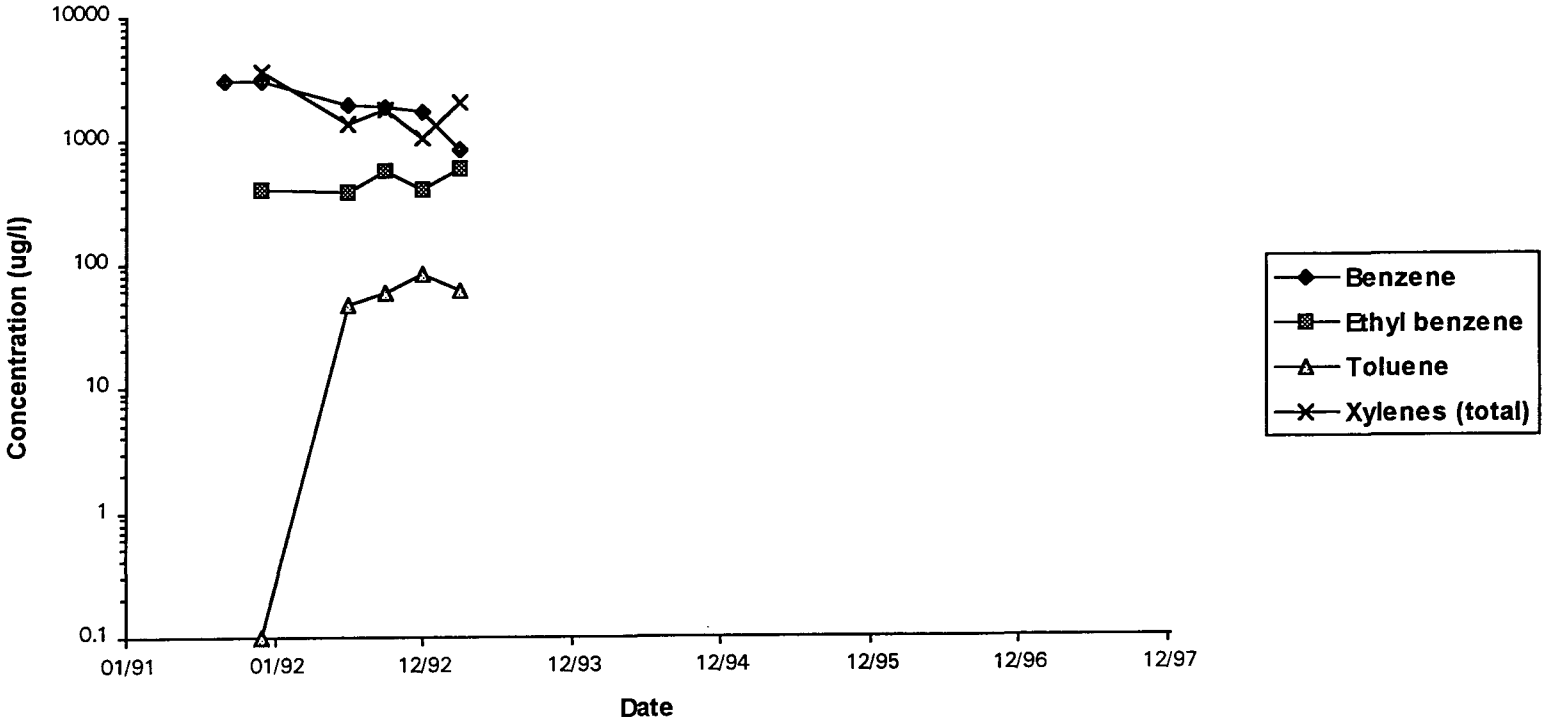
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-026

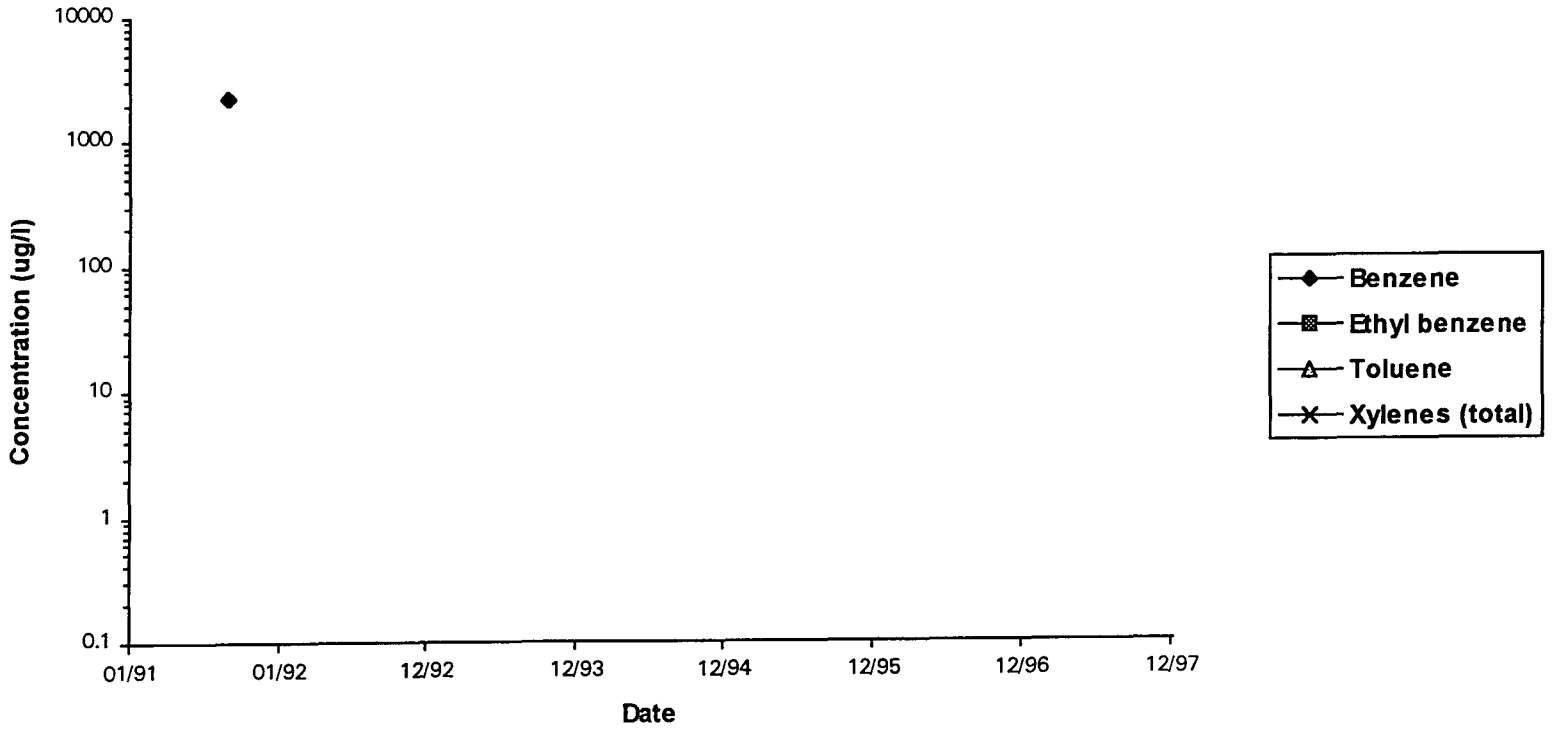
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-028

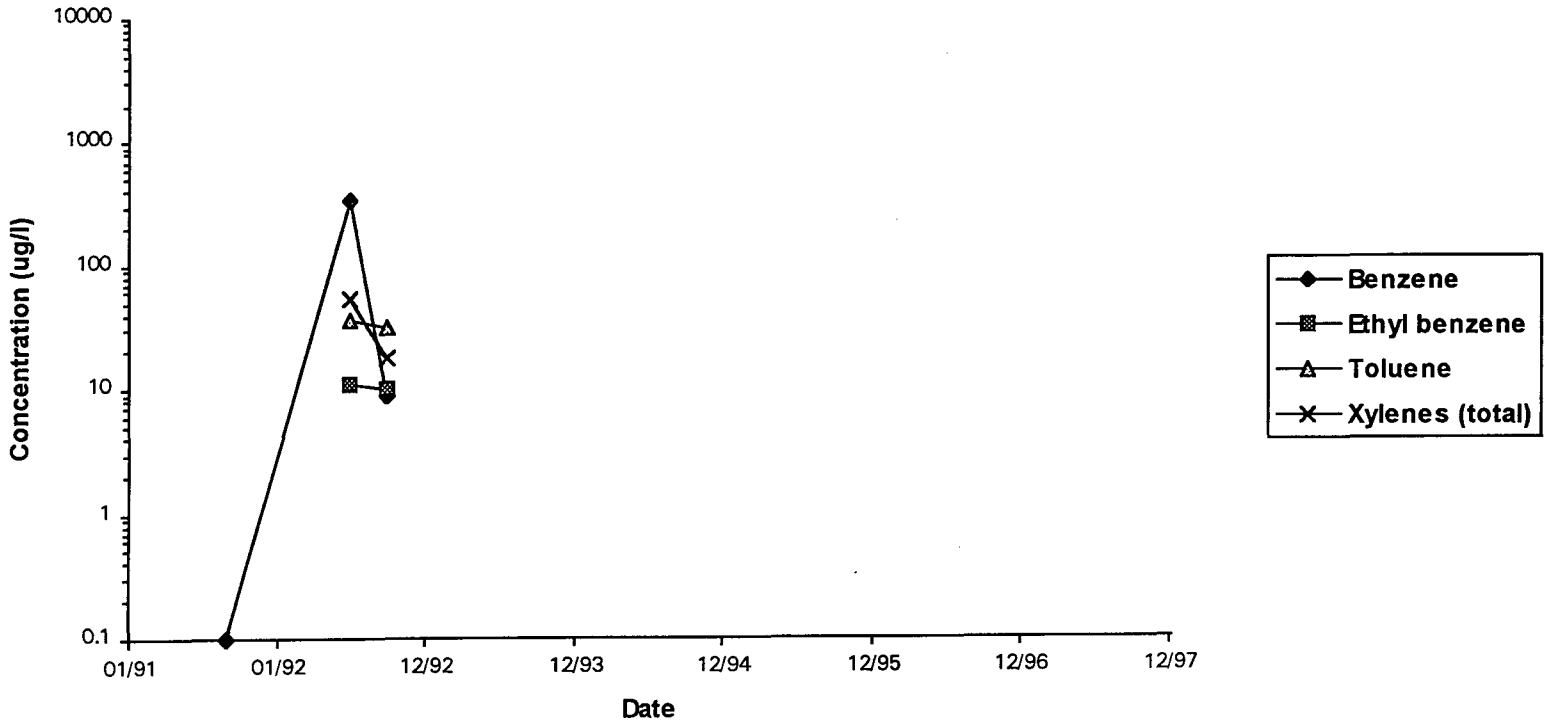
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-031

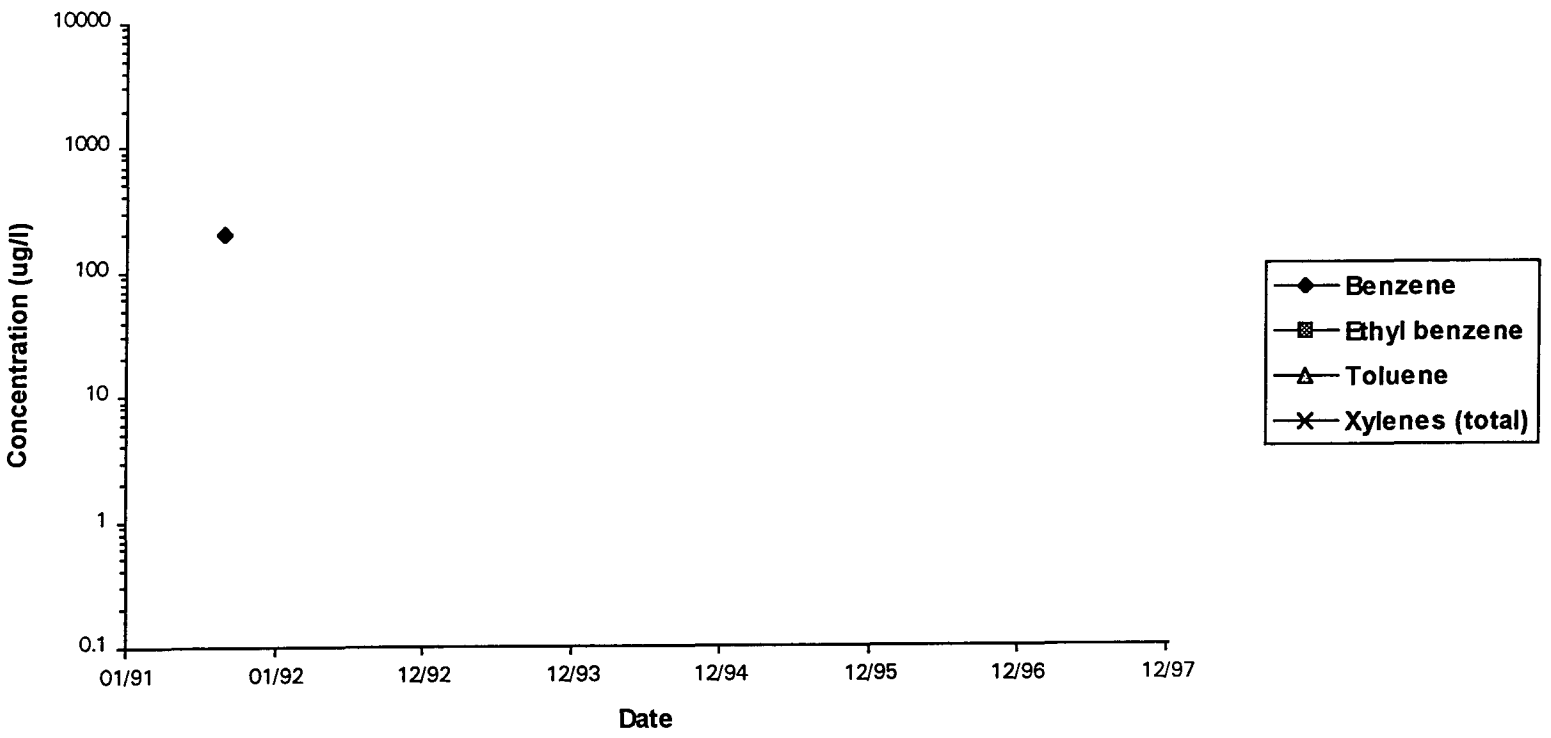
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-032

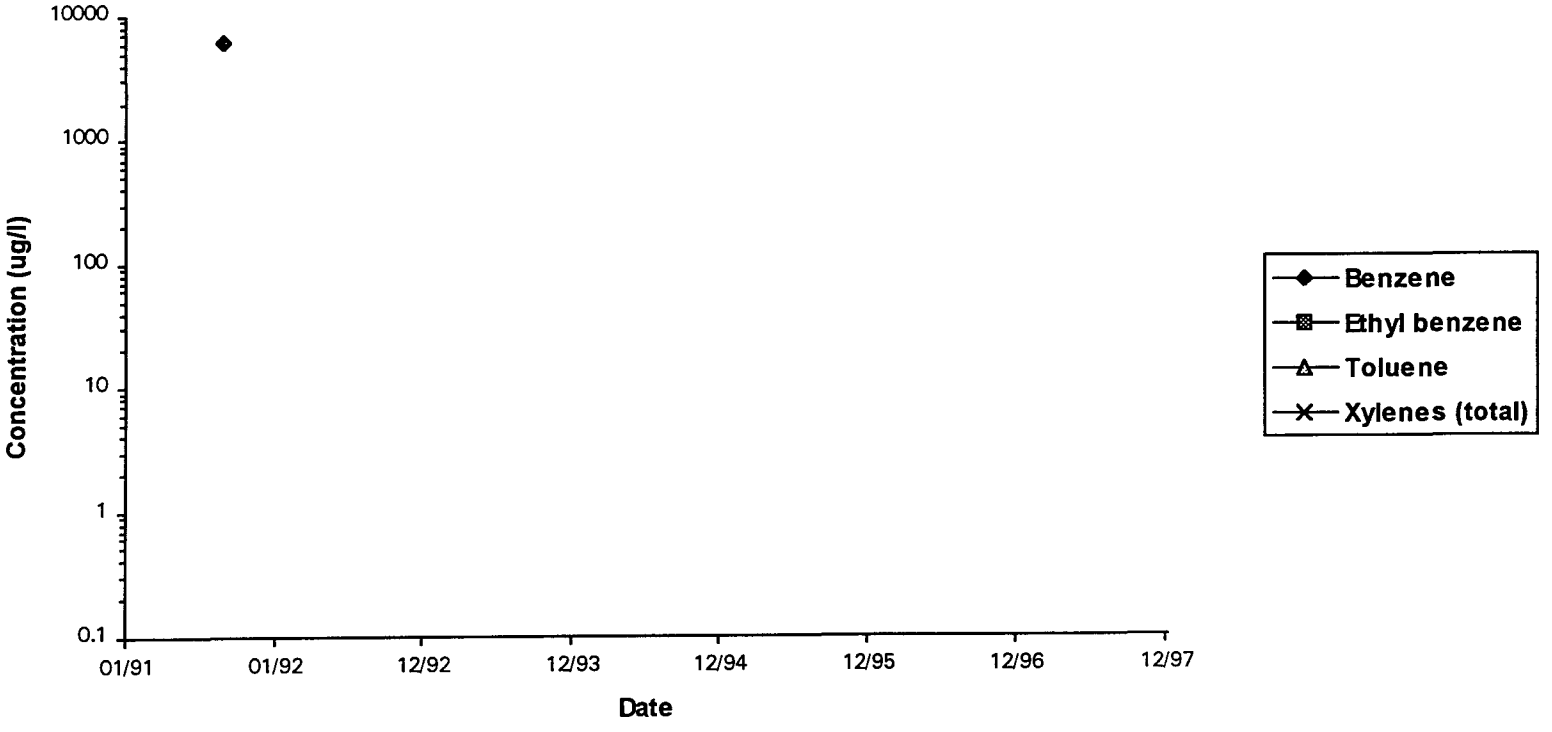
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-033

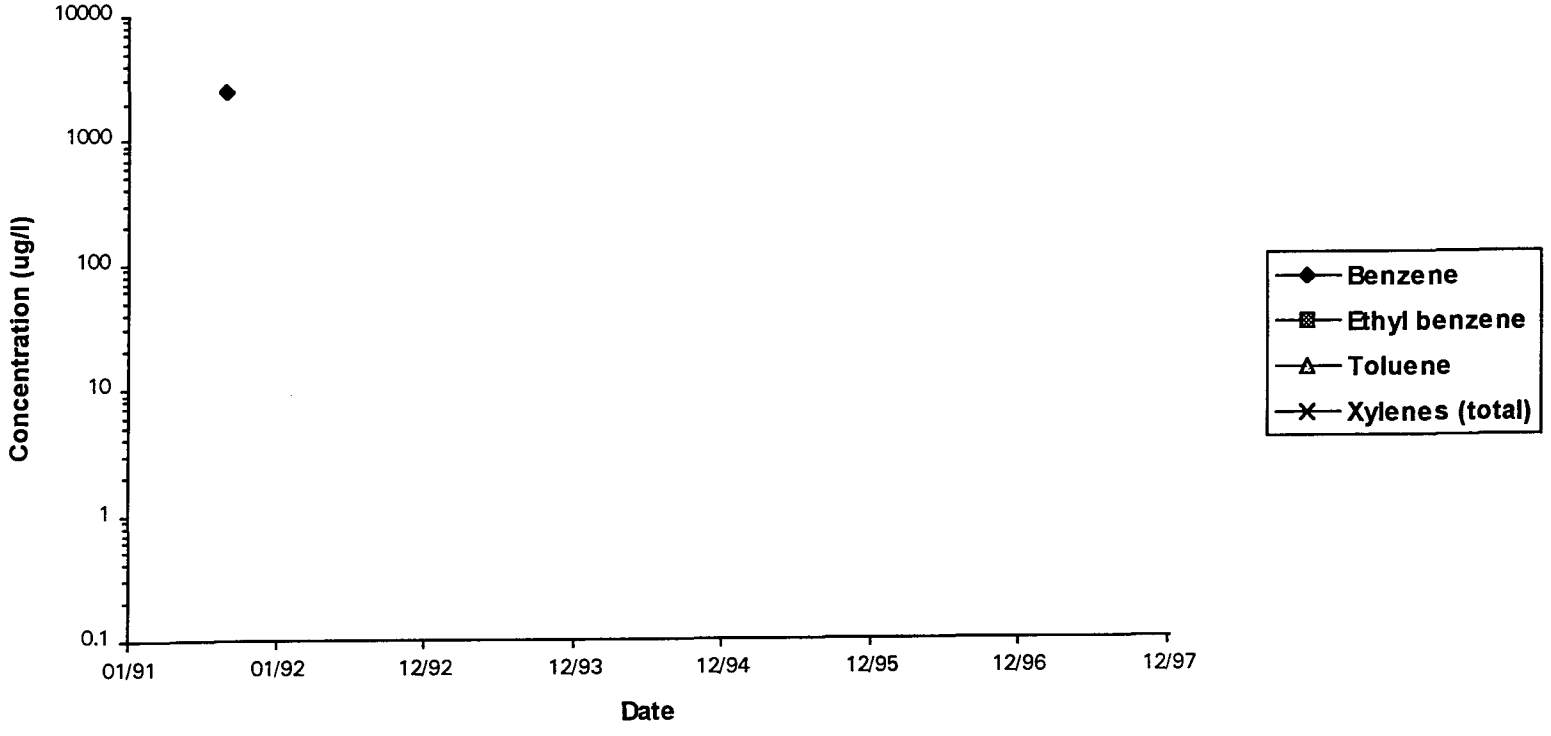
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-034

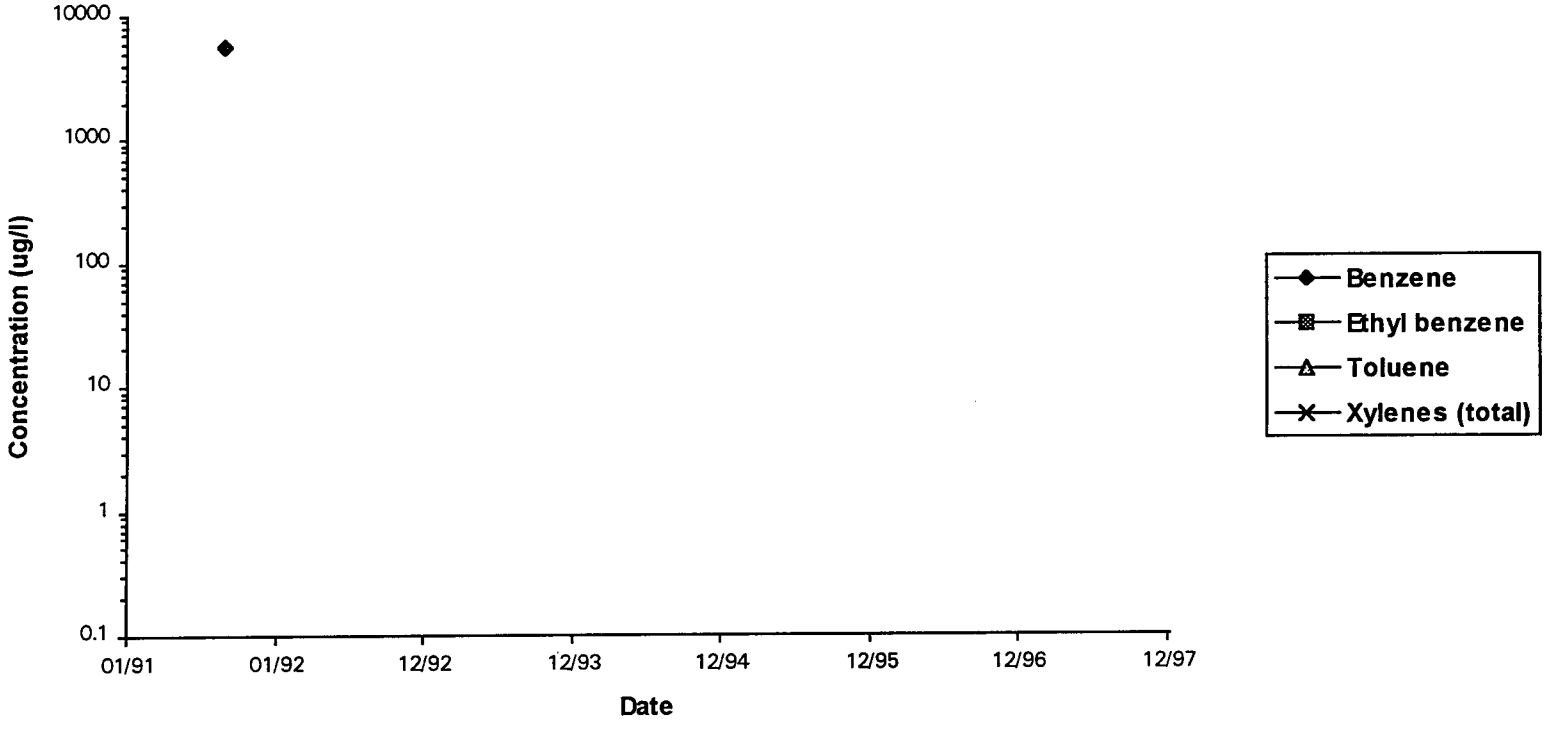
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-035

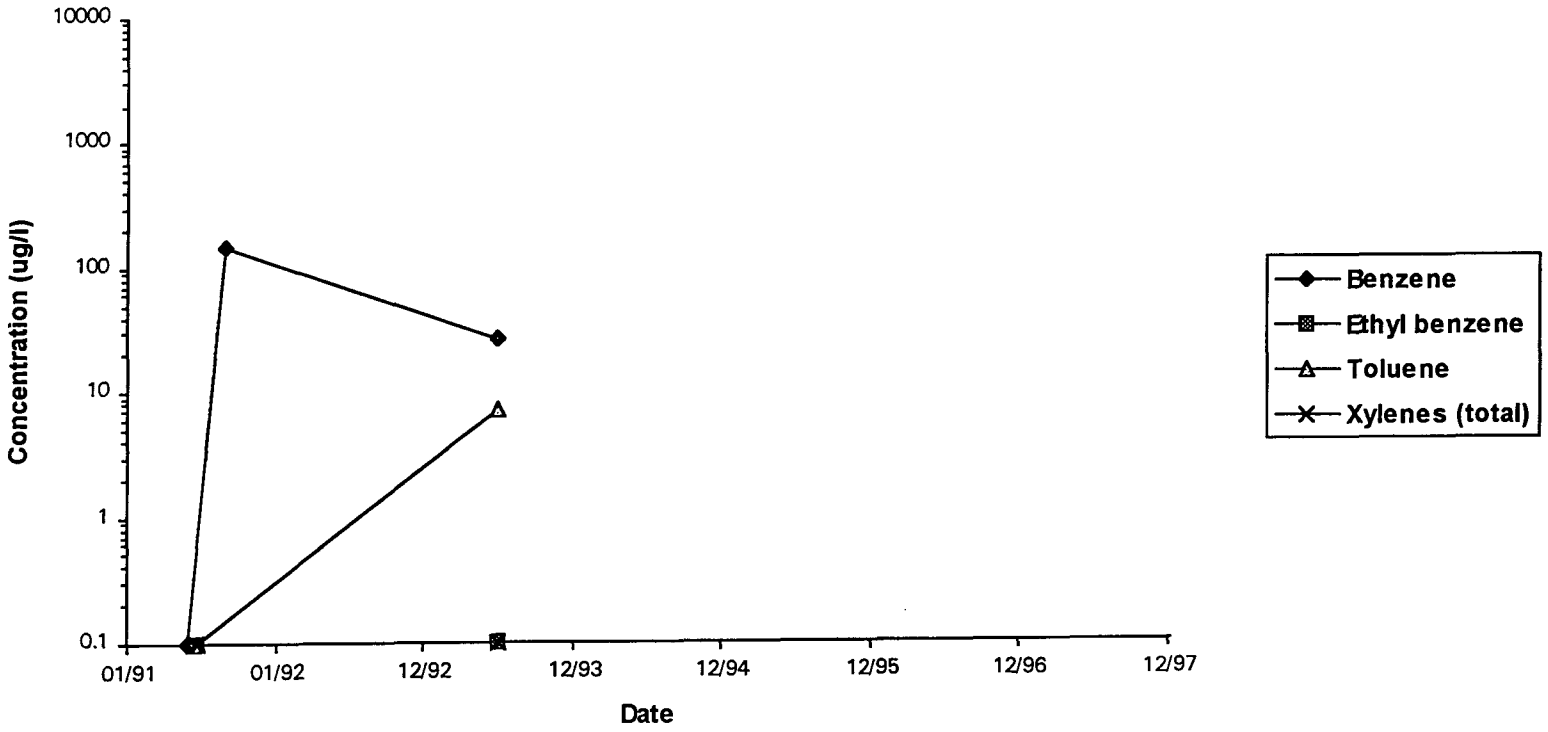
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-037

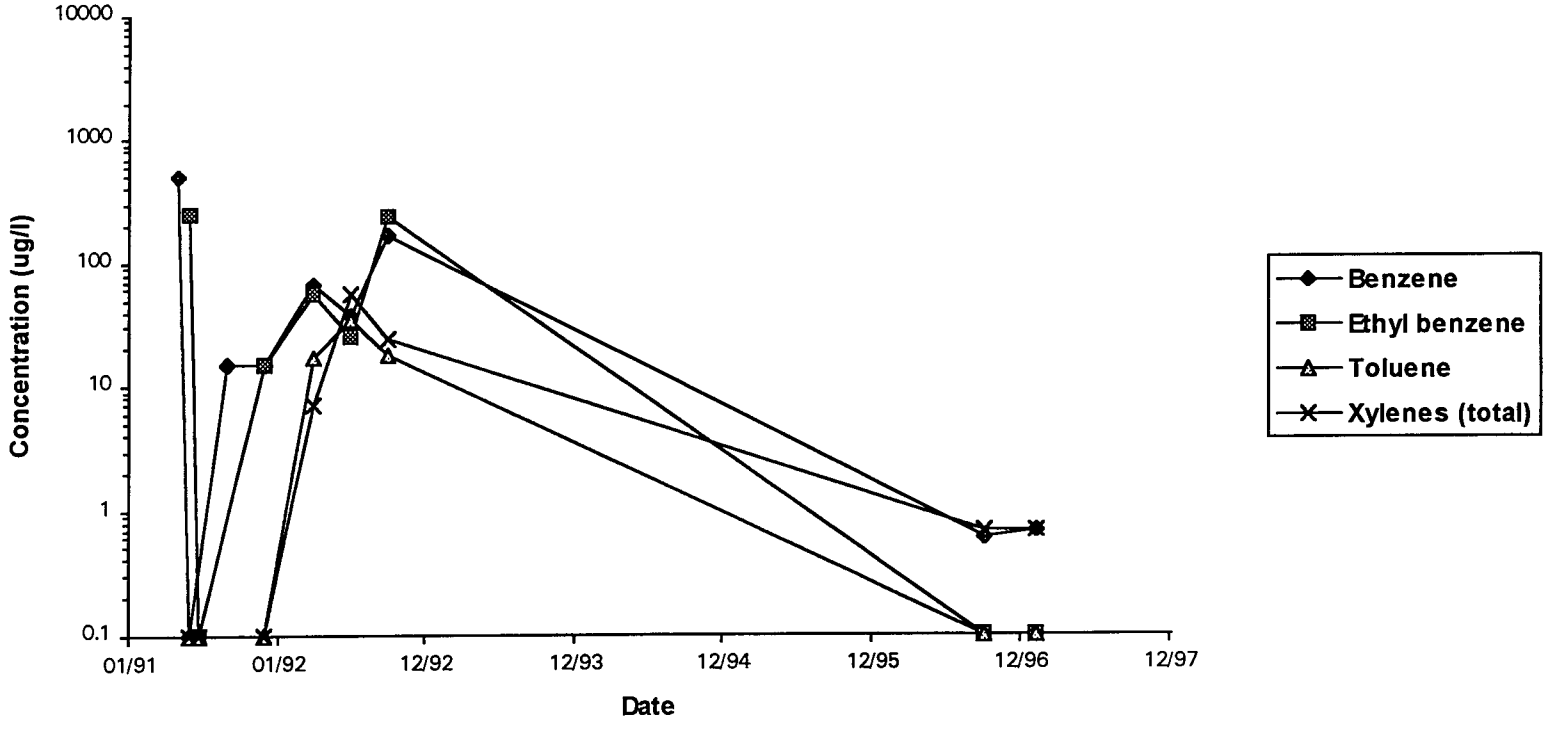
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-038

Indian Basin Remediation Project
Eddy County, NM



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CONCENTRATION VS TIME
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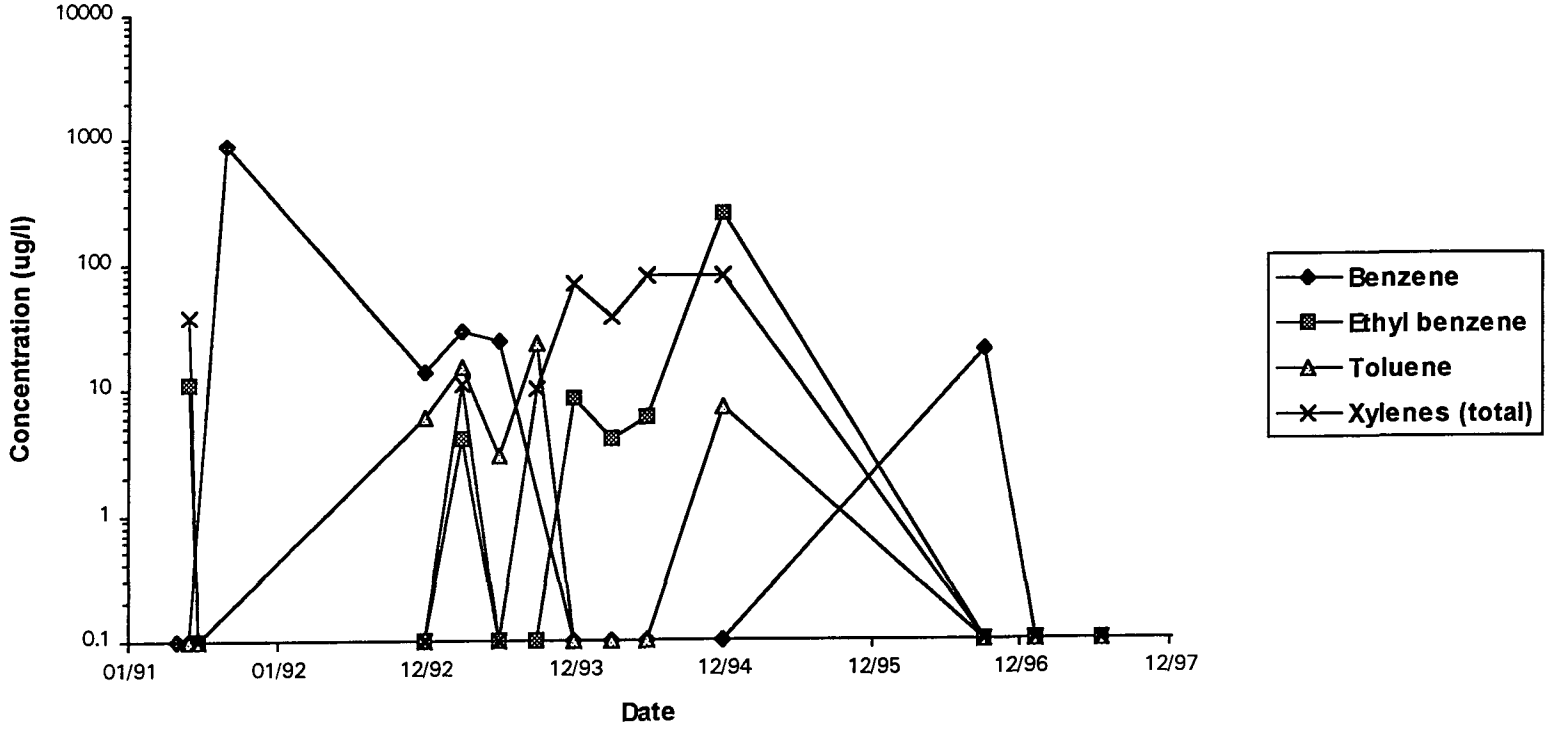
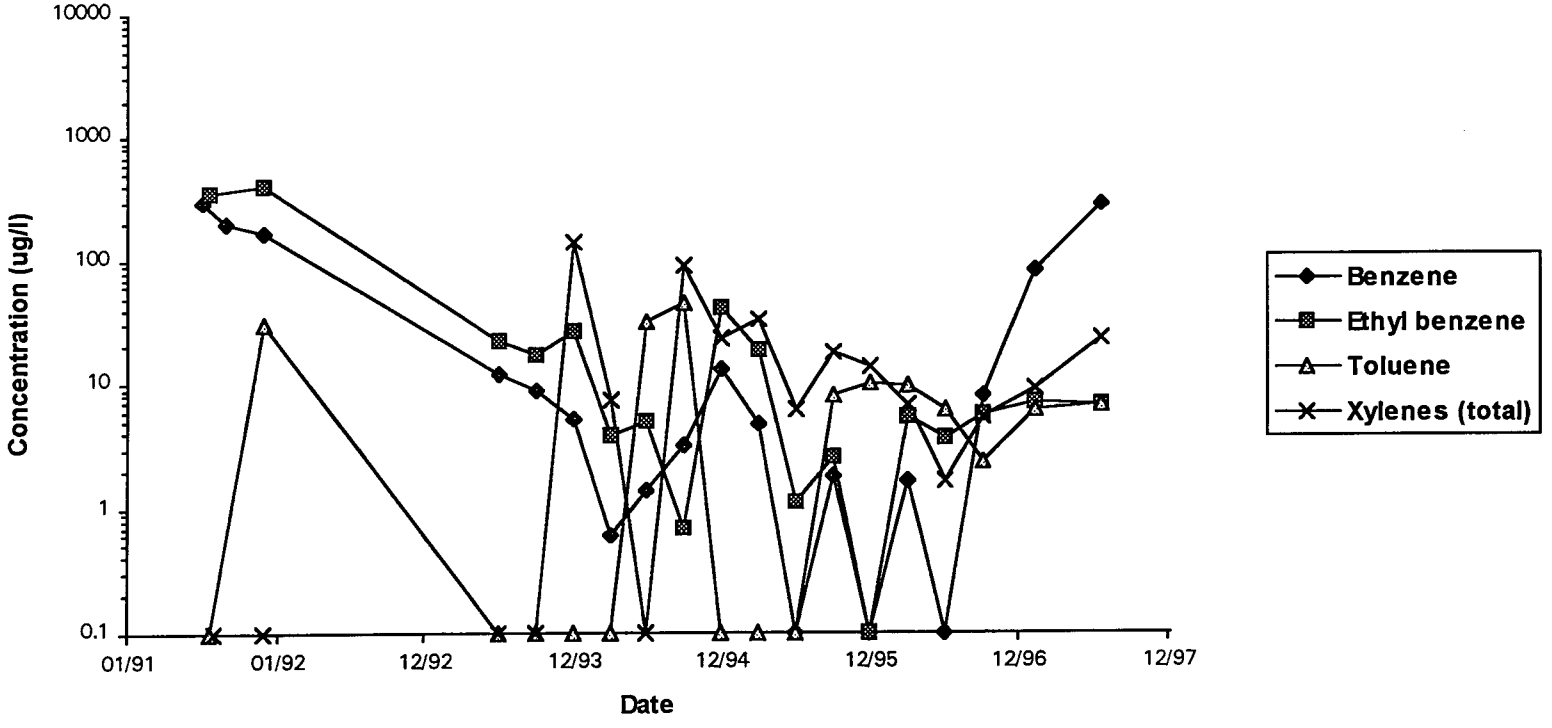
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-041

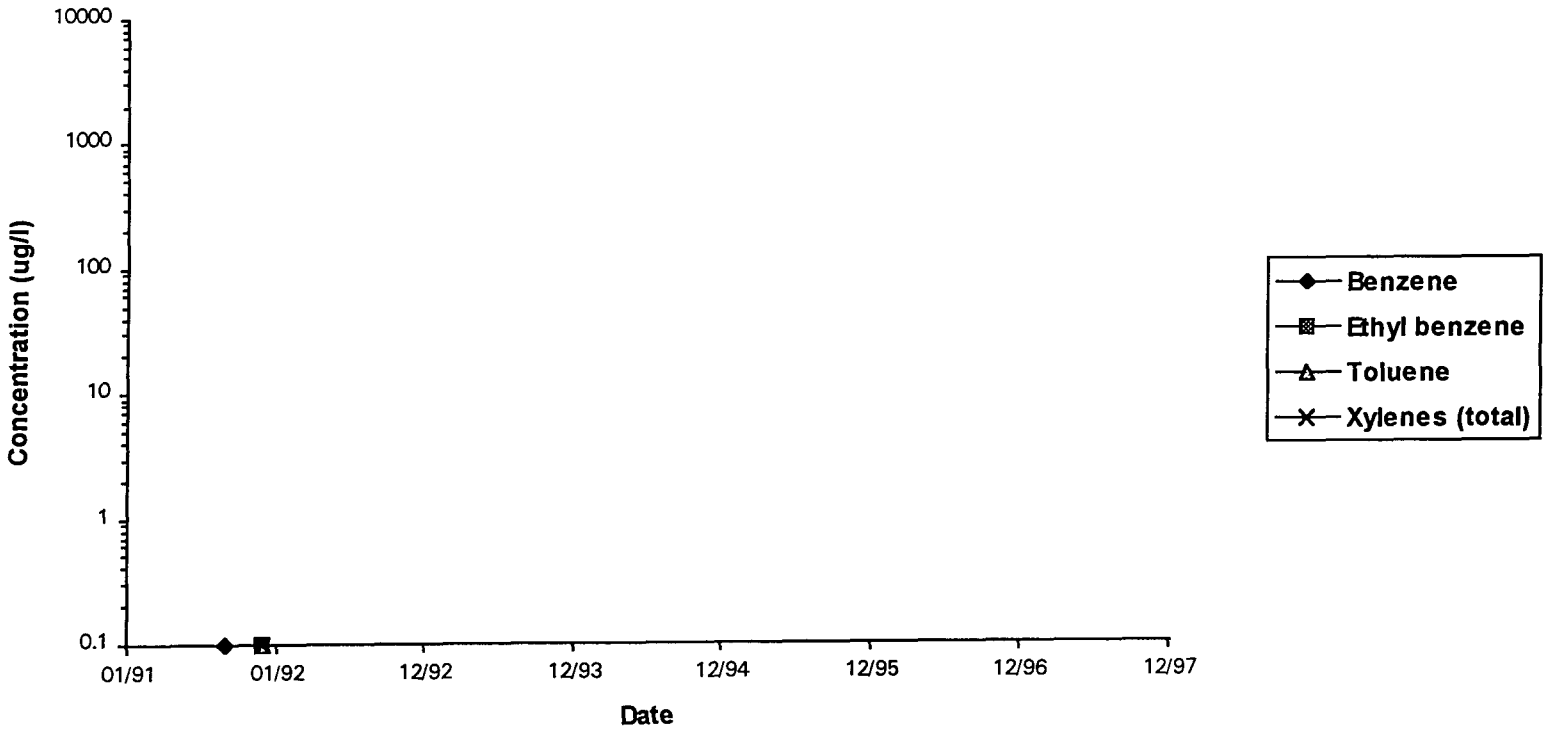
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-042

Indian Basin Remediation Project
Eddy County, NM



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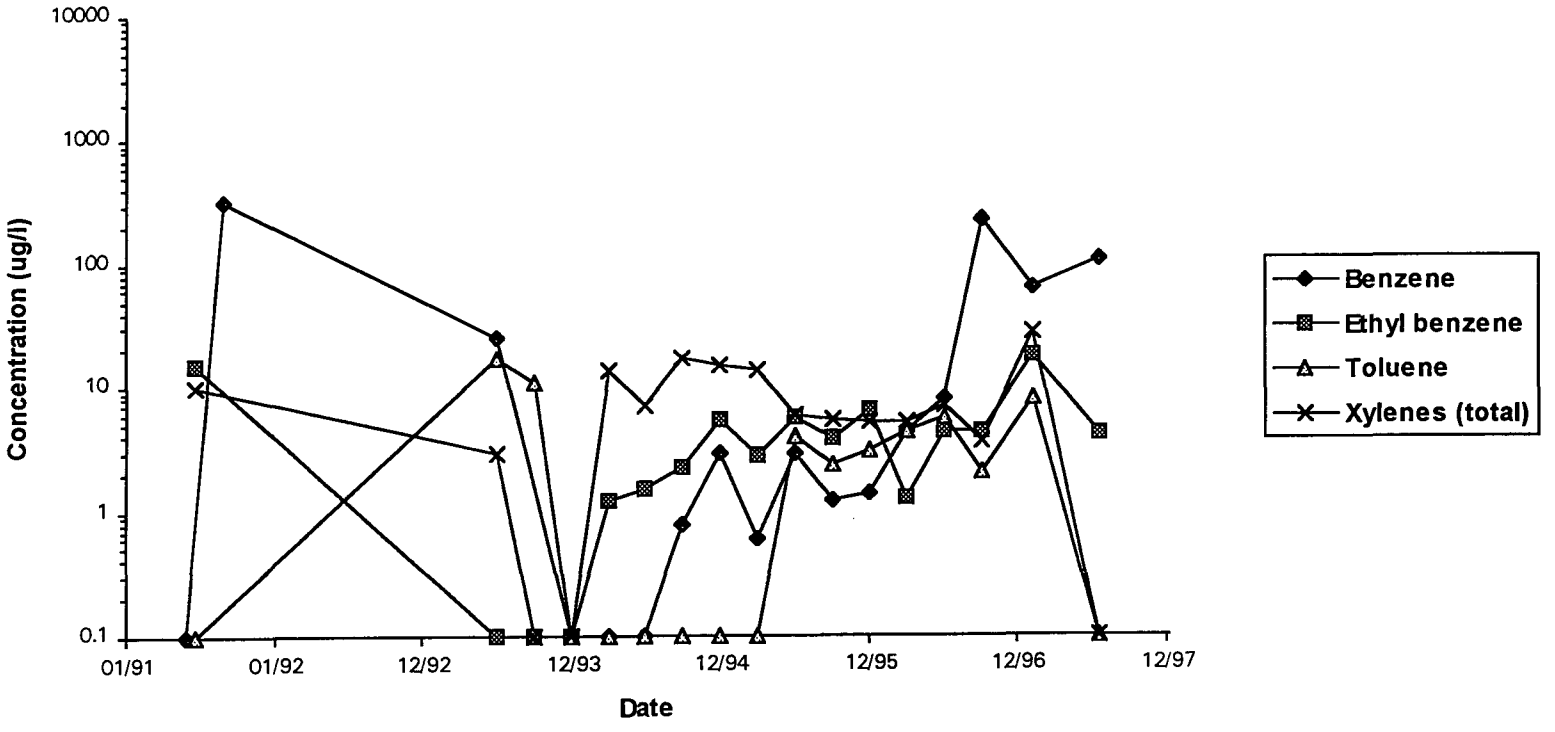
CONCENTRATION VS TIME
MW-043

Indian Basin Remediation Project
Eddy County, NM



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CONCENTRATION VS TIME
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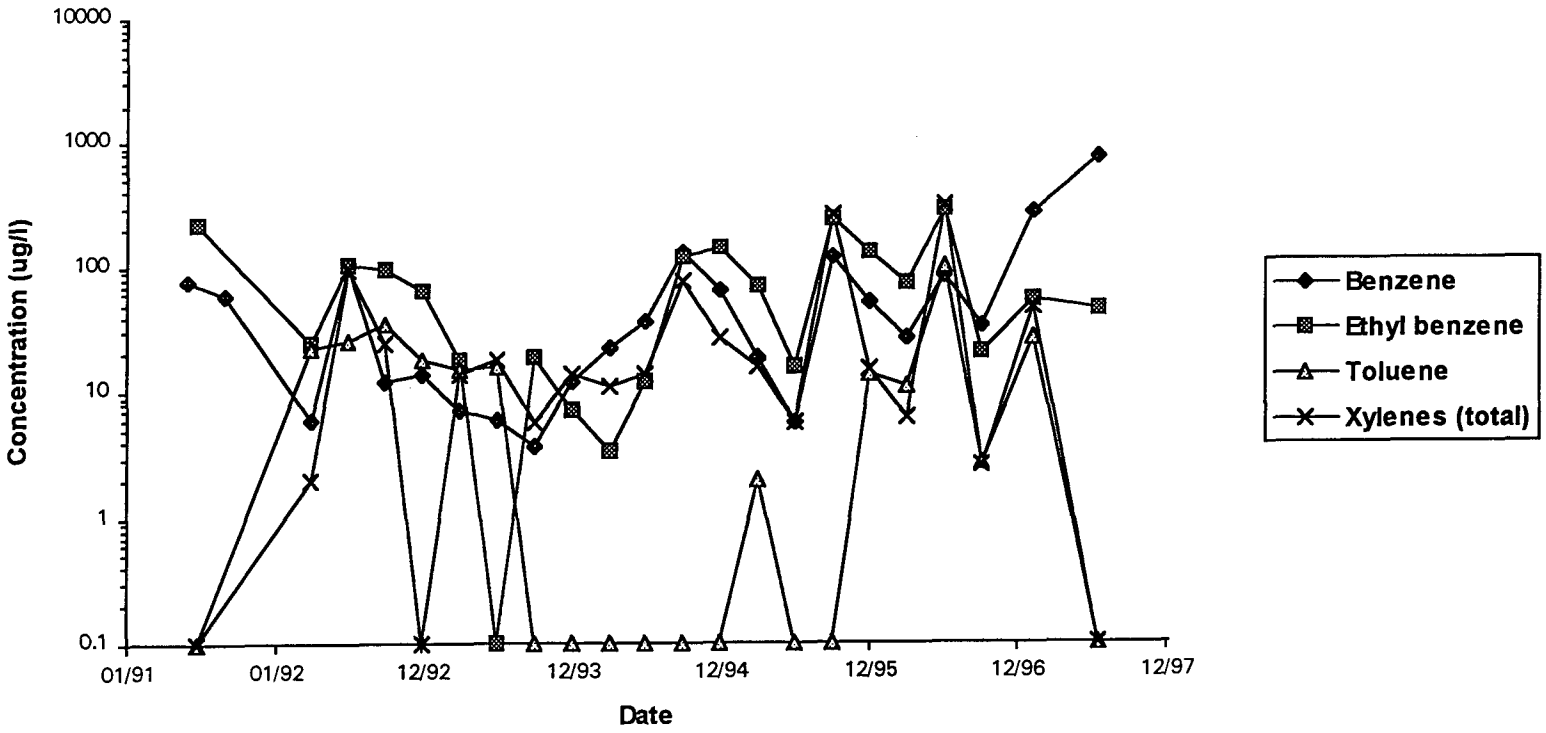
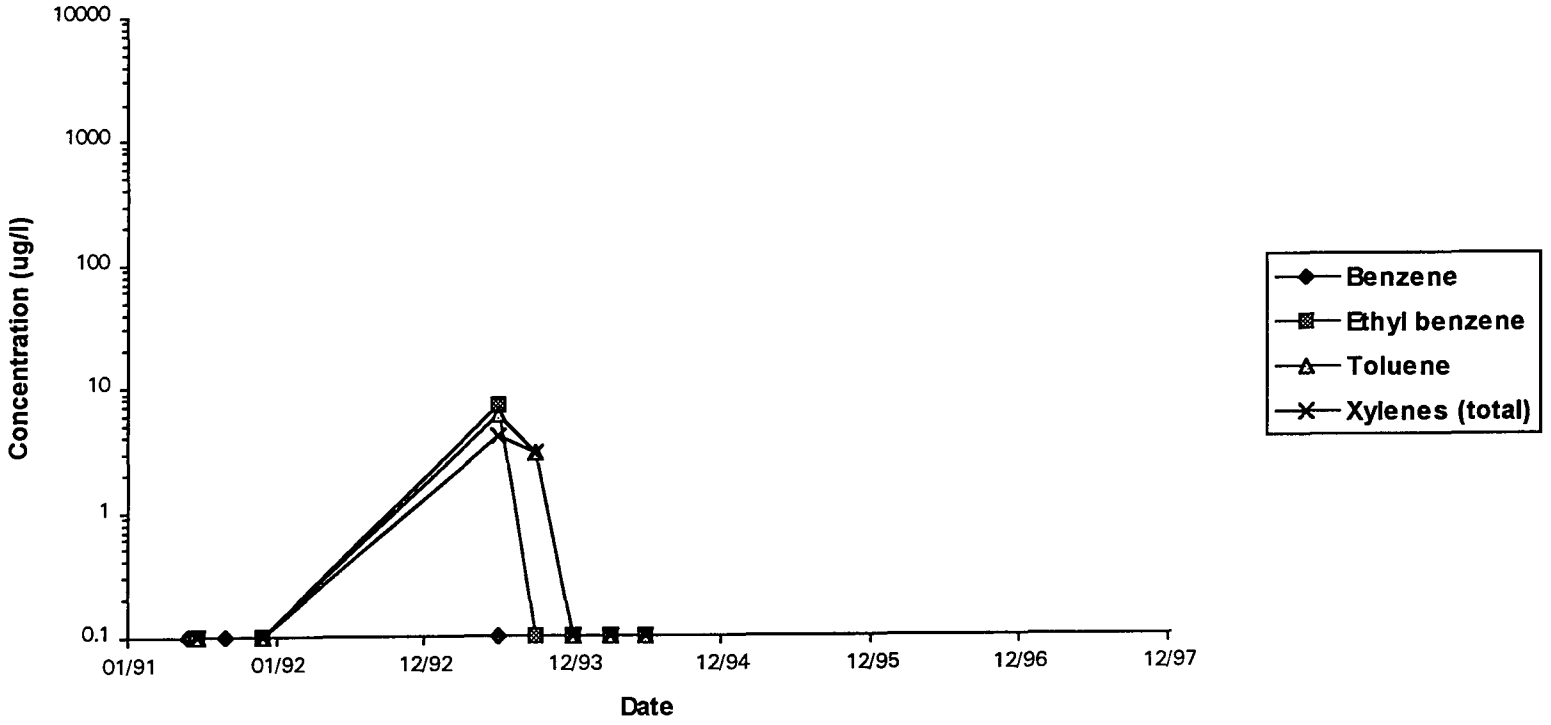
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-045

Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
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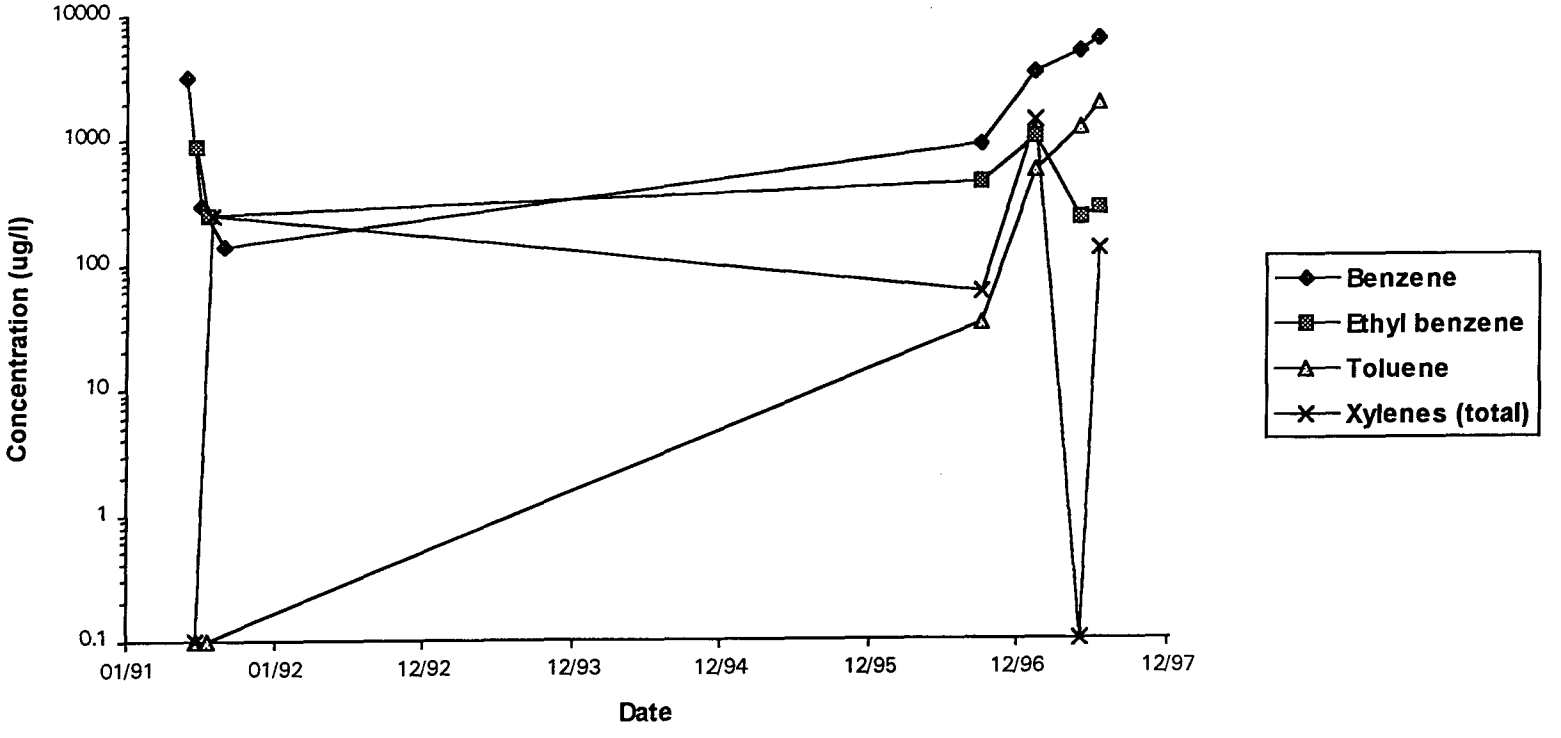
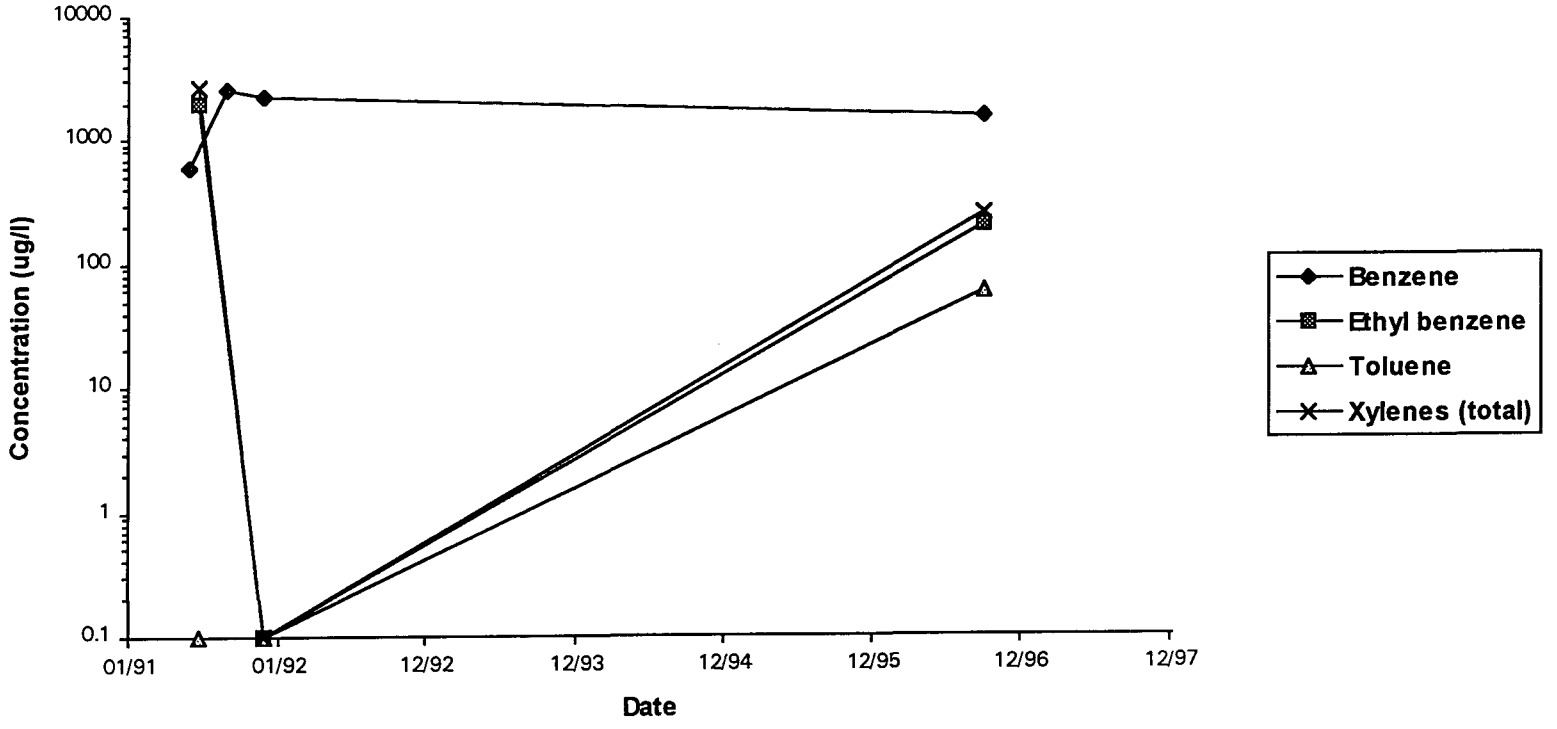
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-047

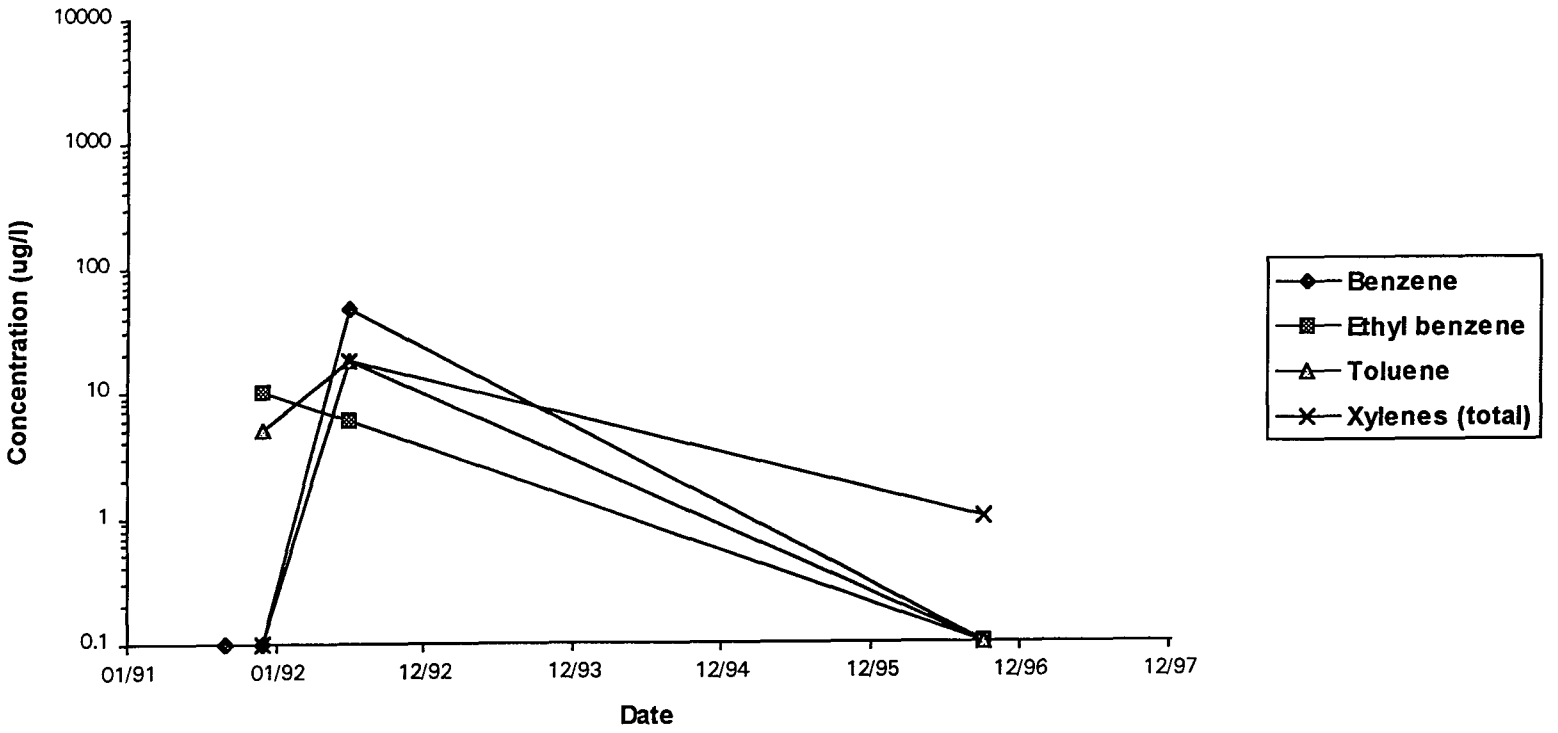
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-048

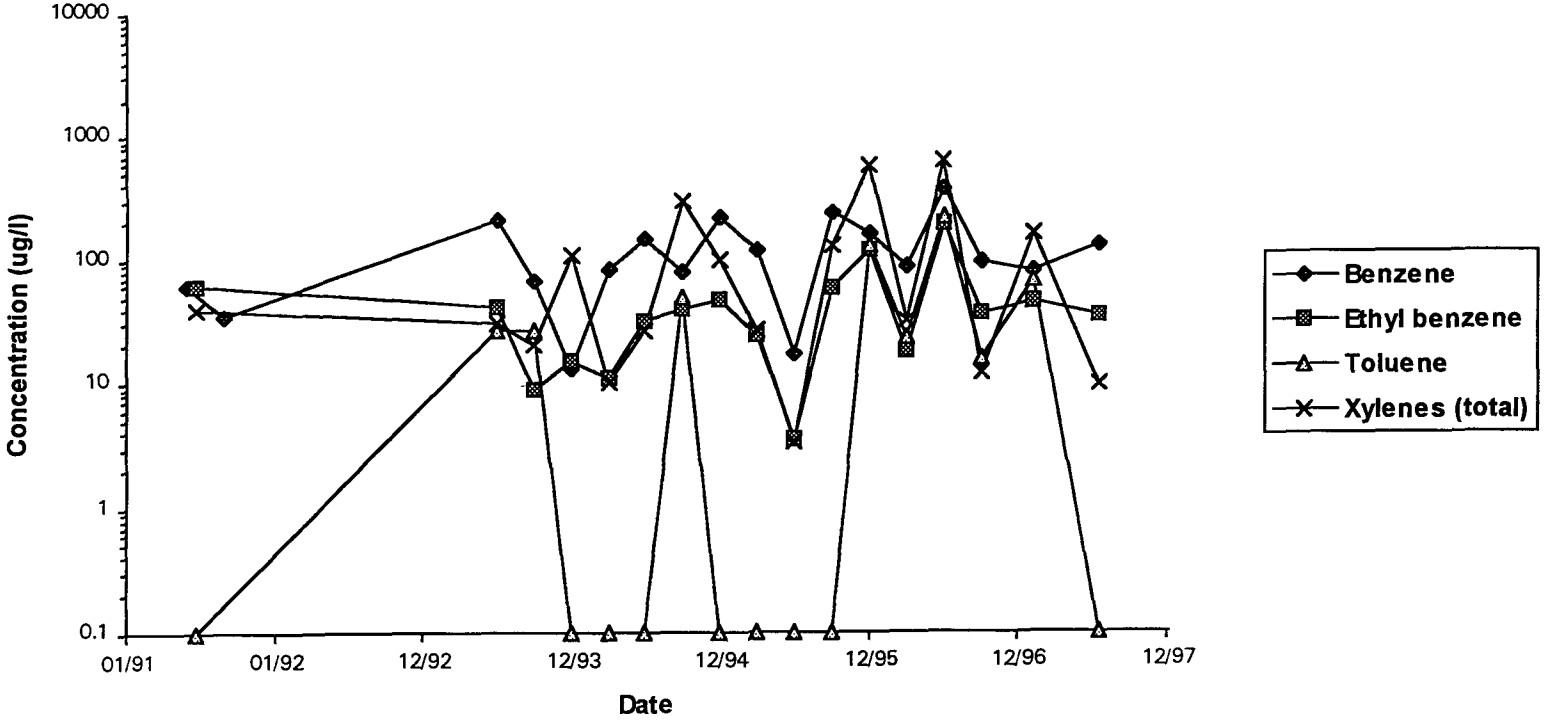
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-049

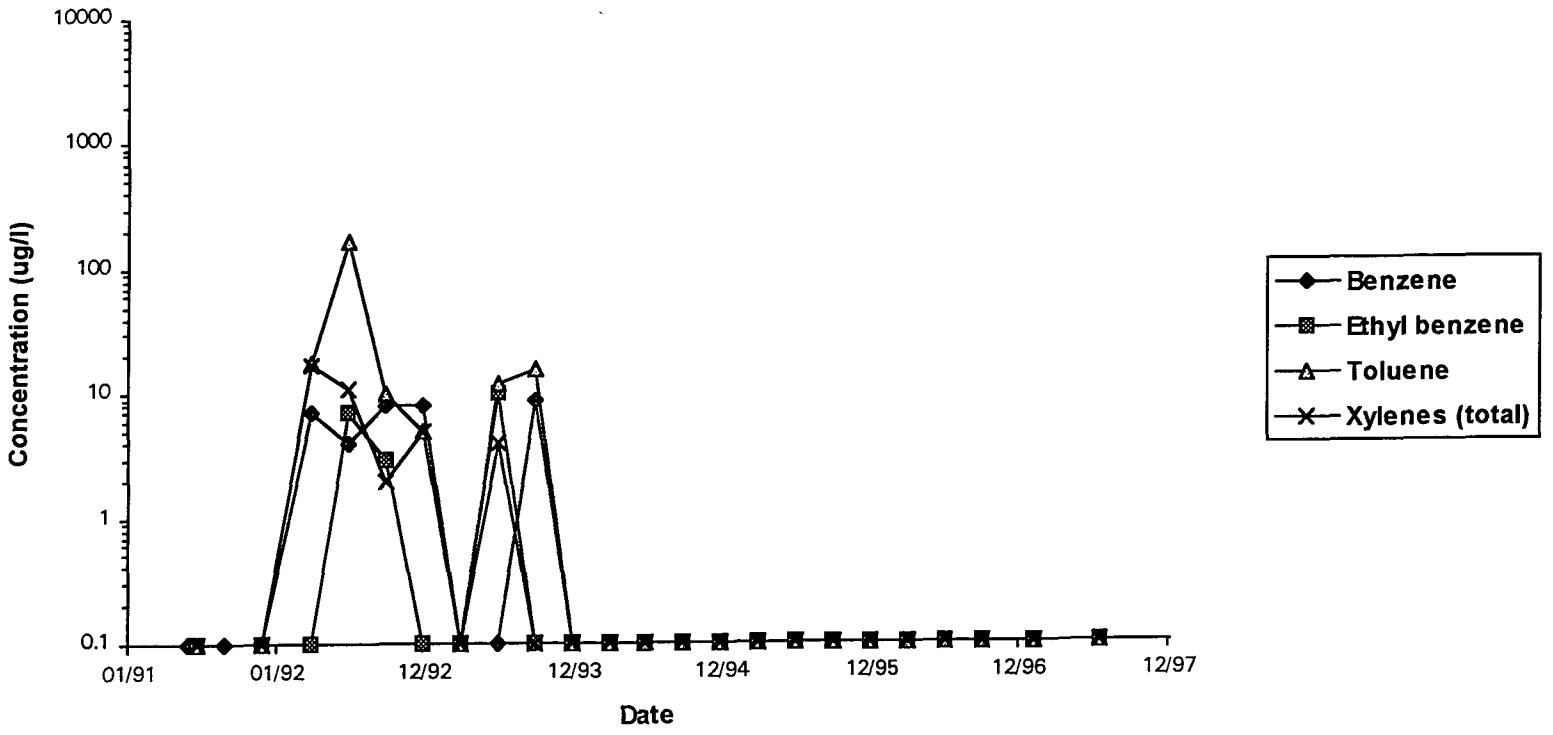
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-050

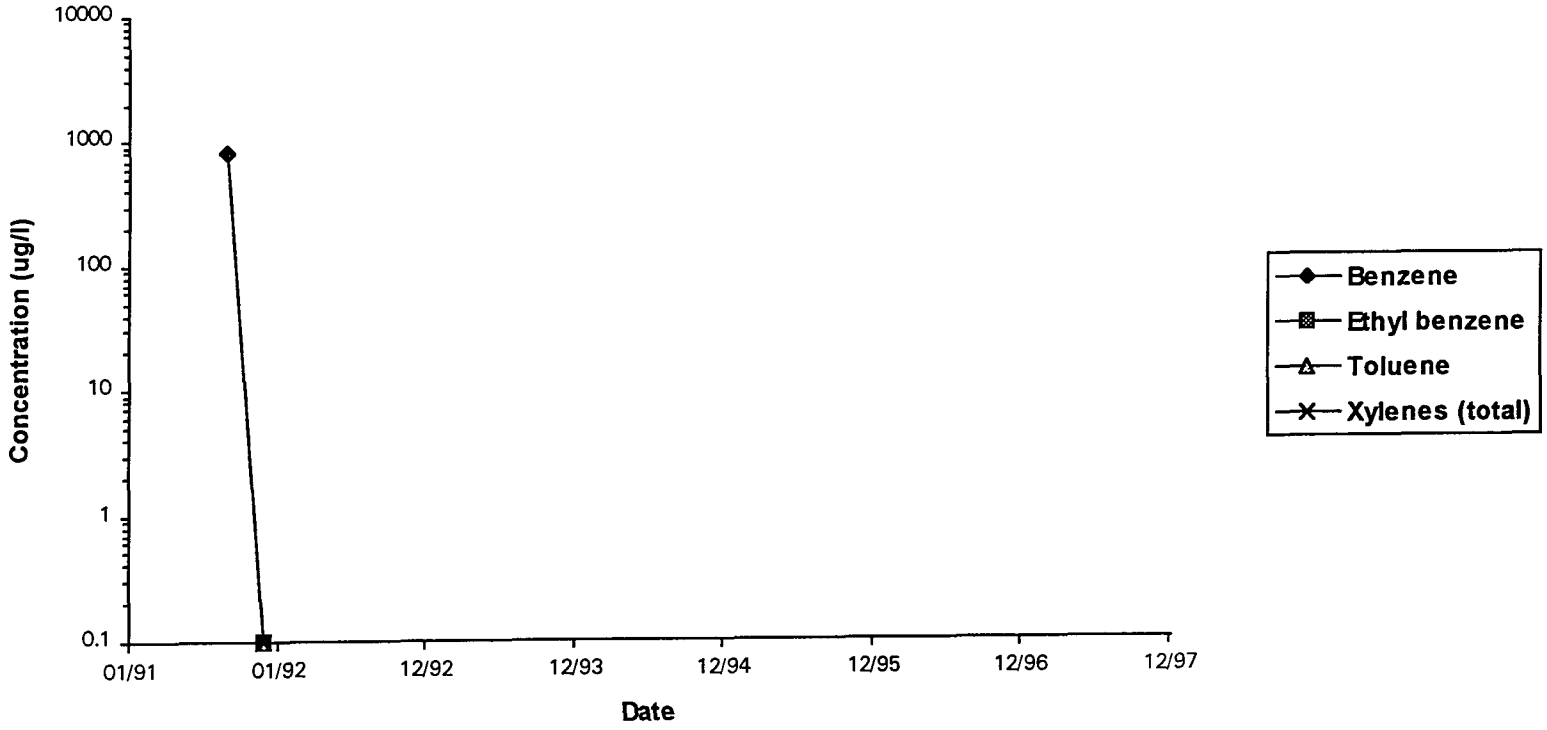
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-051

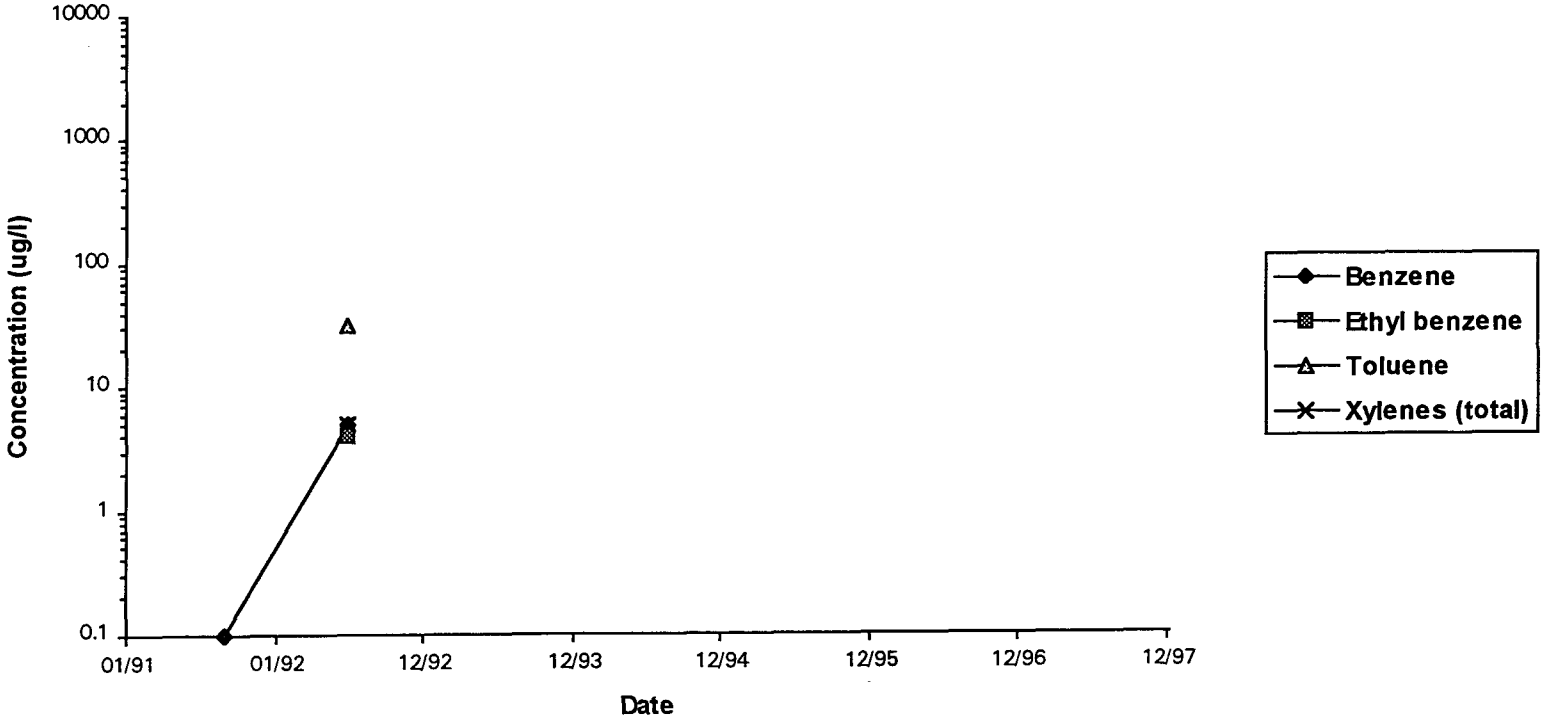
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-052

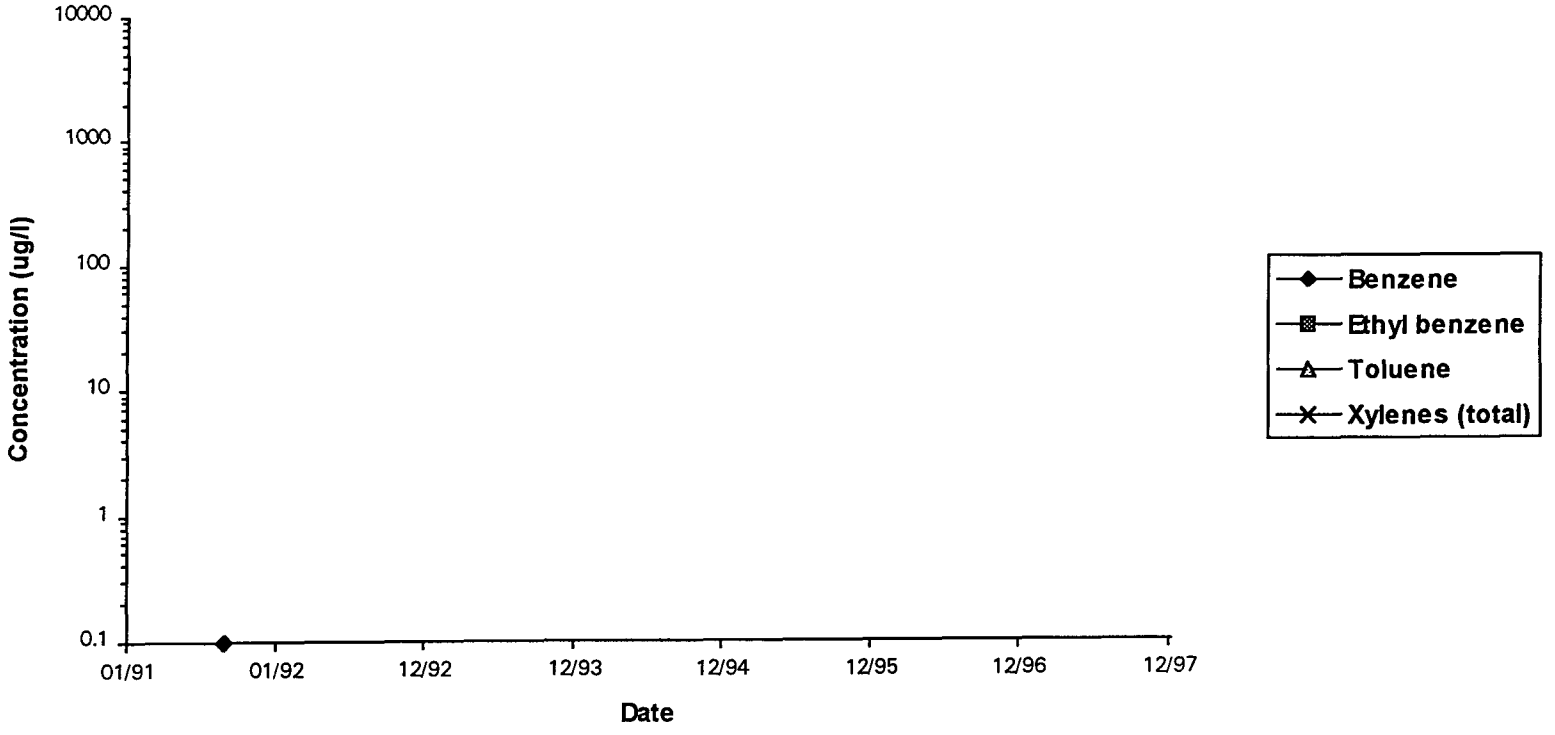
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-053

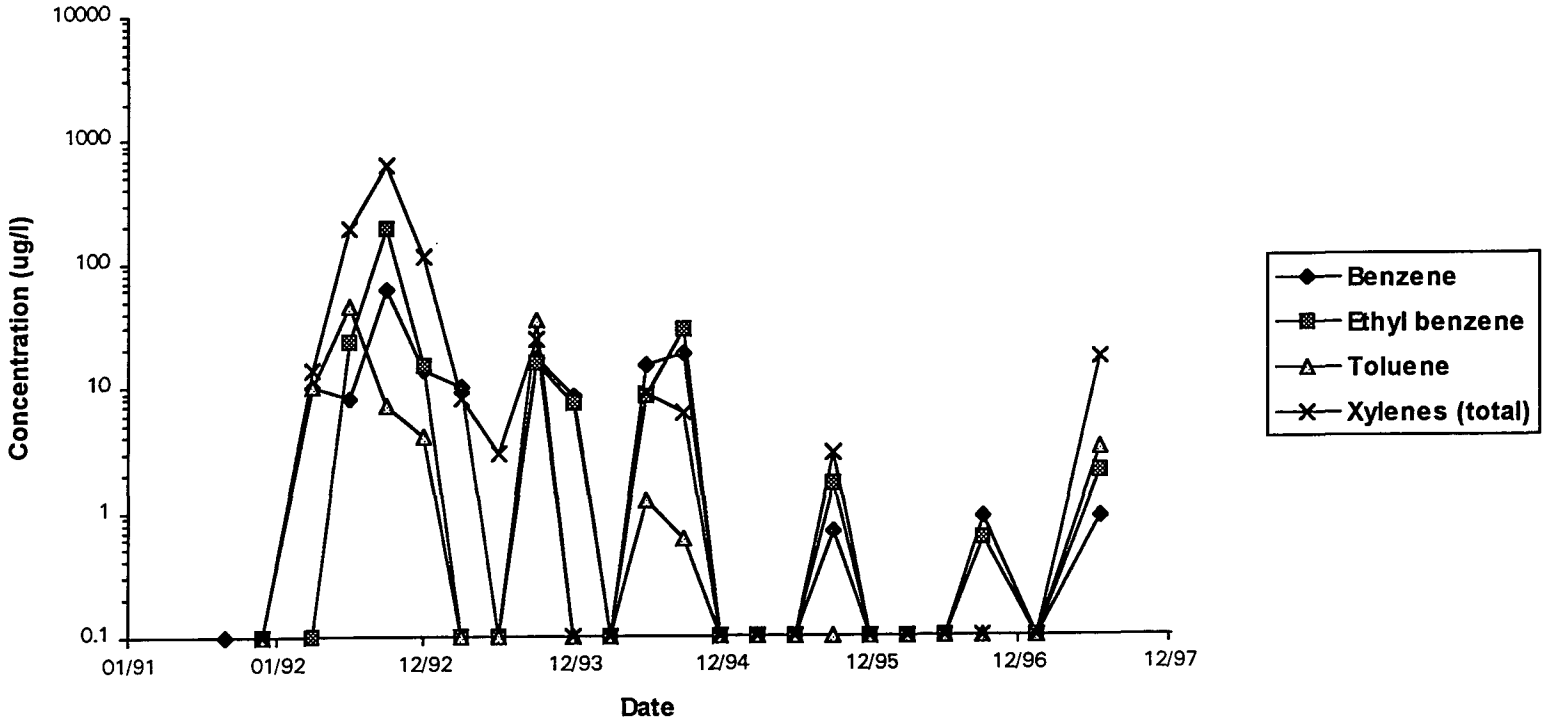
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-054

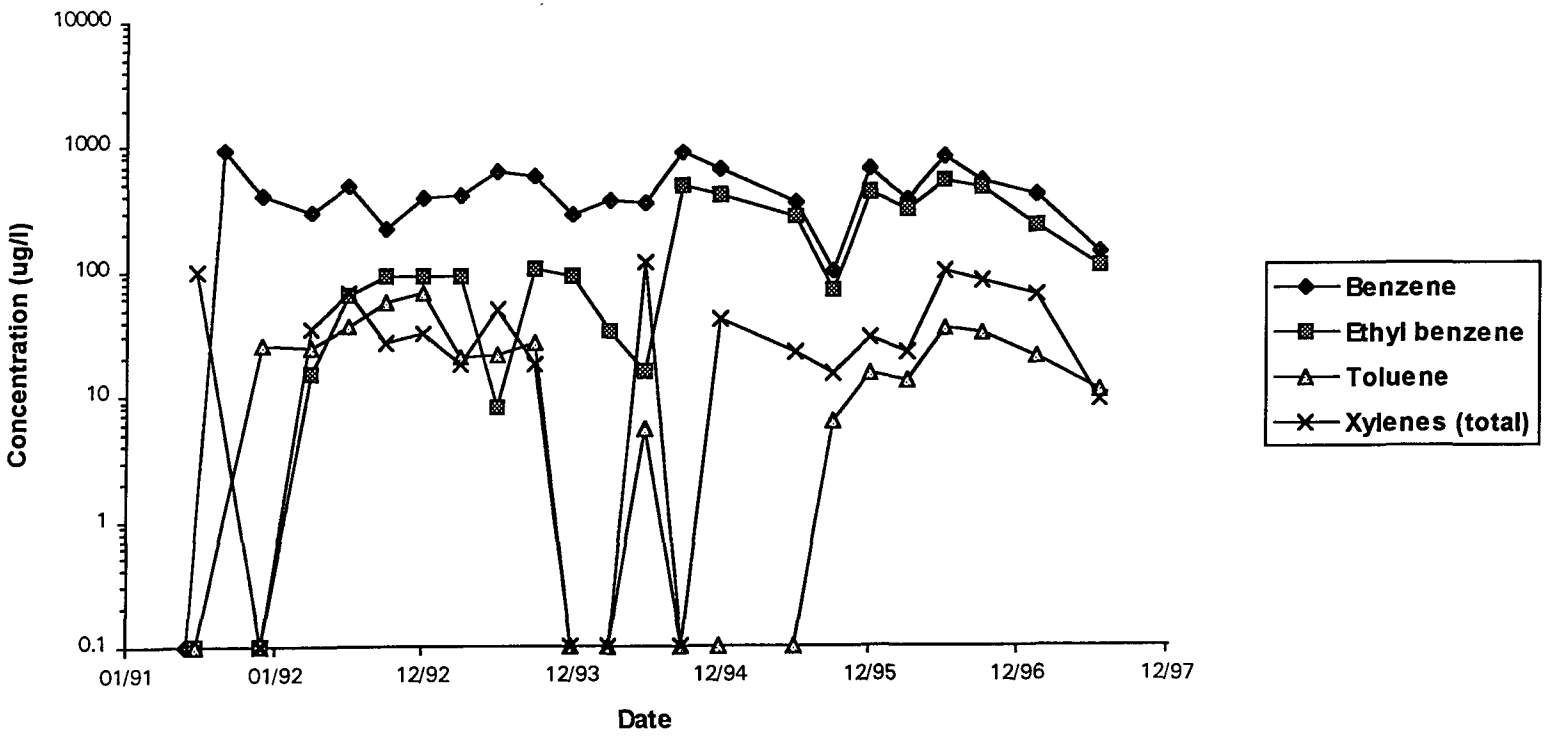
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-055

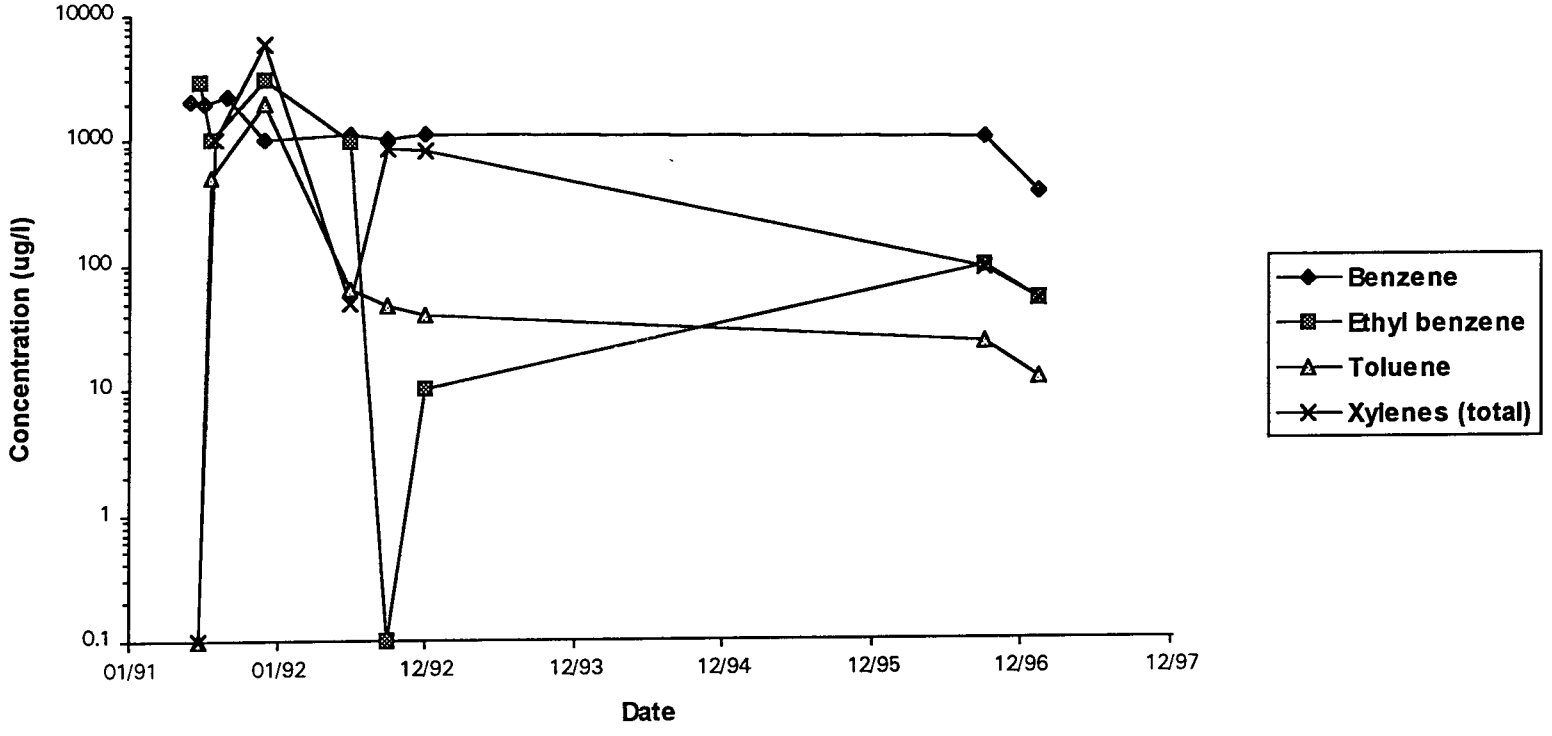
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-056

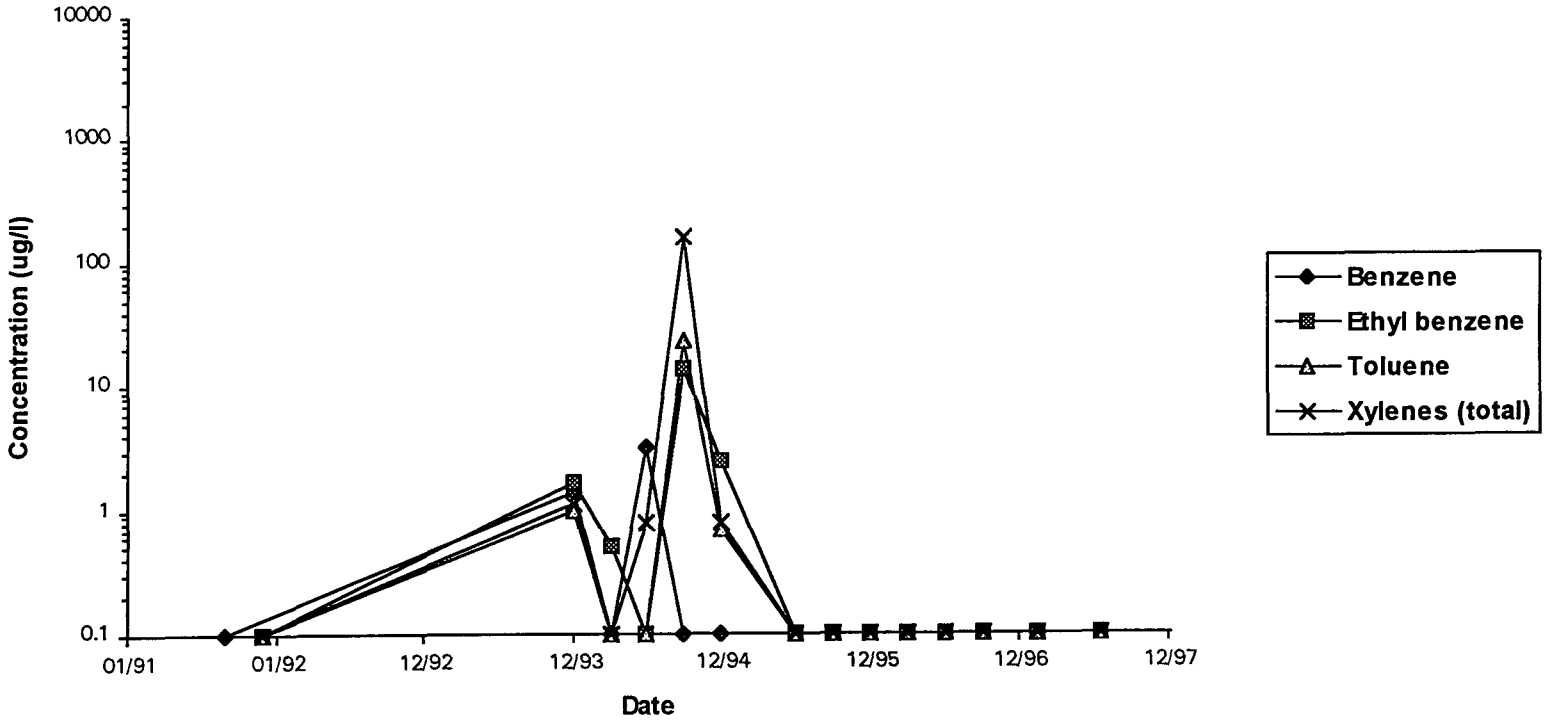
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-061

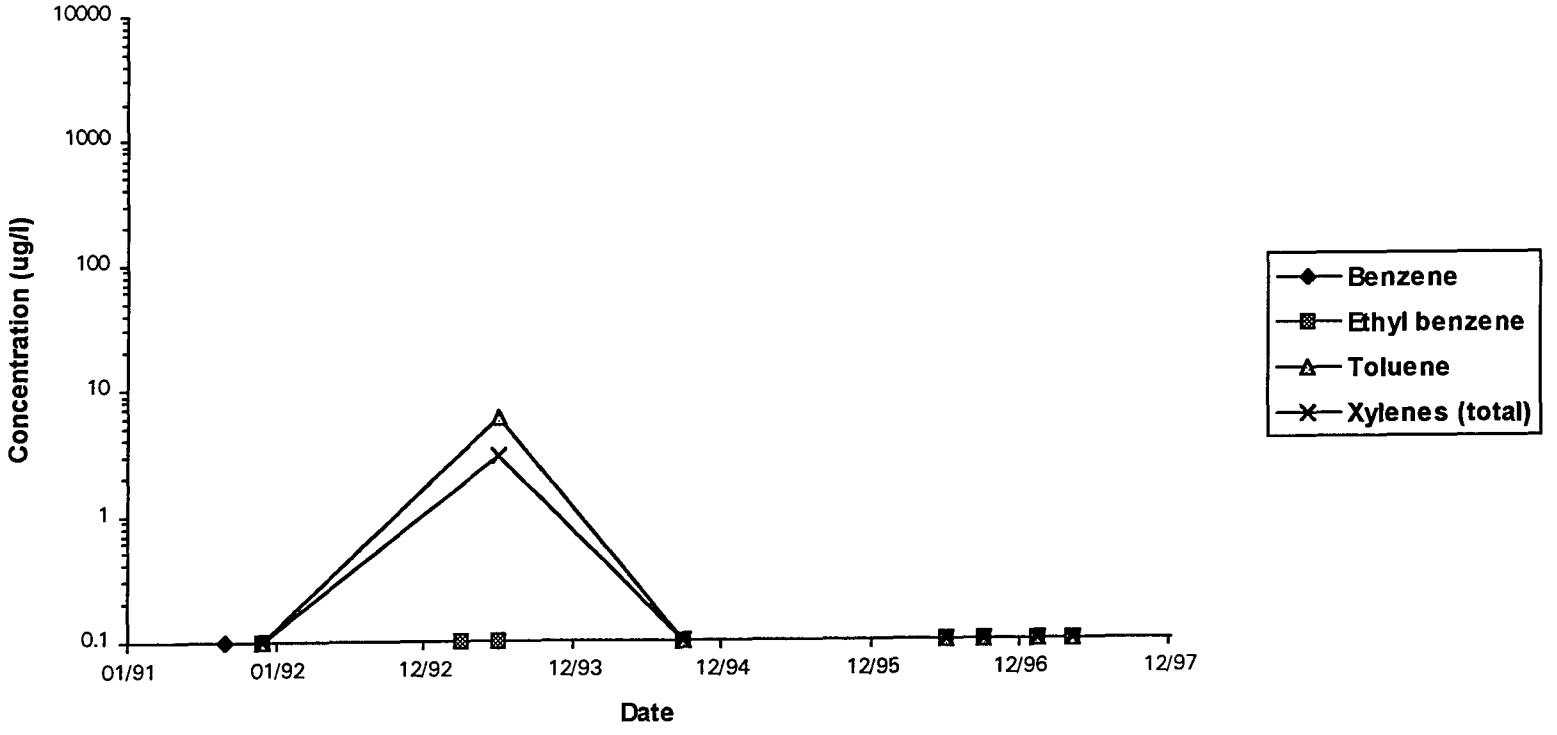
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-065

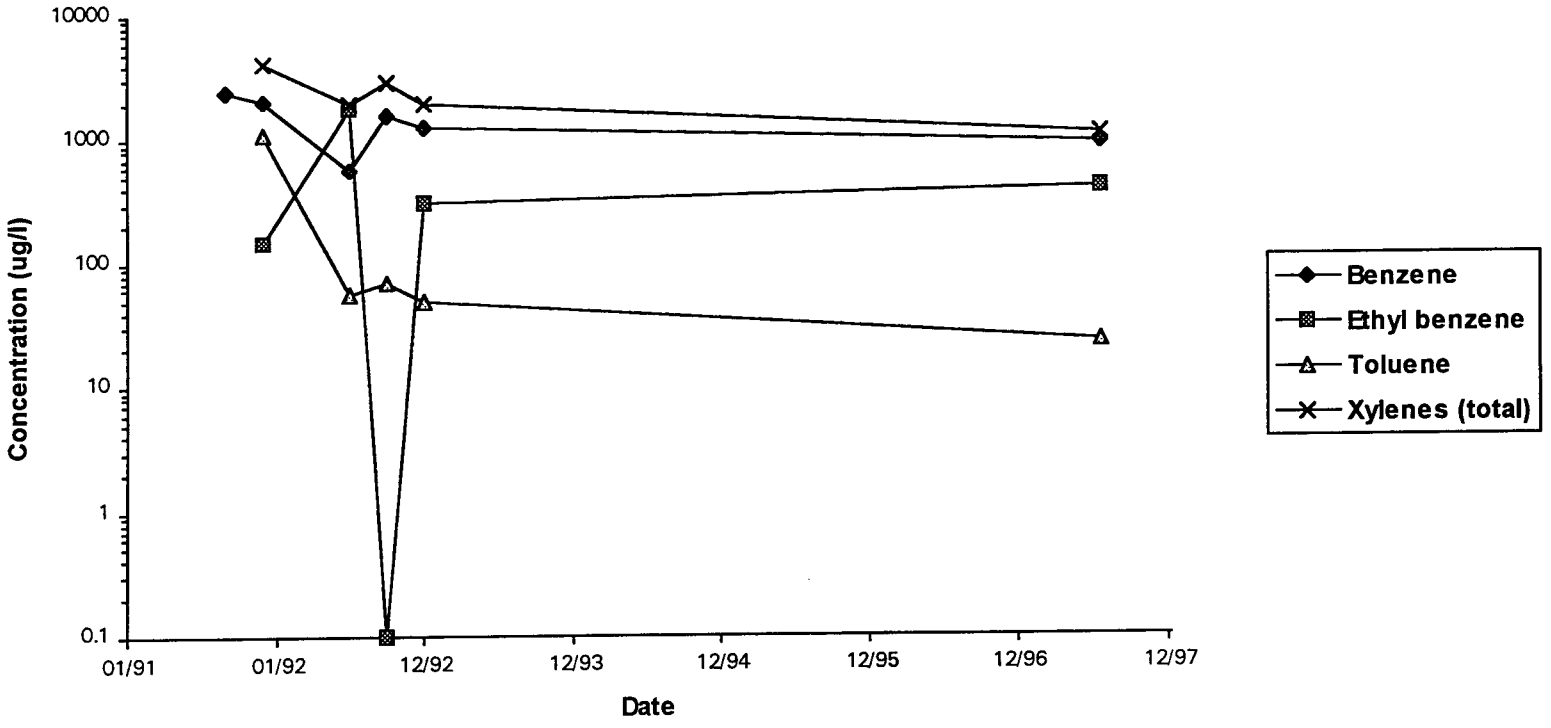
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-069

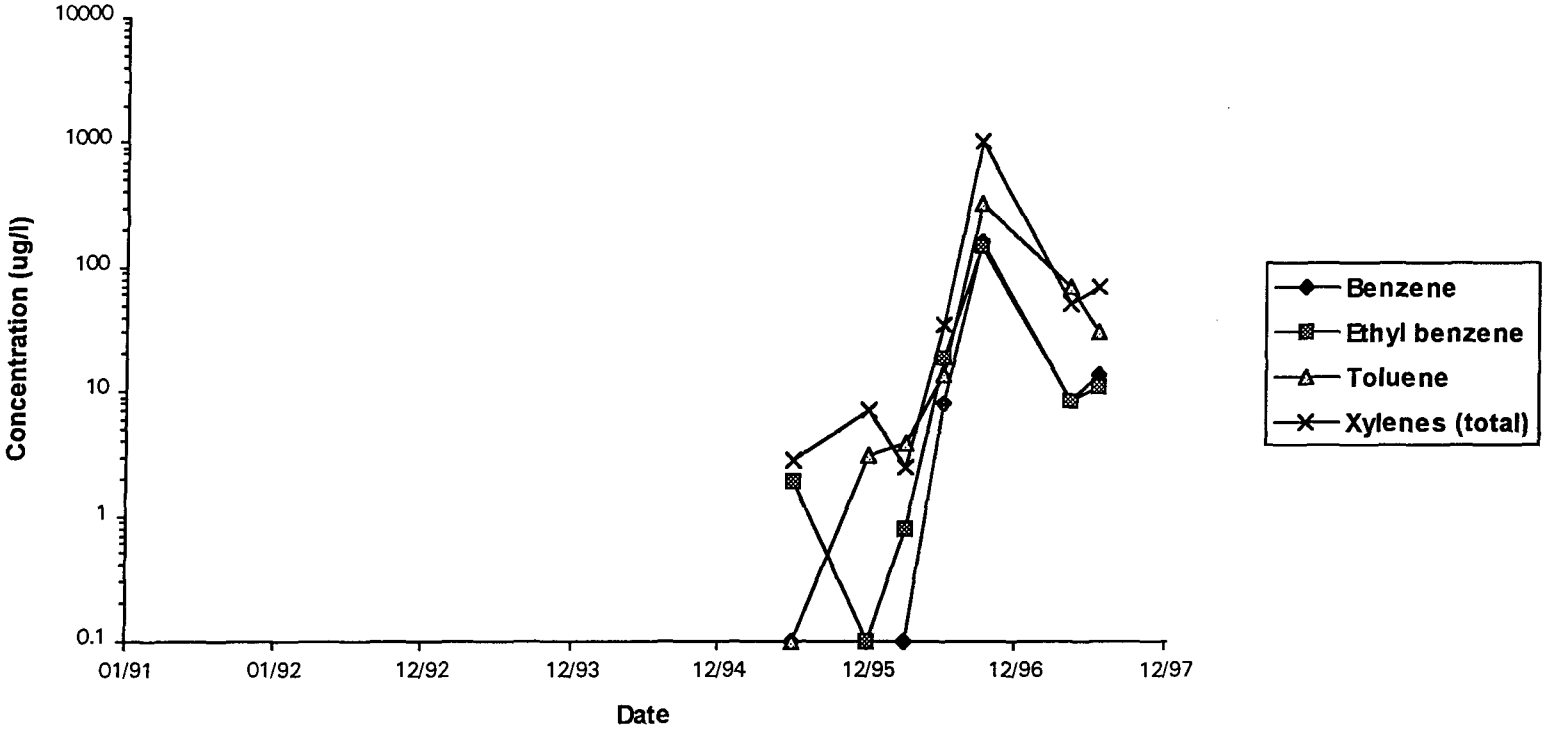
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-077

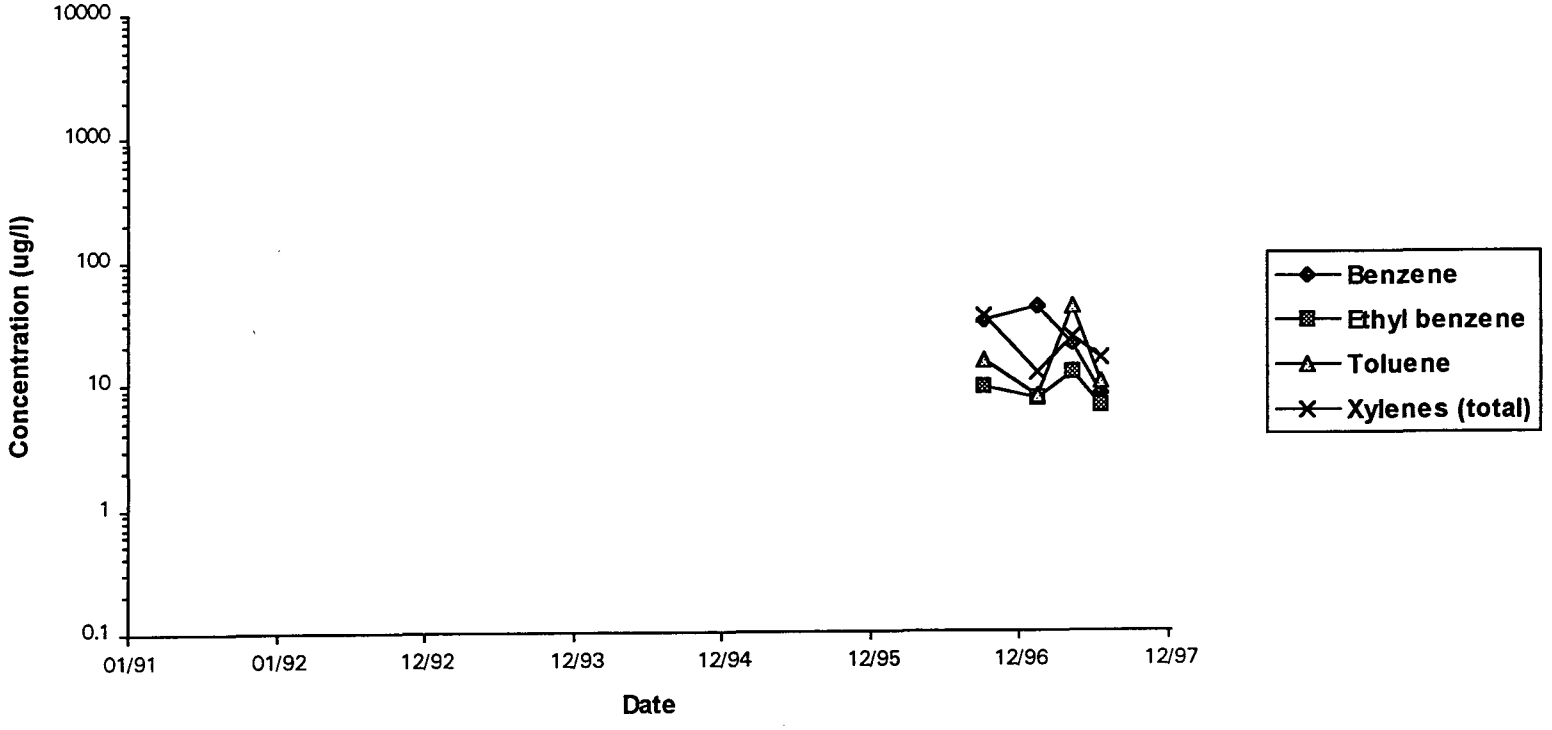
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-078

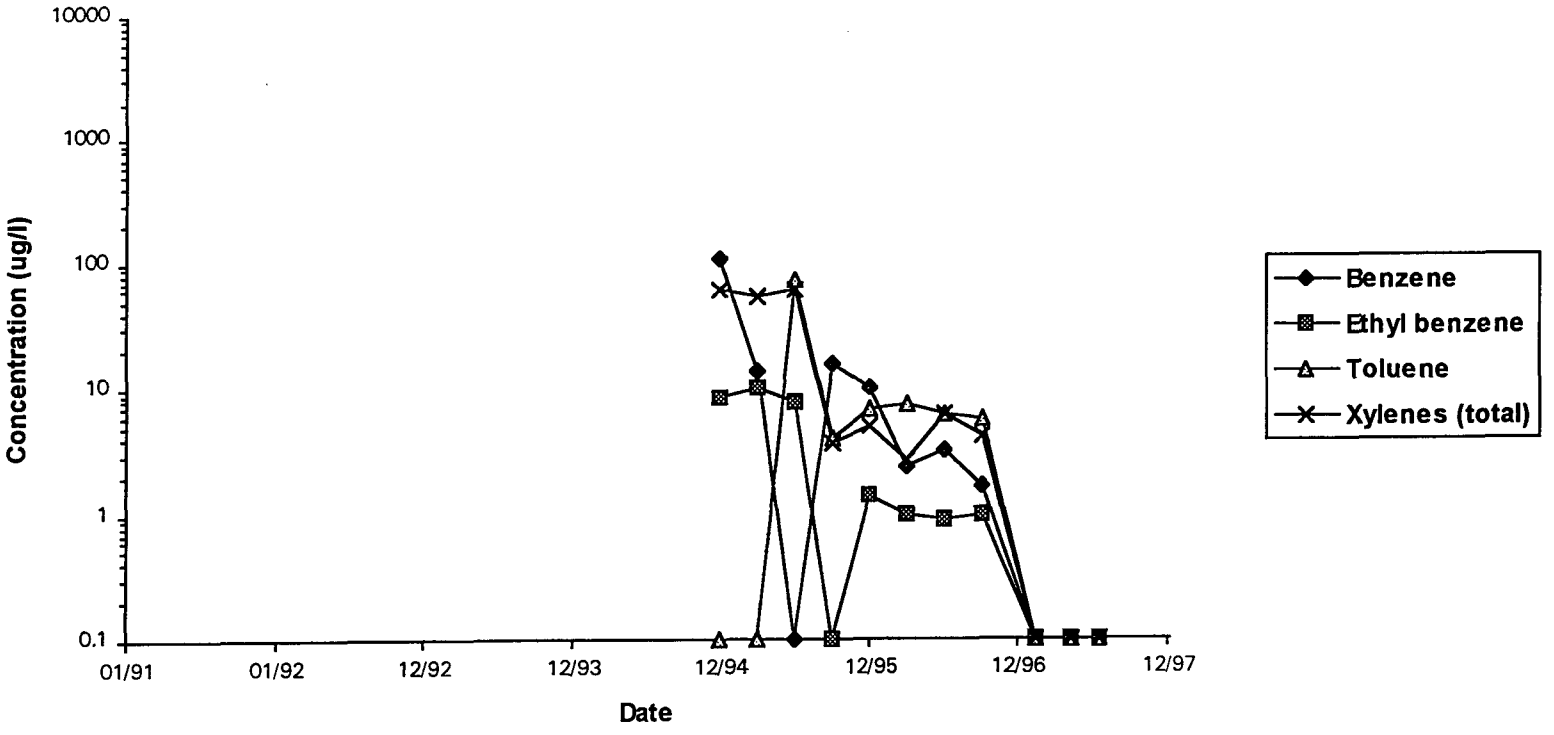
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-079

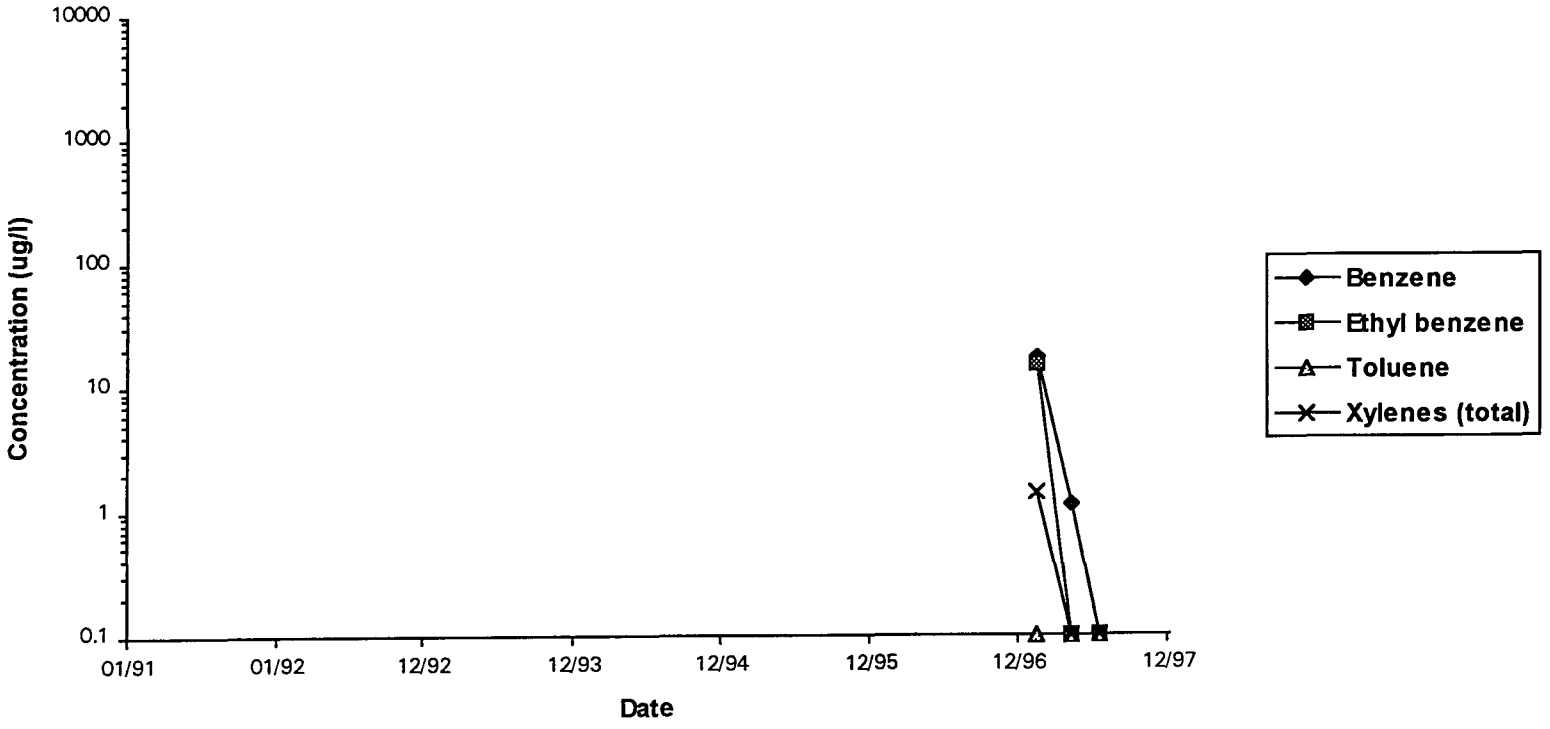
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-090

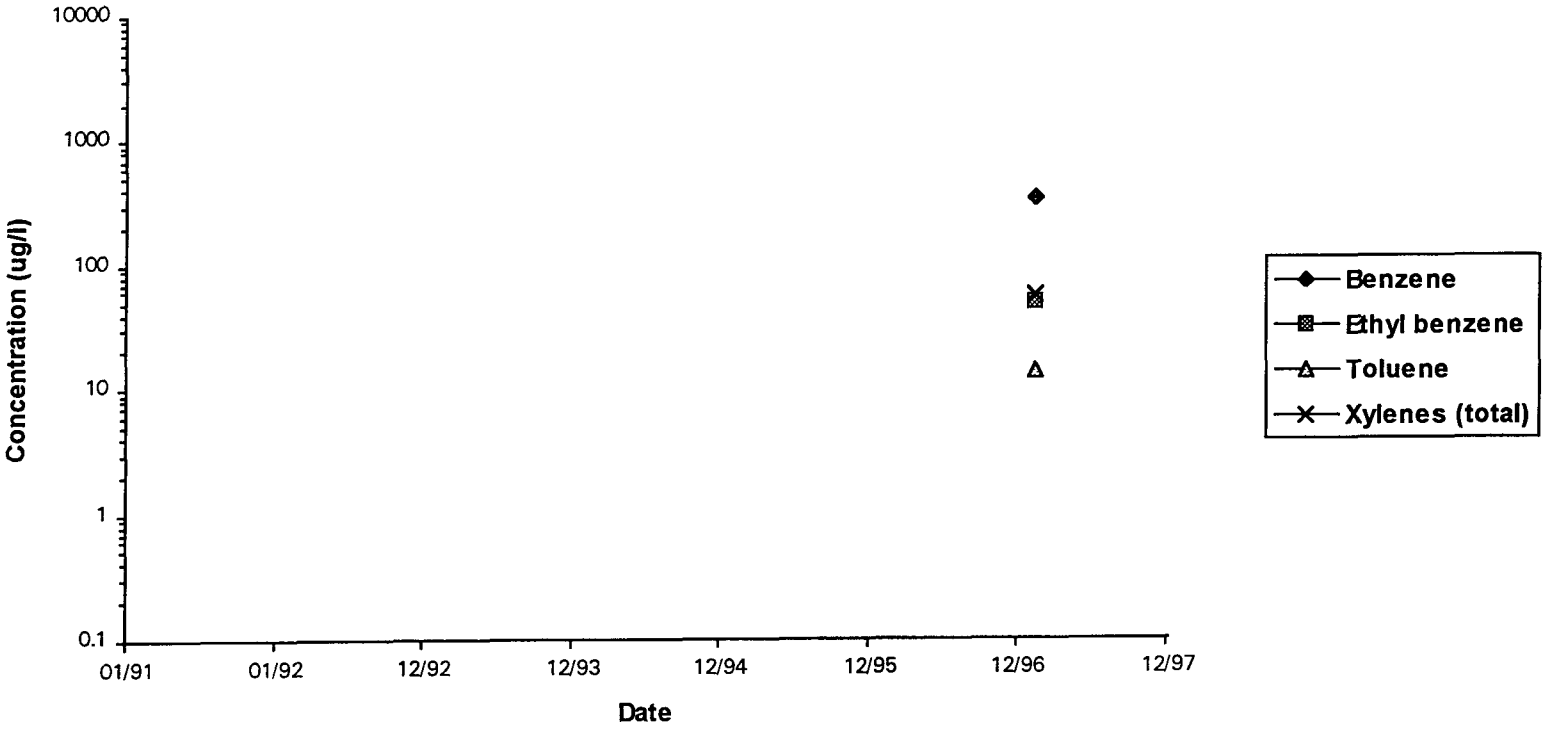
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-091

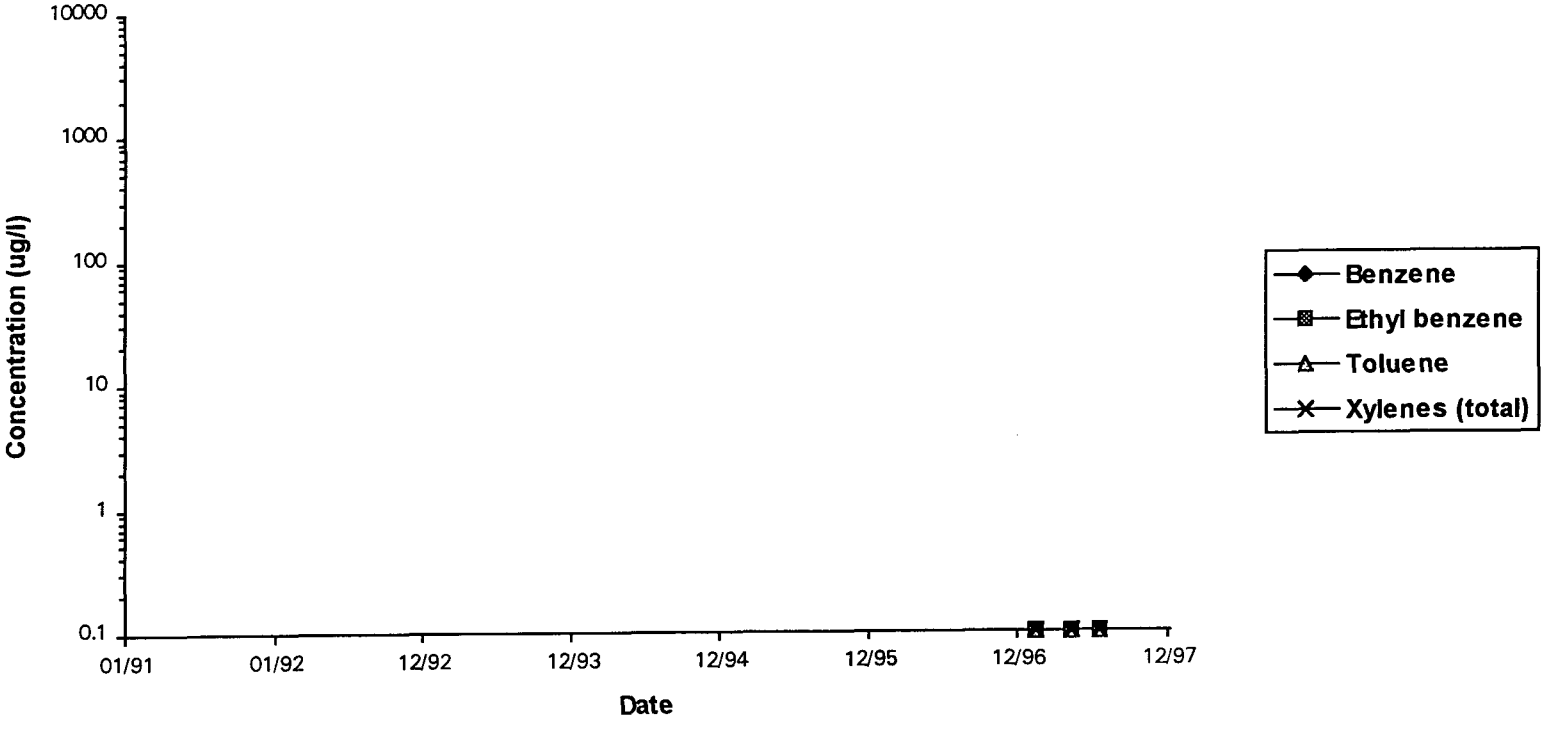
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-106

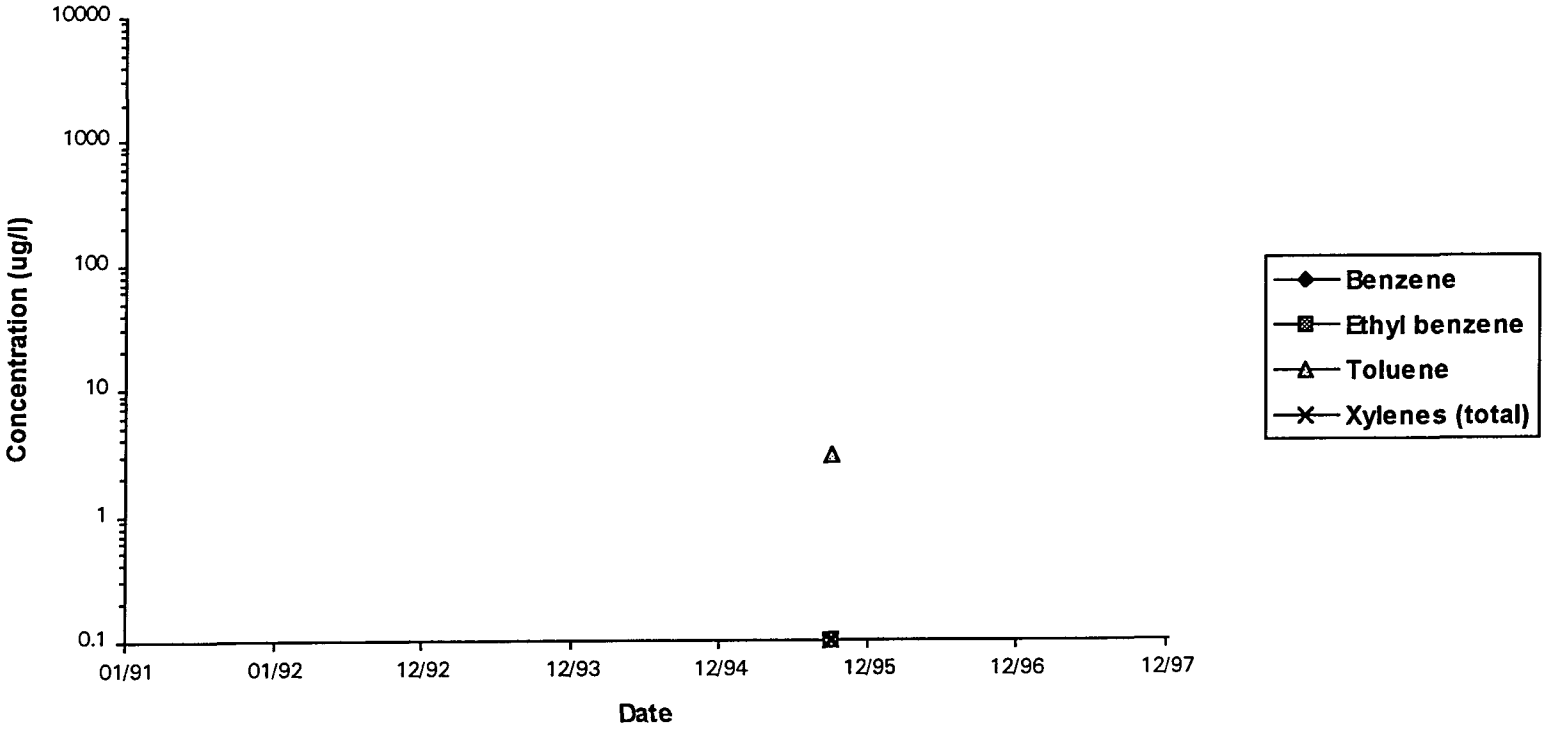
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
SUMP-A10

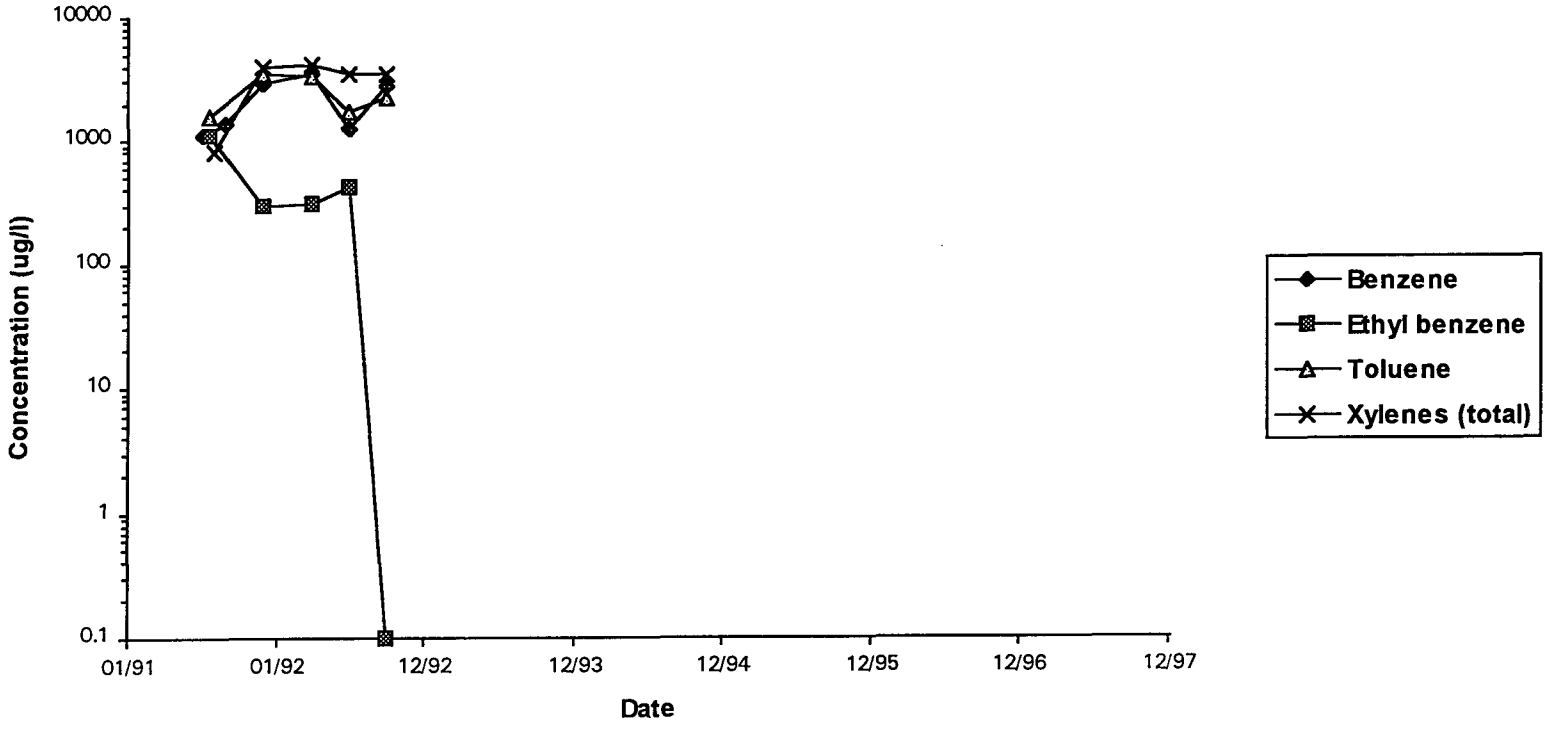
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
SUMP-A11

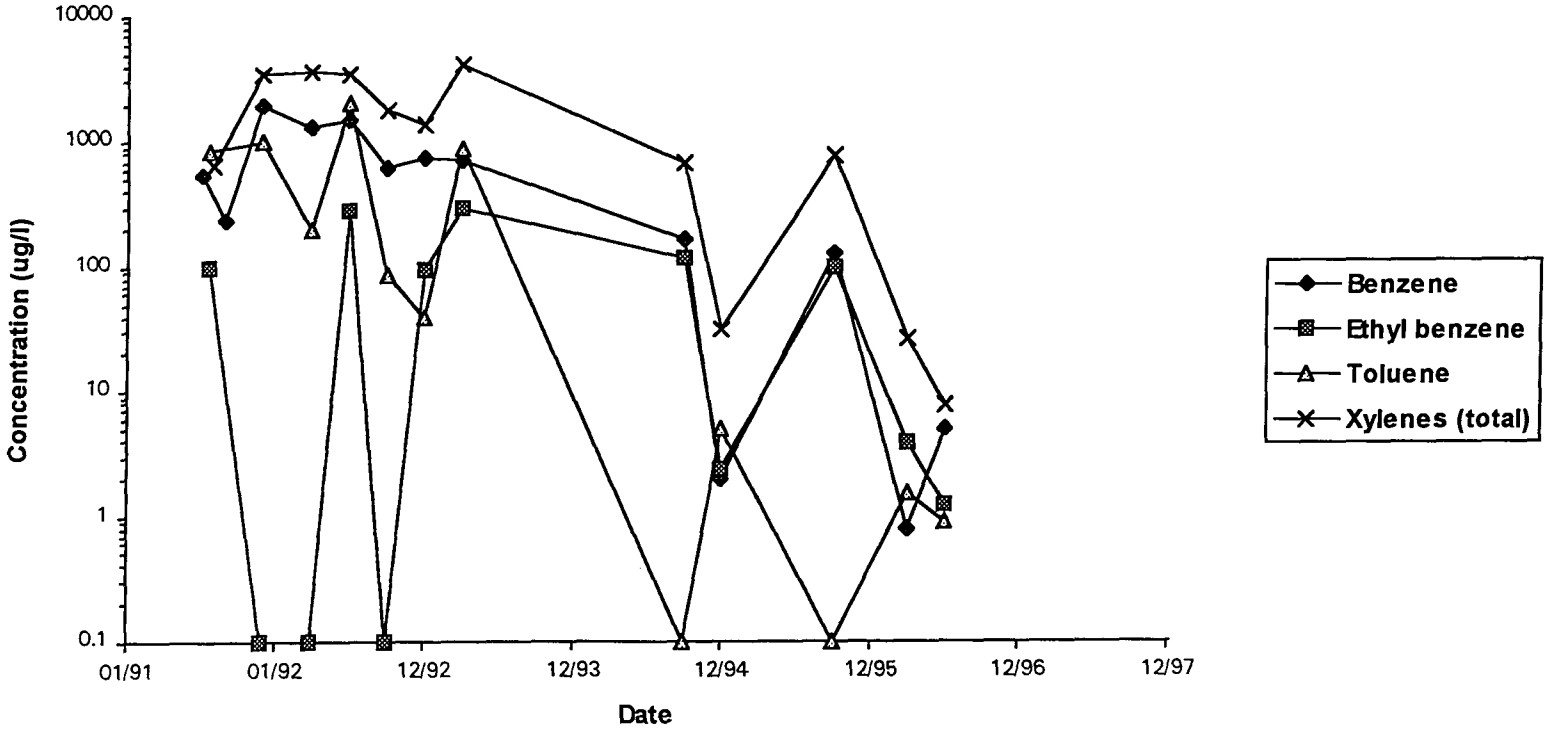
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
SUMP-16A

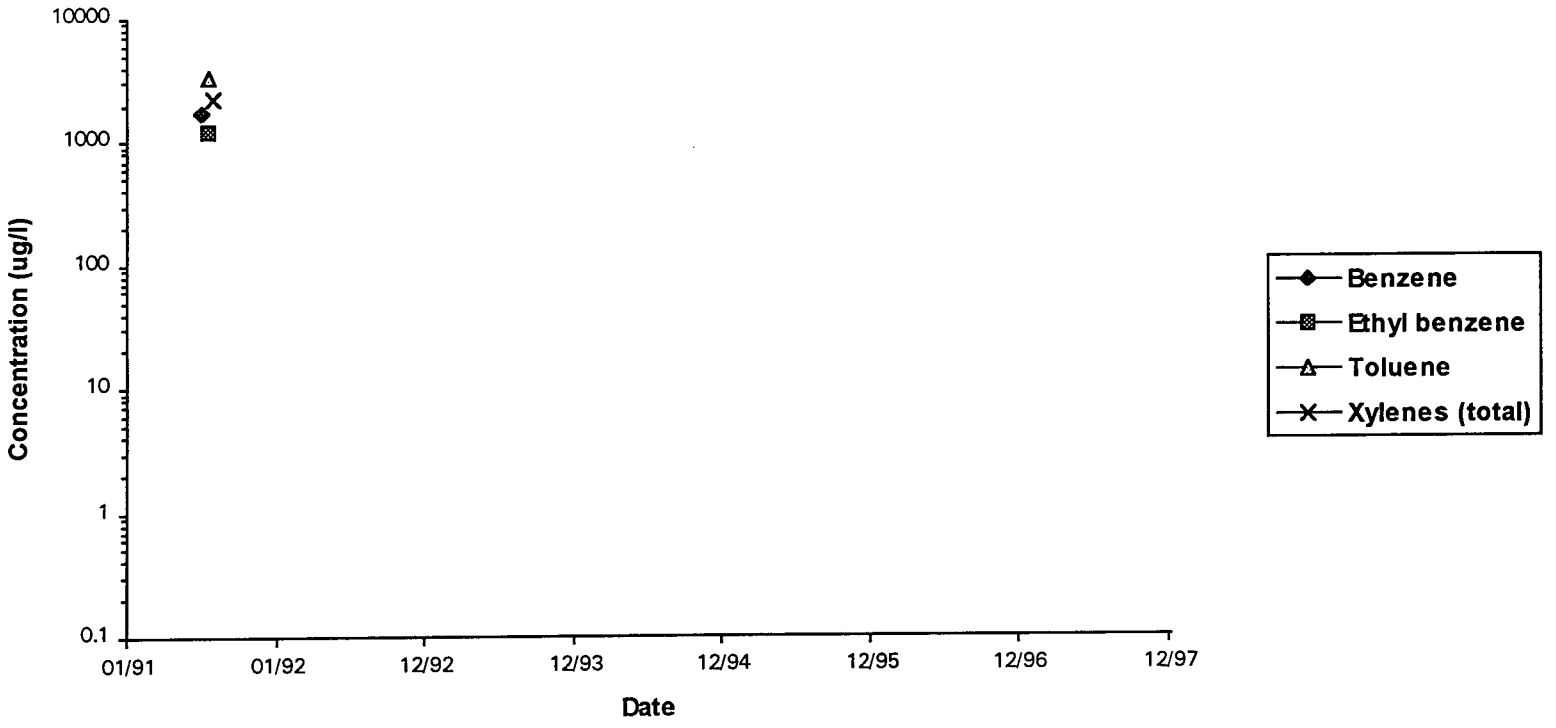
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
SUMP-21A

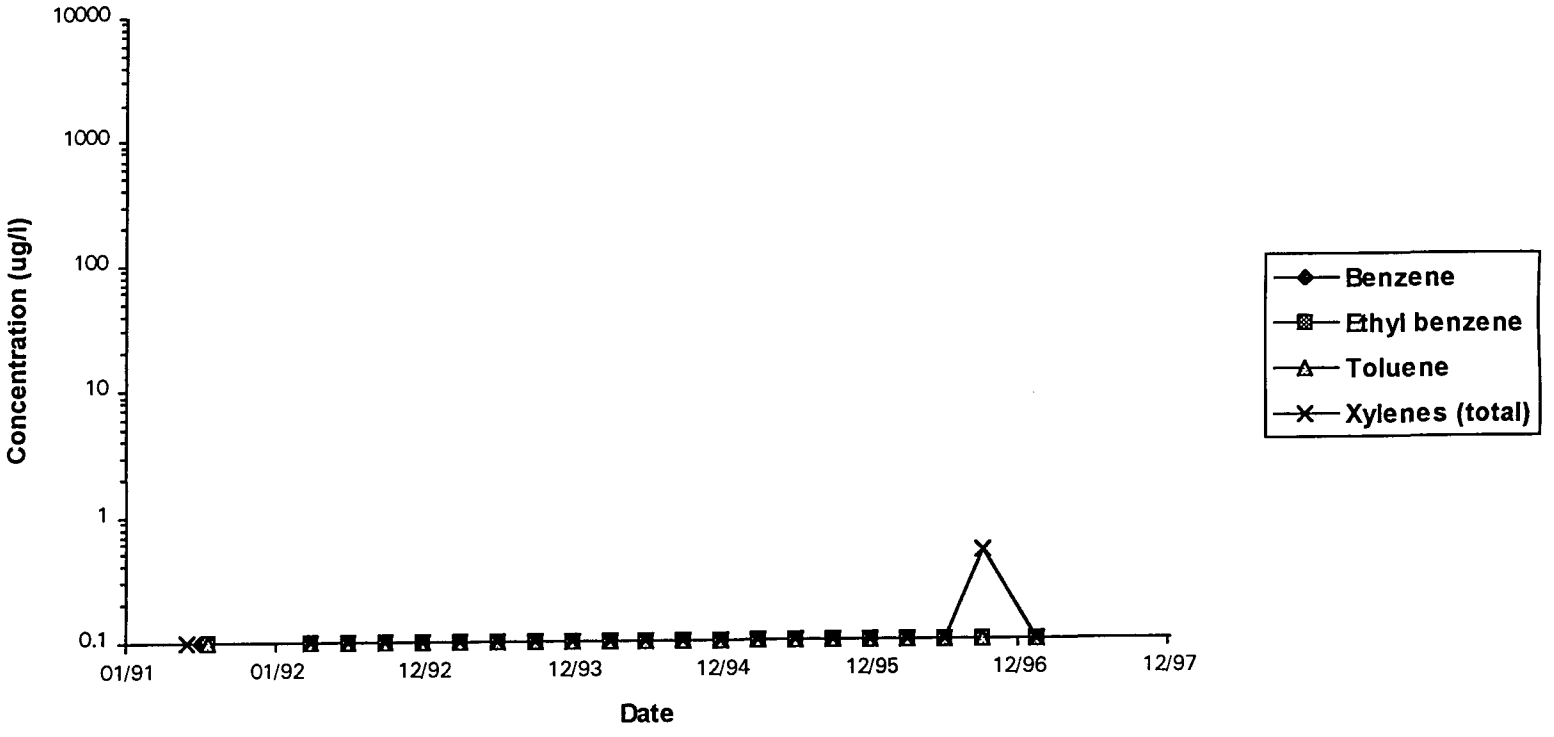
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
BIEBBLE

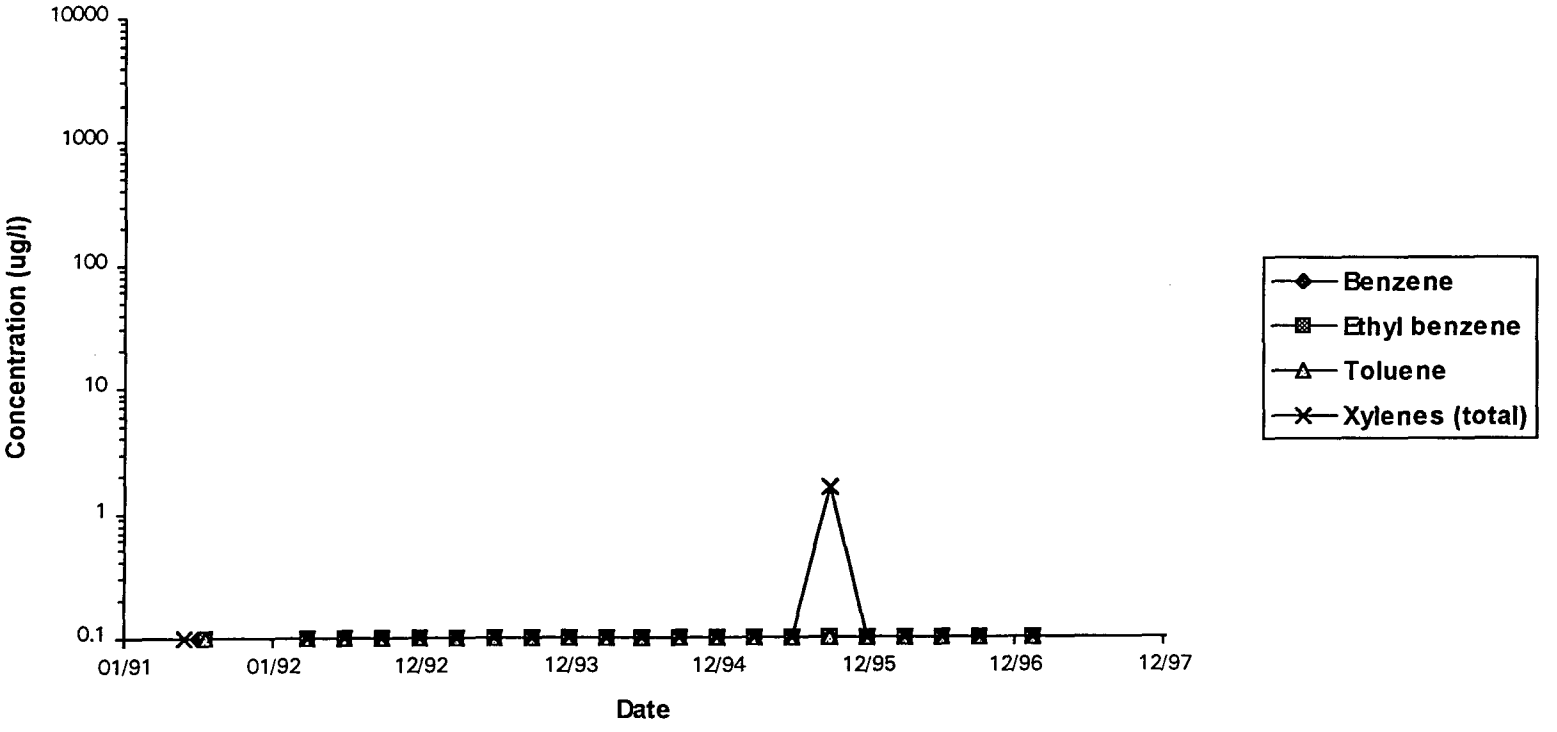
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
LYMAN

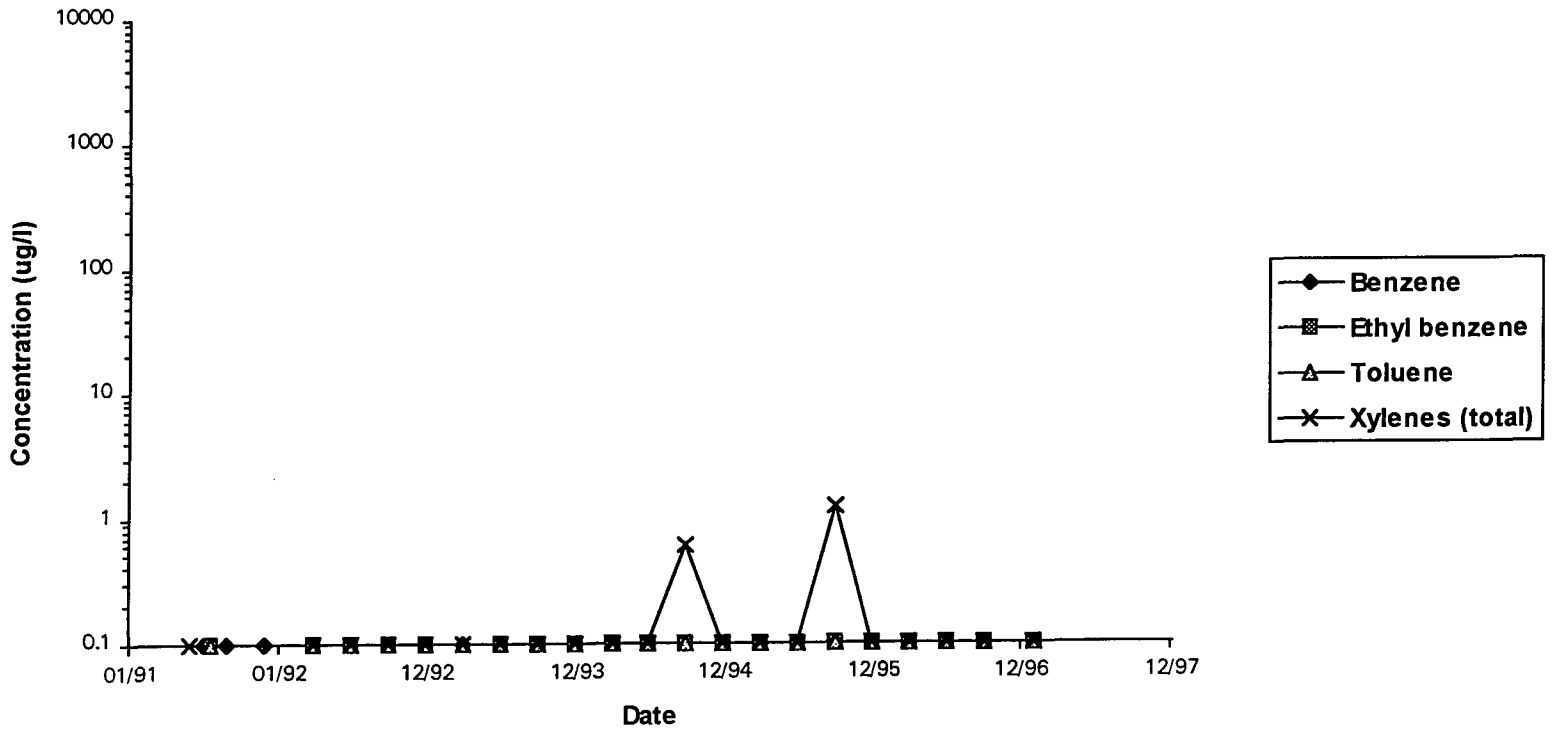
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
UIH_SPRING

Indian Basin Remediation Project
Eddy County, NM

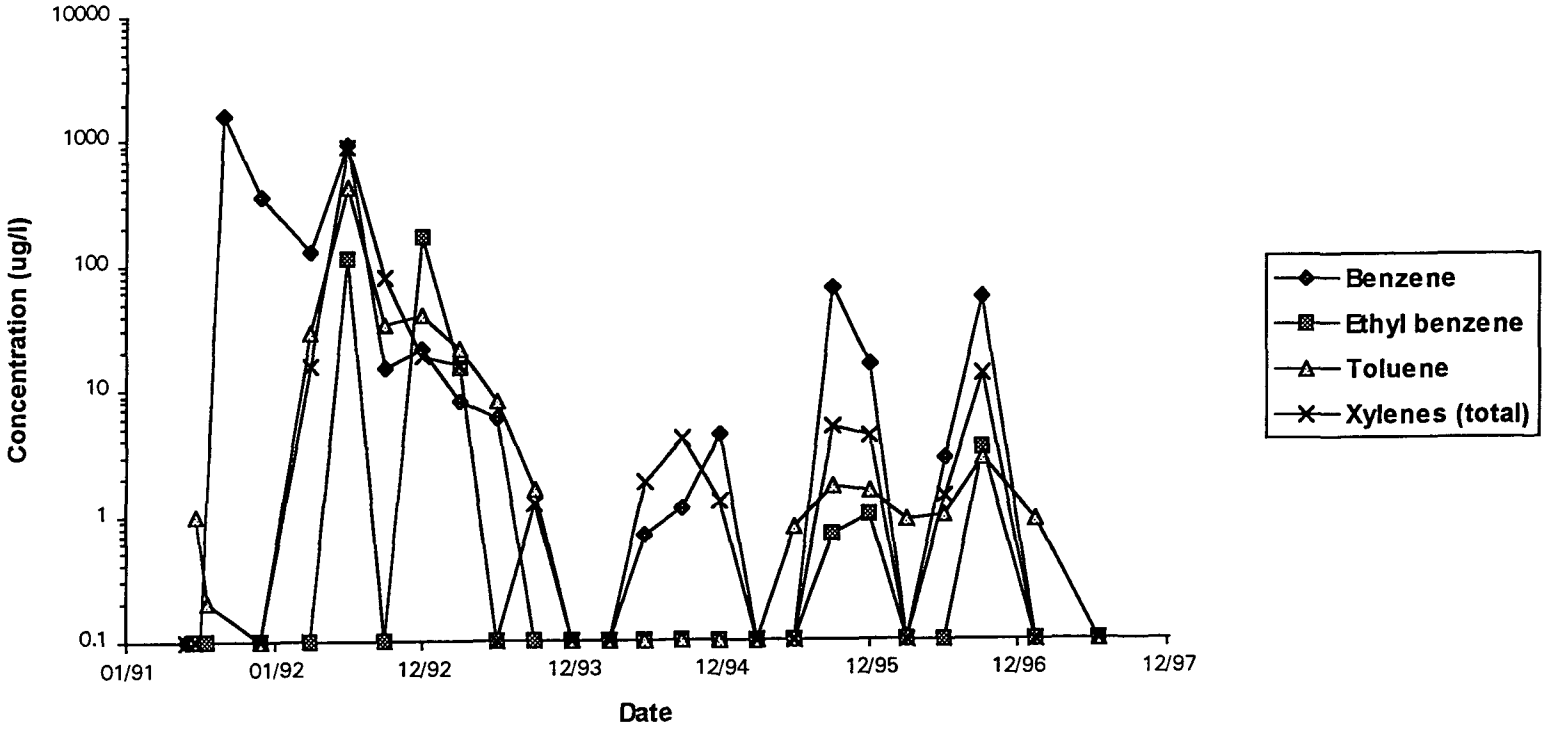


FLUOR DANIEL GTI

LOWER QUEEN CONCENTRATION VS TIME PLOTS

CONCENTRATION VS TIME
MW-057

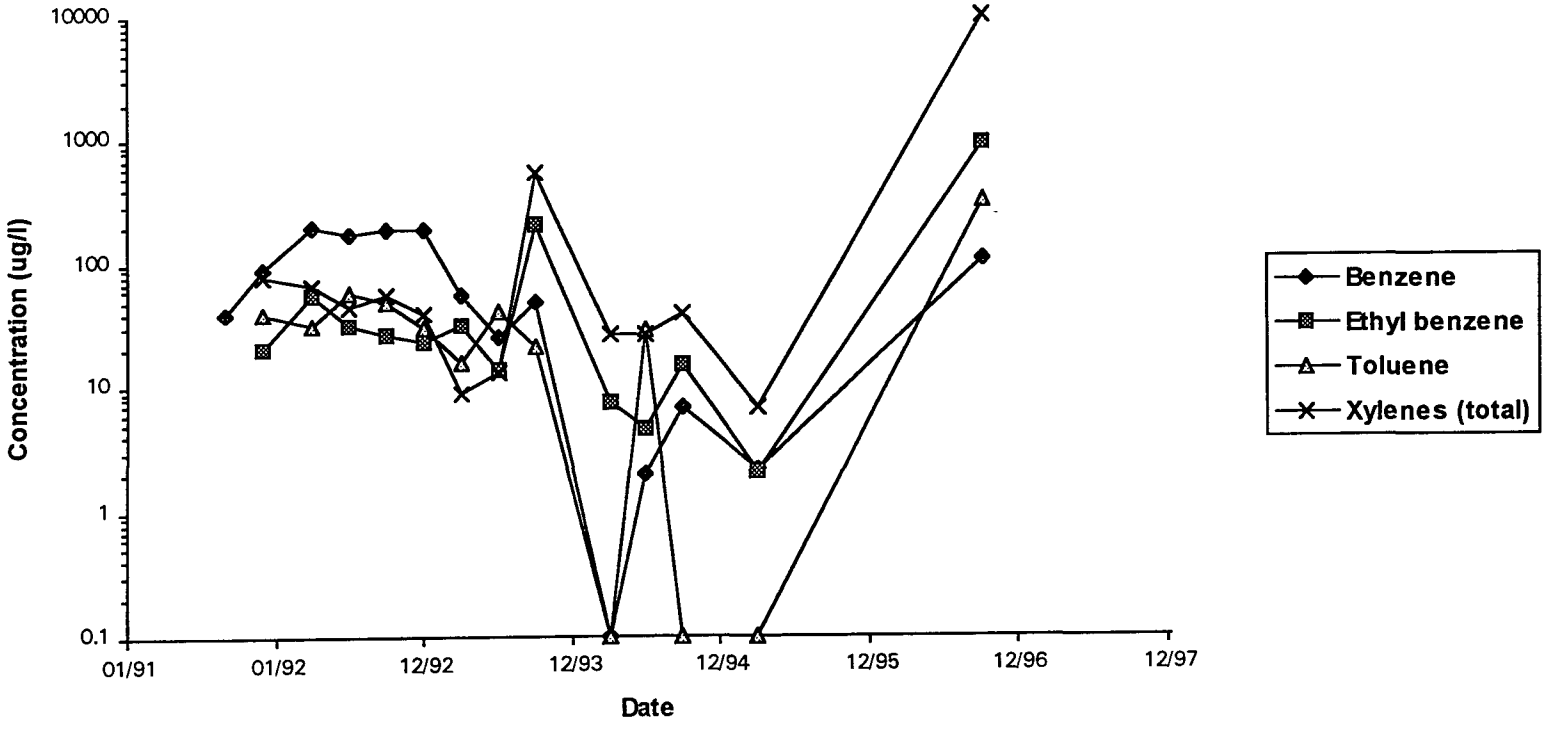
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-058

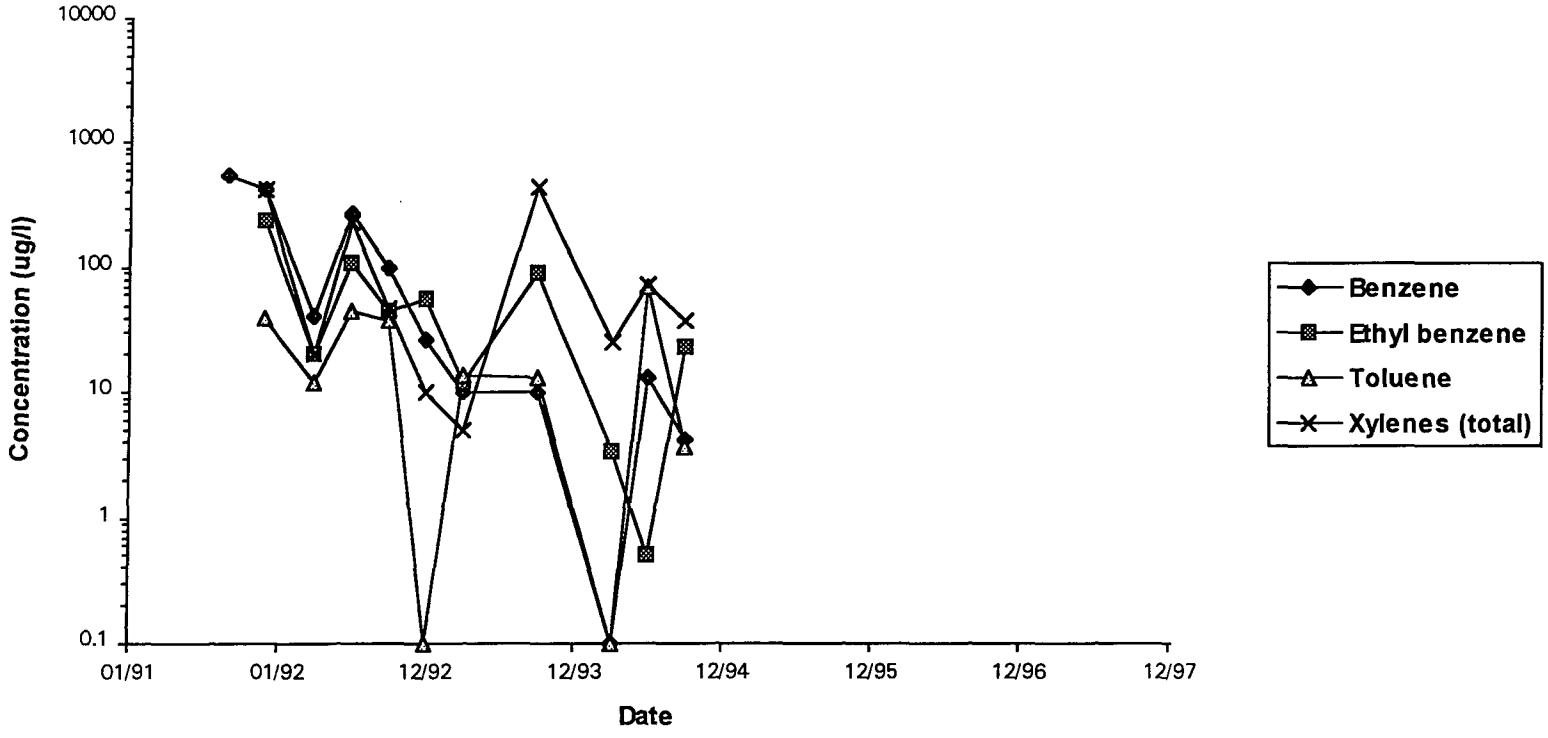
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-059

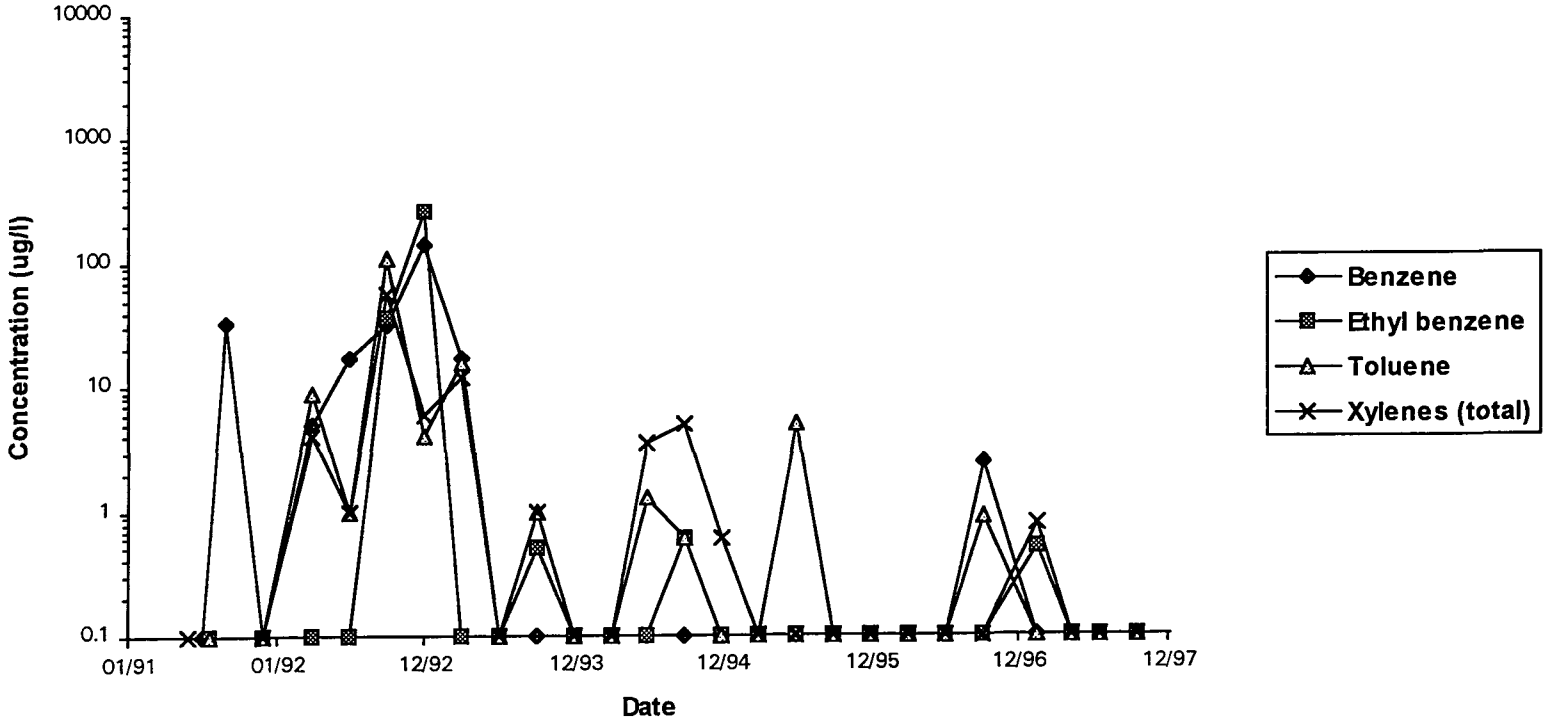
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-060

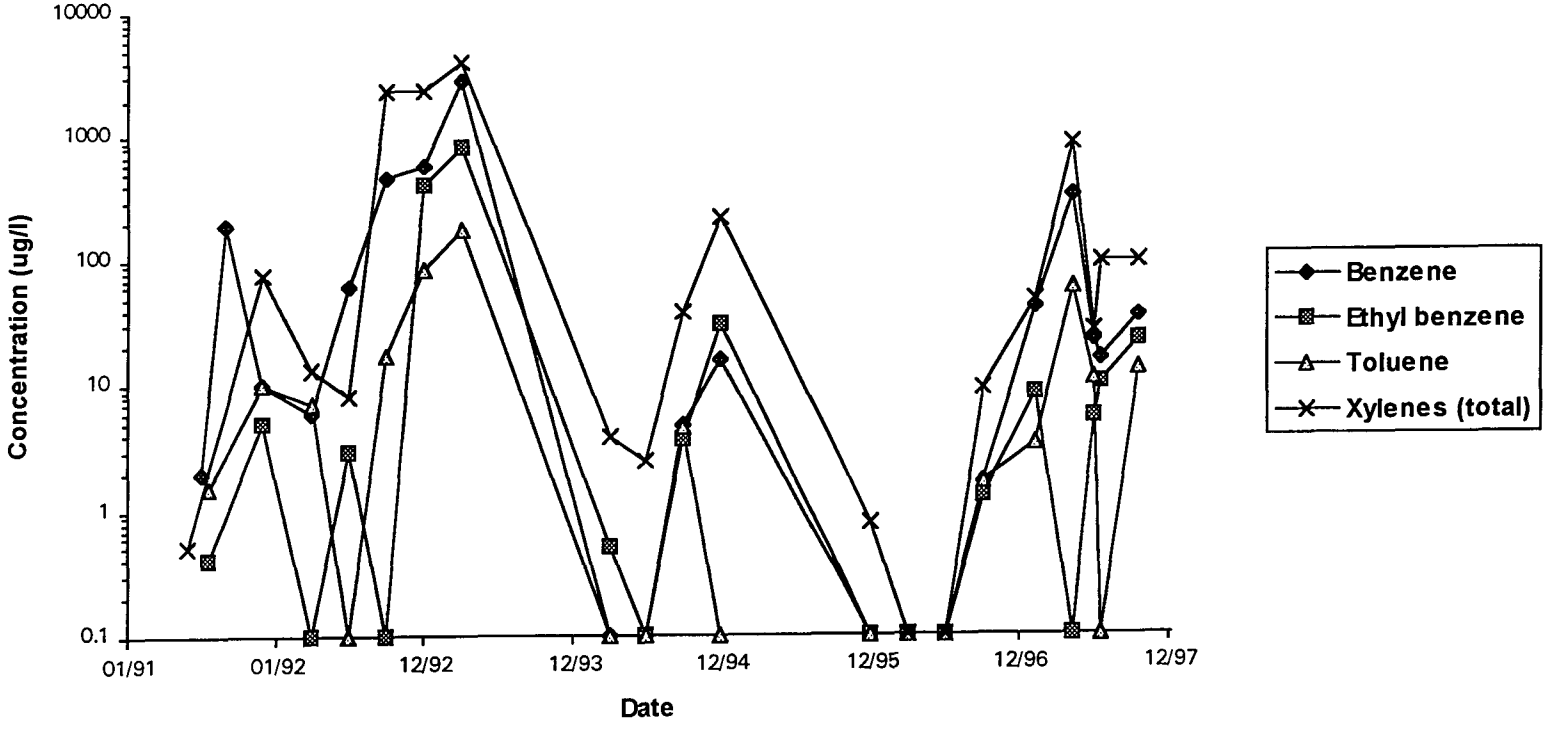
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-061A

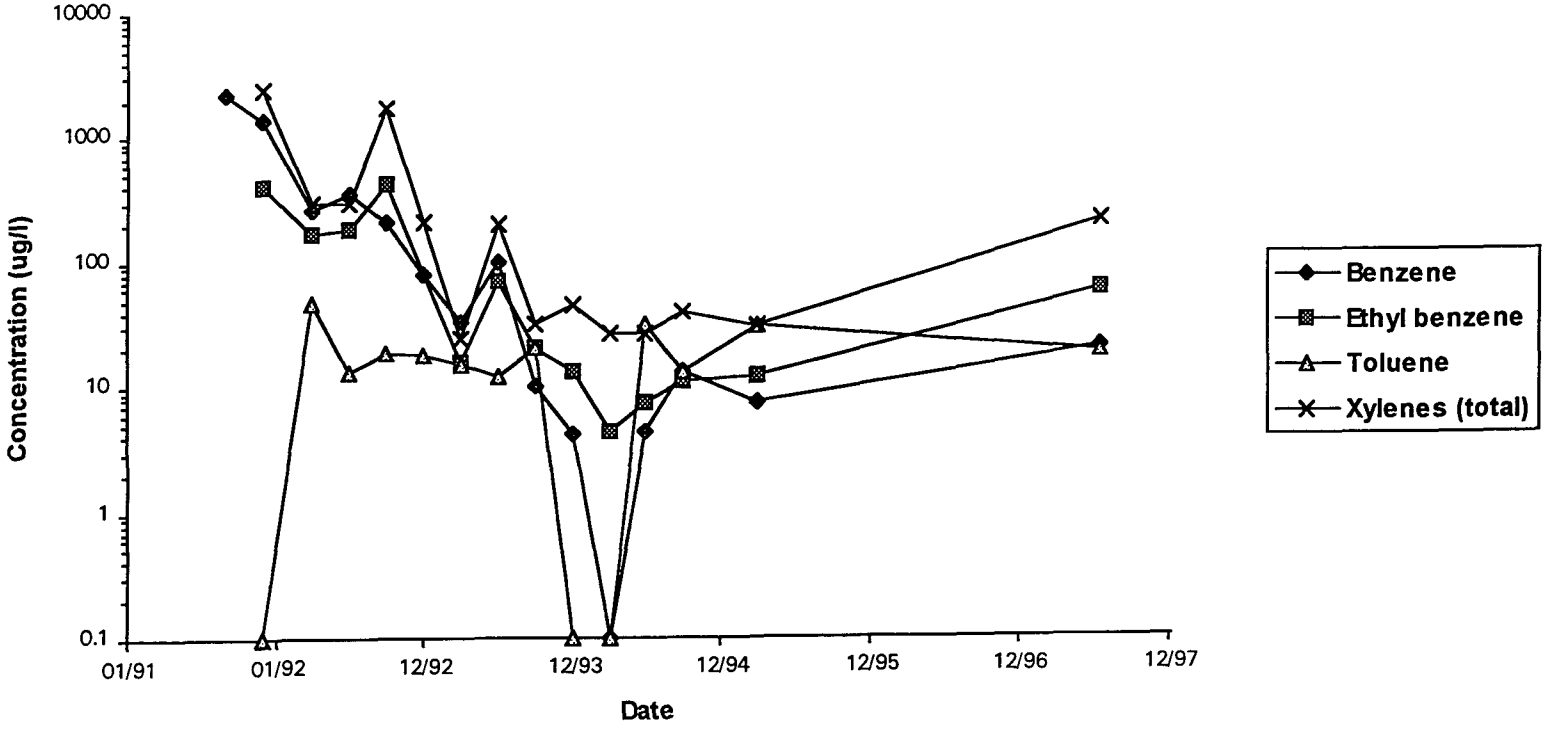
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-062

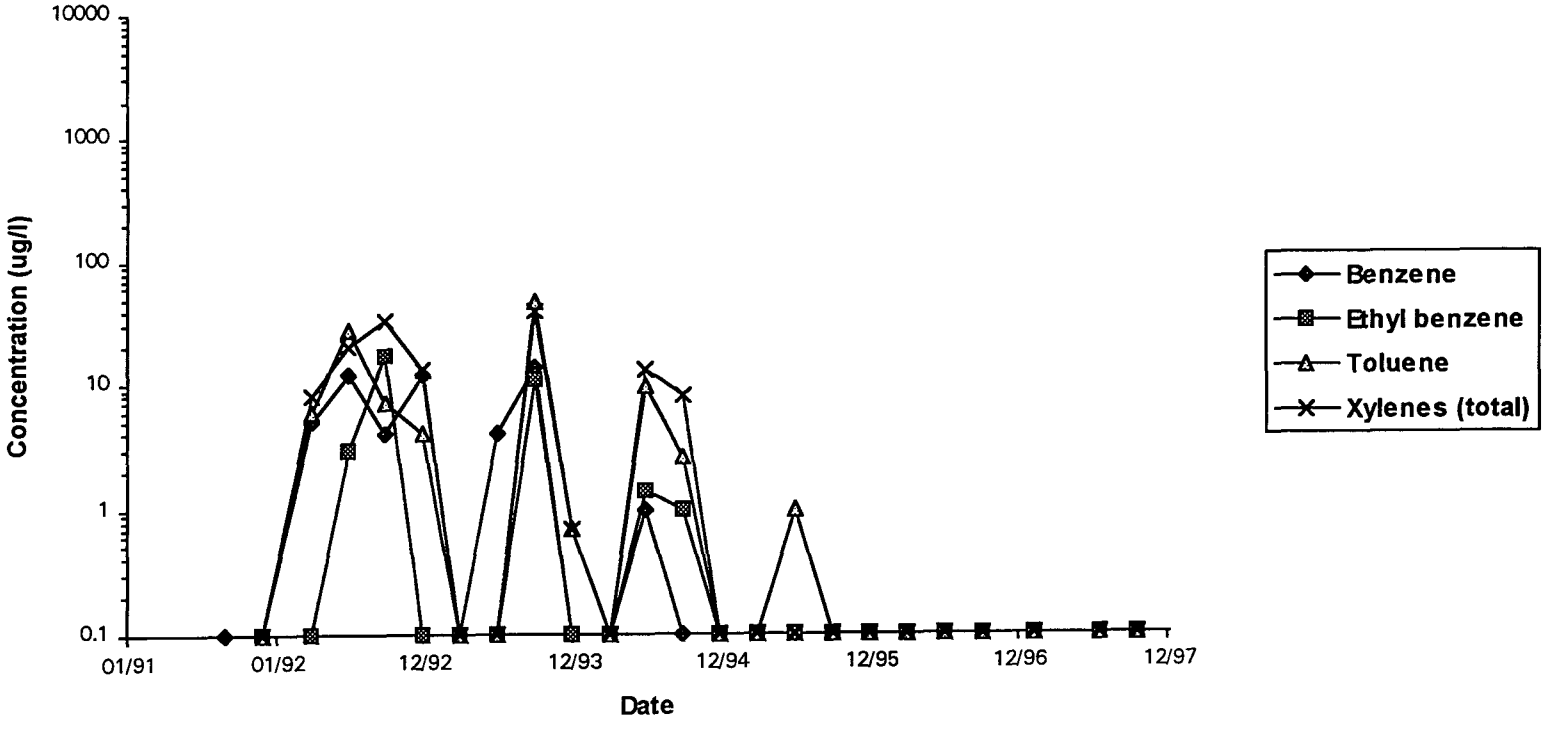
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-063

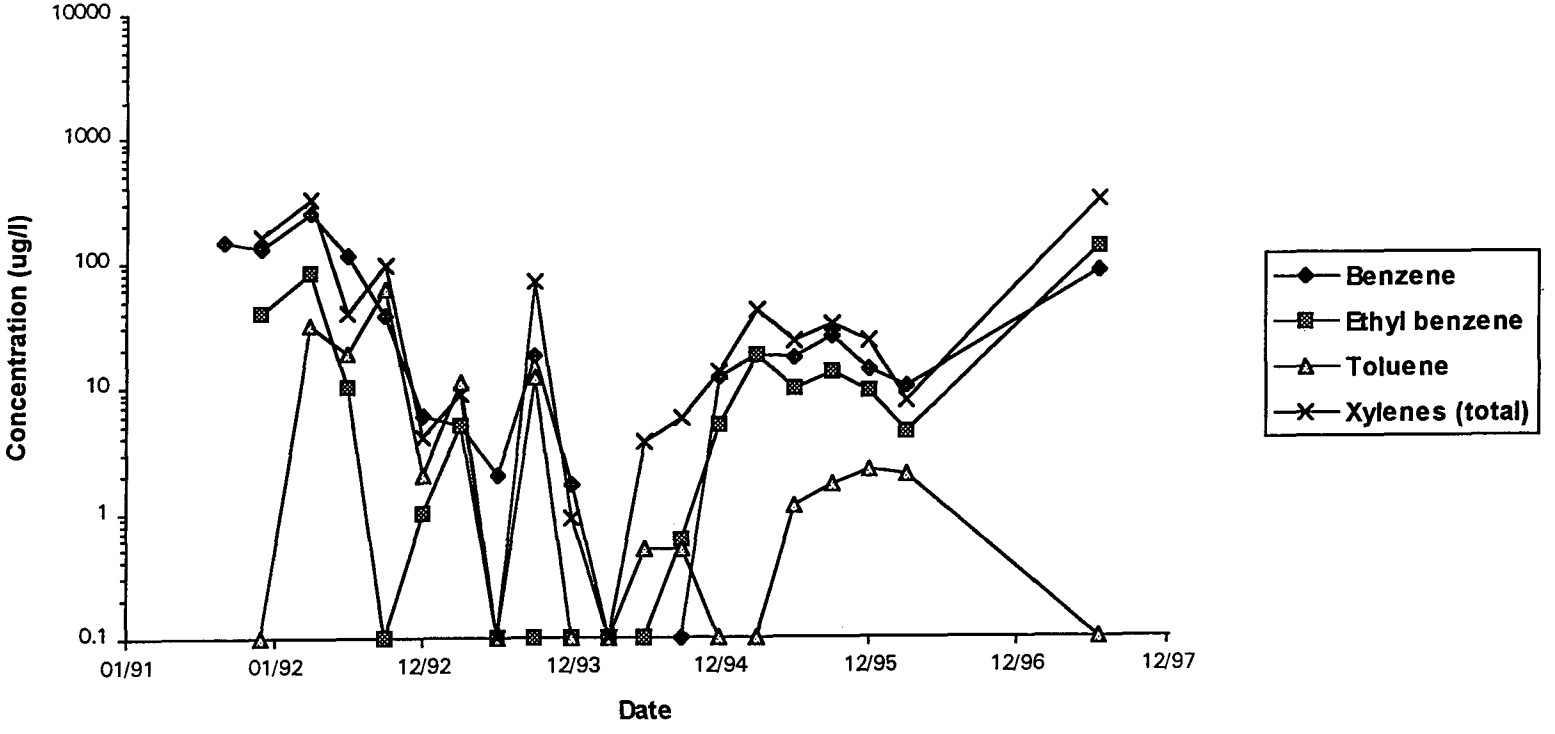
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-064

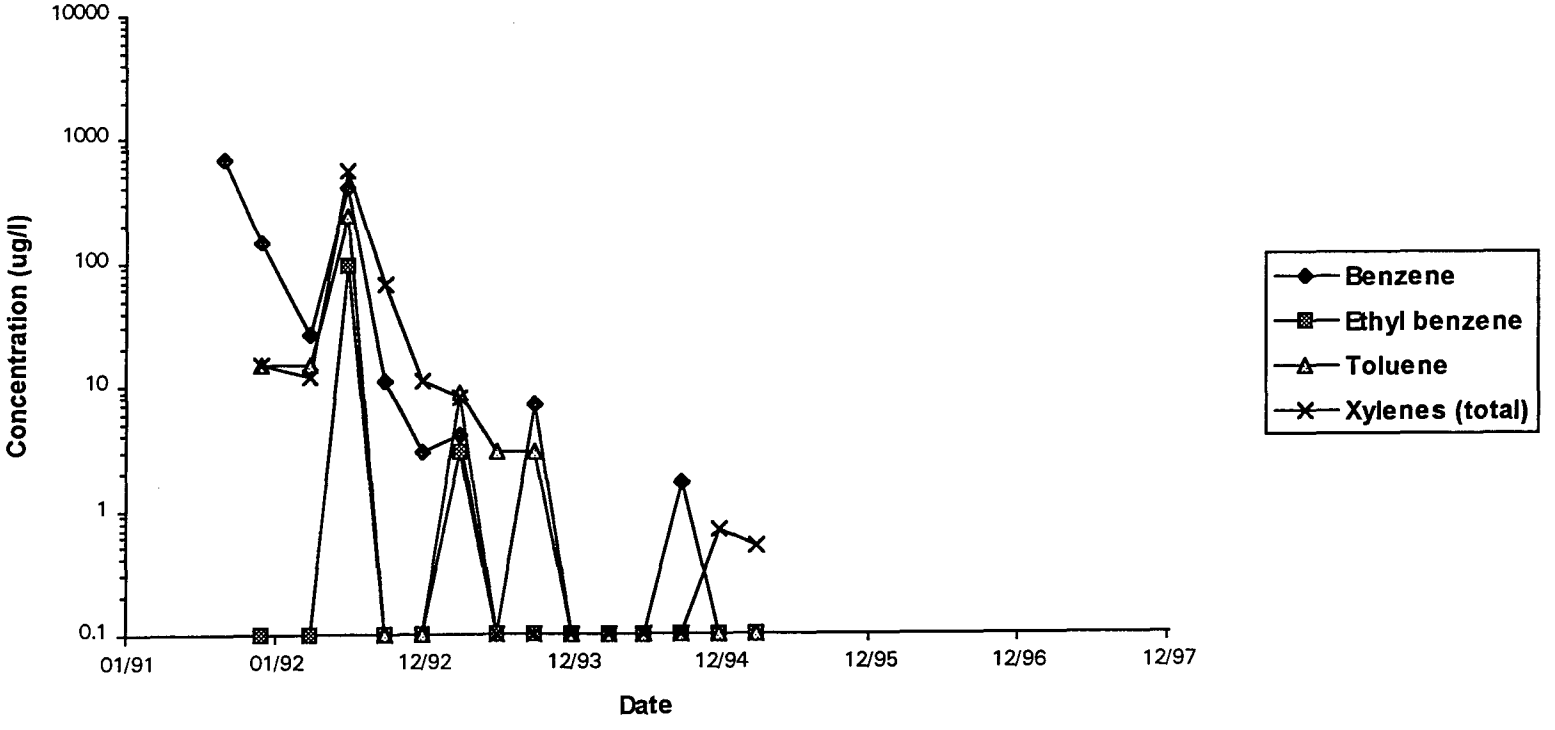
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-065A

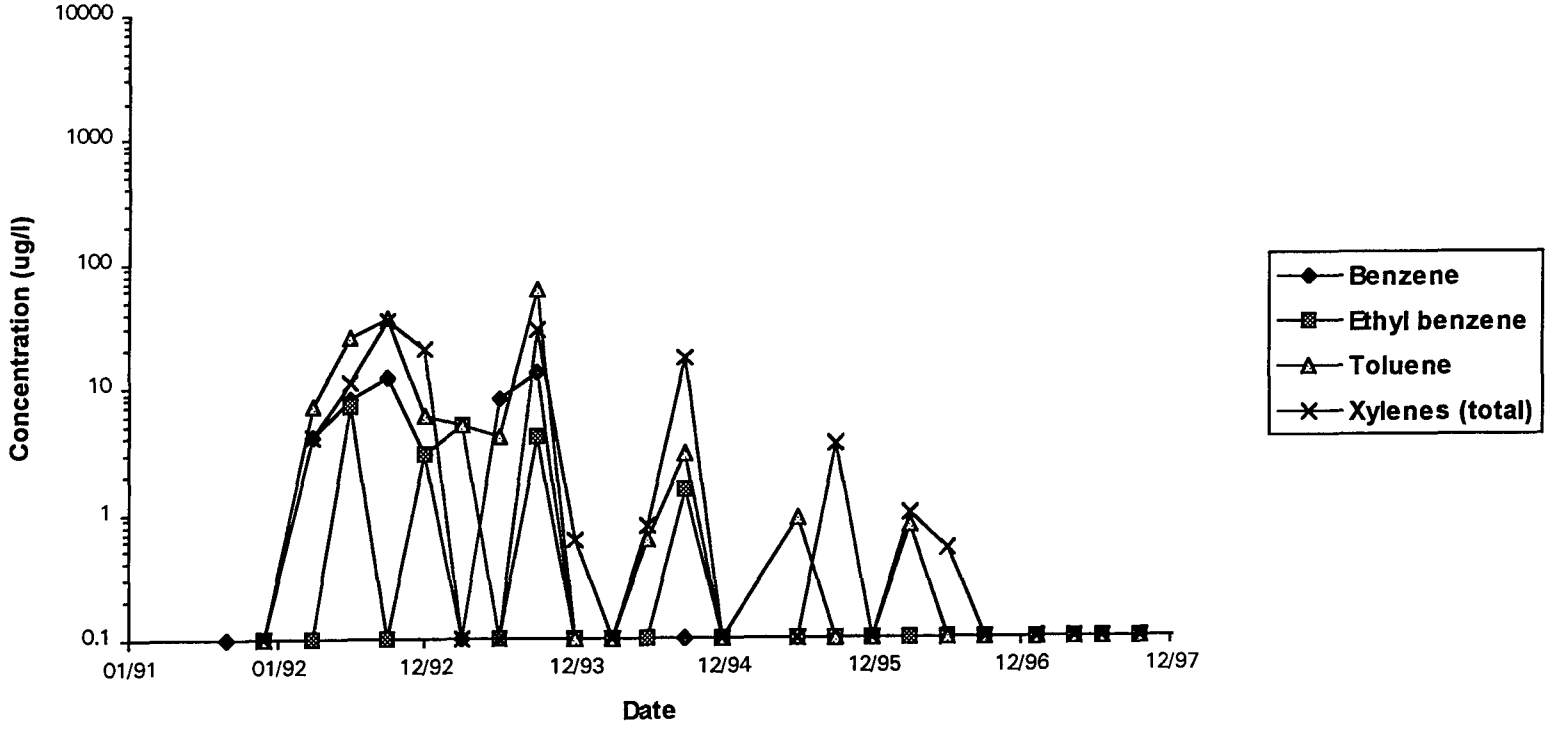
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-066

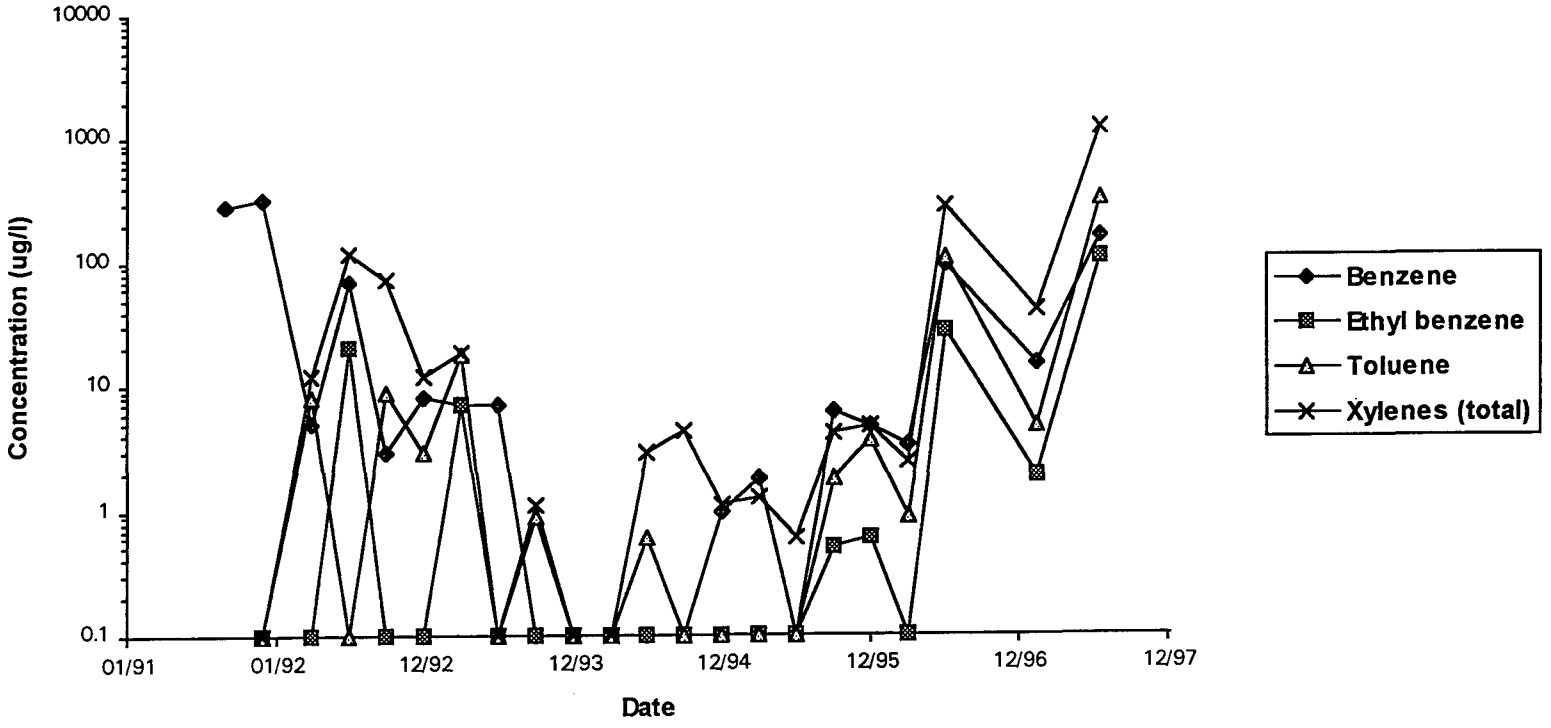
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-067

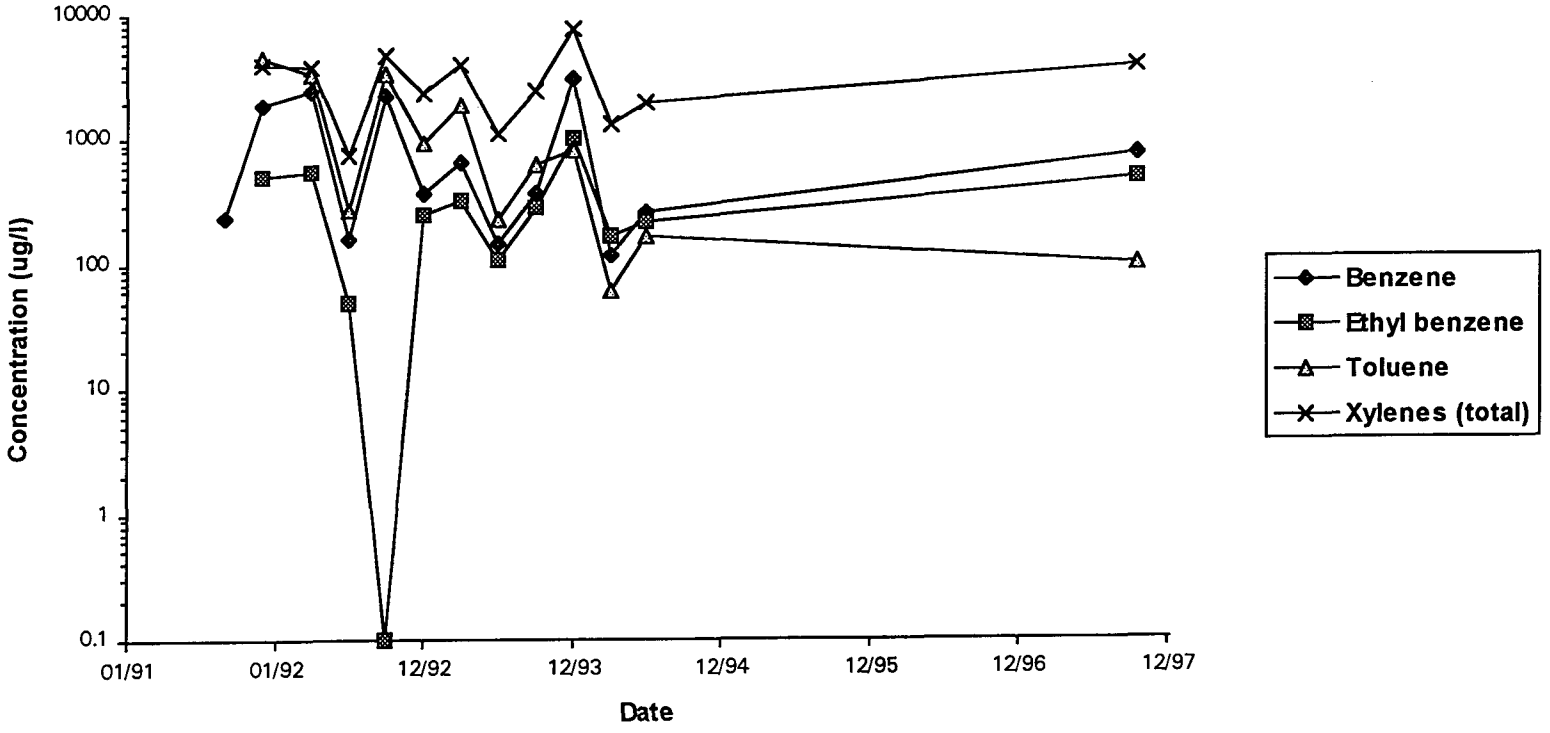
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-068

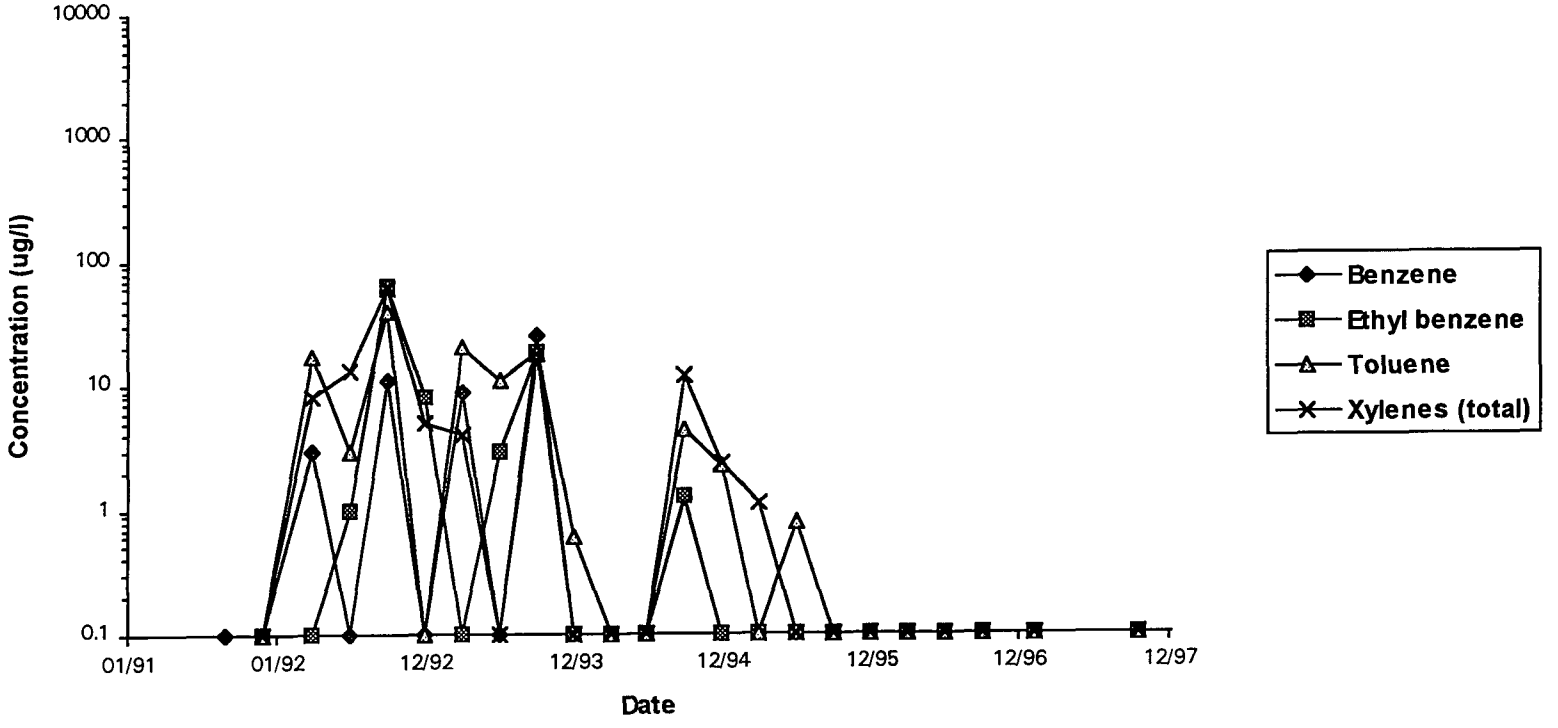
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-070

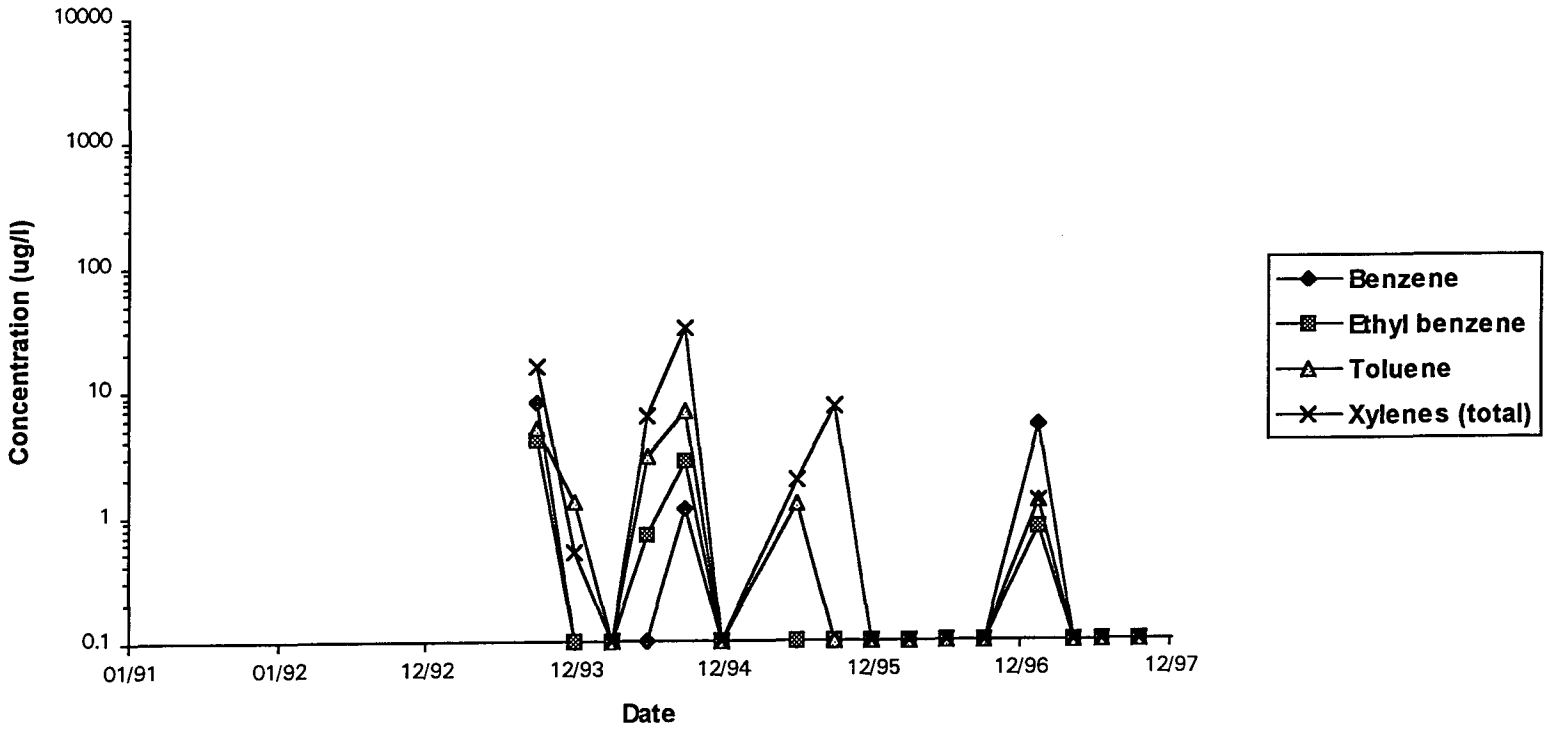
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-071

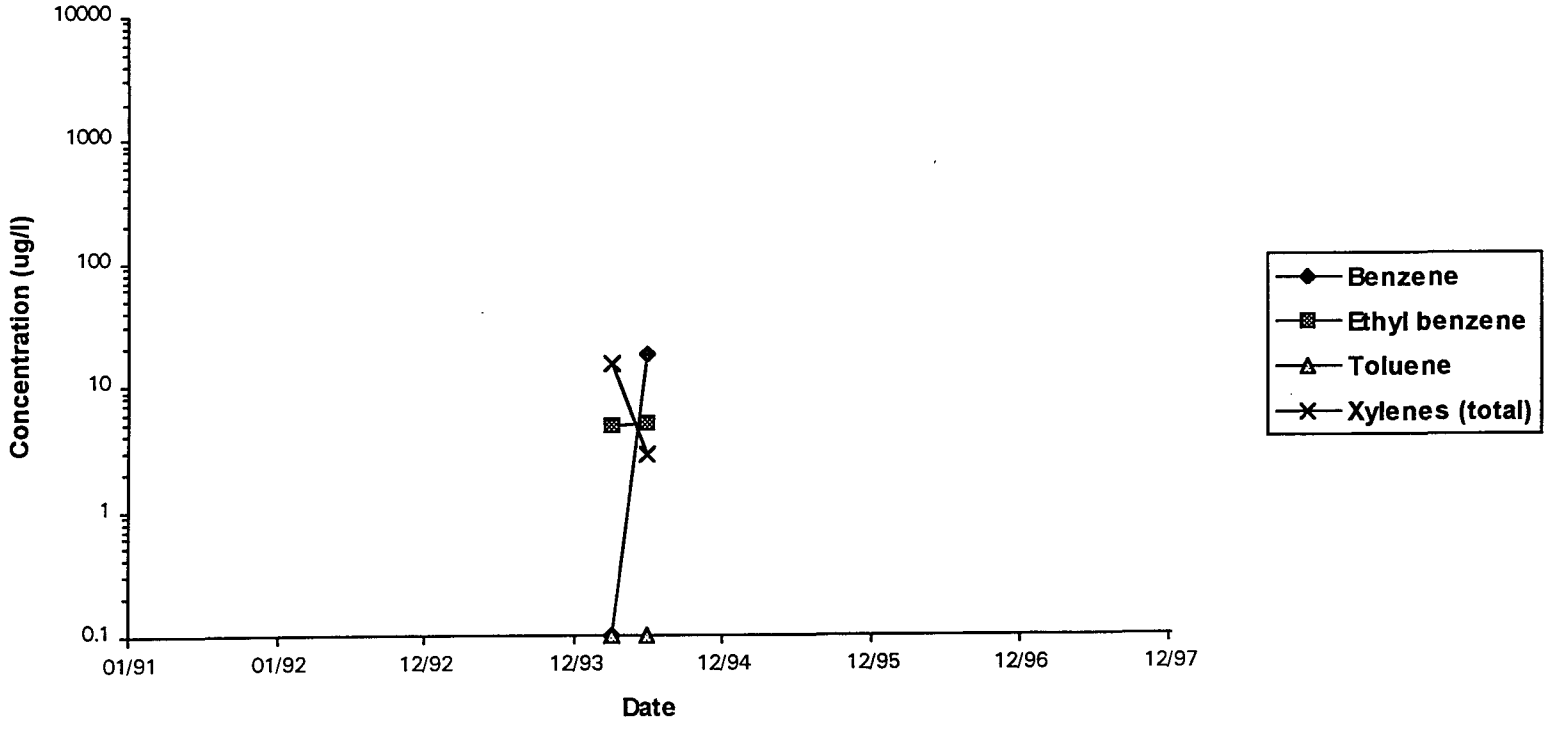
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-072

Indian Basin Remediation Project
Eddy County, NM



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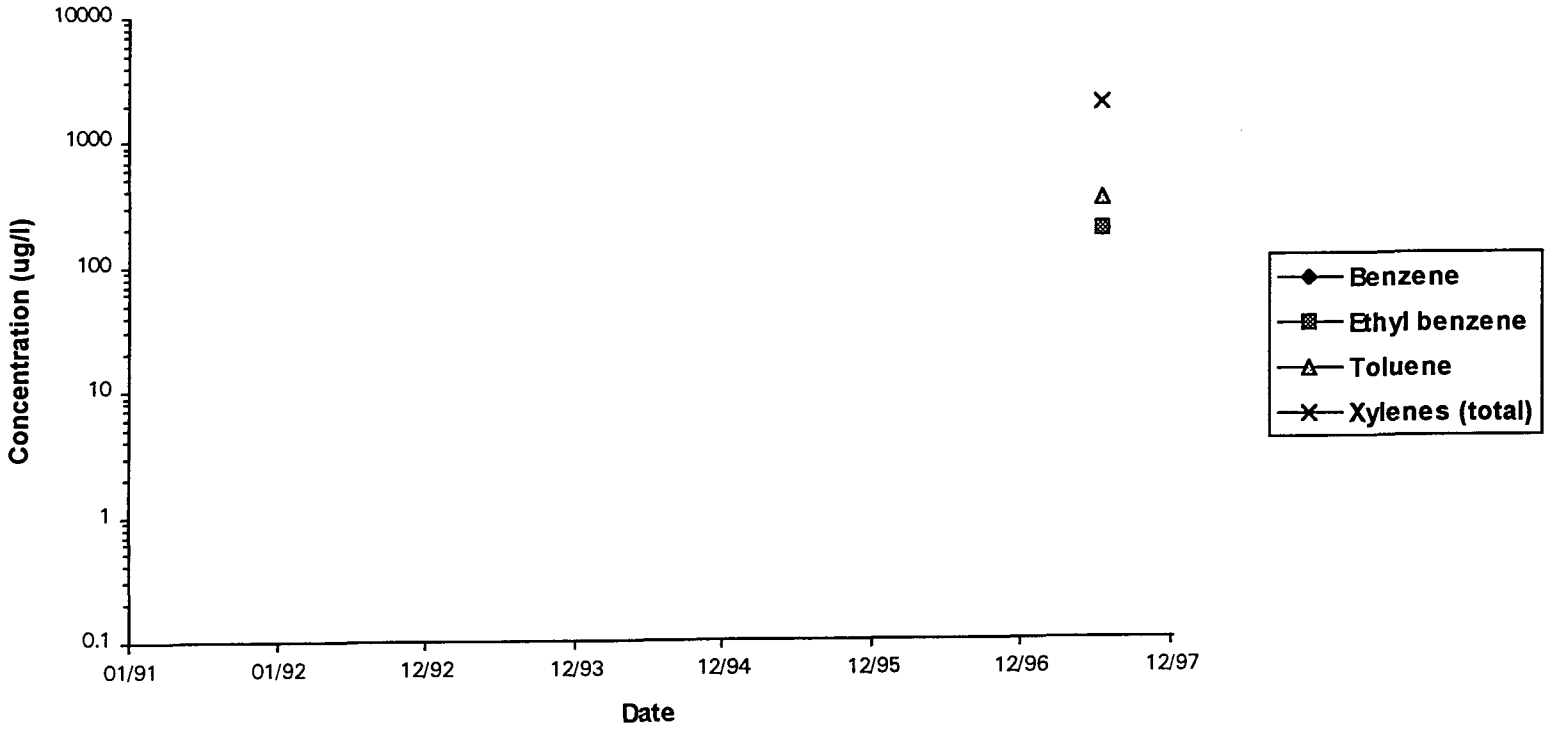
CONCENTRATION VS TIME
MW-074

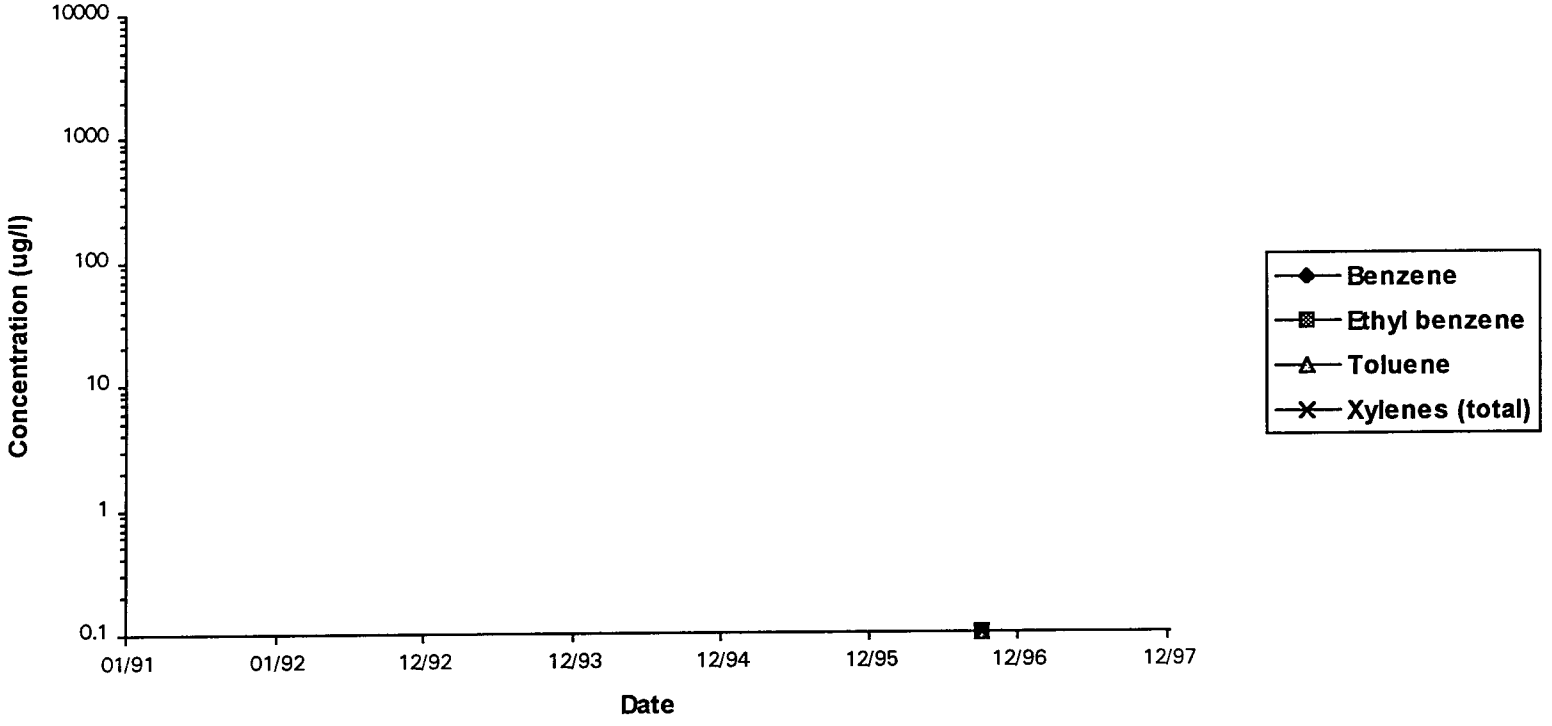
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-076

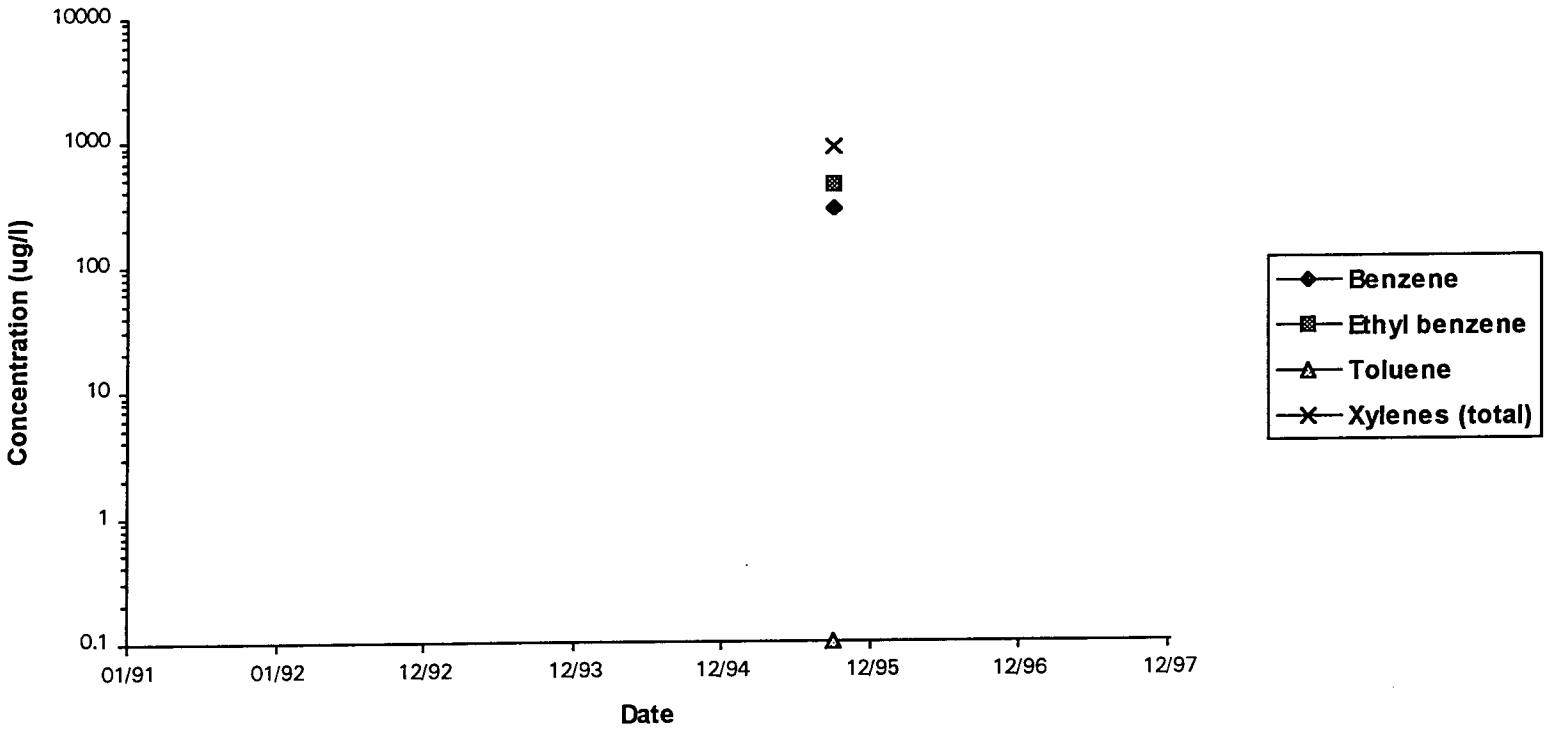
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-082

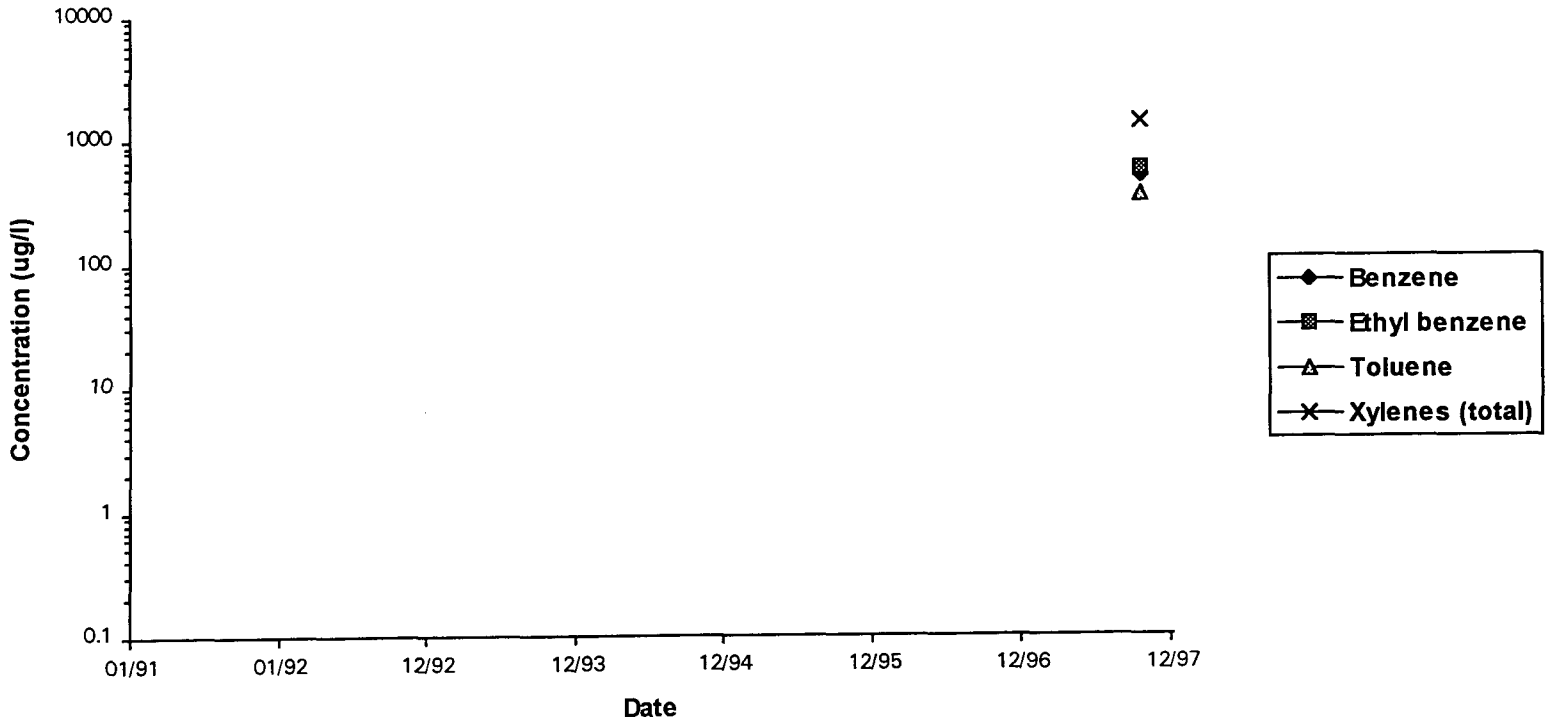
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-086

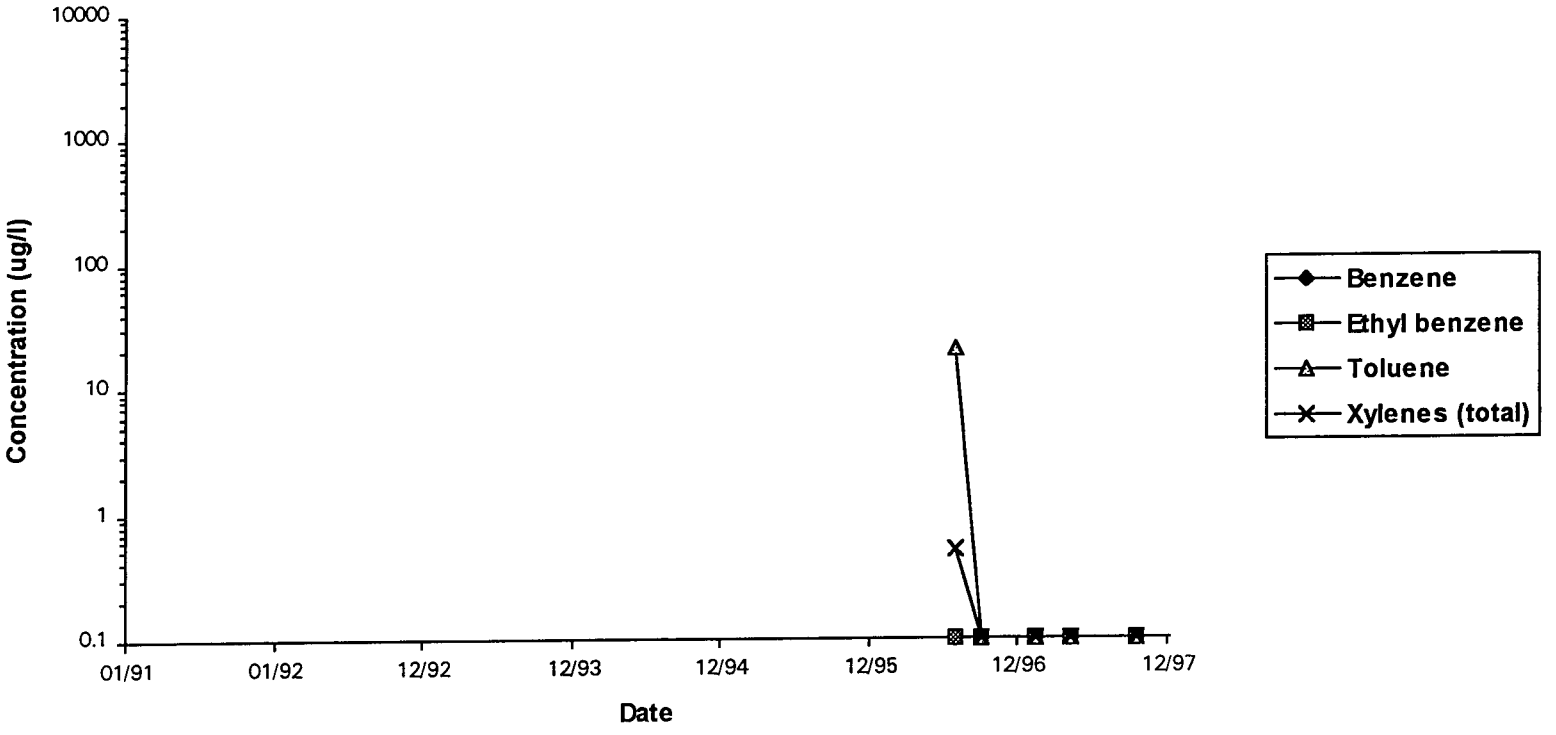
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-087

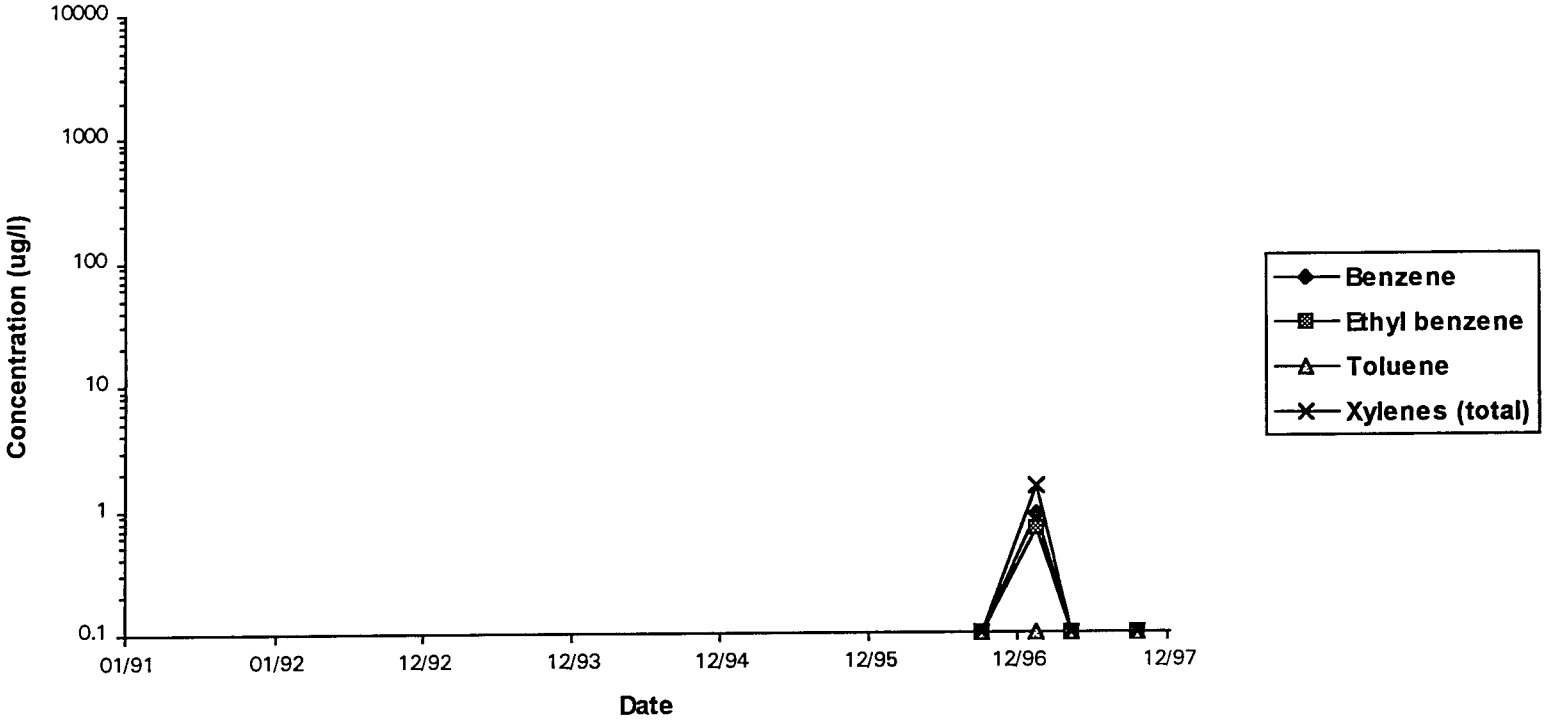
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-087A

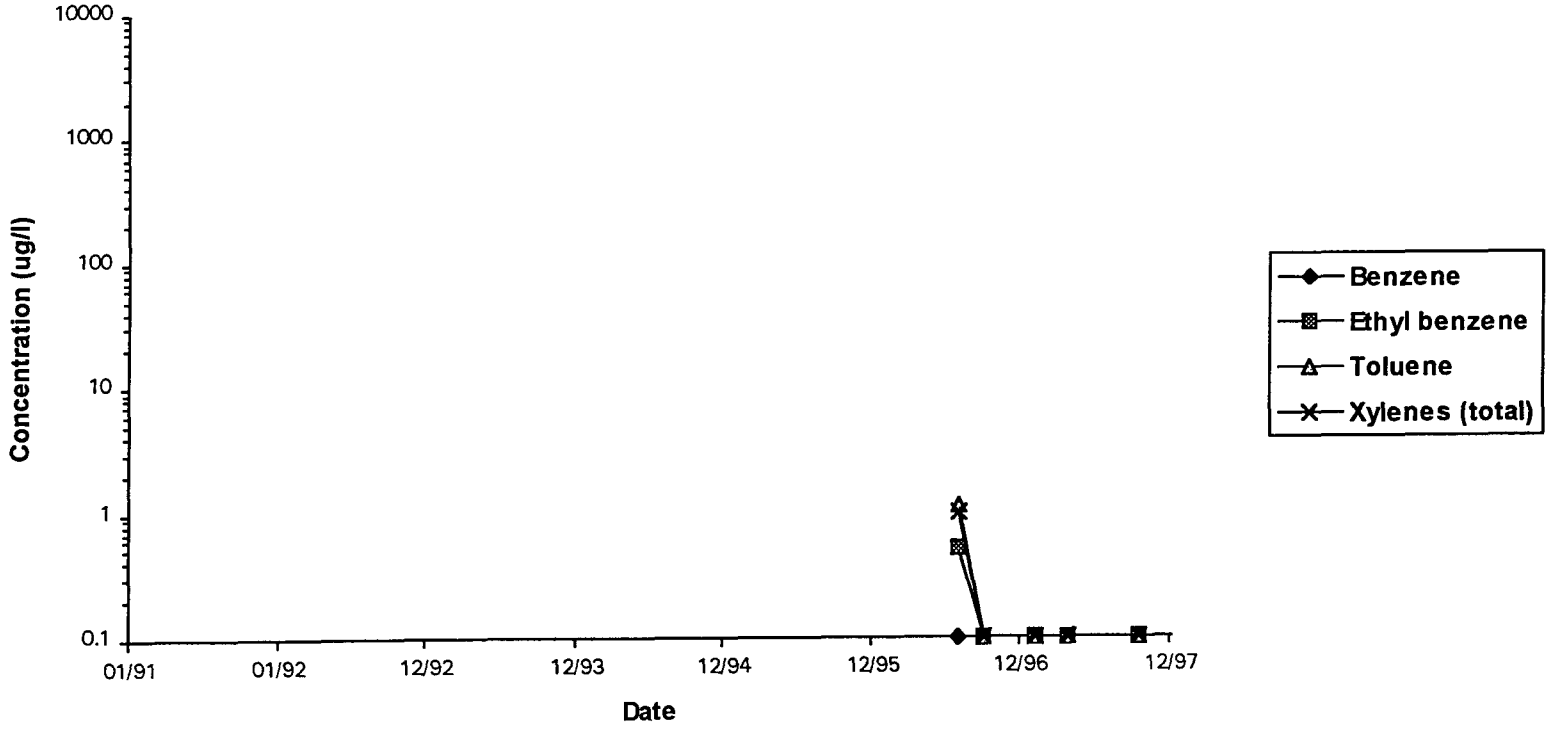
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-088

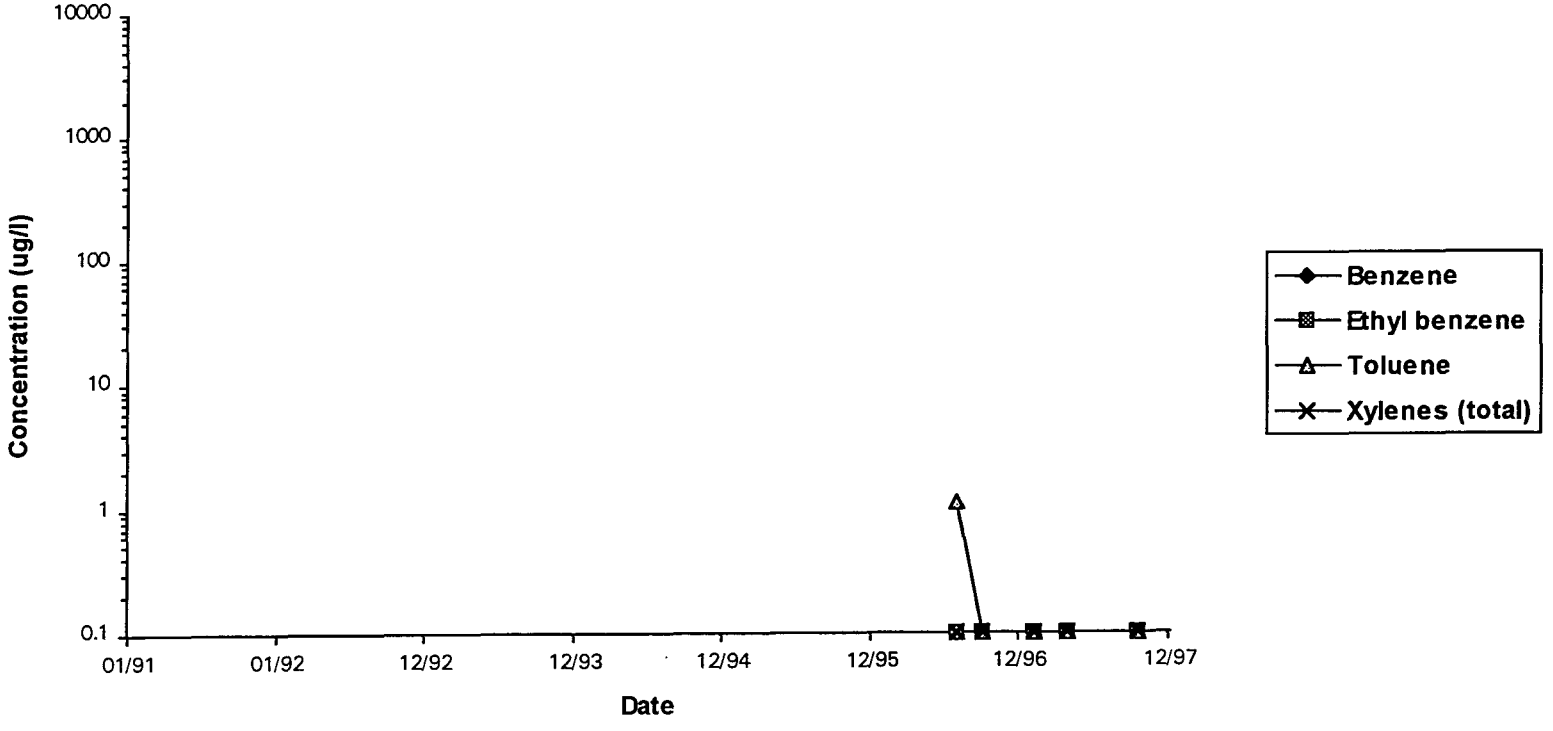
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-089

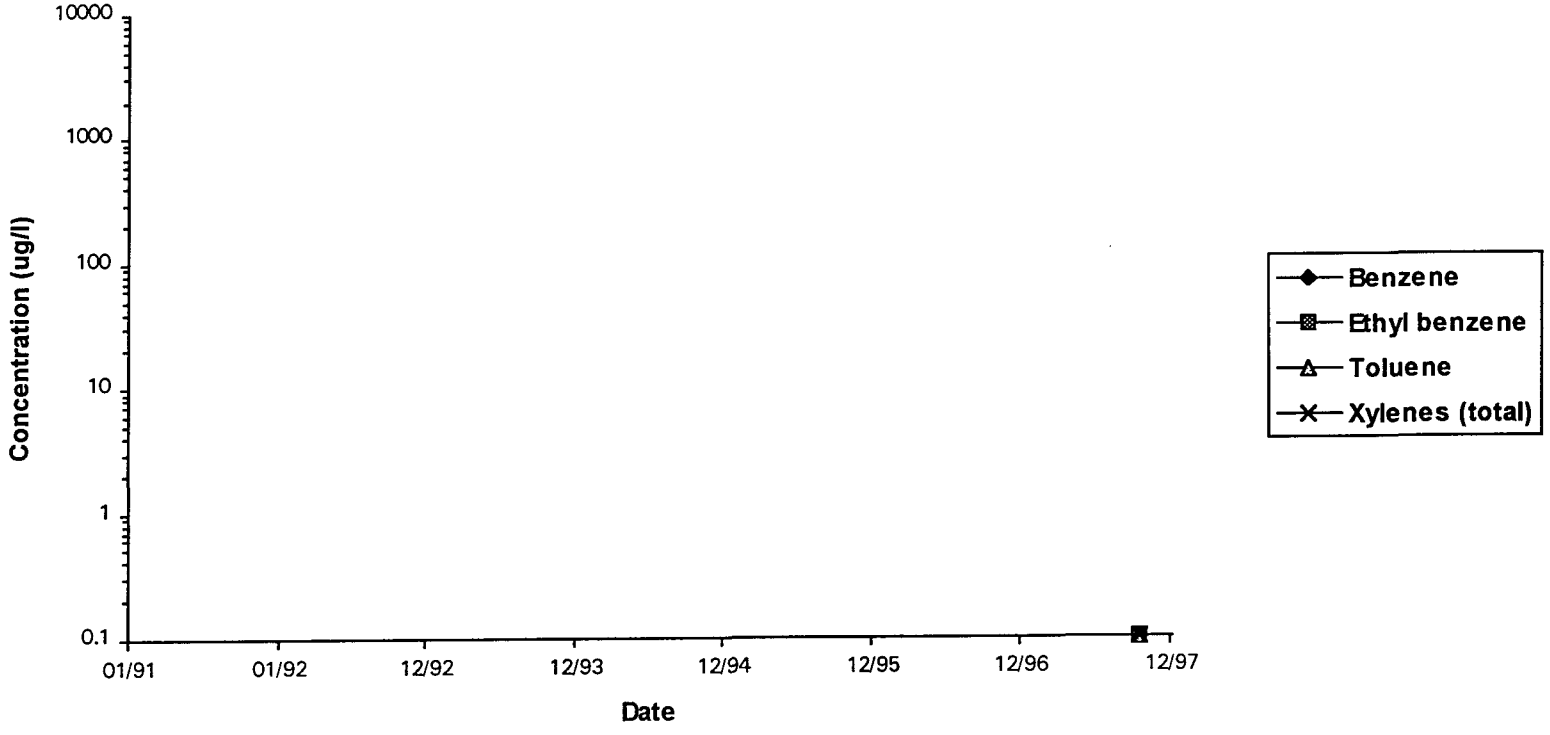
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-094

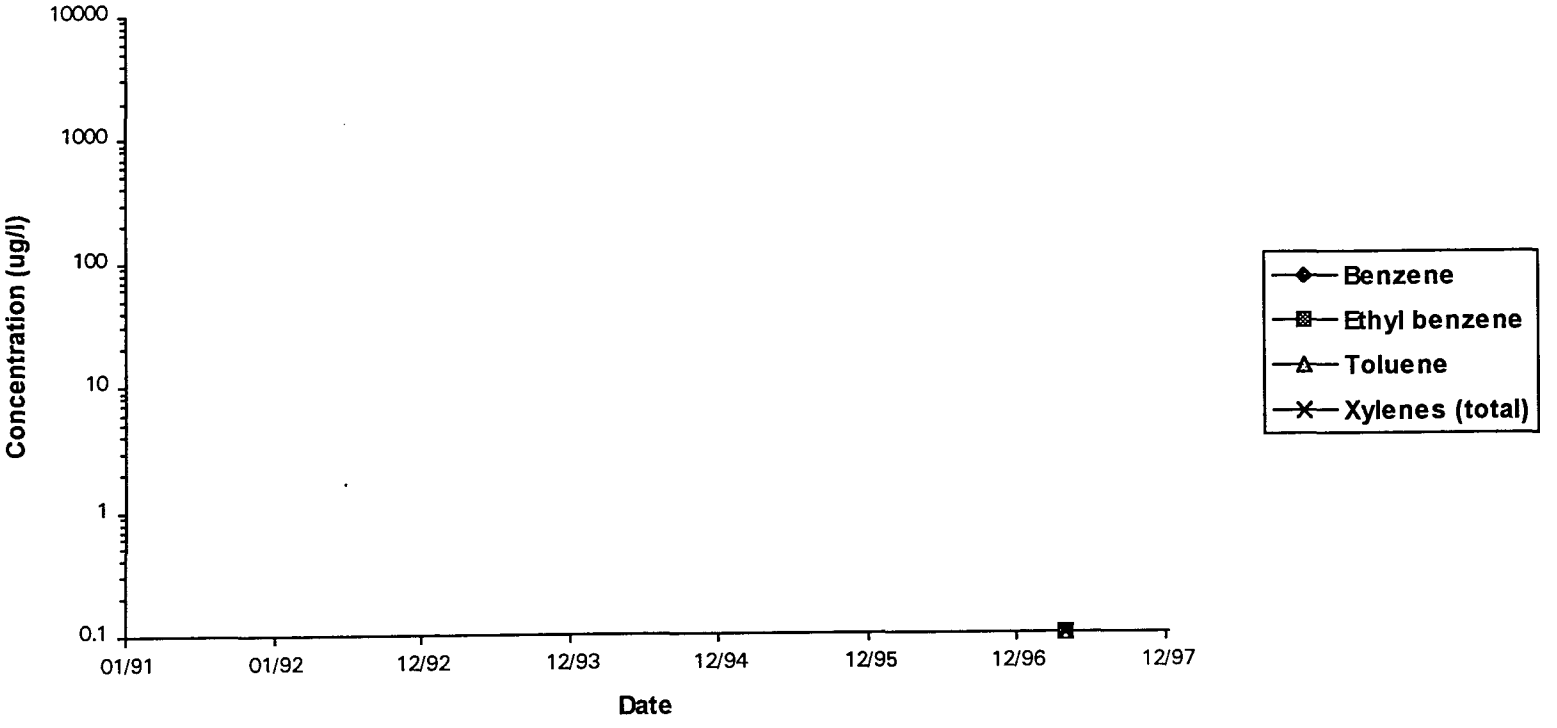
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-095

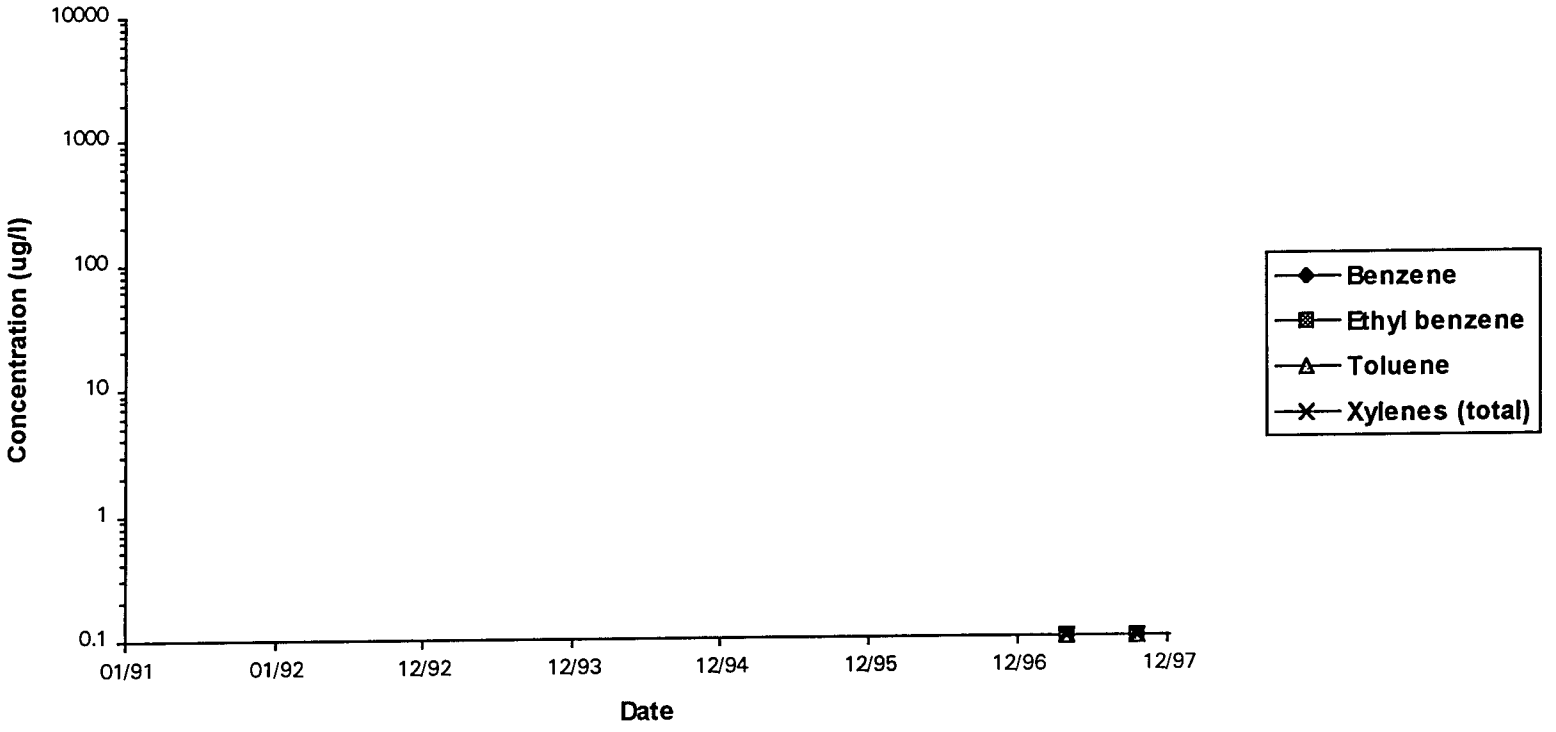
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-096

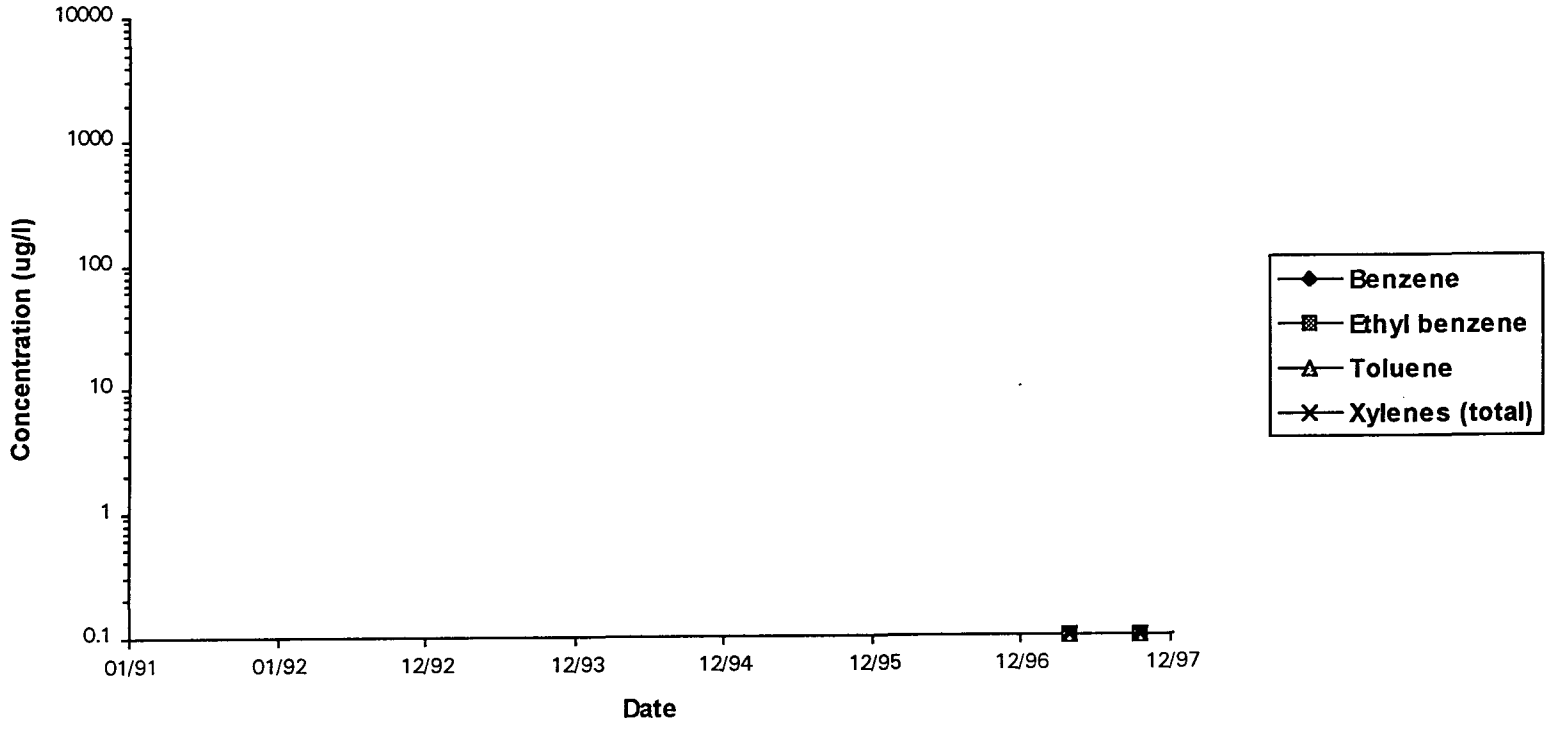
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-097

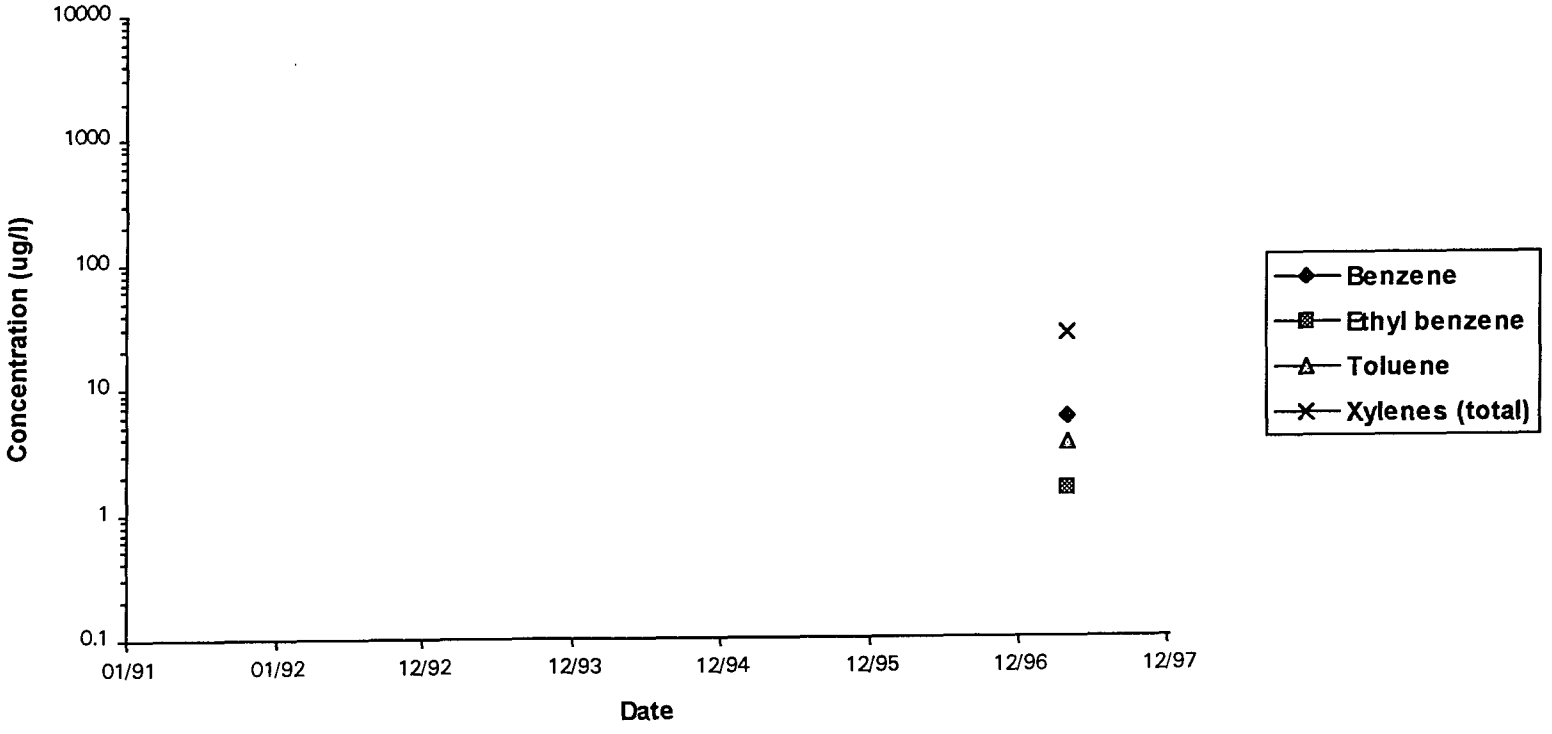
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-098

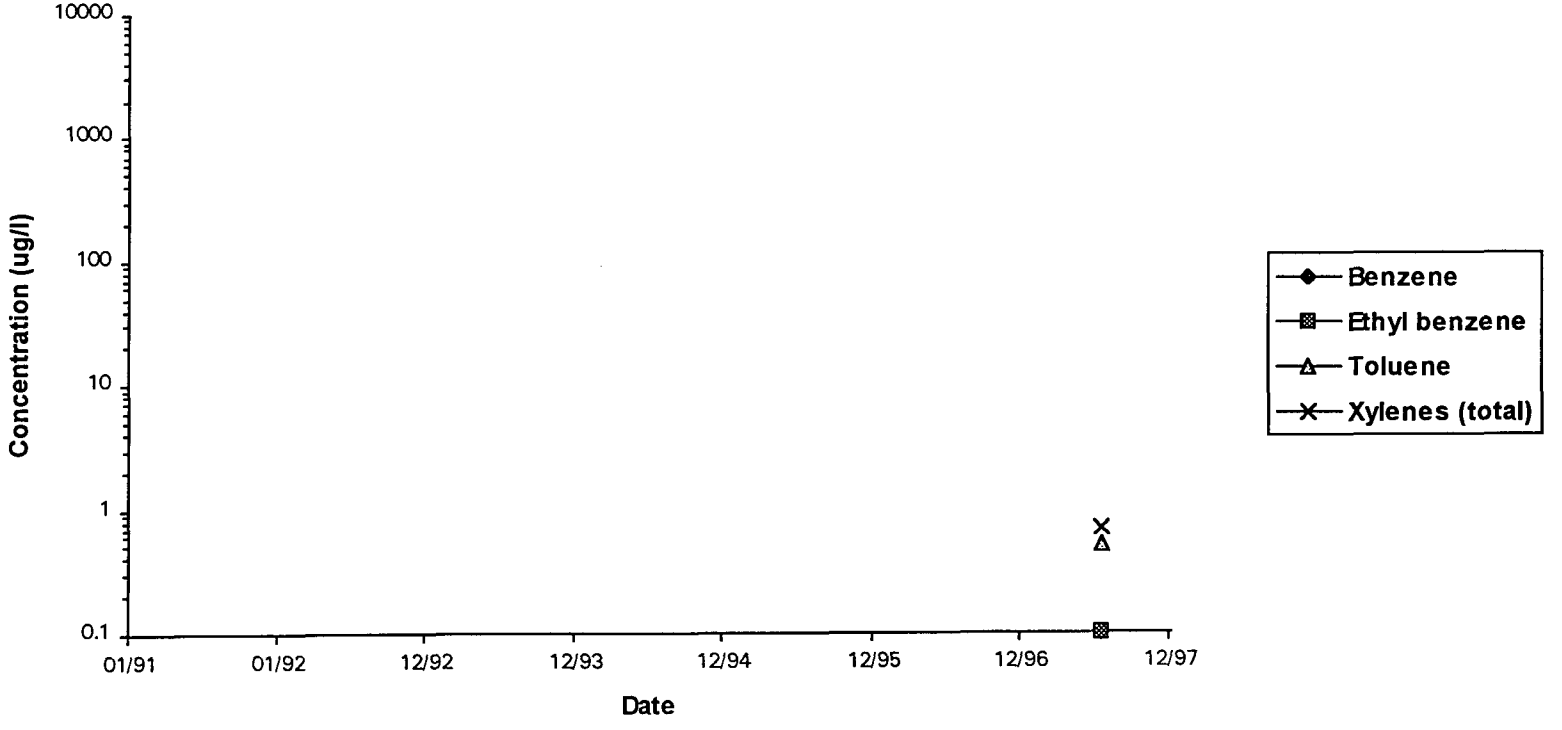
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-104

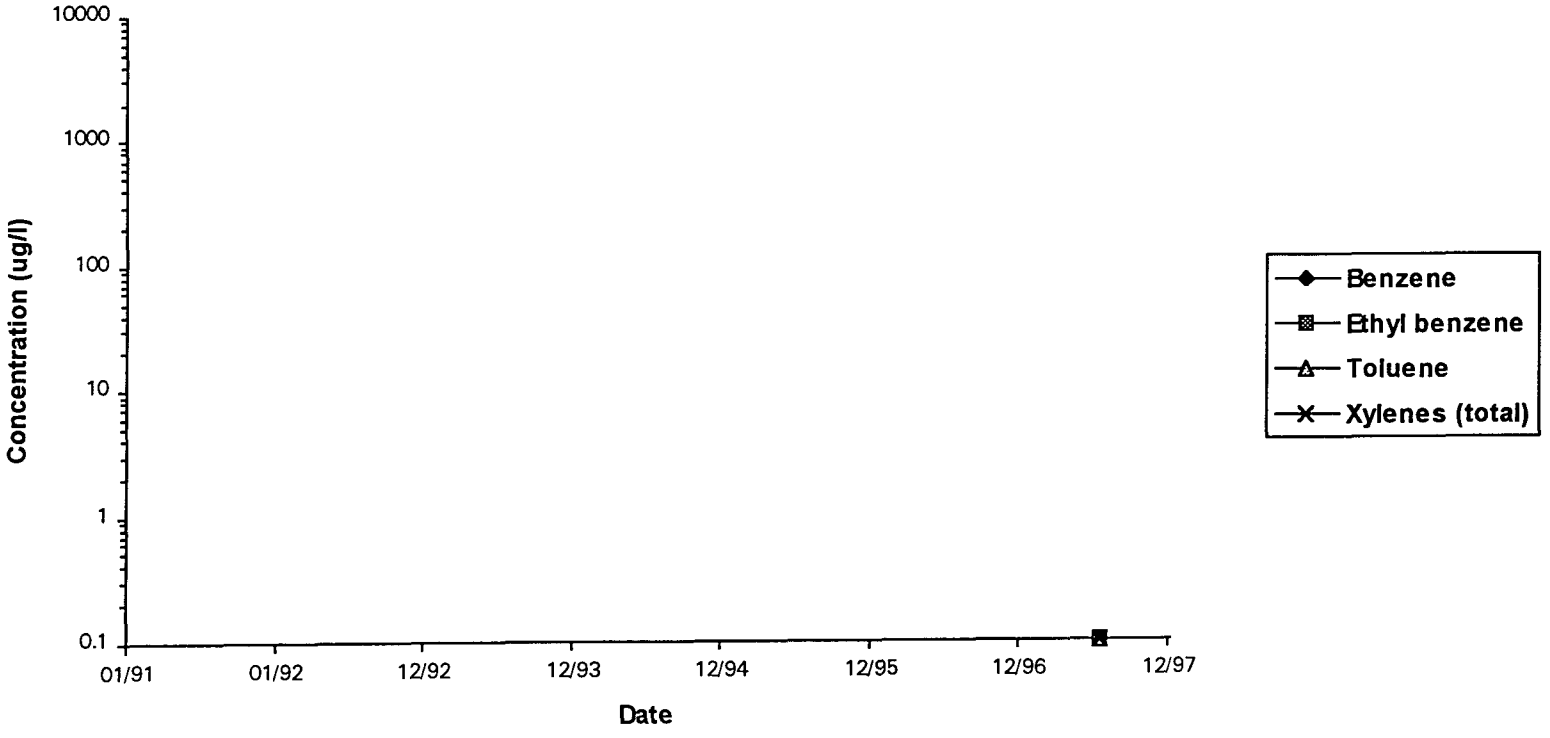
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
MW-108

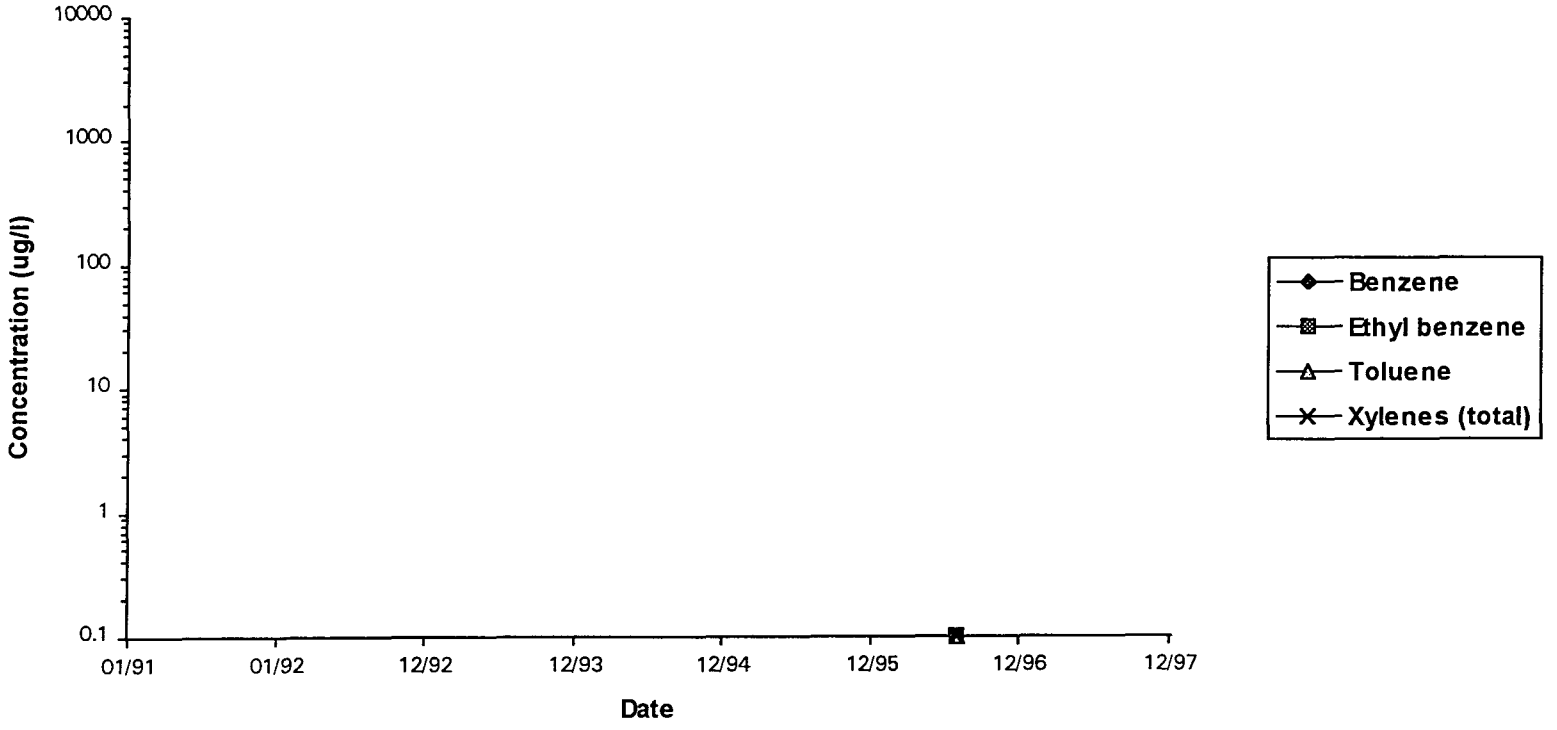
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
IW-02

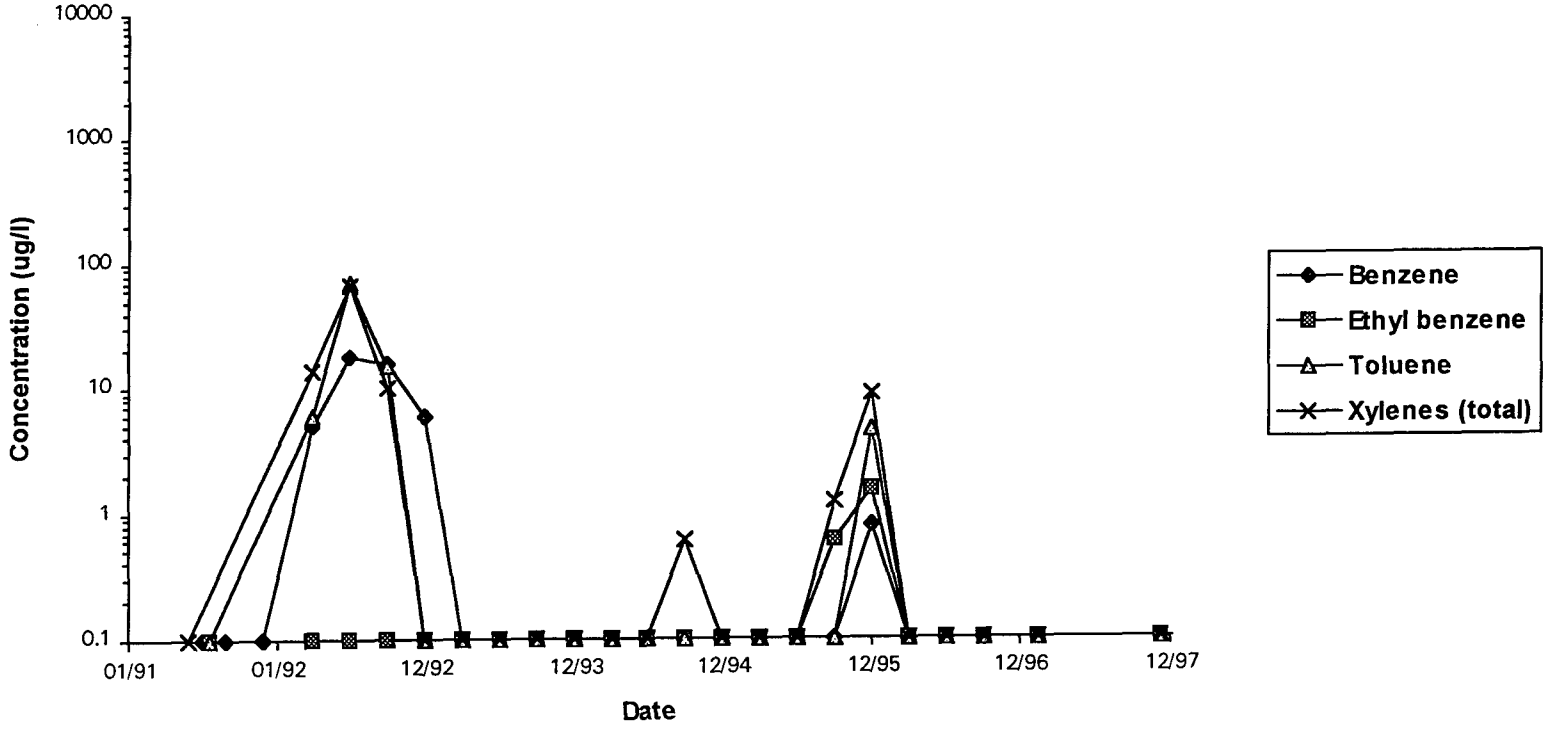
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
SW-01

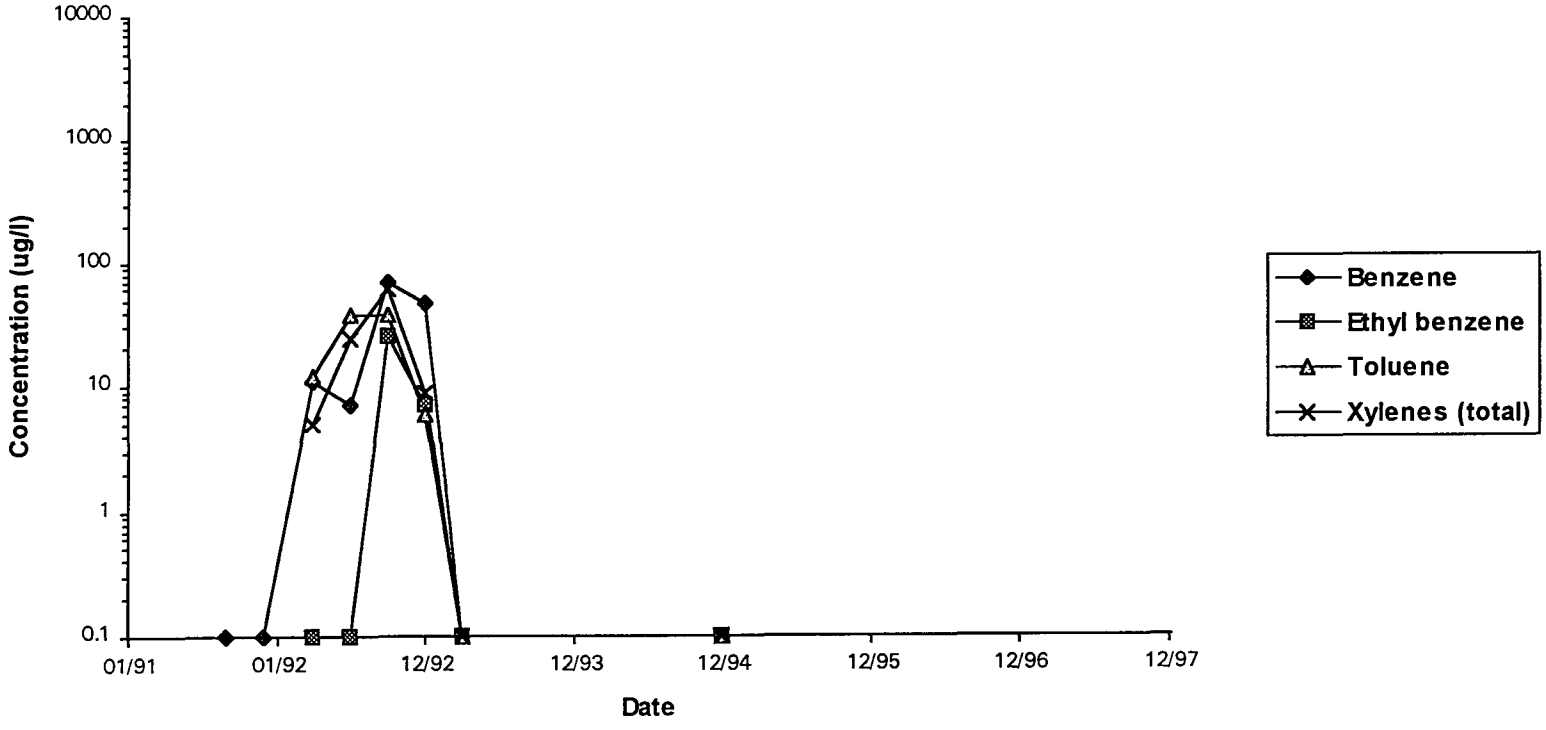
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
SW-02

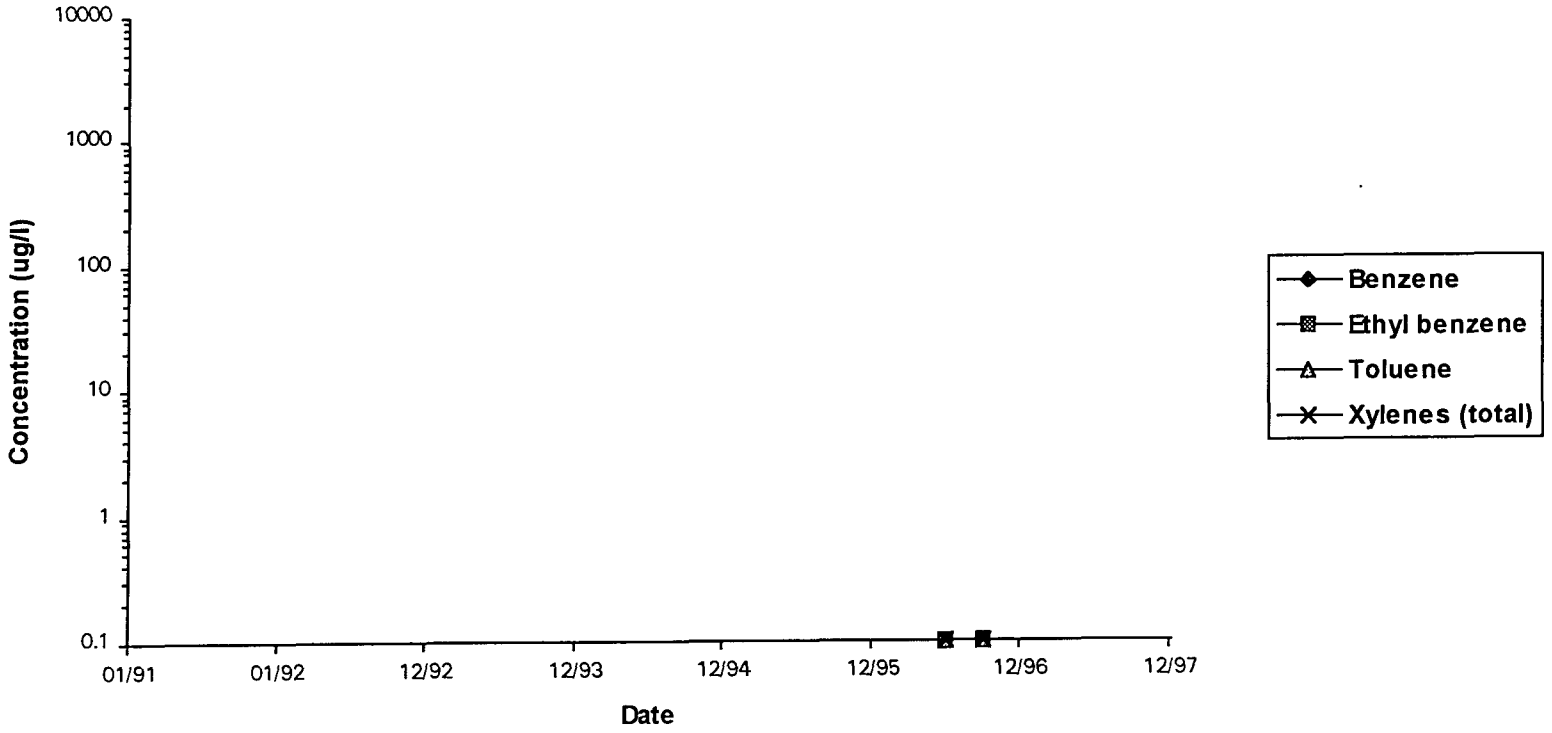
Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

CONCENTRATION VS TIME
SW-03

Indian Basin Remediation Project
Eddy County, NM



FLUOR DANIEL GTI

APPENDIX E

HISTORICAL GROUNDWATER DISSOLVED-PHASE DATA

DISSOLVED-PHASE BTEX CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylene (total) (ug/l)	BTEX (ug/l)
BIEBBLE	05/28/91	---	---	---	<10	---
BIEBBLE	07/01/91	<5	---	---	---	---
BIEBBLE	07/19/91	---	<5	<5	---	---
BIEBBLE	04/01/92	<1	<1	<1	<1	<1
BIEBBLE	07/01/92	<1	<1	<1	<1	<1
BIEBBLE	10/01/92	<1	<1	<1	<1	<1
BIEBBLE	01/01/93	<1	<1	<1	<1	<1
BIEBBLE	04/01/93	<1	<1	<1	<1	<1
BIEBBLE	07/01/93	<0.5	<0.5	<0.5	<0.5	<0.5
BIEBBLE	10/01/93	---	<0.5	<0.5	<0.5	---
BIEBBLE	01/01/94	---	<0.5	<0.5	<0.5	---
BIEBBLE	04/01/94	---	<0.5	<0.5	<0.5	---
BIEBBLE	07/01/94	---	<0.5	<0.5	<0.5	---
BIEBBLE	10/01/94	<0.5	<0.5	<0.5	<0.5	<0.5
BIEBBLE	01/01/95	<0.5	<0.5	<0.5	<0.5	<0.5
BIEBBLE	04/01/95	<0.5	<0.5	<0.5	<0.5	<0.5
BIEBBLE	07/01/95	<0.5	<0.5	<0.5	<0.5	<0.5
BIEBBLE	10/01/95	<0.5	<0.5	<0.5	<0.5	<0.5
BIEBBLE	01/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
BIEBBLE	04/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
BIEBBLE	07/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
BIEBBLE	10/01/96	<0.5	<0.5	<0.5	0.5	0.5
BIEBBLE	02/10/97	<0.5	<0.5	<0.5	<0.5	<0.5
IW-02	08/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
LYMAN	05/28/91	---	---	---	<10	---
LYMAN	07/01/91	<5	---	---	---	---
LYMAN	07/19/91	---	<5	<5	---	---
LYMAN	04/01/92	<1	<1	<1	<1	<1
LYMAN	07/01/92	<1	<1	<1	<1	<1
LYMAN	10/01/92	<1	<1	<1	<1	<1
LYMAN	01/01/93	<1	<1	<1	<1	<1
LYMAN	04/01/93	<1	<1	<1	<1	<1
LYMAN	07/01/93	<0.5	<0.5	<0.5	<0.5	<0.5
LYMAN	10/01/93	---	<0.5	<0.5	<0.5	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL 8020_HIST

DISSOLVED-PHASE BTEX CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylene (total) (ug/l)	BTEX (ug/l)
LYMAN	01/01/94	<0.5	<0.5	<0.5	<0.5	<0.5
LYMAN	04/01/94	<0.5	<0.5	<0.5	<0.5	<0.5
LYMAN	07/01/94	<0.5	<0.5	<0.5	<0.5	<0.5
LYMAN	10/01/94	<0.5	<0.5	<0.5	<0.5	<0.5
LYMAN	01/01/95	<0.5	<0.5	<0.5	<0.5	<0.5
LYMAN	04/01/95	<0.5	<0.5	<0.5	<0.5	<0.5
LYMAN	07/01/95	<0.5	<0.5	<0.5	<0.5	<0.5
LYMAN	10/01/95	<0.5	<0.5	<0.5	1.6	1.6
LYMAN	01/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
LYMAN	04/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
LYMAN	07/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
LYMAN	10/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
LYMAN	02/10/97	<0.5	<0.5	<0.5	<0.5	<0.5
LYMAN	01/29/98	<0.5	<0.5	<0.5	<0.5	<0.5
MW-001	05/01/91	500	---	---	---	---
MW-001	05/28/91	---	<500	1000	<500	---
MW-001	09/01/91	250	---	---	---	---
MW-001	12/01/91	200	200	300	100	800
MW-010	05/01/91	5500	---	---	---	---
MW-010	05/28/91	---	7000	<500	4500	---
MW-010	09/01/91	2300	---	---	---	---
MW-010	12/01/91	2300	<100	200	2500	5000
MW-010	04/01/92	1840	106	<3	2415	4361
MW-010	07/01/92	1842	101	482	2183	4608
MW-010	10/01/92	2100	144	436	759	3439
MW-010	01/01/94	ND	---	ND	ND	---
MW-010	02/11/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-011	09/01/91	3000	---	---	---	---
MW-011	12/01/91	3800	5800	500	5200	15300
MW-011	04/01/92	3573	2979	484	6714	13750
MW-011	07/01/92	2199	2440	463	3693	8795
MW-011	10/01/92	2755	1896	<3	5196	9847
MW-011	01/01/93	2746	1821	475	4280	9322
MW-011	10/01/94	1800	<50	450	3500	5750

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

ND = Not Detected

For RCL 8020_HIST

DISSOLVED-PHASE BTEX CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylene (total) (ug/l)	BTEX (ug/l)
MW-011	07/01/95	95	<0.5	4.4	250	349.4
MW-011	01/01/96	1000	32	190	2800	4022
MW-011	04/01/96	650	38	84	2800	3572
MW-011	07/01/96	500	46	370	2300	3216
MW-011	10/01/96	270	15	230	1600	2115
MW-011	02/07/97	270	20	81	1400	1771
MW-012	09/01/91	3800	---	---	---	---
MW-013	09/01/91	3100	---	---	---	---
MW-013	12/01/91	3000	750	500	3300	7550
MW-013	04/01/92	3501	142	<3	7137	10780
MW-013	07/01/92	2708	136	597	2247	5688
MW-013	10/01/96	1100	520	1200	2800	5620
MW-013	02/07/97	1300	130	690	1000	3120
MW-014	09/01/91	5100	---	---	---	---
MW-015	09/01/91	5100	---	---	---	---
MW-016	09/01/91	1700	---	---	---	---
MW-016	04/01/93	514	53	39	2134	2740
MW-017	09/01/91	2000	---	---	---	---
MW-017	04/01/93	1500	58	230	2900	4688
MW-018	09/01/91	4300	---	---	---	---
MW-018	04/01/92	2900	82	750	1200	4932
MW-018	07/01/92	2700	22	600	55	3377
MW-018	10/01/92	3300	115	870	187	4472
MW-019	07/01/91	4900	---	---	---	---
MW-019	07/19/91	---	1000	1300	---	---
MW-019	07/30/91	---	---	---	2500	---
MW-019	09/01/91	4700	---	---	---	---
MW-019	04/01/92	3240	347	807	326	4720
MW-019	07/01/92	3000	40	800	41	3881
MW-019	10/01/92	2756	73	758	166	3753
MW-019	04/01/93	3926	130	16	82	4154
MW-019	10/01/96	140	5.9	5.2	17	168.1
MW-019	02/07/97	360	980	1100	5600	8040
MW-020	09/01/91	110	---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL 8020_HIST

DISSOLVED-PHASE BTEX CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylene (total) (ug/l)	BTEX (ug/l)
MW-021	05/01/91	9	---	---	---	---
MW-021	05/28/91	---	9	<1	3	---
MW-021	09/01/91	1000	---	---	---	---
MW-021	12/01/91	1100	<50	<50	1000	2100
MW-021	04/01/93	114	19	38	38	209
MW-022	09/01/91	4	---	---	---	---
MW-024	09/01/91	3400	---	---	---	---
MW-024	07/01/92	4353	27	55	708	5143
MW-026	09/01/91	3100	---	---	---	---
MW-026	12/01/91	3000	<100	400	3700	7100
MW-026	07/01/92	2000	48	390	1400	3838
MW-026	10/01/92	1860	59	567	1774	4260
MW-026	01/01/93	1708	82	399	1083	3272
MW-026	04/01/93	861	62	600	2014	3537
MW-028	09/01/91	2200	---	---	---	---
MW-031	09/01/91	<1	---	---	---	---
MW-031	07/01/92	332	36	11	54	433
MW-031	10/01/92	9	32	10	18	69
MW-032	09/01/91	200	---	---	---	---
MW-033	09/01/91	6300	---	---	---	---
MW-034	09/01/91	2500	---	---	---	---
MW-035	09/01/91	5700	---	---	---	---
MW-037	06/01/91	<25	---	---	---	---
MW-037	06/22/91	---	<25	<25	<25	---
MW-037	09/01/91	150	---	---	---	---
MW-037	07/01/93	27	7	<3	<3	34
MW-038	05/01/91	500	---	---	---	---
MW-038	05/28/91	---	<250	250	<250	---
MW-038	06/01/91	<10	---	---	---	---
MW-038	06/22/91	---	<10	<10	<10	---
MW-038	09/01/91	15	---	---	---	---
MW-038	12/01/91	15	<1	15	<1	30
MW-038	04/01/92	67	17	55	7	146
MW-038	07/01/92	37	34	25	56	152

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL 8020_HIST

DISSOLVED-PHASE BTEX CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylene (total) (ug/l)	BTEX (ug/l)
MW-038	10/01/92	166	18	242	24	450
MW-038	10/01/96	0.6	<0.5	<0.5	0.7	1.3
MW-038	02/07/97	0.7	<0.5	<0.5	0.7	1.4
MW-039	05/01/91	<1	---	---	---	---
MW-039	05/28/91	---	<1	11	38	---
MW-039	06/01/91	<1	---	---	---	---
MW-039	06/22/91	---	<1	<1	<1	---
MW-039	09/01/91	880	---	---	---	---
MW-039	01/01/93	14	6	<5	<5	20
MW-039	04/01/93	29	15	4	11	59
MW-039	07/01/93	24	3	<3	<3	27
MW-039	10/01/93	---	23	<3	10	---
MW-039	01/01/94	<2.5	<2.5	8.4	70	78.4
MW-039	04/01/94	<0.5	<0.5	4	38	42
MW-039	07/01/94	<0.5	<0.5	5.9	78	83.9
MW-039	01/01/95	<5.0	7.1	250	80	337.1
MW-039	10/01/96	20	<0.5	<0.5	<0.5	20
MW-039	02/07/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-039	07/18/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-041	07/01/91	300	---	---	---	---
MW-041	07/19/91	---	<50	350	---	---
MW-041	07/30/91	---	---	---	<50	---
MW-041	09/01/91	200	---	---	---	---
MW-041	12/01/91	170	30	400	<10	600
MW-041	07/01/93	12	<5.0	22	<5.0	34
MW-041	10/01/93	8.9	<0.5	17	<0.5	25.9
MW-041	01/01/94	5.3	<5.0	27	140	172.3
MW-041	04/01/94	0.6	<0.5	3.8	7.4	11.8
MW-041	07/01/94	1.4	31	4.9	<0.5	37.3
MW-041	10/01/94	3.2	44	0.7	90	137.9
MW-041	01/01/95	13	<5.0	42	23	78
MW-041	04/01/95	4.8	<0.5	19	33	56.8
MW-041	07/01/95	<0.5	<0.5	1.1	6.3	7.4
MW-041	10/01/95	1.8	8	2.6	18	30.4

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL 8020_HIST

DISSOLVED-PHASE BTEX CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylene (total) (ug/l)	BTEX (ug/l)
MW-041	01/01/96	<5.0	10	<5.0	14	24
MW-041	04/01/96	1.7	9.8	5.5	6.7	23.7
MW-041	07/01/96	<0.5	6.1	3.6	1.7	11.4
MW-041	10/01/96	8.1	2.4	5.8	5.5	21.8
MW-041	02/07/97	82	6.2	7.2	9.1	104.5
MW-041	07/18/97	280	6.9	6.9	23	316.8
MW-042	09/01/91	<1	---	---	---	---
MW-042	12/01/91	<1	<1	<1	<1	<1
MW-043	06/01/91	<10	---	---	---	---
MW-043	06/22/91	---	<10	15	10	---
MW-043	09/01/91	320	---	---	---	---
MW-043	07/01/93	25	17	<3	3	45
MW-043	10/01/93	---	11	<3	<3	---
MW-043	01/01/94	<0.5	<0.5	<0.5	<0.5	<0.5
MW-043	04/01/94	<0.5	<0.5	1.2	14	15.2
MW-043	07/01/94	<0.5	<0.5	1.5	7.1	8.6
MW-043	10/01/94	0.8	<0.5	2.3	17	20.1
MW-043	01/01/95	3.0	<0.5	5.5	15	23.5
MW-043	04/01/95	0.6	<0.5	2.8	14	17.4
MW-043	07/01/95	3	4	5.8	5.9	18.7
MW-043	10/01/95	1.2	2.4	3.8	5.5	12.9
MW-043	01/01/96	1.4	3.1	6.6	5.3	16.4
MW-043	04/01/96	4.4	4.3	1.3	5.3	15.3
MW-043	07/01/96	8.2	5.7	4.4	7	25.3
MW-043	10/01/96	230	2.1	4.3	3.6	240
MW-043	02/07/97	64	8.1	18	28	118.1
MW-043	07/18/97	110	<1.0	4.1	<1.0	114.1
MW-044	06/01/91	75	---	---	---	---
MW-044	06/22/91	---	<25	220	<25	---
MW-044	09/01/91	59	---	---	---	---
MW-044	04/01/92	6	22	24	2	54
MW-044	07/01/92	97	25	102	96	320
MW-044	10/01/92	12	34	96	24	166
MW-044	01/01/93	14	18	65	<1	97

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL 8020_HIST

DISSOLVED-PHASE BTEX CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylene (total) (ug/l)	BTEX (ug/l)
MW-044	04/01/93	7	15	18	14	54
MW-044	07/01/93	6	16	<3	18	40
MW-044	10/01/93	3.6	<0.5	19	5.6	28.2
MW-044	01/01/94	12	<5.0	7.2	14	33.2
MW-044	04/01/94	22	<2.5	3.3	11	36.3
MW-044	07/01/94	36	<5.0	12	14	62
MW-044	10/01/94	130	<25	120	77	327
MW-044	01/01/95	63	<5.0	140	26	229
MW-044	04/01/95	19	2.0	71	16	108
MW-044	07/01/95	5.8	<0.5	16	5.6	27.4
MW-044	10/01/95	120	<50	240	260	620
MW-044	01/01/96	51	14	130	15	210
MW-044	04/01/96	26	11	74	6.3	117.3
MW-044	07/01/96	83	99	280	310	772
MW-044	10/01/96	33	2.7	20	2.6	58.3
MW-044	02/07/97	270	26	53	48	397
MW-044	07/18/97	750	<10	45	<10	795
MW-045	06/01/91	<1	---	---	---	---
MW-045	06/22/91	---	<1	<1	<1	---
MW-045	09/01/91	<1	---	---	---	---
MW-045	12/01/91	<1	<1	<1	<1	<1
MW-045	07/01/93	<3	6	7	4	17
MW-045	10/01/93	<3	3	<3	3	6
MW-045	01/01/94	<0.5	<0.5	<0.5	<0.5	<0.5
MW-045	04/01/94	<0.5	<0.5	<0.5	<0.5	<0.5
MW-045	07/01/94	<0.5	<0.5	<0.5	<0.5	<0.5
MW-046	06/01/91	3200	---	---	---	---
MW-046	06/22/91	---	<50	900	<50	---
MW-046	07/01/91	300	---	---	---	---
MW-046	07/19/91	---	<50	250	---	---
MW-046	07/30/91	---	---	---	250	---
MW-046	09/01/91	140	---	---	---	---
MW-046	10/01/96	900	33	440	59	1432
MW-046	02/11/97	3300	550	1000	1400	6250

Values represent total concentrations unless noted < =Not detected at indicated reporting limit --- =Not analyzed

For RCL 8020_HIST

DISSOLVED-PHASE BTEX CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylene (total) (ug/l)	BTEX (ug/l)
MW-046	05/29/97	5000	1200	230	<100	6430
MW-046	07/18/97	6100	1900	270	130	8400
MW-047	06/01/91	600	---	---	---	---
MW-047	06/22/91	---	<100	2000	2700	---
MW-047	09/01/91	2600	---	---	---	---
MW-047	12/01/91	2200	<50	<50	<50	2200
MW-047	10/01/96	1500	59	200	250	2009
MW-048	09/01/91	<1	---	---	---	---
MW-048	12/01/91	<1	5	10	<1	15
MW-048	07/01/92	47	18	6	18	89
MW-048	10/01/96	<0.5	<0.5	<0.5	1	1
MW-049	06/01/91	60	---	---	---	---
MW-049	06/22/91	---	<10	60	40	---
MW-049	09/01/91	35	---	---	---	---
MW-049	07/01/93	210	27	42	30	309
MW-049	10/01/93	68	26	9	20	123
MW-049	01/01/94	13	<5.0	15	110	138
MW-049	04/01/94	82	<0.5	11	10	103
MW-049	07/01/94	150	<5.0	32	27	209
MW-049	10/01/94	78	49	40	300	467
MW-049	01/01/95	220	<5.0	46	97	363
MW-049	04/01/95	120	<0.5	24	26	170
MW-049	07/01/95	17	<0.5	3.5	3.4	23.9
MW-049	10/01/95	240	<50	59	130	429
MW-049	01/01/96	160	130	120	570	980
MW-049	04/01/96	87	23	18	32	160
MW-049	07/01/96	370	220	190	630	1410
MW-049	10/01/96	95	16	36	12	159
MW-049	02/07/97	79	66	45	160	350
MW-049	07/18/97	130	<1.0	35	9.8	174.8
MW-050	06/01/91	<1	---	---	---	---
MW-050	06/22/91	---	<1	<1	<1	---
MW-050	09/01/91	<1	---	---	---	---
MW-050	12/01/91	<1	<1	<1	<1	<1

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL 8020_HIST

DISSOLVED-PHASE BTEX CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylene (total) (ug/l)	BTEX (ug/l)
MW-050	04/01/92	7	18	<3	17	42
MW-050	07/01/92	4	167	7	11	189
MW-050	10/01/92	8	10	3	2	23
MW-050	01/01/93	8	5	<3	5	18
MW-050	04/01/93	<1	<1	<1	<1	<1
MW-050	07/01/93	<3	12	10	4	26
MW-050	10/01/93	9	16	<3	<3	25
MW-050	01/01/94	<0.5	<0.5	<0.5	<0.5	<0.5
MW-050	04/01/94	<0.5	<0.5	<0.5	<0.5	<0.5
MW-050	07/01/94	<0.5	<0.5	<0.5	<0.5	<0.5
MW-050	10/01/94	<0.5	<0.5	<0.5	<0.5	<0.5
MW-050	01/01/95	<0.5	<0.5	<0.5	<0.5	<0.5
MW-050	04/01/95	<0.5	<0.5	<0.5	<0.5	<0.5
MW-050	07/01/95	<0.5	<0.5	<0.5	<0.5	<0.5
MW-050	10/01/95	<0.5	<0.5	<0.5	<0.5	<0.5
MW-050	01/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
MW-050	04/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
MW-050	07/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
MW-050	10/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
MW-050	02/07/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-050	07/18/97	<1.0	<1.0	<1.0	<1.0	<1.0
MW-051	09/01/91	800	---	---	---	---
MW-051	12/01/91	<1	<1	<1	<1	<1
MW-052	09/01/91	<1	---	---	---	---
MW-052	07/01/92	5	31	4	5	45
MW-053	09/01/91	<1	---	---	---	---
MW-054	09/01/91	<1	---	---	---	---
MW-054	12/01/91	<1	<1	<1	<1	<1
MW-054	04/01/92	10	10	<3	14	34
MW-054	07/01/92	8	44	23	195	270
MW-054	10/01/92	62	7	195	630	894
MW-054	01/01/93	14	4	15	113	146
MW-054	04/01/93	10	<3	<3	8	18
MW-054	07/01/93	<3	<3	<3	3	3

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL 8020_HIST

DISSOLVED-PHASE BTEX CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylene (total) (ug/l)	BTEX (ug/l)
MW-054	10/01/93	17	35	16	24	92
MW-054	01/01/94	8.6	<0.5	7.4	<0.5	16
MW-054	04/01/94	<0.5	<0.5	<0.5	<0.5	<0.5
MW-054	07/01/94	15	1.2	8.5	8.7	33.4
MW-054	10/01/94	19	0.6	29	6.3	54.9
MW-054	01/01/95	<0.5	<0.5	<0.5	<0.5	<0.5
MW-054	04/01/95	<0.5	<0.5	<0.5	<0.5	<0.5
MW-054	07/01/95	<0.5	<0.5	<0.5	<0.5	<0.5
MW-054	10/01/95	0.7	<0.5	1.7	3	5.4
MW-054	01/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
MW-054	04/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
MW-054	07/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
MW-054	10/01/96	0.9	<0.5	0.6	<0.5	1.5
MW-054	02/10/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-054	07/16/97	0.9	3.2	2.1	17	23.2
MW-055	06/01/91	<50	---	---	---	---
MW-055	06/22/91	---	<50	<50	100	---
MW-055	09/01/91	940	---	---	---	---
MW-055	12/01/91	400	25	<25	<25	425
MW-055	04/01/92	297	24	15	34	370
MW-055	07/01/92	483	36	64	66	649
MW-055	10/01/92	215	56	92	26	389
MW-055	01/01/93	390	68	90	32	580
MW-055	04/01/93	412	20	89	18	539
MW-055	07/01/93	625	21	8	50	704
MW-055	10/01/93	581	27	102	18	728
MW-055	01/01/94	290	<2.5	89	<2.5	379
MW-055	04/01/94	370	<2.5	33	<2.5	403
MW-055	07/01/94	360	5.5	16	120	501.5
MW-055	10/01/94	910	<5.0	480	<5.0	1390
MW-055	01/01/95	650	<5.0	400	41	1091
MW-055	07/01/95	350	<5.0	270	22	642
MW-055	10/01/95	100	6.1	70	15	191.1
MW-055	01/01/96	650	15	430	29	1124

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL 8020_HIST

DISSOLVED-PHASE BTEX CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylene (total) (ug/l)	BTEX (ug/l)
MW-055	04/01/96	370	13	310	22	715
MW-055	07/01/96	800	35	520	99	1454
MW-055	10/01/96	520	32	460	84	1096
MW-055	02/10/97	410	20	230	64	724
MW-055	07/16/97	140	11	110	9.2	270.2
MW-056	06/01/91	2100	---	---	---	---
MW-056	06/22/91	---	<50	2900	<50	---
MW-056	07/01/91	2000	---	---	---	---
MW-056	07/19/91	---	500	1000	---	---
MW-056	07/30/91	---	---	---	1000	---
MW-056	09/01/91	2200	---	---	---	---
MW-056	12/01/91	1000	2000	3000	6000	12000
MW-056	07/01/92	1114	64	962	49	2189
MW-056	10/01/92	1026	47	<3	839	1912
MW-056	01/01/93	1128	40	10	804	1982
MW-056	10/01/96	1000	23	94	92	1209
MW-056	02/11/97	370	12	51	51	484
MW-057	05/28/91	---	---	---	<0.2	---
MW-057	06/01/91	<1	---	---	---	---
MW-057	06/22/91	---	1	<1	<1	---
MW-057	07/01/91	<1	---	---	---	---
MW-057	07/19/91	---	0.2	<0.4	---	---
MW-057	09/01/91	1600	---	---	---	---
MW-057	12/01/91	350	<10	<10	<10	350
MW-057	04/01/92	127	29	<3	16	172
MW-057	07/01/92	948	422	112	876	2358
MW-057	10/01/92	15	33	<3	78	126
MW-057	01/01/93	21	40	165	19	245
MW-057	04/01/93	8	21	15	16	60
MW-057	07/01/93	6	8	<3	<3	14
MW-057	10/01/93	<0.5	1.6	<0.5	1.2	2.8
MW-057	01/01/94	<0.5	<0.5	<0.5	<0.5	<0.5
MW-057	04/01/94	<0.5	<0.5	<0.5	<0.5	<0.5
MW-057	07/01/94	0.7	<0.5	<0.5	1.8	2.5

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For RCL 8020_HIST

DISSOLVED-PHASE BTEX CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylene (total) (ug/l)	BTEX (ug/l)
MW-057	10/01/94	1.1	<0.5	<0.5	4.0	5.1
MW-057	01/01/95	4.3	<0.5	<0.5	1.3	5.6
MW-057	04/01/95	<0.5	<0.5	<0.5	<0.5	<0.5
MW-057	07/01/95	<0.5	0.8	<0.5	<0.5	0.8
MW-057	10/01/95	64	1.7	0.7	5	71.4
MW-057	01/01/96	16	1.5	1	4.2	22.7
MW-057	04/01/96	<0.5	0.9	<0.5	<0.5	0.9
MW-057	07/01/96	2.8	1	<0.5	1.4	5.2
MW-057	10/01/96	54	2.8	3.4	13	73.2
MW-057	02/10/97	<0.5	0.9	<0.5	<0.5	0.9
MW-057	07/15/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-058	09/01/91	40	---	---	---	---
MW-058	12/01/91	90	40	20	80	230
MW-058	04/01/92	203	32	56	68	359
MW-058	07/01/92	178	58	32	44	312
MW-058	10/01/92	190	49	26	57	322
MW-058	01/01/93	192	30	23	39	284
MW-058	04/01/93	55	16	31	9	111
MW-058	07/01/93	25	42	14	13	94
MW-058	10/01/93	50	21	212	555	838
MW-058	04/01/94	<2.5	<2.5	7.4	27	34.4
MW-058	07/01/94	2.0	29	4.5	27	62.5
MW-058	10/01/94	6.7	<5.0	15.0	39	60.7
MW-058	04/01/95	2.2	<0.5	2.1	6.8	11.1
MW-058	10/01/96	110	320	940	10000	11370
MW-058	01/30/98	350	23	42	96	511
MW-059	09/01/91	540	---	---	---	---
MW-059	12/01/91	420	40	240	420	1120
MW-059	04/01/92	42	12	20	20	94
MW-059	07/01/92	268	45	110	232	655
MW-059	10/01/92	99	37	44	46	226
MW-059	01/01/93	26	<3	55	10	91
MW-059	04/01/93	10	14	12	5	41
MW-059	10/01/93	10	13	89	433	545

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For RCL 8020_HIST

DISSOLVED-PHASE BTEX CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylene (total) (ug/l)	BTEX (ug/l)
MW-059	04/01/94	<2.5	<2.5	3.3	25	28.3
MW-059	07/01/94	13	69	0.5	73	155.5
MW-059	10/01/94	4.1	3.7	23	37	67.8
MW-060	05/28/91	---	---	---	<0.2	---
MW-060	07/01/91	<0.2	---	---	---	---
MW-060	07/19/91	---	<0.2	<0.4	---	---
MW-060	09/01/91	33	---	---	---	---
MW-060	12/01/91	<1	<1	<1	<1	<1
MW-060	04/01/92	5	9	<3	4	18
MW-060	07/01/92	17	1	<1	1	19
MW-060	10/01/92	32	109	36	57	234
MW-060	01/01/93	138	4	260	6	408
MW-060	04/01/93	17	16	<3	12	45
MW-060	07/01/93	<0.5	<0.5	<0.5	<0.5	<0.5
MW-060	10/01/93	<0.5	1.0	0.5	1.0	2.5
MW-060	01/01/94	<0.5	<0.5	<0.5	<0.5	<0.5
MW-060	04/01/94	<0.5	<0.5	<0.5	<0.5	<0.5
MW-060	07/01/94	<0.5	1.3	<0.5	3.5	4.8
MW-060	10/01/94	<0.5	0.6	0.6	4.9	6.1
MW-060	01/01/95	<0.5	<0.5	<0.5	0.6	0.6
MW-060	04/01/95	<0.5	<0.5	<0.5	<0.5	<0.5
MW-060	07/01/95	<0.5	4.9	<0.5	<0.5	4.9
MW-060	10/01/95	<0.5	<0.5	<0.5	<0.5	<0.5
MW-060	01/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
MW-060	04/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
MW-060	07/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
MW-060	10/01/96	2.5	0.9	<0.5	<0.5	3.4
MW-060	02/09/97	<0.5	<0.5	0.5	0.8	1.3
MW-060	05/06/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-060	07/15/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-060	10/16/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-060	01/30/98	<0.5	<0.5	<0.5	<0.5	<0.5
MW-061	09/01/91	<1	---	---	---	---
MW-061	12/01/91	---	<1	<1	<1	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL 8020_HIST

DISSOLVED-PHASE BTEX CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylene (total) (ug/l)	BTEX (ug/l)
MW-061	01/01/94	1.4	1.0	1.7	1.1	5.2
MW-061	04/01/94	<0.5	<0.5	0.5	<0.5	0.5
MW-061	07/01/94	3.2	<0.5	<0.5	0.8	4
MW-061	10/01/94	<5.0	23	14	160	197
MW-061	01/01/95	<0.5	0.7	2.5	0.8	4
MW-061	07/01/95	<0.5	<0.5	<0.5	<0.5	<0.5
MW-061	10/01/95	<0.5	<0.5	<0.5	<0.5	<0.5
MW-061	01/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
MW-061	04/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
MW-061	07/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
MW-061	10/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
MW-061	02/10/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-061	07/17/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-061A	05/28/91	---	---	---	0.5	---
MW-061A	07/01/91	2	---	---	---	---
MW-061A	07/19/91	---	1.5	0.4	---	---
MW-061A	09/01/91	190	---	---	---	---
MW-061A	12/01/91	10	10	5	75	100
MW-061A	04/01/92	6	7	<3	13	26
MW-061A	07/01/92	60	<10	3	8	71
MW-061A	10/01/92	470	17	<3	2351	2838
MW-061A	01/01/93	585	82	397	2368	3432
MW-061A	04/01/93	2821	173	817	3993	7804
MW-061A	04/01/94	<0.5	<0.5	0.5	3.8	4.3
MW-061A	07/01/94	<0.5	<0.5	<0.5	2.5	2.5
MW-061A	10/01/94	4.8	4.5	3.7	37	50
MW-061A	01/01/95	16	<5.0	30	220	266
MW-061A	01/01/96	<0.5	<0.5	<0.5	0.8	0.8
MW-061A	04/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
MW-061A	07/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
MW-061A	10/01/96	1.7	1.7	1.3	9.4	14.1
MW-061A	02/06/97	42	3.4	8.4	46	99.8
MW-061A	05/07/97	330	59	<25	850	1239
MW-061A	06/27/97	22	11	(5.4)	26	64.4

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() = Less than Reporting Limit
For RCL 8020_HIST

DISSOLVED-PHASE BTEX CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylene (total) (ug/l)	BTEX (ug/l)
MW-061A	07/15/97	16	<10	10	93	119
MW-061A	10/15/97	35	13	22	95	165
MW-061A	01/29/98	15	16	26	130	187
MW-062	09/01/91	2200	---	---	---	---
MW-062	12/01/91	1400	<200	400	2400	4200
MW-062	04/01/92	263	48	170	298	779
MW-062	07/01/92	357	13	184	301	855
MW-062	10/01/92	212	19	416	1692	2339
MW-062	01/01/93	78	18	---	207	---
MW-062	04/01/93	33	15	16	24	88
MW-062	07/01/93	98	12	70	204	384
MW-062	10/01/93	10	20	20	32	82
MW-062	01/01/94	4.1	<2.5	13	44	61.1
MW-062	04/01/94	<2.5	<2.5	4.4	26	30.4
MW-062	07/01/94	4.3	32	7.5	26	69.8
MW-062	10/01/94	13	13	11	39	76
MW-062	04/01/95	7.5	30	12	30	79.5
MW-062	07/18/97	20	19	58	210	307
MW-063	09/01/91	<1	---	---	---	---
MW-063	12/01/91	<1	<1	<1	<1	<1
MW-063	04/01/92	5	6	<3	8	19
MW-063	07/01/92	12	28	3	20	63
MW-063	10/01/92	4	7	17	33	61
MW-063	01/01/93	12	4	<3	13	29
MW-063	04/01/93	<1	<1	<1	<1	<1
MW-063	07/01/93	4	<3	<3	<3	4
MW-063	10/01/93	14	48	11	39	112
MW-063	01/01/94	<0.5	0.7	<0.5	0.7	1.4
MW-063	04/01/94	<0.5	<0.5	<0.5	<0.5	<0.5
MW-063	07/01/94	1.0	9.6	1.4	13	25
MW-063	10/01/94	<0.5	2.6	1.0	8.0	11.6
MW-063	01/01/95	<0.5	<0.5	<0.5	<0.5	<0.5
MW-063	04/01/95	<0.5	<0.5	<0.5	<0.5	<0.5
MW-063	07/01/95	<0.5	1	<0.5	<0.5	1

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For RCL 8020_HIST

DISSOLVED-PHASE BTEX CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylene (total) (ug/l)	BTEX (ug/l)
MW-063	10/01/95	<0.5	<0.5	<0.5	<0.5	<0.5
MW-063	01/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
MW-063	04/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
MW-063	07/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
MW-063	10/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
MW-063	02/05/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-063	07/15/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-063	10/15/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-064	09/01/91	150	---	---	---	---
MW-064	12/01/91	130	<10	40	160	330
MW-064	04/01/92	245	32	82	331	690
MW-064	07/01/92	115	19	10	40	184
MW-064	10/01/92	37	61	<3	96	194
MW-064	01/01/93	6	2	1	4	13
MW-064	04/01/93	5	11	5	9	30
MW-064	07/01/93	2	<0.5	<0.5	<0.5	2
MW-064	10/01/93	18	12	<3	71	101
MW-064	01/01/94	1.7	<0.5	<0.5	0.9	2.6
MW-064	04/01/94	<0.5	<0.5	<0.5	<0.5	<0.5
MW-064	07/01/94	<0.5	0.5	<0.5	3.6	4.1
MW-064	10/01/94	<0.5	0.5	0.6	5.6	6.7
MW-064	01/01/95	12	<0.5	5.1	13	30.1
MW-064	04/01/95	18	<0.5	18	41	77
MW-064	07/01/95	17	1.1	9.8	23	50.9
MW-064	10/01/95	25	1.7	13	32	71.7
MW-064	01/01/96	14	2.2	9.3	23	48.5
MW-064	04/01/96	10	2	4.3	7.9	24.2
MW-064	07/16/97	84	<25	130	310	524
MW-065	09/01/91	<1	---	---	---	---
MW-065	12/01/91	---	<1	<1	<1	---
MW-065	04/01/93	---	---	<3	---	---
MW-065	07/01/93	<3	6	<3	3	9
MW-065	10/01/94	<0.5	<0.5	<0.5	<0.5	<0.5
MW-065	07/01/96	<0.5	<0.5	<0.5	<0.5	<0.5

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL 8020_HIST

DISSOLVED-PHASE BTEX CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylene (total) (ug/l)	BTEX (ug/l)
MW-065	10/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
MW-065	02/11/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-065	05/07/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-065A	09/01/91	680	---	---	---	---
MW-065A	12/01/91	150	15	<1	15	180
MW-065A	04/01/92	26	15	<3	12	53
MW-065A	07/01/92	413	235	93	551	1292
MW-065A	10/01/92	11	<3	<3	67	78
MW-065A	01/01/93	3	<3	<3	11	14
MW-065A	04/01/93	4	9	3	8	24
MW-065A	07/01/93	<1	3	<3	<3	3
MW-065A	10/01/93	7	3	<3	<3	10
MW-065A	01/01/94	<0.5	<0.5	<0.5	<0.5	<0.5
MW-065A	04/01/94	<0.5	<0.5	<0.5	<0.5	<0.5
MW-065A	07/01/94	<0.5	<0.5	<0.5	<0.5	<0.5
MW-065A	10/01/94	1.7	<0.5	<0.5	<0.5	1.7
MW-065A	01/01/95	<0.5	<0.5	<0.5	0.7	0.7
MW-065A	04/01/95	<0.5	<0.5	<0.5	0.5	0.5
MW-066	09/01/91	<1	---	---	---	---
MW-066	12/01/91	<1	<1	<1	<1	<1
MW-066	04/01/92	4	7	<3	4	15
MW-066	07/01/92	8	25	7	11	51
MW-066	10/01/92	12	36	<3	34	82
MW-066	01/01/93	3	6	3	20	32
MW-066	04/01/93	<3	5	5	<3	10
MW-066	07/01/93	8	4	<3	<3	12
MW-066	10/01/93	13	60	4	29	106
MW-066	01/01/94	<0.5	<0.5	<0.5	0.6	0.6
MW-066	04/01/94	<0.5	<0.5	<0.5	<0.5	<0.5
MW-066	07/01/94	<0.5	0.6	<0.5	0.8	1.4
MW-066	10/01/94	<0.5	3.0	1.5	17	21.5
MW-066	01/01/95	<0.5	<0.5	<0.5	<0.5	<0.5
MW-066	07/01/95	<0.5	0.9	<0.5	<0.5	0.9
MW-066	10/01/95	<0.5	<0.5	<0.5	3.5	3.5

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For RCL 8020_HIST

DISSOLVED-PHASE BTEX CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylene (total) (ug/l)	BTEX (ug/l)
MW-066	01/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
MW-066	04/01/96	<0.5	0.8	<0.5	1	1.8
MW-066	07/01/96	<0.5	<0.5	<0.5	0.5	0.5
MW-066	10/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
MW-066	02/05/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-066	05/06/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-066	07/16/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-066	10/15/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-066	01/29/98	<0.5	<0.5	<0.5	<0.5	<0.5
MW-067	09/01/91	280	—	—	—	—
MW-067	12/01/91	320	<10	<10	<10	320
MW-067	04/01/92	5	8	<3	12	25
MW-067	07/01/92	69	<10	20	116	205
MW-067	10/01/92	3	9	<3	73	85
MW-067	01/01/93	8	3	<3	12	23
MW-067	04/01/93	7	18	7	19	51
MW-067	07/01/93	7	<3	<3	<3	7
MW-067	10/01/93	<0.5	0.9	<0.5	1.1	2
MW-067	01/01/94	<0.5	<0.5	<0.5	<0.5	<0.5
MW-067	04/01/94	<0.5	<0.5	<0.5	<0.5	<0.5
MW-067	07/01/94	<0.5	0.6	<0.5	3.0	3.6
MW-067	10/01/94	<0.5	<0.5	<0.5	4.3	4.3
MW-067	01/01/95	1.0	<0.5	<0.5	1.1	2.1
MW-067	04/01/95	1.8	<0.5	<0.5	1.3	3.1
MW-067	07/01/95	<0.5	<0.5	<0.5	0.6	0.6
MW-067	10/01/95	6.1	1.8	0.5	4.2	12.6
MW-067	01/01/96	4.8	3.6	0.6	4.7	13.7
MW-067	04/01/96	3.4	0.9	<0.5	2.5	6.8
MW-067	07/01/96	95	110	28	280	513
MW-067	02/10/97	15	4.8	1.9	41.0	62.7
MW-067	07/16/97	160	330	110	1200	1800
MW-068	09/01/91	240	---	---	---	---
MW-068	12/01/91	1900	4500	500	4000	10900
MW-068	04/01/92	2470	3370	550	3866	10256

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For RCL 8020_HIST

DISSOLVED-PHASE BTEX CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylene (total) (ug/l)	BTEX (ug/l)
MW-068	07/01/92	160	267	49	746	1222
MW-068	10/01/92	2205	3327	<3	4721	10253
MW-068	01/01/93	376	944	246	2376	3942
MW-068	04/01/93	650	1900	330	4000	6880
MW-068	07/01/93	150	230	110	1100	1590
MW-068	10/01/93	374	628	286	2398	3686
MW-068	01/01/94	3000	820	1000	7700	12520
MW-068	04/01/94	120	61	170	1300	1651
MW-068	07/01/94	260	170	220	2000	2650
MW-068	10/17/97	740	100	490	3800	5130
MW-069	09/01/91	2400	---	---	---	---
MW-069	12/01/91	2100	1100	150	4200	7550
MW-069	07/01/92	568	56	1785	1966	4375
MW-069	10/01/92	1598	71	<3	2879	4548
MW-069	01/01/93	1284	49	309	1931	3573
MW-069	07/18/97	930	23	410	1100	2463
MW-070	09/01/91	<1	---	---	---	---
MW-070	12/01/91	<1	<1	<1	<1	<1
MW-070	04/01/92	3	17	<3	8	28
MW-070	07/01/92	<1	3	1	13	17
MW-070	10/01/92	11	40	63	60	174
MW-070	01/01/93	<3	<3	8	5	13
MW-070	04/01/93	9	20	<3	4	33
MW-070	07/01/93	<1	11	3	<3	14
MW-070	10/01/93	25	19	19	18	81
MW-070	01/01/94	<0.5	0.6	<0.5	<0.5	0.6
MW-070	04/01/94	<0.5	<0.5	<0.5	<0.5	<0.5
MW-070	07/01/94	<0.5	<0.5	<0.5	<0.5	<0.5
MW-070	10/01/94	1.2	4.3	1.3	12	18.8
MW-070	01/01/95	<0.5	2.3	<0.5	2.4	4.7
MW-070	04/01/95	<0.5	<0.5	<0.5	1.1	1.1
MW-070	07/01/95	<0.5	0.8	<0.5	<0.5	0.8
MW-070	10/01/95	<0.5	<0.5	<0.5	<0.5	<0.5
MW-070	01/01/96	<0.5	<0.5	<0.5	<0.5	<0.5

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For RCL 8020_HIST

DISSOLVED-PHASE BTEX CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylene (total) (ug/l)	BTEX (ug/l)
MW-070	04/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
MW-070	07/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
MW-070	10/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
MW-070	02/05/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-070	10/15/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-071	10/01/93	8	5	4	16	33
MW-071	01/01/94	<0.5	1.3	<0.5	0.5	1.8
MW-071	04/01/94	<0.5	<0.5	<0.5	<0.5	<0.5
MW-071	07/01/94	<0.5	3.0	0.7	6.2	9.9
MW-071	10/01/94	1.1	6.8	2.7	31	41.6
MW-071	01/01/95	<0.5	<0.5	<0.5	<0.5	<0.5
MW-071	07/01/95	<0.5	1.2	<0.5	1.9	3.1
MW-071	10/01/95	<0.5	<0.5	<0.5	7.3	7.3
MW-071	01/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
MW-071	04/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
MW-071	07/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
MW-071	10/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
MW-071	02/09/97	5.2	1.3	0.8	1.3	8.6
MW-071	05/06/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-071	07/17/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-071	10/16/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-071	01/29/98	<0.5	<0.5	<0.5	<0.5	<0.5
MW-072	04/01/94	<2.5	<2.5	4.7	15	19.7
MW-072	07/01/94	18	<0.5	5.1	2.8	25.9
MW-074	07/18/97	180	320	180	1900	2580
MW-076	10/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
MW-077	07/01/95	<0.5	<0.5	1.9	2.8	4.7
MW-077	01/01/96	<0.5	3.1	<0.5	7.1	10.2
MW-077	04/01/96	<0.5	3.8	0.8	2.5	7.1
MW-077	07/01/96	8	14	19	35	76
MW-077	10/01/96	160	320	150	1000	1630
MW-077	05/07/97	8.4	70	8.3	52	138.7
MW-077	07/18/97	14	30	11	71	126
MW-078	10/01/96	32	15	9.1	35	91.1

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For RCL 8020_HIST

DISSOLVED-PHASE BTEX CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylene (total) (ug/l)	BTEX (ug/l)
MW-078	02/10/97	41	7.9	7.4	12	68.3
MW-078	05/07/97	20	42	12	23	97
MW-078	07/17/97	8.2	10	6.6	16	40.8
MW-079	01/01/95	110	<5.0	8.5	61	179.5
MW-079	04/01/95	14	<0.5	10	53	77
MW-079	07/01/95	<5	74	7.7	62	143.7
MW-079	10/01/95	16	4	<2.5	3.7	23.7
MW-079	01/01/96	10	6.7	1.4	4.9	23
MW-079	04/01/96	2.4	7.3	1	2.7	13.4
MW-079	07/01/96	3.2	6.3	0.9	6.3	16.7
MW-079	10/01/96	1.7	5.8	1	4.2	12.7
MW-079	02/10/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-079	05/07/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-079	07/17/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-082	10/01/95	280	<50	450	910	1640
MW-086	10/17/97	510	360	580	1400	2850
MW-087	08/01/96	<0.5	20	<0.5	0.5	20.5
MW-087	10/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
MW-087	02/09/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-087	05/06/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-087	10/16/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-087	01/29/98	<0.5	<0.5	<0.5	<0.5	<0.5
MW-087A	10/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
MW-087A	02/09/97	0.9	<0.5	0.7	1.5	3.1
MW-087A	05/07/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-087A	10/16/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-087A	01/29/98	<0.5	<0.5	<0.5	<0.5	<0.5
MW-088	08/01/96	<0.5	1.1	0.5	1	2.6
MW-088	10/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
MW-088	02/05/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-088	04/30/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-088	10/15/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-088	01/29/98	<0.5	<0.5	<0.5	<0.5	<0.5
MW-089	08/01/96	<0.5	1.1	<0.5	<0.5	1.1

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For RCL 8020_HIST

DISSOLVED-PHASE BTEX CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylene (total) (ug/l)	BTEX (ug/l)
MW-089	10/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
MW-089	02/05/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-089	04/30/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-089	10/15/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-089	01/29/98	<0.5	<0.5	<0.5	<0.5	<0.5
MW-090	02/10/97	17	<0.5	15	1.4	33.4
MW-090	05/07/97	1.1	<0.5	<0.5	<0.5	1.1
MW-090	07/17/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-091	02/11/97	340	14	50	55	459
MW-094	10/17/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-095	04/30/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-095	01/30/98	<0.5	<0.5	<0.5	<0.5	<0.5
MW-096	04/30/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-096	10/16/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-096	01/30/98	<0.5	<0.5	<0.5	<0.5	<0.5
MW-097	04/30/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-097	10/17/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-097	01/30/98	<0.5	<0.5	<0.5	<0.5	<0.5
MW-098	04/30/97	5.8	3.5	1.5	26	36.8
MW-104	07/17/97	<0.5	0.5	<0.5	0.7	1.2
MW-106	02/11/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-106	05/07/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-106	07/18/97	<0.5	<0.5	<0.5	<0.5	<0.5
MW-108	07/17/97	<0.5	<0.5	<0.5	<0.5	<0.5
SUMP-16A	07/01/91	560	---	---	---	---
SUMP-16A	07/19/91	---	850	100	---	---
SUMP-16A	07/30/91	---	---	---	660	---
SUMP-16A	09/01/91	240	---	---	---	---
SUMP-16A	12/01/91	2000	1000	<500	3500	6500
SUMP-16A	04/01/92	1332	203	<3	3679	5214
SUMP-16A	07/01/92	1495	2028	280	3442	7245
SUMP-16A	10/01/92	632	87	<3	1821	2540
SUMP-16A	01/01/93	741	40	96	1355	2232
SUMP-16A	04/01/93	707	881	298	4226	6112

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For RCL 8020_HIST

DISSOLVED-PHASE BTEX CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylene (total) (ug/l)	BTEX (ug/l)
SUMP-16A	10/01/94	170	<2.5	120	680	970
SUMP-16A	01/01/95	2.0	5.1	2.4	32	41.5
SUMP-16A	10/01/95	130	<13	98	780	1008
SUMP-16A	04/01/96	0.8	1.5	3.8	27	33.1
SUMP-16A	07/01/96	5.1	0.9	1.2	7.7	14.9
SUMP-A10	10/01/95	<0.5	2.9	<0.5	<0.5	2.9
SW-01	05/28/91	---	---	---	<10	---
SW-01	07/01/91	<5	---	---	---	---
SW-01	07/19/91	---	<5	<5	---	---
SW-01	09/01/91	<1	---	---	---	---
SW-01	12/01/91	<1	---	---	---	---
SW-01	04/01/92	5	6	<3	14	25
SW-01	07/01/92	17.5	69	<3	67	153.5
SW-01	10/01/92	16	15	<3	10	41
SW-01	01/01/93	6	<3	<3	<3	6
SW-01	04/01/93	<1	<1	<1	<1	<1
SW-01	07/01/93	<0.5	<0.5	<0.5	<0.5	<0.5
SW-01	10/01/93	<0.5	<0.5	<0.5	<0.5	<0.5
SW-01	01/01/94	<0.5	<0.5	<0.5	<0.5	<0.5
SW-01	04/01/94	<0.5	<0.5	<0.5	<0.5	<0.5
SW-01	07/01/94	<0.5	<0.5	<0.5	<0.5	<0.5
SW-01	10/01/94	<0.5	<0.5	<0.5	0.6	0.6
SW-01	01/01/95	<0.5	<0.5	<0.5	<0.5	<0.5
SW-01	04/01/95	<0.5	<0.5	<0.5	<0.5	<0.5
SW-01	07/01/95	<0.5	<0.5	<0.5	<0.5	<0.5
SW-01	10/01/95	<0.5	<0.5	0.6	1.2	1.8
SW-01	01/01/96	0.8	4.5	1.5	8.7	15.5
SW-01	04/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
SW-01	07/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
SW-01	10/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
SW-01	02/10/97	<0.5	<0.5	<0.5	<0.5	<0.5
SW-01	12/10/97	<0.1	<0.1	<0.1	<0.1	<0.1
SW-02	09/01/91	<1	---	---	---	---
SW-02	12/01/91	<1	---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL 8020_HIST

DISSOLVED-PHASE BTEX CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylene (total) (ug/l)	BTEX (ug/l)
SW-02	04/01/92	11	12	<3	5	28
SW-02	07/01/92	7	38	<1	24	69
SW-02	10/01/92	69	37	25	61	192
SW-02	01/01/93	47	6	7	9	69
SW-02	04/01/93	<1	<1	<1	<1	<1
SW-02	01/01/95	<0.5	<0.5	<0.5	<0.5	<0.5
SW-03	07/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
SW-03	10/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
TH-21A	07/01/91	1700	---	---	---	---
TH-21A	07/19/91	---	3400	1200	---	---
TH-21A	07/30/91	---	---	---	2200	---
TH-A11	07/01/91	1100	---	---	---	---
TH-A11	07/19/91	---	1600	1100	---	---
TH-A11	07/30/91	---	---	---	800	---
TH-A11	09/01/91	1400	---	---	---	---
TH-A11	12/01/91	2900	3500	300	4000	10700
TH-A11	04/01/92	3465	3303	306	4158	11232
TH-A11	07/01/92	1258	1710	423	3416	6807
TH-A11	10/01/92	2742	2235	<3	3408	8385
UIHS_ARROYO	05/28/91	---	---	---	<10	---
UIHS_ARROYO	07/01/91	<5	---	---	---	---
UIHS_ARROYO	07/19/91	---	<5	<5	---	---
UIHS_ARROYO	09/01/91	<1	---	---	---	---
UIHS_ARROYO	12/01/91	<1	---	---	---	---
UIHS_ARROYO	04/01/92	<1	<1	<1	<1	<1
UIHS_ARROYO	07/01/92	<1	<1	<1	<1	<1
UIHS_ARROYO	10/01/92	<1	<1	<1	<1	<1
UIHS_ARROYO	01/01/93	<1	<1	<1	<1	<1
UIHS_ARROYO	04/01/93	<1	<1	---	<1	---
UIHS_ARROYO	07/01/93	<0.5	<0.5	<0.5	<0.5	<0.5
UIHS_ARROYO	10/01/93	<1	<0.5	<0.5	<0.5	<1
UIHS_ARROYO	01/01/94	<0.5	<0.5	<0.5	<0.5	<0.5
UIHS_ARROYO	04/01/94	<0.5	<0.5	<0.5	<0.5	<0.5
UIHS_ARROYO	07/01/94	<0.5	<0.5	<0.5	<0.5	<0.5

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL 8020_HIST

DISSOLVED-PHASE BTEX CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylene (total) (ug/l)	BTEX (ug/l)
UIHS_ARROYO	10/01/94	<0.5	<0.5	<0.5	0.6	0.6
UIHS_ARROYO	01/01/95	<0.5	<0.5	<0.5	<0.5	<0.5
UIHS_ARROYO	04/01/95	<0.5	<0.5	<0.5	<0.5	<0.5
UIHS_ARROYO	07/01/95	<0.5	<0.5	<0.5	<0.5	<0.5
UIHS_ARROYO	10/01/95	<0.5	<0.5	<0.5	1.2	1.2
UIHS_ARROYO	01/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
UIHS_ARROYO	04/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
UIHS_ARROYO	07/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
UIHS_ARROYO	10/01/96	<0.5	<0.5	<0.5	<0.5	<0.5
UIHS_ARROYO	02/10/97	<0.5	<0.5	<0.5	<0.5	<0.5

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL 8020_HIST

DISSOLVED-PHASE VOC CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Acetone (ug/l)	Acrolein (ug/l)	Acrylonitrile (ug/l)	Bromodichloro methane (ug/l)	Bromoform (ug/l)	Bromomethane (ug/l)	2-Butanone (ug/l)	Carbon disulfide (ug/l)
BIEBBLE	07/19/91	---	<100	<100	<5	<5	<10	---	---
LYMAN	07/19/91	---	<100	<100	<5	<5	<10	---	---
MW-043	07/18/97	<1	---	---	<1	<1	<1	<10	<1
MW-044	07/18/97	<100	---	---	<10	<10	<10	<100	<10
MW-046	05/29/97	<1000	---	---	<100	<100	<100	<1000	<100
MW-046	07/18/97	---	---	---	<1	<1	<1	---	---
MW-049	07/18/97	<10	---	---	<1	<1	<1	<10	<1
MW-050	07/18/97	<10	---	---	<1	<1	<1	<10	<1
MW-057	07/19/91	---	<100	<100	<5	<5	<10	---	---
MW-060	07/19/91	---	<100	<100	<5	<5	<10	---	---
MW-060	07/07/92	---	---	---	<1	<1	---	---	---
MW-061A	07/19/91	---	<100	<100	<5	<5	<10	---	---
MW-061A	07/07/92	---	---	---	<10	<10	---	---	---
MW-067	07/07/92	---	---	---	<10	<10	---	---	---
SW-01	07/19/91	---	<100	<100	<5	<5	<10	---	---
SW-01	12/10/97	---	---	<10	<1	<1	<1	---	---
UIHS_ARROYO	07/19/91	---	<100	<100	<5	<5	<10	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL VOC

DISSOLVED-PHASE VOC CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Carbon tetrachloride (ug/l)	Chlorobenzene (ug/l)	Chloroethane (ug/l)	2-Chloroethyl vinylether (ug/l)	Chloroform (ug/l)	Chloromethane (ug/l)	Dibromochloro methane (ug/l)	1,2-Dibromo ethane (ug/l)
BIEBBLE	07/19/91	<5	<5	---	---	<5	<10	---	---
LYMAN	07/19/91	<5	<5	---	---	<5	<10	---	---
MW-043	07/18/97	<1	<1	<1	<1	<1	<1	<1	<1
MW-044	07/18/97	<10	<10	<10	<100	<10	<10	<10	<10
MW-046	05/29/97	<100	<100	<100	<1000	<100	<100	<100	<100
MW-046	07/18/97	<1	<1	---	---	<1	<1	---	---
MW-049	07/18/97	<1	<1	<1	<10	<1	<1	<1	<1
MW-050	07/18/97	<1	<1	<1	<10	<1	<1	<1	<1
MW-057	07/19/91	<5	<5	---	---	<5	<10	---	---
MW-060	07/19/91	<5	<5	---	---	<5	<10	---	---
MW-060	07/07/92	<1	<1	---	---	<1	---	---	---
MW-061A	07/19/91	<5	<5	---	---	<5	<10	---	---
MW-061A	07/07/92	<10	<10	---	---	<10	---	---	---
MW-067	07/07/92	<10	<10	---	---	<10	---	---	---
SW-01	07/19/91	<5	<5	---	---	<5	<10	---	---
SW-01	12/10/97	<1	<1	---	---	<1	<1	---	<0.01
UIHS_ARROYO	07/19/91	<5	<5	---	---	<5	<10	---	---

Values represent total concentrations unless noted < =Not detected at indicated reporting limit --- =Not analyzed

For RCL VOC

DISSOLVED-PHASE VOC CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Dichloro difluoromethane (ug/l)	1,1-Dichloro ethane (ug/l)	1,2-Dichloro ethane (ug/l)	1,1-Dichloro ethene (ug/l)	cis-1,2-Dichloroethene (ug/l)	1,2-Dichloro benzene (ug/l)	1,3-Dichloro benzene (ug/l)	1,4-Dichloro benzene (ug/l)
BIEBBLE	07/19/91	<1	<5	<5	<5	---	---	---	---
LYMAN	07/19/91	<1	<5	<5	<5	---	---	---	---
MW-043	07/18/97	<1	<1	<1	<1	<1	<1	<1	<1
MW-044	07/18/97	<10	<10	<10	<10	<10	<10	<10	<10
MW-046	05/29/97	<100	<100	<100	<100	<100	<100	<100	<100
MW-046	07/18/97	<1	<1	<1	<1	<1	---	---	---
MW-049	07/18/97	<1	<1	<1	<1	<1	<1	<1	<1
MW-050	07/18/97	<1	<1	<1	<1	<1	<1	<1	<1
MW-057	07/19/91	<1	<5	<5	<5	---	---	---	---
MW-060	07/19/91	<1	<5	<5	<5	---	---	---	---
MW-060	07/07/92	<1	<1	<1	<1	<1	---	---	---
MW-061A	07/19/91	<1	<5	<5	<5	---	---	---	---
MW-061A	07/07/92	<10	<10	<10	<10	<10	---	---	---
MW-067	07/07/92	<10	<10	<10	<10	<10	---	---	---
SW-01	07/19/91	<1	<5	<5	<5	---	---	---	---
SW-01	12/10/97	<1	<1	<1	<1	<1	---	---	---
UIHS_ARROYO	07/19/91	<1	<5	<5	<5	---	---	---	---

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For RCL VOC

DISSOLVED-PHASE VOC CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	cis-1,3, Dichloropropene (ug/l)	Trans-1,3-Dichloropropene (ug/l)	Dichloro benzenes (ug/l)	trans-1,2-Dichloroethene (ug/l)	1,2-Dichloro propane (ug/l)	Dichloro-propenes (ug/l)	Hexachloro butadiene (ug/l)	2-Hexanone (ug/l)
BIEBBLE	07/19/91	---	---	---	<5	---	<5	---	---
LYMAN	07/19/91	---	---	---	<5	---	<5	---	---
MW-043	07/18/97	<1	<1	---	<1	<1	---	---	<1
MW-044	07/18/97	<10	<10	---	<10	<10	---	---	<100
MW-046	05/29/97	<100	<100	---	<100	<100	---	---	<1000
MW-046	07/18/97	---	---	---	<1	---	---	---	---
MW-049	07/18/97	<1	<1	---	<1	<1	---	---	<1
MW-050	07/18/97	<1	<1	---	<1	<1	---	---	<1
MW-057	07/19/91	---	---	---	<5	---	<5	---	---
MW-060	07/19/91	---	---	---	<5	---	<5	---	---
MW-060	07/07/92	---	---	<1	<1	---	<1	<1	---
MW-061A	07/19/91	---	---	---	<5	---	<5	---	---
MW-061A	07/07/92	---	---	<10	<10	---	<10	<10	---
MW-067	07/07/92	---	---	<10	<10	---	<10	<10	---
SW-01	07/19/91	---	---	---	<5	---	<5	---	---
SW-01	12/10/97	---	---	<1	<1	---	<1	<1	---
UIHS_ARROYO	07/19/91	---	---	---	<5	---	<5	---	---

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For RCL VOC

DISSOLVED-PHASE VOC CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Iodomethane (ug/l)	4-Methyl 2-pentanone (ug/l)	Methylene chloride (ug/l)	Styrene (ug/l)	1,1,2,2-Tetra chloroethane (ug/l)	Tetrachloro ethene (ug/l)	1,1,1-Trichloro ethane (ug/l)	1,1,2-Trichloro ethane (ug/l)
BIEBBLE	07/19/91	---	---	<5	---	<5	<5	<5	<5
LYMAN	07/19/91	---	---	<5	---	<5	<5	<5	<5
MW-043	07/18/97	<1	<1	<1	<1	<1	<1	<1	<1
MW-044	07/18/97	<10	<100	<10	<10	<10	<10	<10	<10
MW-046	05/29/97	<100	<1000	<100	<100	<100	<100	<100	<100
MW-046	07/18/97	---	---	<1	---	<1	<1	<1	<1
MW-049	07/18/97	<1	<10	<1	<1	<1	<1	<1	<1
MW-050	07/18/97	<1	<10	<1	<1	<1	<1	<1	<1
MW-057	07/19/91	---	---	<5	---	<5	<5	<5	<5
MW-060	07/19/91	---	---	<5	---	<5	<5	<5	<5
MW-060	07/07/92	---	---	<1	---	<1	<1	<1	<1
MW-061A	07/19/91	---	---	<5	---	<5	<5	<5	<5
MW-061A	07/07/92	---	---	<10	---	<10	<10	<10	<10
MW-067	07/07/92	---	---	<10	---	<10	<10	<10	<10
SW-01	07/19/91	---	---	<5	---	<5	<5	<5	<5
SW-01	12/10/97	---	---	<2	---	<1	<0.5	<1	<1
UIHS_ARROYO	07/19/91	---	---	<5	---	<5	<5	<5	<5

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For RCL VOC

DISSOLVED-PHASE VOC CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Trichloroethene (ug/l)	Trichloro fluoromethane (ug/l)	Vinyl acetate (ug/l)	Vinyl chloride (ug/l)	Aldrin (ug/l)	alpha-BHC (ug/l)	beta-BHC (ug/l)	delta-BHC (ug/l)
BIEBBLE	07/19/91	<5	---	---	<10	---	---	---	---
LYMAN	07/19/91	<5	---	---	<10	---	---	---	---
MW-043	07/18/97	<1	<1	<1	<1	---	---	---	---
MW-044	07/18/97	<10	<10	<10	<10	---	---	---	---
MW-046	05/29/97	<100	<100	<100	<100	---	---	---	---
MW-046	07/18/97	<1	---	---	<1	---	---	---	---
MW-049	07/18/97	<1	<1	<1	<1	---	---	---	---
MW-050	07/18/97	<1	<1	<1	<1	---	---	---	---
MW-057	07/19/91	<5	---	---	<10	---	---	---	---
MW-060	07/19/91	<5	---	---	<10	<14	<14	<14	<14
MW-060	07/07/92	<1	---	---	<1	---	---	---	---
MW-061A	07/19/91	<5	---	---	<10	---	---	---	---
MW-061A	07/07/92	<10	---	---	<10	---	---	---	---
MW-067	07/07/92	<10	---	---	<10	---	---	---	---
SW-01	07/19/91	<5	---	---	<10	---	---	---	---
SW-01	12/10/97	<1	---	---	<1	<0.05	<0.05	<0.05	<0.05
UIHS_ARROYO	07/19/91	<5	---	---	<10	---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL VOC

DISSOLVED-PHASE VOC CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Chlordane (ug/l)	4,4'-DDT (ug/l)	Dieldrin (ug/l)	Endosulfan I (ug/l)	Endosulfan II (ug/l)	Endosulfan sulfate (ug/l)	Endrin (ug/l)	Heptachlor (ug/l)
BIEBBLE	07/19/91	---	---	---	---	---	---	---	---
LYMAN	07/19/91	---	---	---	---	---	---	---	---
MW-043	07/18/97	---	---	---	---	---	---	---	---
MW-044	07/18/97	---	---	---	---	---	---	---	---
MW-046	05/29/97	---	---	---	---	---	---	---	---
MW-046	07/18/97	---	---	---	---	---	---	---	---
MW-049	07/18/97	---	---	---	---	---	---	---	---
MW-050	07/18/97	---	---	---	---	---	---	---	---
MW-057	07/19/91	---	---	---	---	---	---	---	---
MW-060	07/19/91	<14	<14	<14	<14	<14	<14	<14	<14
MW-060	07/07/92	---	---	---	---	---	---	---	---
MW-061A	07/19/91	---	---	---	---	---	---	---	---
MW-061A	07/07/92	---	---	---	---	---	---	---	---
MW-067	07/07/92	---	---	---	---	---	---	---	---
SW-01	07/19/91	---	---	---	---	---	---	---	---
SW-01	12/10/97	<0.5	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.05
UIHS_ARROYO	07/19/91	---	---	---	---	---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL VOC

DISSOLVED-PHASE VOC CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Lindane (ug/l)	Toxaphene (ug/l)
BIEBBLE	07/19/91	---	---
LYMAN	07/19/91	---	---
MW-043	07/18/97	---	---
MW-044	07/18/97	---	---
MW-046	05/29/97	---	---
MW-046	07/18/97	---	---
MW-049	07/18/97	---	---
MW-050	07/18/97	---	---
MW-057	07/19/91	---	---
MW-060	07/19/91	<14	<14
MW-060	07/07/92	---	---
MW-061A	07/19/91	---	---
MW-061A	07/07/92	---	---
MW-067	07/07/92	---	---
SW-01	07/19/91	---	---
SW-01	12/10/97	<0.05	<3.0
UIHS_ARROYO	07/19/91	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL VOC

DISSOLVED-PHASE SVOC CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Acenaphthene (ug/l)	Acenaphthylene (ug/l)	Anthracene (ug/l)	Benzidine (ug/l)	Benzo(a) anthracene (ug/l)	Benzo(a)pyrene (ug/l)	Benzo(b) fluoranthene (ug/l)	Benzo(g,h,i) perylene (ug/l)
IW-02	08/22/96	<1	---	<1	---	<1	<1	<1	<1
MW-010	09/21/91	---	---	---	---	---	---	---	---
MW-010	09/25/91	---	---	---	---	---	---	---	---
MW-013	09/21/91	---	---	---	---	---	---	---	---
MW-013	09/25/91	---	---	---	---	---	---	---	---
MW-013	03/21/97	---	---	---	---	---	---	---	---
MW-019	09/21/91	---	---	---	---	---	---	---	---
MW-019	09/25/91	---	---	---	---	---	---	---	---
MW-039	07/18/97	<1	<1	<1	---	<1	<1	<1	<1
MW-041	03/20/97	---	---	---	---	---	---	---	---
MW-041	07/18/97	<1	<1	<1	---	<1	<1	<1	<1
MW-043	09/19/91	---	---	---	---	---	---	---	---
MW-043	09/25/91	---	---	---	---	---	---	---	---
MW-043	07/18/97	<1	<1	<1	---	<1	<1	<1	<1
MW-045	09/21/91	---	---	---	---	---	---	---	---
MW-045	09/24/91	---	---	---	---	---	---	---	---
MW-046	05/29/97	58	<1	<1	---	13	5	6	<1
MW-049	03/20/97	---	---	---	---	---	---	---	---
MW-049	07/18/97	<1	<1	<1	---	<1	<1	<1	<1
MW-050	03/20/97	---	---	---	---	---	---	---	---
MW-050	07/18/97	<1	<1	<1	---	<1	<1	<1	<1
MW-054	07/16/97	<1	<1	<1	---	<1	<1	<1	<1
MW-055	07/16/97	<1	<1	<1	---	<1	<1	<1	<1
MW-056	09/21/91	---	---	---	---	---	---	---	---
MW-056	09/25/91	---	---	---	---	---	---	---	---
MW-056	03/20/97	---	---	---	---	---	---	---	---
MW-060	07/01/91	---	---	---	---	---	---	---	---

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For RCL SVOC

DISSOLVED-PHASE SVOC CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Benzo(k)fluoranthene (ug/l)	Bis(2-chloroethyl)ether (ug/l)	Bis(2-chloroisopropyl)ether (ug/l)	Bis(2-ethylhexyl)phthalate (BEHP) (ug/l)	Chrysene (ug/l)	Di-n-butyl phthalate (ug/l)	Dibenzo(a,h)anthracene (ug/l)	3,3-Dichlorobenzidine (ug/l)
IW-02	08/22/96	<1	---	---	---	<1	---	<1	---
MW-010	09/21/91	---	---	---	---	---	---	---	---
MW-010	09/25/91	---	---	---	---	---	---	---	---
MW-013	09/21/91	---	---	---	---	---	---	---	---
MW-013	09/25/91	---	---	---	---	---	---	---	---
MW-013	03/21/97	---	---	---	---	---	---	---	---
MW-019	09/21/91	---	---	---	---	---	---	---	---
MW-019	09/25/91	---	---	---	---	---	---	---	---
MW-039	07/18/97	<1	---	---	---	<1	---	<1	---
MW-041	03/20/97	---	---	---	---	---	---	---	---
MW-041	07/18/97	<1	---	---	---	<1	---	<1	---
MW-043	09/19/91	---	---	---	---	---	---	---	---
MW-043	09/25/91	---	---	---	---	---	---	---	---
MW-043	07/18/97	<1	---	---	---	<1	---	<1	---
MW-045	09/21/91	---	---	---	---	---	---	---	---
MW-045	09/24/91	---	---	---	---	---	---	---	---
MW-046	05/29/97	8	---	---	---	22	---	16	---
MW-049	03/20/97	---	---	---	---	---	---	---	---
MW-049	07/18/97	<1	---	---	---	<1	---	<1	---
MW-050	03/20/97	---	---	---	---	---	---	---	---
MW-050	07/18/97	<1	---	---	---	<1	---	<1	---
MW-054	07/16/97	<1	---	---	---	<1	---	<1	---
MW-055	07/16/97	<1	---	---	---	<1	---	<1	---
MW-056	09/21/91	---	---	---	---	---	---	---	---
MW-056	09/25/91	---	---	---	---	---	---	---	---
MW-056	03/20/97	---	---	---	---	---	---	---	---
MW-060	07/01/91	---	---	---	---	---	---	---	---

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For RCL SVOC

DISSOLVED-PHASE SVOC CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	2,4-Dichloro phenol (ug/l)	Diethyl phthalate (ug/l)	Dimethyl phthalate (ug/l)	2,4-Dinitro toluene (ug/l)	Diphenyl hydrazine (ug/l)	Fluoranthene (ug/l)	Fluorene (ug/l)	Hexachloro benzene (ug/l)
IW-02	08/22/96	---	---	---	---	---	<1	<1	---
MW-010	09/21/91	---	---	---	---	---	---	---	---
MW-010	09/25/91	---	---	---	---	---	---	---	---
MW-013	09/21/91	---	---	---	---	---	---	---	---
MW-013	09/25/91	---	---	---	---	---	---	---	---
MW-013	03/21/97	---	---	---	---	---	---	---	---
MW-019	09/21/91	---	---	---	---	---	---	---	---
MW-019	09/25/91	---	---	---	---	---	---	---	---
MW-039	07/18/97	---	---	---	---	---	<1	<1	---
MW-041	03/20/97	---	---	---	---	---	---	---	---
MW-041	07/18/97	---	---	---	---	---	<1	<1	---
MW-043	09/19/91	---	---	---	---	---	---	---	---
MW-043	09/25/91	---	---	---	---	---	---	---	---
MW-043	07/18/97	---	---	---	---	---	<1	<1	---
MW-045	09/21/91	---	---	---	---	---	---	---	---
MW-045	09/24/91	---	---	---	---	---	---	---	---
MW-046	05/29/97	---	---	---	---	---	<1	<1	---
MW-049	03/20/97	---	---	---	---	---	---	---	---
MW-049	07/18/97	---	---	---	---	---	<1	<1	---
MW-050	03/20/97	---	---	---	---	---	---	---	---
MW-050	07/18/97	---	---	---	---	---	<1	<1	---
MW-054	07/16/97	---	---	---	---	---	<1	<1	---
MW-055	07/16/97	---	---	---	---	---	<1	<1	---
MW-056	09/21/91	---	---	---	---	---	---	---	---
MW-056	09/25/91	---	---	---	---	---	---	---	---
MW-056	03/20/97	---	---	---	---	---	---	---	---
MW-060	07/01/91	---	---	---	---	---	---	---	---

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For RCL SVOC

DISSOLVED-PHASE SVOC CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Hexachloro cyclopentadiene (ug/l)	Indeno (1,2,3-cd) pyrene (ug/l)	Isophorone (ug/l)	1-Methyl naphthalene (ug/l)	2-Methyl naphthalene (ug/l)	Naphthalene (ug/l)	Nitrobenzene (ug/l)	o-Nitrophenol (ug/l)
IW-02	08/22/96	---	<1	---	<1	<1	<1	---	---
MW-010	09/21/91	---	---	---	---	---	<50	---	---
MW-010	09/25/91	---	---	---	---	---	---	---	---
MW-013	09/21/91	---	---	---	---	---	<50	---	---
MW-013	09/25/91	---	---	---	---	---	---	---	---
MW-013	03/21/97	---	---	---	---	---	---	---	---
MW-019	09/21/91	---	---	---	---	---	<50	---	---
MW-019	09/25/91	---	---	---	---	---	---	---	---
MW-039	07/18/97	---	<1	---	<1	<1	<1	---	---
MW-041	03/20/97	---	---	---	---	---	---	---	---
MW-041	07/18/97	---	<1	---	<1	<1	<1	---	---
MW-043	09/19/91	---	---	---	---	---	<5	---	---
MW-043	09/25/91	---	---	---	---	---	---	---	---
MW-043	07/18/97	---	<1	---	<1	<1	<1	---	---
MW-045	09/21/91	---	---	---	---	---	---	---	---
MW-045	09/24/91	---	---	---	---	---	<5	---	---
MW-046	05/29/97	---	2	---	31	29	5	---	---
MW-049	03/20/97	---	---	---	---	---	---	---	---
MW-049	07/18/97	---	<1	---	<1	<1	<1	---	---
MW-050	03/20/97	---	---	---	---	---	---	---	---
MW-050	07/18/97	---	<1	---	<1	<1	<1	---	---
MW-054	07/16/97	---	<1	---	<1	<1	<1	---	---
MW-055	07/16/97	---	<1	---	<1	<1	12	---	---
MW-056	09/21/91	---	---	---	---	---	---	---	---
MW-056	09/25/91	---	---	---	---	---	<25	---	---
MW-056	03/20/97	---	---	---	---	---	---	---	---
MW-060	07/01/91	---	---	---	---	---	---	---	---

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For RCL SVOC

DISSOLVED-PHASE SVOC CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	N-Nitroso dimethylamine (ug/l)	N-Nitroso diphenylamine (ug/l)	Pentachloro phenol (ug/l)	Phenanthrene (ug/l)	Phenol (ug/l)	Pyrene (ug/l)	2,4,6-Trichloro phenol (ug/l)
IW-02	08/22/96	---	---	---	<1	---	<1	---
MW-010	09/21/91	---	---	---	---	70	---	---
MW-010	09/25/91	---	---	---	---	480	---	---
MW-013	09/21/91	---	---	---	---	60	---	---
MW-013	09/25/91	---	---	---	---	120	---	---
MW-013	03/21/97	---	---	---	---	<6	---	---
MW-019	09/21/91	---	---	---	---	<50	---	---
MW-019	09/25/91	---	---	---	---	550	---	---
MW-039	07/18/97	---	---	---	<1	---	<1	---
MW-041	03/20/97	---	---	---	---	<3	---	---
MW-041	07/18/97	---	---	---	<1	---	<1	---
MW-043	09/19/91	---	---	---	---	<50	---	---
MW-043	09/25/91	---	---	---	---	<50	---	---
MW-043	07/18/97	---	---	---	<1	---	<1	---
MW-045	09/21/91	---	---	---	---	<50	---	---
MW-045	09/24/91	---	---	---	---	<50	---	---
MW-046	05/29/97	---	---	---	3	---	<1	---
MW-049	03/20/97	---	---	---	---	<3	---	---
MW-049	07/18/97	---	---	---	<1	---	<1	---
MW-050	03/20/97	---	---	---	---	<3	---	---
MW-050	07/18/97	---	---	---	<1	---	<1	---
MW-054	07/16/97	---	---	---	<1	---	<1	---
MW-055	07/16/97	---	---	---	<1	---	<1	---
MW-056	09/21/91	---	---	---	---	<50	---	---
MW-056	09/25/91	---	---	---	---	<50	---	---
MW-056	03/20/97	---	---	---	---	<3	---	---
MW-060	07/01/91	---	---	---	---	<14.0	---	---

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For RCL SVOC

DISSOLVED-PHASE SVOC CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Acenaphthene (ug/l)	Acenaphthylene (ug/l)	Anthracene (ug/l)	Benzidine (ug/l)	Benzo(a) anthracene (ug/l)	Benzo(a)pyrene (ug/l)	Benzo(b) fluoranthene (ug/l)	Benzo(g,h,i) perylene (ug/l)
MW-060	07/19/91	<10	---	<10	<14	<10	<10	<10	<10
MW-060	07/07/92	---	---	---	---	---	---	---	---
MW-060	03/19/97	---	---	---	---	---	---	---	---
MW-061A	09/27/91	---	---	---	---	---	---	---	---
MW-061A	07/07/92	---	---	---	---	---	---	---	---
MW-061A	02/06/97	<1	<1	<1	---	<1	<1	<1	1
MW-062	09/26/91	---	---	---	---	---	---	---	---
MW-067	07/07/92	---	---	---	---	---	---	---	---
MW-069	07/18/97	<1	<1	<1	---	<1	<1	<1	<1
MW-074	07/18/97	<1	2.5	<1	---	1.5	<1	<1	<1
MW-079	07/17/97	<1	<1	<1	---	<1	<1	<1	<1
MW-087	08/22/96	<1	---	<1	---	<1	<1	<1	<1
MW-087	02/09/97	<1	<1	<1	---	<1	<1	<1	<1
MW-087A	02/09/97	19	<1	<1	---	<1	<1	<1	<1
MW-088	08/22/96	<1	---	<1	---	<1	<1	<1	<1
MW-088	02/05/97	<1	<1	<1	---	<1	<1	<1	<1
MW-089	08/22/96	<1	---	<1	---	<1	<1	<1	<1
MW-089	02/05/97	<1	<1	<1	---	<1	<1	<1	<1
MW-090	02/10/97	<1	<1	<1	---	<1	<1	<1	<1
MW-091	02/11/97	2	<1	<1	---	<1	<1	<1	<1
MW-095	04/30/97	<1	<1	<1	---	<1	<1	<1	<1
MW-096	04/30/97	<1	<1	<1	---	<1	<1	<1	<1
MW-097	04/30/97	<1	<1	<1	---	<1	<1	<1	<1
MW-098	04/30/97	<1	<1	<1	---	<1	<1	<1	<1
MW-104	07/17/97	<1	<1	<1	---	<1	<1	<1	<1
MW-106	02/11/97	<1	<1	<1	---	<1	<1	<1	<1
MW-108	07/18/97	<1	<1	<1	---	<1	<1	<1	<1

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For RCL SVOC

DISSOLVED-PHASE SVOC CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Benzo(k)fluoranthene (ug/l)	Bis(2-chloroethyl)ether (ug/l)	Bis(2-chloroisopropyl)ether (ug/l)	Bis(2-ethylhexyl)phthalate (BEHP) (ug/l)	Chrysene (ug/l)	Di-n-butyl phthalate (ug/l)	Dibenzo(a,h)anthracene (ug/l)	3,3-Dichlorobenzidine (ug/l)
MW-060	07/19/91	<10	<14	<14	<14	<10	<14	<10	<29
MW-060	07/07/92	---	---	---	---	---	---	---	---
MW-060	03/19/97	---	---	---	---	---	---	---	---
MW-061A	09/27/91	---	---	---	---	---	---	---	---
MW-061A	07/07/92	---	---	---	---	---	---	---	---
MW-061A	02/06/97	<1	---	---	---	<1	---	<1	---
MW-062	09/26/91	---	---	---	---	---	---	---	---
MW-067	07/07/92	---	---	---	---	---	---	---	---
MW-069	07/18/97	<1	---	---	---	<1	---	<1	---
MW-074	07/18/97	<1	---	---	---	<1	---	<1	---
MW-079	07/17/97	<1	---	---	---	<1	---	<1	---
MW-087	08/22/96	<1	---	---	---	<1	---	<1	---
MW-087	02/09/97	<1	---	---	---	<1	---	<1	---
MW-087A	02/09/97	<1	---	---	---	<1	---	<1	---
MW-088	08/22/96	<1	---	---	---	<1	---	<1	---
MW-088	02/05/97	<1	---	---	---	<1	---	<1	---
MW-089	08/22/96	<1	---	---	---	<1	---	<1	---
MW-089	02/05/97	<1	---	---	---	<1	---	<1	---
MW-090	02/10/97	<1	---	---	---	<1	---	<1	---
MW-091	02/11/97	<1	---	---	---	<1	---	<1	---
MW-095	04/30/97	<1	---	---	---	<1	---	<1	---
MW-096	04/30/97	<1	---	---	---	<1	---	<1	---
MW-097	04/30/97	<1	---	---	---	<1	---	<1	---
MW-098	04/30/97	<1	---	---	---	<1	---	<1	---
MW-104	07/17/97	<1	---	---	---	<1	---	<1	---
MW-106	02/11/97	<1	---	---	---	<1	---	<1	---
MW-108	07/18/97	<1	---	---	---	<1	---	<1	---

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For RCL SVOC

DISSOLVED-PHASE SVOC CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	2,4-Dichloro phenol (ug/l)	Diethyl phthalate (ug/l)	Dimethyl phthalate (ug/l)	2,4-Dinitro toluene (ug/l)	Diphenyl hydrazine (ug/l)	Fluoranthene (ug/l)	Fluorene (ug/l)	Hexachloro benzene (ug/l)
MW-060	07/19/91	<14	<14	<14	<71	<14	<10	<10	<14
MW-060	07/07/92	---	---	---	---	---	---	---	---
MW-060	03/19/97	---	---	---	---	---	---	---	---
MW-061A	09/27/91	---	---	---	---	---	---	---	---
MW-061A	07/07/92	---	---	---	---	---	---	---	---
MW-061A	02/06/97	---	---	---	---	---	<1	1	---
MW-062	09/26/91	---	---	---	---	---	---	---	---
MW-067	07/07/92	---	---	---	---	---	---	---	---
MW-069	07/18/97	---	---	---	---	---	<1	<1	---
MW-074	07/18/97	---	---	---	---	---	23	3.8	---
MW-079	07/17/97	---	---	---	---	---	<1	<1	---
MW-087	08/22/96	---	---	---	---	---	<1	<1	---
MW-087	02/09/97	---	---	---	---	---	<1	<1	---
MW-087A	02/09/97	---	---	---	---	---	<1	<1	---
MW-088	08/22/96	---	---	---	---	---	<1	<1	---
MW-088	02/05/97	---	---	---	---	---	<1	1	---
MW-089	08/22/96	---	---	---	---	---	<1	1	---
MW-089	02/05/97	---	---	---	---	---	<1	1	---
MW-090	02/10/97	---	---	---	---	---	<1	1	---
MW-091	02/11/97	---	---	---	---	---	<1	1	---
MW-095	04/30/97	---	---	---	---	---	<1	<1	---
MW-096	04/30/97	---	---	---	---	---	<1	<1	---
MW-097	04/30/97	---	---	---	---	---	<1	<1	---
MW-098	04/30/97	---	---	---	---	---	<1	<1	---
MW-104	07/17/97	---	---	---	---	---	<1	<1	---
MW-106	02/11/97	---	---	---	---	---	<1	1	---
MW-108	07/18/97	---	---	---	---	---	<1	<1	---

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For RCL SVOC

DISSOLVED-PHASE SVOC CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Hexachloro cyclopentadiene (ug/l)	Indeno (1,2,3-cd) pyrene (ug/l)	Isophorone (ug/l)	1-Methyl naphthalene (ug/l)	2-Methyl naphthalene (ug/l)	Naphthalene (ug/l)	Nitrobenzene (ug/l)	o-Nitrophenol (ug/l)
MW-060	07/19/91	<14	<10	<14	---	---	<10	<14	<71
MW-060	07/07/92	---	---	---	<1.0	<1.0	1.8	---	---
MW-060	03/19/97	---	---	---	---	---	---	---	---
MW-061A	09/27/91	---	---	---	---	---	<5	---	---
MW-061A	07/07/92	---	---	---	<10	<10	27.3	---	---
MW-061A	02/06/97	---	<1	---	<1	<1	<1	---	---
MW-062	09/26/91	---	---	---	---	---	<25	---	---
MW-067	07/07/92	---	---	---	<10	<10	<10	---	---
MW-069	07/18/97	---	<1	---	<1	<1	<1	---	---
MW-074	07/18/97	---	<1	---	<1	<1	8.4	---	---
MW-079	07/17/97	---	<1	---	<1	<1	<1	---	---
MW-087	08/22/96	---	<1	---	<1	<1	<1	---	---
MW-087	02/09/97	---	<1	---	<1	<1	<1	---	---
MW-087A	02/09/97	---	<1	---	<1	<1	<1	---	---
MW-088	08/22/96	---	<1	---	<1	<1	<1	---	---
MW-088	02/05/97	---	<1	---	<1	<1	1	---	---
MW-089	08/22/96	---	<1	---	<1	<1	<1	---	---
MW-089	02/05/97	---	<1	---	<1	<1	<1	---	---
MW-090	02/10/97	---	<1	---	<1	<1	<1	---	---
MW-091	02/11/97	---	<1	---	5	2	2	---	---
MW-095	04/30/97	---	<1	---	<1	<1	<1	---	---
MW-096	04/30/97	---	<1	---	<1	<1	<1	---	---
MW-097	04/30/97	---	<1	---	<1	<1	<1	---	---
MW-098	04/30/97	---	<1	---	<1	<1	<1	---	---
MW-104	07/17/97	---	<1	---	<1	<1	<1	---	---
MW-106	02/11/97	---	<1	---	<1	<1	<1	---	---
MW-108	07/18/97	---	<1	---	<1	<1	<1	---	---

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For RCL SVOC

DISSOLVED-PHASE SVOC CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	N-Nitroso dimethylamine (ug/l)	N-Nitroso diphenylamine (ug/l)	Pentachloro phenol (ug/l)	Phenanthrene (ug/l)	Phenol (ug/l)	Pyrene (ug/l)	2,4,6-Trichloro phenol (ug/l)
MW-060	07/19/91	<14	<14	<71	<10	---	<10	<14
MW-060	07/07/92	---	---	---	---	---	---	---
MW-060	03/19/97	---	---	---	---	<4	---	---
MW-061A	09/27/91	---	---	---	---	<50	---	---
MW-061A	07/07/92	---	---	---	---	---	---	---
MW-061A	02/06/97	---	---	---	<1	---	<1	---
MW-062	09/26/91	---	---	---	---	<50	---	---
MW-067	07/07/92	---	---	---	---	---	---	---
MW-069	07/18/97	---	---	---	<1	---	<1	---
MW-074	07/18/97	---	---	---	5.6	---	12	---
MW-079	07/17/97	---	---	---	<1	---	<1	---
MW-087	08/22/96	---	---	---	<1	---	<1	---
MW-087	02/09/97	---	---	---	<1	---	<1	---
MW-087A	02/09/97	---	---	---	<1	---	<1	---
MW-088	08/22/96	---	---	---	<1	---	<1	---
MW-088	02/05/97	---	---	---	<1	---	<1	---
MW-089	08/22/96	---	---	---	<1	---	<1	---
MW-089	02/05/97	---	---	---	<1	---	<1	---
MW-090	02/10/97	---	---	---	<1	---	<1	---
MW-091	02/11/97	---	---	---	<1	---	<1	---
MW-095	04/30/97	---	---	---	<1	---	<1	---
MW-096	04/30/97	---	---	---	<1	---	<1	---
MW-097	04/30/97	---	---	---	<1	---	<1	---
MW-098	04/30/97	---	---	---	<1	---	<1	---
MW-104	07/17/97	---	---	---	<1	---	<1	---
MW-106	02/11/97	---	---	---	<1	---	<1	---
MW-108	07/18/97	---	---	---	<1	---	<1	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL SVOC

DISSOLVED-PHASE SVOC CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Acenaphthene (ug/l)	Acenaphthylene (ug/l)	Anthracene (ug/l)	Benzidine (ug/l)	Benzo(a) anthracene (ug/l)	Benzo(a)pyrene (ug/l)	Benzo(b) fluoranthene (ug/l)	Benzo(g,h,i) perylene (ug/l)
PIPELINE_4	08/02/91	<10	---	<10	---	<10	<10	<10	<10
SUMP-16A	09/21/91	---	---	---	---	---	---	---	---
SUMP-16A	09/26/91	---	---	---	---	---	---	---	---
SW-01	12/10/97	3	<1	<1	---	<1	<0.7	<1	<1
TH-A11	09/21/91	---	---	---	---	---	---	---	---

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For RCL SVOC

DISSOLVED-PHASE SVOC CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Benzo(k)fluor anthene (ug/l)	Bis(2-chloro ethyl)ether (ug/l)	Bis(2-chloroiso propyl)ether (ug/l)	Bis(2-ethyl hexyl)phthalate (BEHP) (ug/l)	Chrysene (ug/l)	Di-n-butyl phthalate (ug/l)	Dibenzo(a,h) anthracene (ug/l)	3,3-Dichloro benzidine (ug/l)
PIPELINE_4	08/02/91	<10	---	---	---	<10	---	<10	---
SUMP-16A	09/21/91	---	---	---	---	---	---	---	---
SUMP-16A	09/26/91	---	---	---	---	---	---	---	---
SW-01	12/10/97	<1	---	---	---	<1	---	<1	---
TH-A11	09/21/91	---	---	---	---	---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL SVOC

DISSOLVED-PHASE SVOC CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	2,4-Dichloro phenol (ug/l)	Diethyl phthalate (ug/l)	Dimethyl phthalate (ug/l)	2,4-Dinitro toluene (ug/l)	Diphenyl hydrazine (ug/l)	Fluoranthene (ug/l)	Fluorene (ug/l)	Hexachloro benzene (ug/l)
PIPELINE_4	08/02/91	---	---	---	---	---	<10	<10	---
SUMP-16A	09/21/91	---	---	---	---	---	---	---	---
SUMP-16A	09/26/91	---	---	---	---	---	---	---	---
SW-01	12/10/97	---	---	---	---	---	<1	<1	---
TH-A11	09/21/91	---	---	---	---	---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL SVOC

DISSOLVED-PHASE SVOC CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Hexachloro cyclopentadiene (ug/l)	Indeno (1,2,3-cd) pyrene (ug/l)	Isophorone (ug/l)	1-Methyl naphthalene (ug/l)	2-Methyl naphthalene (ug/l)	Naphthalene (ug/l)	Nitrobenzene (ug/l)	o-Nitrophenol (ug/l)
PIPELINE_4	08/02/91	---	<10	---	---	---	<10	---	---
SUMP-16A	09/21/91	---	---	---	---	---	<5	---	---
SUMP-16A	09/26/91	---	---	---	---	---	---	---	---
SW-01	12/10/97	---	<1	---	<1	<1	<1	---	---
TH-A11	09/21/91	---	---	---	---	---	<10	---	---

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For RCL SVOC

DISSOLVED-PHASE SVOC CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	N-Nitroso dimethylamine (ug/l)	N-Nitroso diphenylamine (ug/l)	Pentachloro phenol (ug/l)	Phenanthrene (ug/l)	Phenol (ug/l)	Pyrene (ug/l)	2,4,6-Trichloro phenol (ug/l)
PIPELINE_4	08/02/91	---	---	---	<10	---	<10	---
SUMP-16A	09/21/91	---	---	---	---	<50	---	---
SUMP-16A	09/26/91	---	---	---	---	<50	---	---
SW-01	12/10/97	---	---	---	<1	<5	<1	---
TH-A11	09/21/91	---	---	---	---	<50	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL SVOC

DISSOLVED-PHASE PCB CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Aroclor 1260 (ug/l)	Aroclor 1254 (ug/l)	Aroclor 1221 (ug/l)	Aroclor 1232 (ug/l)	Aroclor 1248 (ug/l)	Aroclor 1016 (ug/l)	Aroclor 1242 (ug/l)
MW-060	07/19/91	<14	<14	<14	<14	<14	<14	<14
SW-01	12/10/97	<1	<1	<1	<1	<1	<1	<1

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL 8270-97

DISSOLVED-PHASE METAL CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Aluminum (mg/l)	Arsenic (mg/l)	Barium (mg/l)	Boron (mg/l)	Cadmium (mg/l)	Calcium (mg/l)	Chromium (mg/l)	Cobalt (mg/l)
BIEBBLE	07/01/91	---	---	0.03	---	---	---	---	---
BIEBBLE	07/19/91	---	---	---	---	---	---	---	---
BIEBBLE	07/29/91	0.16	<0.005	---	<0.05	<0.001	---	<0.02	<0.05
LYMAN	07/01/91	---	---	0.02	---	---	---	---	---
MW-010	09/01/91	---	---	0.97	---	---	---	---	---
MW-013	09/01/91	---	---	0.74	---	---	---	---	---
MW-013	09/27/91	---	0.01	0.65	---	---	---	---	---
MW-013	03/21/97	---	---	0.37	---	---	---	---	---
MW-019	05/01/91	---	---	---	---	---	---	---	---
MW-019	09/01/91	---	---	1.8	---	---	---	---	---
MW-038	05/01/91	---	---	---	---	---	---	---	---
MW-041	06/01/91	---	---	---	---	---	---	---	---
MW-041	03/20/97	---	---	0.37	---	---	---	---	---
MW-043	06/01/91	---	---	---	---	---	---	---	---
MW-043	09/01/91	---	---	0.15	---	---	---	---	---
MW-043	09/19/91	---	---	0.16	---	---	---	---	---
MW-043	09/27/91	---	---	---	---	---	---	---	---
MW-044	06/01/91	---	---	---	---	---	---	---	---
MW-045	06/01/91	---	---	---	---	---	---	---	---
MW-045	09/24/91	---	---	0.07	---	---	---	---	---
MW-045	09/27/91	---	---	---	---	---	---	---	---
MW-046	06/01/91	---	---	---	---	---	---	---	---
MW-046	05/29/97	2.6	0.006	0.33	0.22	<0.001	140	0.007	<0.005
MW-047	06/01/91	---	---	---	---	---	---	---	---
MW-049	06/01/91	---	---	---	---	---	---	---	---
MW-049	09/27/91	---	---	---	---	---	---	---	---
MW-049	03/20/97	---	---	0.07	---	---	---	---	---

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For RCL METALS

DISSOLVED-PHASE METAL CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Copper (mg/l)	Iron (mg/l)	Lead (mg/l)	Magnesium (mg/l)	Manganese (mg/l)	Mercury (mg/l)	Molybdenum (mg/l)	Nickel (mg/l)
BIEBBLE	07/01/91	---	<0.05	---	---	<0.01	---	---	---
BIEBBLE	07/19/91	---	---	---	---	---	<0.001	---	---
BIEBBLE	07/29/91	<0.02	---	0.003	---	---	---	<0.05	<0.05
LYMAN	07/01/91	---	<0.05	---	---	<0.01	---	---	---
MW-010	09/01/91	---	6.99	---	---	0.44	---	---	---
MW-013	09/01/91	---	7.02	---	---	0.36	---	---	---
MW-013	09/27/91	---	6.25	---	---	0.31	<0.0003	---	---
MW-013	03/21/97	---	29	---	---	0.48	---	---	---
MW-019	05/01/91	---	45.4	---	---	2.24	---	---	---
MW-019	09/01/91	---	1.39	---	---	0.2	---	---	---
MW-038	05/01/91	---	0.08	---	---	0.15	---	---	---
MW-041	06/01/91	---	4	---	---	0.53	---	---	---
MW-041	03/20/97	---	0.69	---	---	0.11	---	---	---
MW-043	06/01/91	---	9.65	---	---	2.7	---	---	---
MW-043	09/01/91	---	4.04	---	---	0.43	---	---	---
MW-043	09/19/91	---	3.29	---	---	0.32	---	---	---
MW-043	09/27/91	---	---	---	---	---	---	---	---
MW-044	06/01/91	---	9.28	---	---	1.14	---	---	---
MW-045	06/01/91	---	40.1	---	---	1.4	---	---	---
MW-045	09/24/91	---	54	---	---	2.03	---	---	---
MW-045	09/27/91	---	---	---	---	---	---	---	---
MW-046	06/01/91	---	1.14	---	---	0.71	---	---	---
MW-046	05/29/97	0.013	3.9	<0.003	140	0.16	<0.0002	<0.005	0.009
MW-047	06/01/91	---	0.16	---	---	0.64	---	---	---
MW-049	06/01/91	---	2.5	---	---	7.78	---	---	---
MW-049	09/27/91	---	---	---	---	---	---	---	---
MW-049	03/20/97	---	6.8	---	---	0.33	---	---	---

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For RO METALS

DISSOLVED-PHASE METAL CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Potassium (mg/l)	Radium 226,228 (pCi/l)	Selenium (mg/l)	Silicon (mg/l)	Silver (mg/l)	Sodium (mg/l)	Uranium (pCi/l)	Zinc (mg/l)
BIEBBLE	07/01/91	---	---	---	---	---	---	---	---
BIEBBLE	07/19/91	---	---	---	---	---	---	---	---
BIEBBLE	07/29/91	---	---	<0.005	---	<0.02	---	---	0.05
LYMAN	07/01/91	---	---	---	---	---	---	---	---
MW-010	09/01/91	---	---	---	---	---	---	---	---
MW-013	09/01/91	---	---	---	---	---	---	---	---
MW-013	09/27/91	---	---	<0.01	---	---	---	---	---
MW-013	03/21/97	---	---	---	---	---	---	---	---
MW-019	05/01/91	---	---	---	---	---	---	---	---
MW-019	09/01/91	---	---	---	---	---	---	---	---
MW-038	05/01/91	---	---	---	---	---	---	---	---
MW-041	06/01/91	---	---	---	---	---	---	---	---
MW-041	03/20/97	---	---	---	---	---	---	---	---
MW-043	06/01/91	---	---	---	---	---	---	---	---
MW-043	09/01/91	---	---	---	---	---	---	---	---
MW-043	09/19/91	---	---	---	---	---	---	---	---
MW-043	09/27/91	---	<0.2	---	---	---	---	4.3	---
MW-044	06/01/91	---	---	---	---	---	---	---	---
MW-045	06/01/91	---	---	---	---	---	---	---	---
MW-045	09/24/91	---	---	---	---	---	---	---	---
MW-045	09/27/91	---	3.8	---	---	---	---	15.3	---
MW-046	06/01/91	---	---	---	---	---	---	---	---
MW-046	05/29/97	3.6	---	<0.005	20	<0.005	120	---	0.03
MW-047	06/01/91	---	---	---	---	---	---	---	---
MW-049	06/01/91	---	---	---	---	---	---	---	---
MW-049	09/27/91	---	<0.2	---	---	---	---	2.7	---
MW-049	03/20/97	---	---	---	---	---	---	---	---

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For RCL METALS

DISSOLVED-PHASE METAL CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Dissolved Aluminum (mg/l)	Dissolved Arsenic (mg/l)	Dissolved Barium (mg/l)	Dissolved Boron (mg/l)	Dissolved Cadmium (mg/l)	Dissolved Chromium (mg/l)	Dissolved Cobalt (mg/l)	Dissolved Copper (mg/l)
BIEBBLE	07/01/91	---	---	---	---	---	---	---	---
BIEBBLE	07/19/91	---	---	---	---	---	---	---	---
BIEBBLE	07/29/91	---	---	---	---	---	---	---	---
LYMAN	07/01/91	---	---	---	---	---	---	---	---
MW-010	09/01/91	---	---	---	---	---	---	---	---
MW-013	09/01/91	---	---	---	---	---	---	---	---
MW-013	09/27/91	---	---	---	---	---	---	---	---
MW-013	03/21/97	---	---	---	---	---	---	---	---
MW-019	05/01/91	---	---	---	---	---	---	---	---
MW-019	09/01/91	---	---	---	---	---	---	---	---
MW-038	05/01/91	---	---	---	---	---	---	---	---
MW-041	06/01/91	---	---	---	---	---	---	---	---
MW-041	03/20/97	---	---	---	---	---	---	---	---
MW-043	06/01/91	---	---	---	---	---	---	---	---
MW-043	09/01/91	---	---	---	---	---	---	---	---
MW-043	09/19/91	---	---	---	---	---	---	---	---
MW-043	09/27/91	---	---	---	---	---	---	---	---
MW-044	06/01/91	---	---	---	---	---	---	---	---
MW-045	06/01/91	---	---	---	---	---	---	---	---
MW-045	09/24/91	---	---	---	---	---	---	---	---
MW-045	09/27/91	---	---	---	---	---	---	---	---
MW-046	06/01/91	---	---	---	---	---	---	---	---
MW-046	05/29/97	<0.1	0.005	0.31	0.23	<0.001	<0.005	<0.005	<0.005
MW-047	06/01/91	---	---	---	---	---	---	---	---
MW-049	06/01/91	---	---	---	---	---	---	---	---
MW-049	09/27/91	---	---	---	---	---	---	---	---
MW-049	03/20/97	---	---	---	---	---	---	---	---

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For RCI METALS

DISSOLVED-PHASE METAL CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Dissolved Iron (mg/l)	Dissolved Manganese (mg/l)	Dissolved Mercury (mg/l)	Dissolved Molybdenum (mg/l)	Dissolved Nickel (mg/l)	Dissolved Lead (mg/l)	Dissolved Selenium (mg/l)	Dissolved Silicon (mg/l)
BIEBBLE	07/01/91	---	---	---	---	---	---	---	---
BIEBBLE	07/19/91	---	---	---	---	---	---	---	---
BIEBBLE	07/29/91	---	---	---	---	---	---	---	---
LYMAN	07/01/91	---	---	---	---	---	---	---	---
MW-010	09/01/91	---	---	---	---	---	---	---	---
MW-013	09/01/91	---	---	---	---	---	---	---	---
MW-013	09/27/91	---	---	---	---	---	---	---	---
MW-013	03/21/97	---	---	---	---	---	---	---	---
MW-019	05/01/91	---	---	---	---	---	---	---	---
MW-019	09/01/91	---	---	---	---	---	---	---	---
MW-038	05/01/91	---	---	---	---	---	---	---	---
MW-041	06/01/91	---	---	---	---	---	---	---	---
MW-041	03/20/97	---	---	---	---	---	---	---	---
MW-043	06/01/91	---	---	---	---	---	---	---	---
MW-043	09/01/91	---	---	---	---	---	---	---	---
MW-043	09/19/91	---	---	---	---	---	---	---	---
MW-043	09/27/91	---	---	---	---	---	---	---	---
MW-044	06/01/91	---	---	---	---	---	---	---	---
MW-045	06/01/91	---	---	---	---	---	---	---	---
MW-045	09/24/91	---	---	---	---	---	---	---	---
MW-045	09/27/91	---	---	---	---	---	---	---	---
MW-046	06/01/91	---	---	---	---	---	---	---	---
MW-046	05/29/97	<0.05	0.068	<0.0002	<0.005	<0.005	<0.003	<0.005	15
MW-047	06/01/91	---	---	---	---	---	---	---	---
MW-049	06/01/91	---	---	---	---	---	---	---	---
MW-049	09/27/91	---	---	---	---	---	---	---	---
MW-049	03/20/97	---	---	---	---	---	---	---	---

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For RCL METALS

DISSOLVED-PHASE METAL CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Dissolved Silver (mg/l)	Dissolved Zinc (mg/l)
BIEBBLE	07/01/91	---	---
BIEBBLE	07/19/91	---	---
BIEBBLE	07/29/91	---	---
LYMAN	07/01/91	---	---
MW-010	09/01/91	---	---
MW-013	09/01/91	---	---
MW-013	09/27/91	---	---
MW-013	03/21/97	---	---
MW-019	05/01/91	---	---
MW-019	09/01/91	---	---
MW-038	05/01/91	---	---
MW-041	06/01/91	---	---
MW-041	03/20/97	---	---
MW-043	06/01/91	---	---
MW-043	09/01/91	---	---
MW-043	09/19/91	---	---
MW-043	09/27/91	---	---
MW-044	06/01/91	---	---
MW-045	06/01/91	---	---
MW-045	09/24/91	---	---
MW-045	09/27/91	---	---
MW-046	06/01/91	---	---
MW-046	05/29/97	<0.005	<0.02
MW-047	06/01/91	---	---
MW-049	06/01/91	---	---
MW-049	09/27/91	---	---
MW-049	03/20/97	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCI METALS

DISSOLVED-PHASE METAL CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Aluminum (mg/l)	Arsenic (mg/l)	Barium (mg/l)	Boron (mg/l)	Cadmium (mg/l)	Calcium (mg/l)	Chromium (mg/l)	Cobalt (mg/l)
MW-050	06/01/91	---	---	---	---	---	---	---	---
MW-050	09/27/91	---	<0.05	0.02	---	---	---	---	---
MW-050	03/20/97	---	---	0.03	---	---	---	---	---
MW-056	09/25/91	---	---	0.68	---	---	---	---	---
MW-056	03/20/97	---	---	0.66	---	---	---	---	---
MW-057	07/01/91	---	---	0.15	---	---	---	---	---
MW-057	07/19/91	1.4	<0.005	---	<0.5	<0.001	---	<0.02	<0.05
MW-060	07/01/91	---	---	0.04	---	---	---	---	---
MW-060	07/19/91	0.51	<0.005	---	<0.5	<0.001	---	<0.02	<0.05
MW-060	03/19/97	---	---	0.03	---	---	---	---	---
MW-061	09/27/91	---	---	---	---	---	---	---	---
MW-061A	07/01/91	---	---	0.13	---	---	---	---	---
MW-061A	07/19/91	1.8	<0.005	---	<0.5	<0.001	---	<0.02	<0.05
MW-061A	09/27/91	---	---	0.02	---	---	---	---	---
MW-062	09/26/91	---	---	2.85	---	---	---	---	---
MW-104	07/17/97	---	---	---	---	---	126	---	---
MW-108	07/17/97	---	---	---	---	---	88.7	---	---
PIPELINE_4	05/01/91	---	---	0.05	---	---	---	---	---
PIPELINE_4	05/28/91	0.05	<0.1	---	2.13	<0.005	---	<0.01	<0.03
PIPELINE_4	08/02/91	---	---	---	---	---	---	---	---
PIPELINE_4	08/08/91	---	---	---	---	---	---	---	---
PIPELINE_4	08/13/91	---	---	---	---	---	---	---	---
PIPELINE_4	05/29/97	---	---	---	---	---	---	---	---
SUMP-16A	09/01/91	---	---	0.08	---	---	---	---	---
SW-01	07/01/91	---	---	0.03	---	---	---	---	---
SW-01	07/19/91	0.14	<0.005	---	<0.5	0.004	---	<0.02	<0.05
SW-01	12/10/97	<0.05	<0.005	0.029	0.044	<0.002	---	<0.005	<0.005

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL METALS

DISSOLVED-PHASE METAL CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Copper (mg/l)	Iron (mg/l)	Lead (mg/l)	Magnesium (mg/l)	Manganese (mg/l)	Mercury (mg/l)	Molybdenum (mg/l)	Nickel (mg/l)
MW-050	06/01/91	---	41.5	---	---	2.14	---	---	---
MW-050	09/27/91	---	0.9	---	---	0.45	<0.0003	---	---
MW-050	03/20/97	---	6.5	---	---	0.64	---	---	---
MW-056	09/25/91	---	11.7	---	---	0.17	---	---	---
MW-056	03/20/97	---	28	---	---	0.24	---	---	---
MW-057	07/01/91	---	<0.05	---	---	<0.01	---	---	---
MW-057	07/19/91	<0.02	---	0.003	---	---	<0.001	<0.05	<0.05
MW-060	07/01/91	---	<0.05	---	---	0.05	---	---	---
MW-060	07/19/91	<0.02	---	0.004	---	---	<0.001	<0.05	<0.05
MW-060	03/19/97	---	0.67	---	---	0.03	---	---	---
MW-061	09/27/91	---	---	---	---	---	---	---	---
MW-061A	07/01/91	---	<0.05	---	---	0.13	---	---	---
MW-061A	07/19/91	<0.02	---	0.005	---	---	<0.001	<0.05	<0.05
MW-061A	09/27/91	---	0.22	---	---	0.15	---	---	---
MW-062	09/26/91	---	4.81	---	---	0.81	---	---	---
MW-104	07/17/97	---	---	---	47.6	---	---	---	---
MW-108	07/17/97	---	---	---	34.6	---	---	---	---
PIPELINE_4	05/01/91	---	0.09	---	---	0.04	---	---	---
PIPELINE_4	05/28/91	0.01	---	<0.05	---	---	---	<0.05	<0.04
PIPELINE_4	08/02/91	---	---	---	---	---	---	---	---
PIPELINE_4	08/08/91	---	---	---	---	---	---	---	---
PIPELINE_4	08/13/91	---	---	---	---	---	---	---	---
PIPELINE_4	05/29/97	---	---	---	---	---	<0.0003	---	---
SUMP-16A	09/01/91	---	0.73	---	---	0.18	---	---	---
SW-01	07/01/91	---	<0.05	---	---	0.02	---	---	---
SW-01	07/19/91	<0.02	---	<0.001	---	---	<0.001	<0.05	<0.05
SW-01	12/10/97	0.38	0.062	<0.005	---	0.005	<0.0002	<0.005	<0.005

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCI METALS

DISSOLVED-PHASE METAL CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Potassium (mg/l)	Radium 226,228 (pCi/l)	Selenium (mg/l)	Silicon (mg/l)	Silver (mg/l)	Sodium (mg/l)	Uranium (pCi/l)	Zinc (mg/l)
MW-050	06/01/91	---	---	---	---	---	---	---	---
MW-050	09/27/91	---	2.3	<0.05	---	---	---	40.6	---
MW-050	03/20/97	---	---	---	---	---	---	---	---
MW-056	09/25/91	---	---	---	---	---	---	---	---
MW-056	03/20/97	---	---	---	---	---	---	---	---
MW-057	07/01/91	---	---	---	---	---	---	---	---
MW-057	07/19/91	---	---	<0.005	---	<0.02	---	---	0.04
MW-060	07/01/91	---	---	---	---	---	---	---	---
MW-060	07/19/91	---	---	<0.005	---	<0.02	---	---	0.04
MW-060	03/19/97	---	---	---	---	---	---	---	---
MW-061	09/27/91	---	6.4	---	---	---	---	0.7	---
MW-061A	07/01/91	---	---	---	---	---	---	---	---
MW-061A	07/19/91	---	---	<0.005	---	<0.02	---	---	0.03
MW-061A	09/27/91	---	---	---	---	---	---	---	---
MW-062	09/26/91	---	---	---	---	---	---	---	---
MW-104	07/17/97	<1.0	---	---	20.5	---	11.1	---	---
MW-108	07/17/97	1.5	---	---	23.0	---	4.9	---	---
PIPELINE_4	05/01/91	---	---	---	---	---	---	---	---
PIPELINE_4	05/28/91	---	---	<0.1	---	<0.01	---	---	<0.01
PIPELINE_4	08/02/91	---	4622.2	---	---	---	---	---	---
PIPELINE_4	08/08/91	---	1115.1	---	---	---	---	---	---
PIPELINE_4	08/13/91	---	2410?	---	---	---	---	---	---
PIPELINE_4	05/29/97	---	---	---	---	---	---	---	---
SUMP-16A	09/01/91	---	---	---	---	---	---	---	---
SW-01	07/01/91	---	---	---	---	---	---	---	---
SW-01	07/19/91	---	---	<0.005	---	<0.02	---	---	<0.02
SW-01	12/10/97	---	1.15	<0.005	---	<0.005	---	---	<0.005

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed
? = Duplicate records found, Data review required.

For RCL METALS

DISSOLVED-PHASE METAL CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Dissolved Aluminum (mg/l)	Dissolved Arsenic (mg/l)	Dissolved Barium (mg/l)	Dissolved Boron (mg/l)	Dissolved Cadmium (mg/l)	Dissolved Chromium (mg/l)	Dissolved Cobalt (mg/l)	Dissolved Copper (mg/l)
MW-050	06/01/91	---	---	---	---	---	---	---	---
MW-050	09/27/91	---	---	---	---	---	---	---	---
MW-050	03/20/97	---	---	---	---	---	---	---	---
MW-056	09/25/91	---	---	---	---	---	---	---	---
MW-056	03/20/97	---	---	---	---	---	---	---	---
MW-057	07/01/91	---	---	---	---	---	---	---	---
MW-057	07/19/91	---	---	---	---	---	---	---	---
MW-060	07/01/91	---	---	---	---	---	---	---	---
MW-060	07/19/91	---	---	---	---	---	---	---	---
MW-060	03/19/97	---	---	---	---	---	---	---	---
MW-061	09/27/91	---	---	---	---	---	---	---	---
MW-061A	07/01/91	---	---	---	---	---	---	---	---
MW-061A	07/19/91	---	---	---	---	---	---	---	---
MW-061A	09/27/91	---	---	---	---	---	---	---	---
MW-062	09/26/91	---	---	---	---	---	---	---	---
MW-104	07/17/97	---	---	---	---	---	---	---	---
MW-108	07/17/97	---	---	---	---	---	---	---	---
PIPELINE_4	05/01/91	---	---	---	---	---	---	---	---
PIPELINE_4	05/28/91	---	---	---	---	---	---	---	---
PIPELINE_4	08/02/91	---	---	---	---	---	---	---	---
PIPELINE_4	08/08/91	---	---	---	---	---	---	---	---
PIPELINE_4	08/13/91	---	---	---	---	---	---	---	---
PIPELINE_4	05/29/97	---	---	---	---	---	---	---	---
SUMP-16A	09/01/91	---	---	---	---	---	---	---	---
SW-01	07/01/91	---	---	---	---	---	---	---	---
SW-01	07/19/91	---	---	---	---	---	---	---	---
SW-01	12/10/97	---	---	---	---	---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL METALS

DISSOLVED-PHASE METAL CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Dissolved Iron (mg/l)	Dissolved Manganese (mg/l)	Dissolved Mercury (mg/l)	Dissolved Molybdenum (mg/l)	Dissolved Nickel (mg/l)	Dissolved Lead (mg/l)	Dissolved Selenium (mg/l)	Dissolved Silicon (mg/l)
MW-050	06/01/91	---	---	---	---	---	---	---	---
MW-050	09/27/91	---	---	---	---	---	---	---	---
MW-050	03/20/97	---	---	---	---	---	---	---	---
MW-056	09/25/91	---	---	---	---	---	---	---	---
MW-056	03/20/97	---	---	---	---	---	---	---	---
MW-057	07/01/91	---	---	---	---	---	---	---	---
MW-057	07/19/91	---	---	---	---	---	---	---	---
MW-060	07/01/91	---	---	---	---	---	---	---	---
MW-060	07/19/91	---	---	---	---	---	---	---	---
MW-060	03/19/97	---	---	---	---	---	---	---	---
MW-061	09/27/91	---	---	---	---	---	---	---	---
MW-061A	07/01/91	---	---	---	---	---	---	---	---
MW-061A	07/19/91	---	---	---	---	---	---	---	---
MW-061A	09/27/91	---	---	---	---	---	---	---	---
MW-062	09/26/91	---	---	---	---	---	---	---	---
MW-104	07/17/97	---	---	---	---	---	---	---	---
MW-108	07/17/97	---	---	---	---	---	---	---	---
PIPELINE_4	05/01/91	---	---	---	---	---	---	---	---
PIPELINE_4	05/28/91	---	---	---	---	---	---	---	---
PIPELINE_4	08/02/91	---	---	---	---	---	---	---	---
PIPELINE_4	08/08/91	---	---	---	---	---	---	---	---
PIPELINE_4	08/13/91	---	---	---	---	---	---	---	---
PIPELINE_4	05/29/97	---	---	---	---	---	---	---	---
SUMP-16A	09/01/91	---	---	---	---	---	---	---	---
SW-01	07/01/91	---	---	---	---	---	---	---	---
SW-01	07/19/91	---	---	---	---	---	---	---	---
SW-01	12/10/97	---	---	---	---	---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL METALS

DISSOLVED-PHASE METAL CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Dissolved Silver (mg/l)	Dissolved Zinc (mg/l)
MW-050	06/01/91	---	---
MW-050	09/27/91	---	---
MW-050	03/20/97	---	---
MW-056	09/25/91	---	---
MW-056	03/20/97	---	---
MW-057	07/01/91	---	---
MW-057	07/19/91	---	---
MW-060	07/01/91	---	---
MW-060	07/19/91	---	---
MW-060	03/19/97	---	---
MW-061	09/27/91	---	---
MW-061A	07/01/91	---	---
MW-061A	07/19/91	---	---
MW-061A	09/27/91	---	---
MW-062	09/26/91	---	---
MW-104	07/17/97	---	---
MW-108	07/17/97	---	---
PIPELINE_4	05/01/91	---	---
PIPELINE_4	05/28/91	---	---
PIPELINE_4	08/02/91	---	---
PIPELINE_4	08/08/91	---	---
PIPELINE_4	08/13/91	---	---
PIPELINE_4	05/29/97	---	---
SUMP-16A	09/01/91	---	---
SW-01	07/01/91	---	---
SW-01	07/19/91	---	---
SW-01	12/10/97	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL METALS

DISSOLVED-PHASE METAL CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Aluminum (mg/l)	Arsenic (mg/l)	Barium (mg/l)	Boron (mg/l)	Cadmium (mg/l)	Calcium (mg/l)	Chromium (mg/l)	Cobalt (mg/l)
TH-A11	04/01/91	---	---	---	---	---	---	---	---
TH-A11	09/26/91	---	---	0.18	---	---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL METALS

DISSOLVED-PHASE METAL CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Copper (mg/l)	Iron (mg/l)	Lead (mg/l)	Magnesium (mg/l)	Manganese (mg/l)	Mercury (mg/l)	Molybdenum (mg/l)	Nickel (mg/l)
TH-A11	04/01/91	---	0.75	---	---	0.4	---	---	---
TH-A11	09/26/91	---	0.5	---	---	0.34	---	---	---

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For RCI METALS

DISSOLVED-PHASE METAL CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Potassium (mg/l)	Radium 226,228 (pCi/l)	Selenium (mg/l)	Silicon (mg/l)	Silver (mg/l)	Sodium (mg/l)	Uranium (pCi/l)	Zinc (mg/l)
TH-A11	04/01/91	---	---	---	---	---	---	---	---
TH-A11	09/26/91	---	---	---	---	---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL METALS

DISSOLVED-PHASE METAL CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Dissolved Aluminum (mg/l)	Dissolved Arsenic (mg/l)	Dissolved Barium (mg/l)	Dissolved Boron (mg/l)	Dissolved Cadmium (mg/l)	Dissolved Chromium (mg/l)	Dissolved Cobalt (mg/l)	Dissolved Copper (mg/l)
TH-A11	04/01/91	---	---	---	---	---	---	---	---
TH-A11	09/26/91	---	---	---	---	---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCI METALS

DISSOLVED-PHASE METAL CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Dissolved Iron (mg/l)	Dissolved Manganese (mg/l)	Dissolved Mercury (mg/l)	Dissolved Molybdenum (mg/l)	Dissolved Nickel (mg/l)	Dissolved Lead (mg/l)	Dissolved Selenium (mg/l)	Dissolved Silicon (mg/l)
TH-A11	04/01/91	---	---	---	---	---	---	---	---
TH-A11	09/26/91	---	---	---	---	---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL METALS

DISSOLVED-PHASE METAL CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Dissolved Silver (mg/l)	Dissolved Zinc (mg/l)
TH-A11	04/01/91	---	---
TH-A11	09/26/91	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCI METALS

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Chloride (mg/l)	Fluoride (mg/l)	Bromide (mg/l)	Sulfate (mg/l)	Nitrate (mg/l)	Ammonia (as N) (mg/l)	Nitrogen Kjeldahl, total (as N) (mg/l)	Orthophosphate (mg/l)
BIEBBLE	07/01/91	14	1.4	---	250	---	---	---	---
BIEBBLE	04/01/92	13.5	---	---	---	---	---	---	---
BIEBBLE	07/01/92	7.8	---	---	---	---	---	---	---
BIEBBLE	10/01/92	10.1	---	---	---	---	---	---	---
BIEBBLE	01/01/93	10.6	---	---	---	---	---	---	---
BIEBBLE	04/01/93	11.4	---	---	---	---	---	---	---
BIEBBLE	07/01/93	13.3	---	---	---	---	---	---	---
BIEBBLE	10/01/93	10.4	---	---	---	---	---	---	---
BIEBBLE	01/01/94	11	---	---	---	---	---	---	---
BIEBBLE	04/01/94	10.5	---	---	---	---	---	---	---
BIEBBLE	07/01/94	15	---	---	---	---	---	---	---
BIEBBLE	10/01/94	13	---	---	---	---	---	---	---
BIEBBLE	01/01/95	8	---	---	---	---	---	---	---
BIEBBLE	07/01/95	10	---	---	---	---	---	---	---
BIEBBLE	10/01/95	13	---	---	---	---	---	---	---
BIEBBLE	01/01/96	9	---	---	---	---	---	---	---
BIEBBLE	04/01/96	10.5	---	---	---	---	---	---	---
BIEBBLE	07/01/96	11	---	---	---	---	---	---	---
BIEBBLE	10/01/96	11	---	---	---	---	---	---	---
BIEBBLE	02/10/97	10	---	---	---	---	---	---	---
IW-02	08/01/96	---	---	---	---	---	---	---	---
IW-02	08/22/96	7	---	---	---	---	---	---	---
LYMAN	07/01/91	20	1.3	---	450	---	---	---	---
LYMAN	04/01/92	12.6	---	---	---	---	---	---	---
LYMAN	07/01/92	14.6	---	---	---	---	---	---	---
LYMAN	10/01/92	15.5	---	---	---	---	---	---	---
LYMAN	01/01/93	13.2	---	---	---	---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL GENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Alkalinity as CaCO3, Total (mg/l)	Carbonate Alkalinity (mg/l)	Bicarbonate Alkalinity (mg/l)	Carbon Dioxide Free as CaCO3 (mg/l)	Hydroxide as CaCO3 (mg/l)	Total dissolved solids (TDS) (mg/l)	Specific Conductivity (umh/c)	pH
BIEBBLE	07/01/91	---	---	---	---	---	1000	---	---
BIEBBLE	04/01/92	---	---	---	---	---	---	---	---
BIEBBLE	07/01/92	---	---	---	---	---	---	---	---
BIEBBLE	10/01/92	---	---	---	---	---	---	---	---
BIEBBLE	01/01/93	---	---	---	---	---	---	---	---
BIEBBLE	04/01/93	---	---	---	---	---	---	---	---
BIEBBLE	07/01/93	---	---	---	---	---	---	---	---
BIEBBLE	10/01/93	---	---	---	---	---	---	---	---
BIEBBLE	01/01/94	---	---	---	---	---	---	---	---
BIEBBLE	04/01/94	---	---	---	---	---	---	---	---
BIEBBLE	07/01/94	---	---	---	---	---	---	---	---
BIEBBLE	10/01/94	---	---	---	---	---	---	---	---
BIEBBLE	01/01/95	---	---	---	---	---	---	---	---
BIEBBLE	07/01/95	---	---	---	---	---	---	---	---
BIEBBLE	10/01/95	---	---	---	---	---	---	---	---
BIEBBLE	01/01/96	---	---	---	---	---	---	---	---
BIEBBLE	04/01/96	---	---	---	---	---	---	---	---
BIEBBLE	07/01/96	---	---	---	---	---	---	---	---
BIEBBLE	10/01/96	---	---	---	---	---	---	---	---
BIEBBLE	02/10/97	---	---	---	---	---	---	---	---
IW-02	08/01/96	---	---	---	---	---	370	---	---
IW-02	08/22/96	---	---	---	---	---	---	---	---
LYMAN	07/01/91	---	---	---	---	---	980	---	---
LYMAN	04/01/92	---	---	---	---	---	---	---	---
LYMAN	07/01/92	---	---	---	---	---	---	---	---
LYMAN	10/01/92	---	---	---	---	---	---	---	---
LYMAN	01/01/93	---	---	---	---	---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCI GENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Chloride (mg/l)	Fluoride (mg/l)	Bromide (mg/l)	Sulfate (mg/l)	Nitrate (mg/l)	Ammonia (as N) (mg/l)	Nitrogen Kjeldahl, total (as N) (mg/l)	Orthophosphate (mg/l)
LYMAN	04/01/93	13.0	---	---	---	---	---	---	---
LYMAN	07/01/93	16.0	---	---	---	---	---	---	---
LYMAN	10/01/93	14.6	---	---	---	---	---	---	---
LYMAN	01/01/94	13	---	---	---	---	---	---	---
LYMAN	04/01/94	12.5	---	---	---	---	---	---	---
LYMAN	07/01/94	12	---	---	---	---	---	---	---
LYMAN	10/01/94	14	---	---	---	---	---	---	---
LYMAN	01/01/95	11	---	---	---	---	---	---	---
LYMAN	07/01/95	11	---	---	---	---	---	---	---
LYMAN	10/01/95	12	---	---	---	---	---	---	---
LYMAN	01/01/96	9	---	---	---	---	---	---	---
LYMAN	04/01/96	11.1	---	---	---	---	---	---	---
LYMAN	07/01/96	9	---	---	---	---	---	---	---
LYMAN	10/01/96	10	---	---	---	---	---	---	---
LYMAN	02/10/97	11	---	---	---	---	---	---	---
MW-001	04/01/91	2000	---	---	---	---	---	---	---
MW-001	05/01/91	310	---	---	---	---	---	---	---
MW-001	12/01/91	152	---	---	---	---	---	---	---
MW-010	05/01/91	60	---	---	---	---	---	---	---
MW-010	09/01/91	---	---	---	<10	---	---	---	---
MW-010	12/01/91	323	---	---	---	---	---	---	---
MW-010	04/01/92	319	---	---	---	---	---	---	---
MW-010	07/01/92	240	---	---	---	---	---	---	---
MW-010	10/01/92	312	---	---	---	---	---	---	---
MW-010	01/01/94	0	---	---	---	---	---	---	---
MW-010	02/11/97	120	---	---	---	---	---	---	---
MW-011	12/01/91	790	---	---	---	---	---	---	---

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For RCL GENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Alkalinity as CaCO3, Total (mg/l)	Carbonate Alkalinity (mg/l)	Bicarbonate Alkalinity (mg/l)	Carbon Dioxide Free as CaCO3 (mg/l)	Hydroxide as CaCO3 (mg/l)	Total dissolved solids (TDS) (mg/l)	Specific Conductivity (umh/c)	pH
LYMAN	04/01/93	---	---	---	---	---	---	---	---
LYMAN	07/01/93	---	---	---	---	---	---	---	---
LYMAN	10/01/93	---	---	---	---	---	---	---	---
LYMAN	01/01/94	---	---	---	---	---	---	---	---
LYMAN	04/01/94	---	---	---	---	---	---	---	---
LYMAN	07/01/94	---	---	---	---	---	---	---	---
LYMAN	10/01/94	---	---	---	---	---	---	---	---
LYMAN	01/01/95	---	---	---	---	---	---	---	---
LYMAN	07/01/95	---	---	---	---	---	---	---	---
LYMAN	10/01/95	---	---	---	---	---	---	---	---
LYMAN	01/01/96	---	---	---	---	---	---	---	---
LYMAN	04/01/96	---	---	---	---	---	---	---	---
LYMAN	07/01/96	---	---	---	---	---	---	---	---
LYMAN	10/01/96	---	---	---	---	---	---	---	---
LYMAN	02/10/97	---	---	---	---	---	---	---	---
MW-001	04/01/91	---	---	---	---	---	---	---	---
MW-001	05/01/91	---	---	---	---	---	820	---	---
MW-001	12/01/91	---	---	---	---	---	---	---	---
MW-010	05/01/91	---	---	---	---	---	1600	---	---
MW-010	09/01/91	---	---	---	---	---	1440	---	---
MW-010	12/01/91	---	---	---	---	---	---	---	---
MW-010	04/01/92	---	---	---	---	---	---	---	---
MW-010	07/01/92	---	---	---	---	---	---	---	---
MW-010	10/01/92	---	---	---	---	---	---	---	---
MW-010	01/01/94	---	---	---	---	---	---	---	---
MW-010	02/11/97	---	---	---	---	---	---	---	---
MW-011	12/01/91	---	---	---	---	---	---	---	---

Values represent total concentrations unless noted < =Not detected at indicated reporting limit --- =Not analyzed

For RO[illegible]ENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Chloride (mg/l)	Fluoride (mg/l)	Bromide (mg/l)	Sulfate (mg/l)	Nitrate (mg/l)	Ammonia (as N) (mg/l)	Nitrogen Kjeldahl, total (as N) (mg/l)	Orthophosphate (mg/l)
MW-011	04/01/92	653	---	---	---	---	---	---	---
MW-011	07/01/92	270	---	---	---	---	---	---	---
MW-011	10/01/92	239	---	---	---	---	---	---	---
MW-011	01/01/93	544	---	---	---	---	---	---	---
MW-011	10/01/94	130	---	---	---	---	---	---	---
MW-011	07/01/95	260	---	---	---	---	---	---	---
MW-011	01/01/96	120	---	---	---	---	---	---	---
MW-011	04/01/96	120	---	---	---	---	---	---	---
MW-011	07/01/96	37	---	---	---	---	---	---	---
MW-011	10/01/96	16	---	---	---	---	---	---	---
MW-011	02/07/97	46	---	---	---	---	---	---	---
MW-013	09/01/91	---	---	---	<10	---	---	---	---
MW-013	12/01/91	780	---	---	---	---	---	---	---
MW-013	04/01/92	1240	---	---	---	---	---	---	---
MW-013	07/01/92	269	---	---	---	---	---	---	---
MW-013	10/01/96	45	---	---	---	---	---	---	---
MW-013	02/07/97	70	---	---	---	---	---	---	---
MW-013	03/21/97	---	0.4	---	<10	---	---	---	---
MW-016	04/01/93	246	---	---	---	---	---	---	---
MW-017	04/01/93	306	---	---	---	---	---	---	---
MW-018	05/01/91	310	---	---	---	---	---	---	---
MW-018	04/01/92	464	---	---	---	---	---	---	---
MW-018	07/01/92	109	---	---	---	---	---	---	---
MW-018	10/01/92	408	---	---	---	---	---	---	---
MW-019	05/01/91	320	---	---	16	---	---	---	---
MW-019	05/22/91	---	---	---	---	<0.1	---	---	---
MW-019	07/01/91	466	---	---	---	---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL GENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Alkalinity as CaCO3, Total (mg/l)	Carbonate Alkalinity (mg/l)	Bicarbonate Alkalinity (mg/l)	Carbon Dioxide Free as CaCO3 (mg/l)	Hydroxide as CaCO3 (mg/l)	Total dissolved solids (TDS) (mg/l)	Specific Conductivity (umh/c)	pH
MW-011	04/01/92	---	---	---	---	---	---	---	---
MW-011	07/01/92	---	---	---	---	---	---	---	---
MW-011	10/01/92	---	---	---	---	---	---	---	---
MW-011	01/01/93	---	---	---	---	---	---	---	---
MW-011	10/01/94	---	---	---	---	---	---	---	---
MW-011	07/01/95	---	---	---	---	---	---	---	---
MW-011	01/01/96	---	---	---	---	---	---	---	---
MW-011	04/01/96	---	---	---	---	---	---	---	---
MW-011	07/01/96	---	---	---	---	---	---	---	---
MW-011	10/01/96	---	---	---	---	---	---	---	---
MW-011	02/07/97	---	---	---	---	---	---	---	---
MW-013	09/01/91	---	---	---	---	---	2790	---	---
MW-013	12/01/91	---	---	---	---	---	---	---	---
MW-013	04/01/92	---	---	---	---	---	---	---	---
MW-013	07/01/92	---	---	---	---	---	---	---	---
MW-013	10/01/96	---	---	---	---	---	---	---	---
MW-013	02/07/97	---	---	---	---	---	---	---	---
MW-013	03/21/97	---	---	---	---	---	770	---	---
MW-016	04/01/93	---	---	---	---	---	---	---	---
MW-017	04/01/93	---	---	---	---	---	---	---	---
MW-018	05/01/91	---	---	---	---	---	1580	---	---
MW-018	04/01/92	---	---	---	---	---	---	---	---
MW-018	07/01/92	---	---	---	---	---	---	---	---
MW-018	10/01/92	---	---	---	---	---	---	---	---
MW-019	05/01/91	---	---	---	---	---	1540	---	---
MW-019	05/22/91	---	---	---	---	---	---	---	---
MW-019	07/01/91	---	---	---	---	---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For ROY ENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Chloride (mg/l)	Fluoride (mg/l)	Bromide (mg/l)	Sulfate (mg/l)	Nitrate (mg/l)	Ammonia (as N) (mg/l)	Nitrogen Kjeldahl, total (as N) (mg/l)	Orthophosphate (mg/l)
MW-019	09/01/91	---	---	---	<10	---	---	---	---
MW-019	04/01/92	463	---	---	---	---	---	---	---
MW-019	07/01/92	90	---	---	---	---	---	---	---
MW-019	10/01/92	420	---	---	---	---	---	---	---
MW-019	10/01/96	96	---	---	---	---	---	---	---
MW-019	02/07/97	240	---	---	---	---	---	---	---
MW-021	05/01/91	230	---	---	---	---	---	---	---
MW-021	12/01/91	343	---	---	---	---	---	---	---
MW-021	04/01/93	283	---	---	---	---	---	---	---
MW-024	07/01/92	455	---	---	---	---	---	---	---
MW-026	05/01/91	440	---	---	---	---	---	---	---
MW-026	12/01/91	356	---	---	---	---	---	---	---
MW-026	07/01/92	164	---	---	---	---	---	---	---
MW-026	10/01/92	222	---	---	---	---	---	---	---
MW-026	01/01/93	177	---	---	---	---	---	---	---
MW-031	07/01/92	337	---	---	---	---	---	---	---
MW-031	10/01/92	296	---	---	---	---	---	---	---
MW-037	06/01/91	52	---	---	---	---	---	---	---
MW-037	06/25/91	---	---	---	---	<0.1	---	---	---
MW-037	07/01/93	173	---	---	---	---	---	---	---
MW-038	05/01/91	60	---	---	<10	---	---	---	---
MW-038	05/22/91	---	---	---	---	<0.1	---	---	---
MW-038	06/01/91	38	---	---	---	---	---	---	---
MW-038	06/25/91	---	---	---	---	<0.1	---	---	---
MW-038	12/01/91	111	---	---	---	---	---	---	---
MW-038	04/01/92	127	---	---	---	---	---	---	---
MW-038	07/01/92	147	---	---	---	---	---	---	---

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For RCL GENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Alkalinity as CaCO3, Total (mg/l)	Carbonate Alkalinity (mg/l)	Bicarbonate Alkalinity (mg/l)	Carbon Dioxide Free as CaCO3 (mg/l)	Hydroxide as CaCO3 (mg/l)	Total dissolved solids (TDS) (mg/l)	Specific Conductivity (umh/c)	pH
MW-019	09/01/91	---	---	---	---	---	1460	---	---
MW-019	04/01/92	---	---	---	---	---	---	---	---
MW-019	07/01/92	---	---	---	---	---	---	---	---
MW-019	10/01/92	---	---	---	---	---	---	---	---
MW-019	10/01/96	---	---	---	---	---	---	---	---
MW-019	02/07/97	---	---	---	---	---	---	---	---
MW-021	05/01/91	---	---	---	---	---	1220	---	---
MW-021	12/01/91	---	---	---	---	---	---	---	---
MW-021	04/01/93	---	---	---	---	---	---	---	---
MW-024	07/01/92	---	---	---	---	---	---	---	---
MW-026	05/01/91	---	---	---	---	---	1650	---	---
MW-026	12/01/91	---	---	---	---	---	---	---	---
MW-026	07/01/92	---	---	---	---	---	---	---	---
MW-026	10/01/92	---	---	---	---	---	---	---	---
MW-026	01/01/93	---	---	---	---	---	---	---	---
MW-031	07/01/92	---	---	---	---	---	---	---	---
MW-031	10/01/92	---	---	---	---	---	---	---	---
MW-037	06/01/91	---	---	---	---	---	---	---	---
MW-037	06/25/91	---	---	---	---	---	---	---	---
MW-037	07/01/93	---	---	---	---	---	---	---	---
MW-038	05/01/91	---	---	---	---	---	790	---	---
MW-038	05/22/91	---	---	---	---	---	---	---	---
MW-038	06/01/91	---	---	---	---	---	---	---	---
MW-038	06/25/91	---	---	---	---	---	---	---	---
MW-038	12/01/91	---	---	---	---	---	---	---	---
MW-038	04/01/92	---	---	---	---	---	---	---	---
MW-038	07/01/92	---	---	---	---	---	---	---	---

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DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Chloride (mg/l)	Fluoride (mg/l)	Bromide (mg/l)	Sulfate (mg/l)	Nitrate (mg/l)	Ammonia (as N) (mg/l)	Nitrogen Kjeldahl, total (as N) (mg/l)	Orthophosphate (mg/l)
MW-038	10/01/92	128	---	---	---	---	---	---	---
MW-038	10/01/96	280	---	---	---	---	---	---	---
MW-038	02/07/97	310	---	---	---	---	---	---	---
MW-039	05/01/91	9.6	---	---	---	---	---	---	---
MW-039	06/01/91	244	---	---	---	---	---	---	---
MW-039	06/25/91	---	---	---	---	<0.1	---	---	---
MW-039	01/01/93	231	---	---	---	---	---	---	---
MW-039	07/01/93	296	---	---	---	---	---	---	---
MW-039	10/01/93	277	---	---	---	---	---	---	---
MW-039	01/01/94	260	---	---	---	---	---	---	---
MW-039	04/01/94	220	---	---	---	---	---	---	---
MW-039	07/01/94	198	---	---	---	---	---	---	---
MW-039	01/01/95	194	---	---	---	---	---	---	---
MW-039	10/01/96	140	---	---	---	---	---	---	---
MW-039	02/07/97	160	---	---	---	---	---	---	---
MW-039	07/18/97	160	---	---	---	---	---	---	---
MW-041	06/01/91	29	---	---	41	---	---	---	---
MW-041	06/25/91	---	---	---	---	0.1	---	---	---
MW-041	07/01/91	38	---	---	---	0.1	---	---	---
MW-041	12/01/91	108	---	---	---	---	---	---	---
MW-041	07/01/93	242	---	---	---	---	---	---	---
MW-041	10/01/93	264	---	---	---	---	---	---	---
MW-041	01/01/94	370	---	---	---	---	---	---	---
MW-041	04/01/94	290	---	---	---	---	---	---	---
MW-041	07/01/94	259	---	---	---	---	---	---	---
MW-041	10/01/94	300	---	---	---	---	---	---	---
MW-041	01/01/95	326	---	---	---	---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL GENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Alkalinity as CaCO3, Total (mg/l)	Carbonate Alkalinity (mg/l)	Bicarbonate Alkalinity (mg/l)	Carbon Dioxide Free as CaCO3 (mg/l)	Hydroxide as CaCO3 (mg/l)	Total dissolved solids (TDS) (mg/l)	Specific Conductivity (umh/c)	pH
MW-038	10/01/92	---	---	---	---	---	---	---	---
MW-038	10/01/96	---	---	---	---	---	---	---	---
MW-038	02/07/97	---	---	---	---	---	---	---	---
MW-039	05/01/91	---	---	---	---	---	---	---	---
MW-039	06/01/91	---	---	---	---	---	---	---	---
MW-039	06/25/91	---	---	---	---	---	---	---	---
MW-039	01/01/93	---	---	---	---	---	---	---	---
MW-039	07/01/93	---	---	---	---	---	---	---	---
MW-039	10/01/93	---	---	---	---	---	---	---	---
MW-039	01/01/94	---	---	---	---	---	---	---	---
MW-039	04/01/94	---	---	---	---	---	---	---	---
MW-039	07/01/94	---	---	---	---	---	---	---	---
MW-039	01/01/95	---	---	---	---	---	---	---	---
MW-039	10/01/96	---	---	---	---	---	---	---	---
MW-039	02/07/97	---	---	---	---	---	---	---	---
MW-039	07/18/97	---	---	---	---	---	---	---	---
MW-041	06/01/91	---	---	---	---	---	758	---	---
MW-041	06/25/91	---	---	---	---	---	---	---	---
MW-041	07/01/91	---	---	---	---	---	---	---	---
MW-041	12/01/91	---	---	---	---	---	---	---	---
MW-041	07/01/93	---	---	---	---	---	---	---	---
MW-041	10/01/93	---	---	---	---	---	---	---	---
MW-041	01/01/94	---	---	---	---	---	---	---	---
MW-041	04/01/94	---	---	---	---	---	---	---	---
MW-041	07/01/94	---	---	---	---	---	---	---	---
MW-041	10/01/94	---	---	---	---	---	---	---	---
MW-041	01/01/95	---	---	---	---	---	---	---	---

Values represent total concentrations unless noted < =Not detected at indicated reporting limit --- =Not analyzed

For ROUSENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Chloride (mg/l)	Fluoride (mg/l)	Bromide (mg/l)	Sulfate (mg/l)	Nitrate (mg/l)	Ammonia (as N) (mg/l)	Nitrogen Kjeldahl, total (as N) (mg/l)	Orthophosphate (mg/l)
MW-041	07/01/95	270	---	---	---	---	---	---	---
MW-041	10/01/95	240	---	---	---	---	---	---	---
MW-041	01/01/96	270	---	---	---	---	---	---	---
MW-041	04/01/96	260	---	---	---	---	---	---	---
MW-041	07/01/96	250	---	---	---	---	---	---	---
MW-041	10/01/96	250	---	---	---	---	---	---	---
MW-041	02/07/97	180	---	---	---	---	---	---	---
MW-041	03/20/97	---	1.5	---	98	---	---	---	---
MW-041	07/18/97	140	---	---	---	---	---	---	---
MW-042	12/01/91	571	---	---	---	---	---	---	---
MW-043	06/01/91	138	---	---	47	---	---	---	---
MW-043	06/25/91	---	---	---	---	<0.1	---	---	---
MW-043	09/01/91	---	---	---	370	---	---	---	---
MW-043	07/01/93	232	---	---	---	---	---	---	---
MW-043	10/01/93	230	---	---	---	---	---	---	---
MW-043	01/01/94	260	---	---	---	---	---	---	---
MW-043	04/01/94	250	---	---	---	---	---	---	---
MW-043	07/01/94	266	---	---	---	---	---	---	---
MW-043	10/01/94	270	---	---	---	---	---	---	---
MW-043	01/01/95	280	---	---	---	---	---	---	---
MW-043	07/01/95	270	---	---	---	---	---	---	---
MW-043	10/01/95	220	---	---	---	---	---	---	---
MW-043	01/01/96	280	---	---	---	---	---	---	---
MW-043	04/01/96	280	---	---	---	---	---	---	---
MW-043	07/01/96	270	---	---	---	---	---	---	---
MW-043	10/01/96	380	---	---	---	---	---	---	---
MW-043	02/07/97	330	---	---	---	---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL GENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Alkalinity as CaCO3, Total (mg/l)	Carbonate Alkalinity (mg/l)	Bicarbonate Alkalinity (mg/l)	Carbon Dioxide Free as CaCO3 (mg/l)	Hydroxide as CaCO3 (mg/l)	Total dissolved solids (TDS) (mg/l)	Specific Conductivity (umh/c)	pH
MW-041	07/01/95	---	---	---	---	---	---	---	---
MW-041	10/01/95	---	---	---	---	---	---	---	---
MW-041	01/01/96	---	---	---	---	---	---	---	---
MW-041	04/01/96	---	---	---	---	---	---	---	---
MW-041	07/01/96	---	---	---	---	---	---	---	---
MW-041	10/01/96	---	---	---	---	---	---	---	---
MW-041	02/07/97	---	---	---	---	---	---	---	---
MW-041	03/20/97	---	---	---	---	---	1600	---	---
MW-041	07/18/97	---	---	---	---	---	---	---	---
MW-042	12/01/91	---	---	---	---	---	---	---	---
MW-043	06/01/91	---	---	---	---	---	1300	---	---
MW-043	06/25/91	---	---	---	---	---	---	---	---
MW-043	09/01/91	---	---	---	---	---	1600	---	---
MW-043	07/01/93	---	---	---	---	---	---	---	---
MW-043	10/01/93	---	---	---	---	---	---	---	---
MW-043	01/01/94	---	---	---	---	---	---	---	---
MW-043	04/01/94	---	---	---	---	---	---	---	---
MW-043	07/01/94	---	---	---	---	---	---	---	---
MW-043	10/01/94	---	---	---	---	---	---	---	---
MW-043	01/01/95	---	---	---	---	---	---	---	---
MW-043	07/01/95	---	---	---	---	---	---	---	---
MW-043	10/01/95	---	---	---	---	---	---	---	---
MW-043	01/01/96	---	---	---	---	---	---	---	---
MW-043	04/01/96	---	---	---	---	---	---	---	---
MW-043	07/01/96	---	---	---	---	---	---	---	---
MW-043	10/01/96	---	---	---	---	---	---	---	---
MW-043	02/07/97	---	---	---	---	---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RO[illegible]GENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Chloride (mg/l)	Fluoride (mg/l)	Bromide (mg/l)	Sulfate (mg/l)	Nitrate (mg/l)	Ammonia (as N) (mg/l)	Nitrogen Kjeldahl, total (as N) (mg/l)	Orthophosphate (mg/l)
MW-043	07/18/97	230	---	---	---	---	---	---	---
MW-044	06/01/91	33	---	---	33	---	---	---	---
MW-044	06/25/91	---	---	---	---	<0.1	---	---	---
MW-044	04/01/92	660	---	---	---	---	---	---	---
MW-044	07/01/92	263	---	---	---	---	---	---	---
MW-044	10/01/92	356	---	---	---	---	---	---	---
MW-044	01/01/93	300	---	---	---	---	---	---	---
MW-044	04/01/93	365	---	---	---	---	---	---	---
MW-044	07/01/93	445	---	---	---	---	---	---	---
MW-044	10/01/93	543	---	---	---	---	---	---	---
MW-044	01/01/94	490	---	---	---	---	---	---	---
MW-044	04/01/94	440	---	---	---	---	---	---	---
MW-044	07/01/94	430	---	---	---	---	---	---	---
MW-044	10/01/94	360	---	---	---	---	---	---	---
MW-044	01/01/95	360	---	---	---	---	---	---	---
MW-044	07/01/95	400	---	---	---	---	---	---	---
MW-044	10/01/95	520	---	---	---	---	---	---	---
MW-044	01/01/96	580	---	---	---	---	---	---	---
MW-044	04/01/96	530	---	---	---	---	---	---	---
MW-044	07/01/96	480	---	---	---	---	---	---	---
MW-044	10/01/96	32	---	---	---	---	---	---	---
MW-044	02/07/97	180	---	---	---	---	---	---	---
MW-044	07/18/97	310	---	---	---	---	---	---	---
MW-045	06/01/91	507	---	---	2940	---	---	---	---
MW-045	06/25/91	---	---	---	---	3.9	---	---	---
MW-045	09/01/91	---	---	---	2090	---	---	---	---
MW-045	12/01/91	354	---	---	---	---	---	---	---

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For RCL GENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Alkalinity as CaCO3, Total (mg/l)	Carbonate Alkalinity (mg/l)	Bicarbonate Alkalinity (mg/l)	Carbon Dioxide Free as CaCO3 (mg/l)	Hydroxide as CaCO3 (mg/l)	Total dissolved solids (TDS) (mg/l)	Specific Conductivity (umh/c)	pH
MW-043	07/18/97	---	---	---	---	---	---	---	---
MW-044	06/01/91	---	---	---	---	---	641	---	---
MW-044	06/25/91	---	---	---	---	---	---	---	---
MW-044	04/01/92	---	---	---	---	---	---	---	---
MW-044	07/01/92	---	---	---	---	---	---	---	---
MW-044	10/01/92	---	---	---	---	---	---	---	---
MW-044	01/01/93	---	---	---	---	---	---	---	---
MW-044	04/01/93	---	---	---	---	---	---	---	---
MW-044	07/01/93	---	---	---	---	---	---	---	---
MW-044	10/01/93	---	---	---	---	---	---	---	---
MW-044	01/01/94	---	---	---	---	---	---	---	---
MW-044	04/01/94	---	---	---	---	---	---	---	---
MW-044	07/01/94	---	---	---	---	---	---	---	---
MW-044	10/01/94	---	---	---	---	---	---	---	---
MW-044	01/01/95	---	---	---	---	---	---	---	---
MW-044	07/01/95	---	---	---	---	---	---	---	---
MW-044	10/01/95	---	---	---	---	---	---	---	---
MW-044	01/01/96	---	---	---	---	---	---	---	---
MW-044	04/01/96	---	---	---	---	---	---	---	---
MW-044	07/01/96	---	---	---	---	---	---	---	---
MW-044	10/01/96	---	---	---	---	---	---	---	---
MW-044	02/07/97	---	---	---	---	---	---	---	---
MW-044	07/18/97	---	---	---	---	---	---	---	---
MW-045	06/01/91	---	---	---	---	---	5440	---	---
MW-045	06/25/91	---	---	---	---	---	---	---	---
MW-045	09/01/91	---	---	---	---	---	3920	---	---
MW-045	12/01/91	---	---	---	---	---	---	---	---

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For ROUSENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Chloride (mg/l)	Fluoride (mg/l)	Bromide (mg/l)	Sulfate (mg/l)	Nitrate (mg/l)	Ammonia (as N) (mg/l)	Nitrogen Kjeldahl, total (as N) (mg/l)	Orthophosphate (mg/l)
MW-045	07/01/93	434	---	---	---	---	---	---	---
MW-045	10/01/93	408	---	---	---	---	---	---	---
MW-045	01/01/94	440	---	---	---	---	---	---	---
MW-045	04/01/94	430	---	---	---	---	---	---	---
MW-045	07/01/94	429	---	---	---	---	---	---	---
MW-046	06/01/91	152	---	---	20	---	---	---	---
MW-046	06/25/91	---	---	---	---	0.1	---	---	---
MW-046	07/01/91	45	---	---	---	0.1	---	---	---
MW-046	10/01/96	170	---	---	---	---	---	---	---
MW-046	02/11/97	220	---	---	---	---	---	---	---
MW-046	05/29/97	132	1.3	---	106	---	---	---	---
MW-046	07/18/97	180	1.3	---	---	---	---	---	---
MW-046	12/10/97	---	1.3	---	---	---	---	---	---
MW-047	06/01/91	51	---	---	23	---	---	---	---
MW-047	06/25/91	---	---	---	---	<0.1	---	---	---
MW-047	12/01/91	433	---	---	---	---	---	---	---
MW-047	10/01/96	700	---	---	---	---	---	---	---
MW-048	12/01/91	400	---	---	---	---	---	---	---
MW-048	07/01/92	431	---	---	---	---	---	---	---
MW-048	10/01/96	200	---	---	---	---	---	---	---
MW-049	06/01/91	365	---	---	1800	---	---	---	---
MW-049	06/25/91	---	---	---	---	<0.1	---	---	---
MW-049	07/01/93	399	---	---	---	---	---	---	---
MW-049	10/01/93	397	---	---	---	---	---	---	---
MW-049	01/01/94	400	---	---	---	---	---	---	---
MW-049	04/01/94	380	---	---	---	---	---	---	---
MW-049	07/01/94	368	---	---	---	---	---	---	---

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For RCL GENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Alkalinity as CaCO3, Total (mg/l)	Carbonate Alkalinity (mg/l)	Bicarbonate Alkalinity (mg/l)	Carbon Dioxide Free as CaCO3 (mg/l)	Hydroxide as CaCO3 (mg/l)	Total dissolved solids (TDS) (mg/l)	Specific Conductivity (umh/c)	pH
MW-045	07/01/93	---	---	---	---	---	---	---	---
MW-045	10/01/93	---	---	---	---	---	---	---	---
MW-045	01/01/94	---	---	---	---	---	---	---	---
MW-045	04/01/94	---	---	---	---	---	---	---	---
MW-045	07/01/94	---	---	---	---	---	---	---	---
MW-046	06/01/91	---	---	---	---	---	1220	---	---
MW-046	06/25/91	---	---	---	---	---	---	---	---
MW-046	07/01/91	---	---	---	---	---	---	---	---
MW-046	10/01/96	---	---	---	---	---	---	---	---
MW-046	02/11/97	---	---	---	---	---	---	---	---
MW-046	05/29/97	990	3	987	62	<1	1300	1200	7.5
MW-046	07/18/97	---	---	---	---	---	---	---	---
MW-046	12/10/97	---	---	---	---	---	---	---	---
MW-047	06/01/91	---	---	---	---	---	652	---	---
MW-047	06/25/91	---	---	---	---	---	---	---	---
MW-047	12/01/91	---	---	---	---	---	---	---	---
MW-047	10/01/96	---	---	---	---	---	---	---	---
MW-048	12/01/91	---	---	---	---	---	---	---	---
MW-048	07/01/92	---	---	---	---	---	---	---	---
MW-048	10/01/96	---	---	---	---	---	---	---	---
MW-049	06/01/91	---	---	---	---	---	3910	---	---
MW-049	06/25/91	---	---	---	---	---	---	---	---
MW-049	07/01/93	---	---	---	---	---	---	---	---
MW-049	10/01/93	---	---	---	---	---	---	---	---
MW-049	01/01/94	---	---	---	---	---	---	---	---
MW-049	04/01/94	---	---	---	---	---	---	---	---
MW-049	07/01/94	---	---	---	---	---	---	---	---

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For RCI GENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Chloride (mg/l)	Fluoride (mg/l)	Bromide (mg/l)	Sulfate (mg/l)	Nitrate (mg/l)	Ammonia (as N) (mg/l)	Nitrogen Kjeldahl, total (as N) (mg/l)	Orthophosphate (mg/l)
MW-049	10/01/94	380	---	---	---	---	---	---	---
MW-049	01/01/95	389	---	---	---	---	---	---	---
MW-049	07/01/95	380	---	---	---	---	---	---	---
MW-049	10/01/95	350	---	---	---	---	---	---	---
MW-049	01/01/96	410	---	---	---	---	---	---	---
MW-049	04/01/96	400	---	---	---	---	---	---	---
MW-049	07/01/96	360	---	---	---	---	---	---	---
MW-049	10/01/96	36	---	---	---	---	---	---	---
MW-049	02/07/97	410	---	---	---	---	---	---	---
MW-049	03/20/97	---	1.4	---	1000	---	---	---	---
MW-049	07/18/97	350	---	---	---	---	---	---	---
MW-050	06/01/91	388	---	---	3420	---	---	---	---
MW-050	06/25/91	---	---	---	---	1.5	---	---	---
MW-050	12/01/91	380	---	---	---	---	---	---	---
MW-050	04/01/92	397	---	---	---	---	---	---	---
MW-050	07/01/92	379	---	---	---	---	---	---	---
MW-050	10/01/92	370	---	---	---	---	---	---	---
MW-050	01/01/93	337	---	---	---	---	---	---	---
MW-050	04/01/93	955	---	---	---	---	---	---	---
MW-050	07/01/93	347	---	---	---	---	---	---	---
MW-050	10/01/93	292	---	---	---	---	---	---	---
MW-050	01/01/94	320	---	---	---	---	---	---	---
MW-050	04/01/94	290	---	---	---	---	---	---	---
MW-050	07/01/94	290	---	---	---	---	---	---	---
MW-050	10/01/94	290	---	---	---	---	---	---	---
MW-050	01/01/95	314	---	---	---	---	---	---	---
MW-050	07/01/95	310	---	---	---	---	---	---	---

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For RCL GENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Alkalinity as CaCO3, Total (mg/l)	Carbonate Alkalinity (mg/l)	Bicarbonate Alkalinity (mg/l)	Carbon Dioxide Free as CaCO3 (mg/l)	Hydroxide as CaCO3 (mg/l)	Total dissolved solids (TDS) (mg/l)	Specific Conductivity (umh/c)	pH
MW-049	10/01/94	---	---	---	---	---	---	---	---
MW-049	01/01/95	---	---	---	---	---	---	---	---
MW-049	07/01/95	---	---	---	---	---	---	---	---
MW-049	10/01/95	---	---	---	---	---	---	---	---
MW-049	01/01/96	---	---	---	---	---	---	---	---
MW-049	04/01/96	---	---	---	---	---	---	---	---
MW-049	07/01/96	---	---	---	---	---	---	---	---
MW-049	10/01/96	---	---	---	---	---	---	---	---
MW-049	02/07/97	---	---	---	---	---	---	---	---
MW-049	03/20/97	---	---	---	---	---	3100	---	---
MW-049	07/18/97	---	---	---	---	---	---	---	---
MW-050	06/01/91	---	---	---	---	---	6070	---	---
MW-050	06/25/91	---	---	---	---	---	---	---	---
MW-050	12/01/91	---	---	---	---	---	---	---	---
MW-050	04/01/92	---	---	---	---	---	---	---	---
MW-050	07/01/92	---	---	---	---	---	---	---	---
MW-050	10/01/92	---	---	---	---	---	---	---	---
MW-050	01/01/93	---	---	---	---	---	---	---	---
MW-050	04/01/93	---	---	---	---	---	---	---	---
MW-050	07/01/93	---	---	---	---	---	---	---	---
MW-050	10/01/93	---	---	---	---	---	---	---	---
MW-050	01/01/94	---	---	---	---	---	---	---	---
MW-050	04/01/94	---	---	---	---	---	---	---	---
MW-050	07/01/94	---	---	---	---	---	---	---	---
MW-050	10/01/94	---	---	---	---	---	---	---	---
MW-050	01/01/95	---	---	---	---	---	---	---	---
MW-050	07/01/95	---	---	---	---	---	---	---	---

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For RCI_GENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Chloride (mg/l)	Fluoride (mg/l)	Bromide (mg/l)	Sulfate (mg/l)	Nitrate (mg/l)	Ammonia (as N) (mg/l)	Nitrogen Kjeldahl, total (as N) (mg/l)	Orthophosphate (mg/l)
MW-050	10/01/95	240	---	---	---	---	---	---	---
MW-050	01/01/96	290	---	---	---	---	---	---	---
MW-050	04/01/96	330	---	---	---	---	---	---	---
MW-050	07/01/96	310	---	---	---	---	---	---	---
MW-050	10/01/96	360	---	---	---	---	---	---	---
MW-050	02/07/97	360	---	---	---	---	---	---	---
MW-050	03/20/97	---	1.2	---	3600	---	---	---	---
MW-050	07/18/97	330	---	---	---	---	---	---	---
MW-051	12/01/91	38	---	---	---	---	---	---	---
MW-052	07/01/92	3	---	---	---	---	---	---	---
MW-054	12/01/91	87	---	---	---	---	---	---	---
MW-054	04/01/92	151	---	---	---	---	---	---	---
MW-054	07/01/92	80	---	---	---	---	---	---	---
MW-054	10/01/92	55	---	---	---	---	---	---	---
MW-054	01/01/93	134	---	---	---	---	---	---	---
MW-054	04/01/93	145	---	---	---	---	---	---	---
MW-054	07/01/93	146	---	---	---	---	---	---	---
MW-054	10/01/93	122	---	---	---	---	---	---	---
MW-054	01/01/94	140	---	---	---	---	---	---	---
MW-054	04/01/94	102	---	---	---	---	---	---	---
MW-054	07/01/94	135	---	---	---	---	---	---	---
MW-054	10/01/94	130	---	---	---	---	---	---	---
MW-054	01/01/95	32.0	---	---	---	---	---	---	---
MW-054	07/01/95	95	---	---	---	---	---	---	---
MW-054	10/01/95	110	---	---	---	---	---	---	---
MW-054	01/01/96	120	---	---	---	---	---	---	---
MW-054	04/01/96	140	---	---	---	---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL GENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Alkalinity as CaCO3, Total (mg/l)	Carbonate Alkalinity (mg/l)	Bicarbonate Alkalinity (mg/l)	Carbon Dioxide Free as CaCO3 (mg/l)	Hydroxide as CaCO3 (mg/l)	Total dissolved solids (TDS) (mg/l)	Specific Conductivity (umh/c)	pH
MW-050	10/01/95	---	---	---	---	---	---	---	---
MW-050	01/01/96	---	---	---	---	---	---	---	---
MW-050	04/01/96	---	---	---	---	---	---	---	---
MW-050	07/01/96	---	---	---	---	---	---	---	---
MW-050	10/01/96	---	---	---	---	---	---	---	---
MW-050	02/07/97	---	---	---	---	---	---	---	---
MW-050	03/20/97	---	---	---	---	---	5900	---	---
MW-050	07/18/97	---	---	---	---	---	---	---	---
MW-051	12/01/91	---	---	---	---	---	---	---	---
MW-052	07/01/92	---	---	---	---	---	---	---	---
MW-054	12/01/91	---	---	---	---	---	---	---	---
MW-054	04/01/92	---	---	---	---	---	---	---	---
MW-054	07/01/92	---	---	---	---	---	---	---	---
MW-054	10/01/92	---	---	---	---	---	---	---	---
MW-054	01/01/93	---	---	---	---	---	---	---	---
MW-054	04/01/93	---	---	---	---	---	---	---	---
MW-054	07/01/93	---	---	---	---	---	---	---	---
MW-054	10/01/93	---	---	---	---	---	---	---	---
MW-054	01/01/94	---	---	---	---	---	---	---	---
MW-054	04/01/94	---	---	---	---	---	---	---	---
MW-054	07/01/94	---	---	---	---	---	---	---	---
MW-054	10/01/94	---	---	---	---	---	---	---	---
MW-054	01/01/95	---	---	---	---	---	---	---	---
MW-054	07/01/95	---	---	---	---	---	---	---	---
MW-054	10/01/95	---	---	---	---	---	---	---	---
MW-054	01/01/96	---	---	---	---	---	---	---	---
MW-054	04/01/96	---	---	---	---	---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCI GENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Chloride (mg/l)	Fluoride (mg/l)	Bromide (mg/l)	Sulfate (mg/l)	Nitrate (mg/l)	Ammonia (as N) (mg/l)	Nitrogen Kjeldahl, total (as N) (mg/l)	Orthophosphate (mg/l)
MW-054	07/01/96	110	---	---	---	---	---	---	---
MW-054	10/01/96	110	---	---	---	---	---	---	---
MW-054	02/10/97	180	---	---	---	---	---	---	---
MW-054	07/16/97	160	---	---	---	---	---	---	---
MW-055	06/01/91	200	---	---	---	---	---	---	---
MW-055	12/01/91	501	---	---	---	---	---	---	---
MW-055	04/01/92	385	---	---	---	---	---	---	---
MW-055	07/01/92	273	---	---	---	---	---	---	---
MW-055	10/01/92	292	---	---	---	---	---	---	---
MW-055	01/01/93	300	---	---	---	---	---	---	---
MW-055	04/01/93	301	---	---	---	---	---	---	---
MW-055	07/01/93	312	---	---	---	---	---	---	---
MW-055	10/01/93	287	---	---	---	---	---	---	---
MW-055	01/01/94	320	---	---	---	---	---	---	---
MW-055	04/01/94	310	---	---	---	---	---	---	---
MW-055	07/01/94	299	---	---	---	---	---	---	---
MW-055	10/01/94	390	---	---	---	---	---	---	---
MW-055	01/01/95	321	---	---	---	---	---	---	---
MW-055	07/01/95	300	---	---	---	---	---	---	---
MW-055	10/01/95	250	---	---	---	---	---	---	---
MW-055	01/01/96	370	---	---	---	---	---	---	---
MW-055	04/01/96	310	---	---	---	---	---	---	---
MW-055	07/01/96	350	---	---	---	---	---	---	---
MW-055	10/01/96	210	---	---	---	---	---	---	---
MW-055	02/10/97	270	---	---	---	---	---	---	---
MW-055	07/16/97	300	---	---	---	---	---	---	---
MW-056	06/01/91	100	---	---	---	---	---	---	---

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For RCL GENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Alkalinity as CaCO3, Total (mg/l)	Carbonate Alkalinity (mg/l)	Bicarbonate Alkalinity (mg/l)	Carbon Dioxide Free as CaCO3 (mg/l)	Hydroxide as CaCO3 (mg/l)	Total dissolved solids (TDS) (mg/l)	Specific Conductivity (umh/c)	pH
MW-054	07/01/96	---	---	---	---	---	---	---	---
MW-054	10/01/96	---	---	---	---	---	---	---	---
MW-054	02/10/97	---	---	---	---	---	---	---	---
MW-054	07/16/97	---	---	---	---	---	---	---	---
MW-055	06/01/91	---	---	---	---	---	---	---	---
MW-055	12/01/91	---	---	---	---	---	---	---	---
MW-055	04/01/92	---	---	---	---	---	---	---	---
MW-055	07/01/92	---	---	---	---	---	---	---	---
MW-055	10/01/92	---	---	---	---	---	---	---	---
MW-055	01/01/93	---	---	---	---	---	---	---	---
MW-055	04/01/93	---	---	---	---	---	---	---	---
MW-055	07/01/93	---	---	---	---	---	---	---	---
MW-055	10/01/93	---	---	---	---	---	---	---	---
MW-055	01/01/94	---	---	---	---	---	---	---	---
MW-055	04/01/94	---	---	---	---	---	---	---	---
MW-055	07/01/94	---	---	---	---	---	---	---	---
MW-055	10/01/94	---	---	---	---	---	---	---	---
MW-055	01/01/95	---	---	---	---	---	---	---	---
MW-055	07/01/95	---	---	---	---	---	---	---	---
MW-055	10/01/95	---	---	---	---	---	---	---	---
MW-055	01/01/96	---	---	---	---	---	---	---	---
MW-055	04/01/96	---	---	---	---	---	---	---	---
MW-055	07/01/96	---	---	---	---	---	---	---	---
MW-055	10/01/96	---	---	---	---	---	---	---	---
MW-055	02/10/97	---	---	---	---	---	---	---	---
MW-055	07/16/97	---	---	---	---	---	---	---	---
MW-056	06/01/91	---	---	---	---	---	---	---	---

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For RO[illegible]GENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Chloride (mg/l)	Fluoride (mg/l)	Bromide (mg/l)	Sulfate (mg/l)	Nitrate (mg/l)	Ammonia (as N) (mg/l)	Nitrogen Kjeldahl, total (as N) (mg/l)	Orthophosphate (mg/l)
MW-056	07/01/91	102	---	---	---	---	---	---	---
MW-056	09/01/91	---	---	---	<10	---	---	---	---
MW-056	12/01/91	197	---	---	---	---	---	---	---
MW-056	07/01/92	248	---	---	---	---	---	---	---
MW-056	10/01/92	183	---	---	---	---	---	---	---
MW-056	01/01/93	269	---	---	---	---	---	---	---
MW-056	10/01/96	270	---	---	---	---	---	---	---
MW-056	02/11/97	170	---	---	---	---	---	---	---
MW-056	03/20/97	---	1.5	---	<10	---	---	---	---
MW-057	08/01/91	15.2	---	---	---	---	---	---	---
MW-057	07/01/91	21	<1.0	---	60	2.7	---	---	---
MW-057	12/01/91	32	---	---	---	---	---	---	---
MW-057	04/01/92	117	---	---	---	---	---	---	---
MW-057	07/01/92	63	---	---	---	---	---	---	---
MW-057	10/01/92	67	---	---	---	---	---	---	---
MW-057	01/01/93	131	---	---	---	---	---	---	---
MW-057	04/01/93	80	---	---	---	---	---	---	---
MW-057	07/01/93	72	---	---	---	---	---	---	---
MW-057	10/01/93	73.6	---	---	---	---	---	---	---
MW-057	01/01/94	64	---	---	---	---	---	---	---
MW-057	04/01/94	58	---	---	---	---	---	---	---
MW-057	07/01/94	48	---	---	---	---	---	---	---
MW-057	10/01/94	60	---	---	---	---	---	---	---
MW-057	01/01/95	35	---	---	---	---	---	---	---
MW-057	07/01/95	37	---	---	---	---	---	---	---
MW-057	10/01/95	47	---	---	---	---	---	---	---
MW-057	01/01/96	44	---	---	---	---	---	---	---

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For RCL GENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Alkalinity as CaCO3, Total (mg/l)	Carbonate Alkalinity (mg/l)	Bicarbonate Alkalinity (mg/l)	Carbon Dioxide Free as CaCO3 (mg/l)	Hydroxide as CaCO3 (mg/l)	Total dissolved solids (TDS) (mg/l)	Specific Conductivity (umh/c)	pH
MW-056	07/01/91	---	---	---	---	---	---	---	---
MW-056	09/01/91	---	---	---	---	---	1220	---	---
MW-056	12/01/91	---	---	---	---	---	---	---	---
MW-056	07/01/92	---	---	---	---	---	---	---	---
MW-056	10/01/92	---	---	---	---	---	---	---	---
MW-056	01/01/93	---	---	---	---	---	---	---	---
MW-056	10/01/96	---	---	---	---	---	---	---	---
MW-056	02/11/97	---	---	---	---	---	---	---	---
MW-056	03/20/97	---	---	---	---	---	1200	---	---
MW-057	06/01/91	---	---	---	---	---	---	---	---
MW-057	07/01/91	---	---	---	---	---	460	---	---
MW-057	12/01/91	---	---	---	---	---	---	---	---
MW-057	04/01/92	---	---	---	---	---	---	---	---
MW-057	07/01/92	---	---	---	---	---	---	---	---
MW-057	10/01/92	---	---	---	---	---	---	---	---
MW-057	01/01/93	---	---	---	---	---	---	---	---
MW-057	04/01/93	---	---	---	---	---	---	---	---
MW-057	07/01/93	---	---	---	---	---	---	---	---
MW-057	10/01/93	---	---	---	---	---	---	---	---
MW-057	01/01/94	---	---	---	---	---	---	---	---
MW-057	04/01/94	---	---	---	---	---	---	---	---
MW-057	07/01/94	---	---	---	---	---	---	---	---
MW-057	10/01/94	---	---	---	---	---	---	---	---
MW-057	01/01/95	---	---	---	---	---	---	---	---
MW-057	07/01/95	---	---	---	---	---	---	---	---
MW-057	10/01/95	---	---	---	---	---	---	---	---
MW-057	01/01/96	---	---	---	---	---	---	---	---

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For RC[illegible]ENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Chloride (mg/l)	Fluoride (mg/l)	Bromide (mg/l)	Sulfate (mg/l)	Nitrate (mg/l)	Ammonia (as N) (mg/l)	Nitrogen Kjeldahl, total (as N) (mg/l)	Orthophosphate (mg/l)
MW-057	04/01/96	44	---	---	---	---	---	---	---
MW-057	07/01/96	30	---	---	---	---	---	---	---
MW-057	10/01/96	30	---	---	---	---	---	---	---
MW-057	02/10/97	32	---	---	---	---	---	---	---
MW-057	07/15/97	36	---	---	---	---	---	---	---
MW-058	12/01/91	124	---	---	---	---	---	---	---
MW-058	04/01/92	156	---	---	---	---	---	---	---
MW-058	07/01/92	149	---	---	---	---	---	---	---
MW-058	10/01/92	155	---	---	---	---	---	---	---
MW-058	01/01/93	175	---	---	---	---	---	---	---
MW-058	04/01/93	133	---	---	---	---	---	---	---
MW-058	07/01/93	133	---	---	---	---	---	---	---
MW-058	10/01/93	59	---	---	---	---	---	---	---
MW-058	04/01/94	48	---	---	---	---	---	---	---
MW-058	07/01/94	38	---	---	---	---	---	---	---
MW-058	10/01/94	11	---	---	---	---	---	---	---
MW-058	01/01/95	26	---	---	---	---	---	---	---
MW-058	10/01/96	38	---	---	---	---	---	---	---
MW-059	12/01/91	149	---	---	---	---	---	---	---
MW-059	04/01/92	52	---	---	---	---	---	---	---
MW-059	07/01/92	55	---	---	---	---	---	---	---
MW-059	10/01/92	69	---	---	---	---	---	---	---
MW-059	01/01/93	46	---	---	---	---	---	---	---
MW-059	04/01/93	29	---	---	---	---	---	---	---
MW-059	10/01/93	56	---	---	---	---	---	---	---
MW-059	04/01/94	30	---	---	---	---	---	---	---
MW-059	07/01/94	<5.0	---	---	---	---	---	---	---

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For RCL GENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Alkalinity as CaCO3, Total (mg/l)	Carbonate Alkalinity (mg/l)	Bicarbonate Alkalinity (mg/l)	Carbon Dioxide Free as CaCO3 (mg/l)	Hydroxide as CaCO3 (mg/l)	Total dissolved solids (TDS) (mg/l)	Specific Conductivity (umh/c)	pH
MW-057	04/01/96	---	---	---	---	---	---	---	---
MW-057	07/01/96	---	---	---	---	---	---	---	---
MW-057	10/01/96	---	---	---	---	---	---	---	---
MW-057	02/10/97	---	---	---	---	---	---	---	---
MW-057	07/15/97	---	---	---	---	---	---	---	---
MW-058	12/01/91	---	---	---	---	---	---	---	---
MW-058	04/01/92	---	---	---	---	---	---	---	---
MW-058	07/01/92	---	---	---	---	---	---	---	---
MW-058	10/01/92	---	---	---	---	---	---	---	---
MW-058	01/01/93	---	---	---	---	---	---	---	---
MW-058	04/01/93	---	---	---	---	---	---	---	---
MW-058	07/01/93	---	---	---	---	---	---	---	---
MW-058	10/01/93	---	---	---	---	---	---	---	---
MW-058	04/01/94	---	---	---	---	---	---	---	---
MW-058	07/01/94	---	---	---	---	---	---	---	---
MW-058	10/01/94	---	---	---	---	---	---	---	---
MW-058	01/01/95	---	---	---	---	---	---	---	---
MW-058	10/01/96	---	---	---	---	---	---	---	---
MW-059	12/01/91	---	---	---	---	---	---	---	---
MW-059	04/01/92	---	---	---	---	---	---	---	---
MW-059	07/01/92	---	---	---	---	---	---	---	---
MW-059	10/01/92	---	---	---	---	---	---	---	---
MW-059	01/01/93	---	---	---	---	---	---	---	---
MW-059	04/01/93	---	---	---	---	---	---	---	---
MW-059	10/01/93	---	---	---	---	---	---	---	---
MW-059	04/01/94	---	---	---	---	---	---	---	---
MW-059	07/01/94	---	---	---	---	---	---	---	---

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For RCI_GENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Chloride (mg/l)	Fluoride (mg/l)	Bromide (mg/l)	Sulfate (mg/l)	Nitrate (mg/l)	Ammonia (as N) (mg/l)	Nitrogen Kjeldahl, total (as N) (mg/l)	Orthophosphate (mg/l)
MW-059	10/01/94	25	---	---	---	---	---	---	---
MW-059	01/01/95	12	---	---	---	---	---	---	---
MW-059	02/09/97	29	---	---	---	---	---	---	---
MW-060	07/01/91	13	2	---	383	0.4	---	---	---
MW-060	12/01/91	10	---	---	---	---	---	---	---
MW-060	04/01/92	10	---	---	---	---	---	---	---
MW-060	07/01/92	10	---	---	---	---	---	---	---
MW-060	10/01/92	14	---	---	---	---	---	---	---
MW-060	01/01/93	6	---	---	---	---	---	---	---
MW-060	04/01/93	9	---	---	---	---	---	---	---
MW-060	07/01/93	10.7	---	---	---	---	---	---	---
MW-060	10/01/93	13.5	---	---	---	---	---	---	---
MW-060	01/01/94	9.5	---	---	---	---	---	---	---
MW-060	04/01/94	9.0	---	---	---	---	---	---	---
MW-060	07/01/94	<5.0	---	---	---	---	---	---	---
MW-060	10/01/94	9.1	---	---	---	---	---	---	---
MW-060	01/01/95	20	---	---	---	---	---	---	---
MW-060	07/01/95	9	---	---	---	---	---	---	---
MW-060	10/01/95	9	---	---	---	---	---	---	---
MW-060	01/01/96	16	---	---	---	---	---	---	---
MW-060	04/01/96	12.7	---	---	---	---	---	---	---
MW-060	07/01/96	12	---	---	---	---	---	---	---
MW-060	10/01/96	12	---	---	---	---	---	---	---
MW-060	02/09/97	9	---	---	---	---	---	---	---
MW-060	03/19/97	---	0.8	---	280	---	---	---	---
MW-060	05/06/97	10	---	---	---	---	---	---	---
MW-060	07/15/97	11	---	---	---	---	---	---	---

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For RCL GENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Alkalinity as CaCO3, Total (mg/l)	Carbonate Alkalinity (mg/l)	Bicarbonate Alkalinity (mg/l)	Carbon Dioxide Free as CaCO3 (mg/l)	Hydroxide as CaCO3 (mg/l)	Total dissolved solids (TDS) (mg/l)	Specific Conductivity (umh/c)	pH
MW-059	10/01/94	---	---	---	---	---	---	---	---
MW-059	01/01/95	---	---	---	---	---	---	---	---
MW-059	02/09/97	---	---	---	---	---	---	---	---
MW-060	07/01/91	---	---	---	---	---	860	---	---
MW-060	12/01/91	---	---	---	---	---	---	---	---
MW-060	04/01/92	---	---	---	---	---	---	---	---
MW-060	07/01/92	---	---	---	---	---	---	---	---
MW-060	10/01/92	---	---	---	---	---	---	---	---
MW-060	01/01/93	---	---	---	---	---	---	---	---
MW-060	04/01/93	---	---	---	---	---	---	---	---
MW-060	07/01/93	---	---	---	---	---	---	---	---
MW-060	10/01/93	---	---	---	---	---	---	---	---
MW-060	01/01/94	---	---	---	---	---	---	---	---
MW-060	04/01/94	---	---	---	---	---	---	---	---
MW-060	07/01/94	---	---	---	---	---	---	---	---
MW-060	10/01/94	---	---	---	---	---	---	---	---
MW-060	01/01/95	---	---	---	---	---	---	---	---
MW-060	07/01/95	---	---	---	---	---	---	---	---
MW-060	10/01/95	---	---	---	---	---	---	---	---
MW-060	01/01/96	---	---	---	---	---	---	---	---
MW-060	04/01/96	---	---	---	---	---	---	---	---
MW-060	07/01/96	---	---	---	---	---	---	---	---
MW-060	10/01/96	---	---	---	---	---	---	---	---
MW-060	02/09/97	---	---	---	---	---	---	---	---
MW-060	03/19/97	---	---	---	---	---	760	---	---
MW-060	05/06/97	---	---	---	---	---	---	---	---
MW-060	07/15/97	---	---	---	---	---	---	---	---

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For RCI GENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Chloride (mg/l)	Fluoride (mg/l)	Bromide (mg/l)	Sulfate (mg/l)	Nitrate (mg/l)	Ammonia (as N) (mg/l)	Nitrogen Kjeldahl, total (as N) (mg/l)	Orthophosphate (mg/l)
MW-060	10/16/97	---	---	---	---	0.28	0.07	<0.2	0.06
MW-061	12/01/91	413	---	---	---	---	---	---	---
MW-061	01/01/94	420	---	---	---	---	---	---	---
MW-061	04/01/94	450	---	---	---	---	---	---	---
MW-061	07/01/94	387	---	---	---	---	---	---	---
MW-061	10/01/94	400	---	---	---	---	---	---	---
MW-061	01/01/95	439	---	---	---	---	---	---	---
MW-061	07/01/95	400	---	---	---	---	---	---	---
MW-061	10/01/95	300	---	---	---	---	---	---	---
MW-061	01/01/96	420	---	---	---	---	---	---	---
MW-061	04/01/96	450	---	---	---	---	---	---	---
MW-061	07/01/96	370	---	---	---	---	---	---	---
MW-061	10/01/96	420	---	---	---	---	---	---	---
MW-061	02/10/97	410	---	---	---	---	---	---	---
MW-061	07/17/97	390	---	---	---	---	---	---	---
MW-061A	07/01/91	16	1.6	---	347	0.1	---	---	---
MW-061A	09/01/91	---	---	---	335	---	---	---	---
MW-061A	12/01/91	12	---	---	---	---	---	---	---
MW-061A	04/01/92	12	---	---	---	---	---	---	---
MW-061A	07/01/92	12	---	---	---	---	---	---	---
MW-061A	10/01/92	13	---	---	---	---	---	---	---
MW-061A	01/01/93	12	---	---	---	---	---	---	---
MW-061A	04/01/93	15	---	---	---	---	---	---	---
MW-061A	04/01/94	10.7	---	---	---	---	---	---	---
MW-061A	07/01/94	8	---	---	---	---	---	---	---
MW-061A	10/01/94	11	---	---	---	---	---	---	---
MW-061A	01/01/95	32	---	---	---	---	---	---	---

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For RCL GENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Alkalinity as CaCO3, Total (mg/l)	Carbonate Alkalinity (mg/l)	Bicarbonate Alkalinity (mg/l)	Carbon Dioxide Free as CaCO3 (mg/l)	Hydroxide as CaCO3 (mg/l)	Total dissolved solids (TDS) (mg/l)	Specific Conductivity (umh/c)	pH
MW-060	10/16/97	---	---	---	---	---	---	---	---
MW-061	12/01/91	---	---	---	---	---	---	---	---
MW-061	01/01/94	---	---	---	---	---	---	---	---
MW-061	04/01/94	---	---	---	---	---	---	---	---
MW-061	07/01/94	---	---	---	---	---	---	---	---
MW-061	10/01/94	---	---	---	---	---	---	---	---
MW-061	01/01/95	---	---	---	---	---	---	---	---
MW-061	07/01/95	---	---	---	---	---	---	---	---
MW-061	10/01/95	---	---	---	---	---	---	---	---
MW-061	01/01/96	---	---	---	---	---	---	---	---
MW-061	04/01/96	---	---	---	---	---	---	---	---
MW-061	07/01/96	---	---	---	---	---	---	---	---
MW-061	10/01/96	---	---	---	---	---	---	---	---
MW-061	02/10/97	---	---	---	---	---	---	---	---
MW-061	07/17/97	---	---	---	---	---	---	---	---
MW-061A	07/01/91	---	---	---	---	---	805	---	---
MW-061A	09/01/91	---	---	---	---	---	755	---	---
MW-061A	12/01/91	---	---	---	---	---	---	---	---
MW-061A	04/01/92	---	---	---	---	---	---	---	---
MW-061A	07/01/92	---	---	---	---	---	---	---	---
MW-061A	10/01/92	---	---	---	---	---	---	---	---
MW-061A	01/01/93	---	---	---	---	---	---	---	---
MW-061A	04/01/93	---	---	---	---	---	---	---	---
MW-061A	04/01/94	---	---	---	---	---	---	---	---
MW-061A	07/01/94	---	---	---	---	---	---	---	---
MW-061A	10/01/94	---	---	---	---	---	---	---	---
MW-061A	01/01/95	---	---	---	---	---	---	---	---

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For RCI GENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Chloride (mg/l)	Fluoride (mg/l)	Bromide (mg/l)	Sulfate (mg/l)	Nitrate (mg/l)	Ammonia (as N) (mg/l)	Nitrogen Kjeldahl, total (as N) (mg/l)	Orthophosphate (mg/l)
MW-061A	01/01/96	9	---	---	---	---	---	---	---
MW-061A	04/01/96	10.2	---	---	---	---	---	---	---
MW-061A	07/01/96	7	---	---	---	---	---	---	---
MW-061A	02/06/97	13	0.85	<0.3	340	---	---	---	---
MW-061A	05/07/97	11	---	---	---	---	---	---	---
MW-061A	06/26/97	12	---	---	---	---	---	---	---
MW-061A	07/15/97	10	---	---	---	---	---	---	---
MW-061A	10/15/97	---	---	---	---	<0.06	0.08	0.4	<2.5
MW-062	09/01/91	---	---	---	19	---	---	---	---
MW-062	12/01/91	247	---	---	---	---	---	---	---
MW-062	04/01/92	218	---	---	---	---	---	---	---
MW-062	07/01/92	236	---	---	---	---	---	---	---
MW-062	10/01/92	285	---	---	---	---	---	---	---
MW-062	01/01/93	202	---	---	---	---	---	---	---
MW-062	04/01/93	207	---	---	---	---	---	---	---
MW-062	07/01/93	459	---	---	---	---	---	---	---
MW-062	10/01/93	181	---	---	---	---	---	---	---
MW-062	01/01/94	160	---	---	---	---	---	---	---
MW-062	04/01/94	139	---	---	---	---	---	---	---
MW-062	07/01/94	129	---	---	---	---	---	---	---
MW-062	10/01/94	130	---	---	---	---	---	---	---
MW-062	01/01/95	152	---	---	---	---	---	---	---
MW-062	02/11/97	150	---	---	---	---	---	---	---
MW-062	07/18/97	100	---	---	---	---	---	---	---
MW-063	12/01/91	8	---	---	---	---	---	---	---
MW-063	04/01/92	14	---	---	---	---	---	---	---
MW-063	07/01/92	7	---	---	---	---	---	---	---

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For RCL GENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Alkalinity as CaCO3, Total (mg/l)	Carbonate Alkalinity (mg/l)	Bicarbonate Alkalinity (mg/l)	Carbon Dioxide Free as CaCO3 (mg/l)	Hydroxide as CaCO3 (mg/l)	Total dissolved solids (TDS) (mg/l)	Specific Conductivity (umh/c)	pH
MW-061A	01/01/96	---	---	---	---	---	---	---	---
MW-061A	04/01/96	---	---	---	---	---	---	---	---
MW-061A	07/01/96	---	---	---	---	---	---	---	---
MW-061A	02/06/97	266	<1	266	---	<1	840	1020	7.6
MW-061A	05/07/97	---	---	---	---	---	---	---	---
MW-061A	06/26/97	---	---	---	---	---	---	---	---
MW-061A	07/15/97	---	---	---	---	---	---	---	---
MW-061A	10/15/97	---	---	---	---	---	---	---	---
MW-062	09/01/91	---	---	---	---	---	1120	---	---
MW-062	12/01/91	---	---	---	---	---	---	---	---
MW-062	04/01/92	---	---	---	---	---	---	---	---
MW-062	07/01/92	---	---	---	---	---	---	---	---
MW-062	10/01/92	---	---	---	---	---	---	---	---
MW-062	01/01/93	---	---	---	---	---	---	---	---
MW-062	04/01/93	---	---	---	---	---	---	---	---
MW-062	07/01/93	---	---	---	---	---	---	---	---
MW-062	10/01/93	---	---	---	---	---	---	---	---
MW-062	01/01/94	---	---	---	---	---	---	---	---
MW-062	04/01/94	---	---	---	---	---	---	---	---
MW-062	07/01/94	---	---	---	---	---	---	---	---
MW-062	10/01/94	---	---	---	---	---	---	---	---
MW-062	01/01/95	---	---	---	---	---	---	---	---
MW-062	02/11/97	---	---	---	---	---	---	---	---
MW-062	07/18/97	---	---	---	---	---	---	---	---
MW-063	12/01/91	---	---	---	---	---	---	---	---
MW-063	04/01/92	---	---	---	---	---	---	---	---
MW-063	07/01/92	---	---	---	---	---	---	---	---

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For RCI_GENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Chloride (mg/l)	Fluoride (mg/l)	Bromide (mg/l)	Sulfate (mg/l)	Nitrate (mg/l)	Ammonia (as N) (mg/l)	Nitrogen Kjeldahl, total (as N) (mg/l)	Orthophosphate (mg/l)
MW-063	10/01/92	1	---	---	---	---	---	---	---
MW-063	01/01/93	3	---	---	---	---	---	---	---
MW-063	04/01/93	5.6	---	---	---	---	---	---	---
MW-063	07/01/93	3	---	---	---	---	---	---	---
MW-063	10/01/93	4	---	---	---	---	---	---	---
MW-063	01/01/94	5.7	---	---	---	---	---	---	---
MW-063	04/01/94	5.5	---	---	---	---	---	---	---
MW-063	07/01/94	<5.0	---	---	---	---	---	---	---
MW-063	10/01/94	6.2	---	---	---	---	---	---	---
MW-063	01/01/95	9	---	---	---	---	---	---	---
MW-063	07/01/95	7	---	---	---	---	---	---	---
MW-063	10/01/95	12	---	---	---	---	---	---	---
MW-063	01/01/96	10	---	---	---	---	---	---	---
MW-063	04/01/96	10.2	---	---	---	---	---	---	---
MW-063	07/01/96	10	---	---	---	---	---	---	---
MW-063	10/01/96	7	---	---	---	---	---	---	---
MW-063	02/05/97	7	---	---	---	---	---	---	---
MW-063	07/15/97	9	---	---	---	---	---	---	---
MW-063	10/15/97	---	---	---	---	6.6	<0.03	<0.2	0.25
MW-064	12/01/91	18	---	---	---	---	---	---	---
MW-064	04/01/92	13	---	---	---	---	---	---	---
MW-064	07/01/92	13	---	---	---	---	---	---	---
MW-064	10/01/92	12	---	---	---	---	---	---	---
MW-064	01/01/93	10.2	---	---	---	---	---	---	---
MW-064	04/01/93	10	---	---	---	---	---	---	---
MW-064	07/01/93	12.0	---	---	---	---	---	---	---
MW-064	10/01/93	8	---	---	---	---	---	---	---

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For RCL GENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Alkalinity as CaCO3, Total (mg/l)	Carbonate Alkalinity (mg/l)	Bicarbonate Alkalinity (mg/l)	Carbon Dioxide Free as CaCO3 (mg/l)	Hydroxide as CaCO3 (mg/l)	Total dissolved solids (TDS) (mg/l)	Specific Conductivity (umh/c)	pH
MW-063	10/01/92	---	---	---	---	---	---	---	---
MW-063	01/01/93	---	---	---	---	---	---	---	---
MW-063	04/01/93	---	---	---	---	---	---	---	---
MW-063	07/01/93	---	---	---	---	---	---	---	---
MW-063	10/01/93	---	---	---	---	---	---	---	---
MW-063	01/01/94	---	---	---	---	---	---	---	---
MW-063	04/01/94	---	---	---	---	---	---	---	---
MW-063	07/01/94	---	---	---	---	---	---	---	---
MW-063	10/01/94	---	---	---	---	---	---	---	---
MW-063	01/01/95	---	---	---	---	---	---	---	---
MW-063	07/01/95	---	---	---	---	---	---	---	---
MW-063	10/01/95	---	---	---	---	---	---	---	---
MW-063	01/01/96	---	---	---	---	---	---	---	---
MW-063	04/01/96	---	---	---	---	---	---	---	---
MW-063	07/01/96	---	---	---	---	---	---	---	---
MW-063	10/01/96	---	---	---	---	---	---	---	---
MW-063	02/05/97	---	---	---	---	---	---	---	---
MW-063	07/15/97	---	---	---	---	---	---	---	---
MW-063	10/15/97	---	---	---	---	---	---	---	---
MW-064	12/01/91	---	---	---	---	---	---	---	---
MW-064	04/01/92	---	---	---	---	---	---	---	---
MW-064	07/01/92	---	---	---	---	---	---	---	---
MW-064	10/01/92	---	---	---	---	---	---	---	---
MW-064	01/01/93	---	---	---	---	---	---	---	---
MW-064	04/01/93	---	---	---	---	---	---	---	---
MW-064	07/01/93	---	---	---	---	---	---	---	---
MW-064	10/01/93	---	---	---	---	---	---	---	---

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For RCI_GENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Chloride (mg/l)	Fluoride (mg/l)	Bromide (mg/l)	Sulfate (mg/l)	Nitrate (mg/l)	Ammonia (as N) (mg/l)	Nitrogen Kjeldahl, total (as N) (mg/l)	Orthophosphate (mg/l)
MW-064	01/01/94	10	---	---	---	---	---	---	---
MW-064	04/01/94	10	---	---	---	---	---	---	---
MW-064	07/01/94	<5.0	---	---	---	---	---	---	---
MW-064	10/01/94	10.2	---	---	---	---	---	---	---
MW-064	01/01/95	20	---	---	---	---	---	---	---
MW-064	07/01/95	11	---	---	---	---	---	---	---
MW-064	10/01/95	12	---	---	---	---	---	---	---
MW-064	01/01/96	12	---	---	---	---	---	---	---
MW-064	04/01/96	11.6	---	---	---	---	---	---	---
MW-064	02/11/97	11	---	---	---	---	---	---	---
MW-064	07/16/97	12	---	---	---	---	---	---	---
MW-065	12/01/91	3	---	---	---	---	---	---	---
MW-065	07/01/93	4	---	---	---	---	---	---	---
MW-065	10/01/94	5.9	---	---	---	---	---	---	---
MW-065	07/01/96	5	---	---	---	---	---	---	---
MW-065	10/01/96	3	---	---	---	---	---	---	---
MW-065	02/11/97	1.3	---	---	---	---	---	---	---
MW-065	05/07/97	2	---	---	---	---	---	---	---
MW-065A	12/01/91	22	---	---	---	---	---	---	---
MW-065A	04/01/92	33	---	---	---	---	---	---	---
MW-065A	07/01/92	18	---	---	---	---	---	---	---
MW-065A	10/01/92	35	---	---	---	---	---	---	---
MW-065A	01/01/93	35	---	---	---	---	---	---	---
MW-065A	04/01/93	26	---	---	---	---	---	---	---
MW-065A	07/01/93	19	---	---	---	---	---	---	---
MW-065A	10/01/93	17	---	---	---	---	---	---	---
MW-065A	01/01/94	18	---	---	---	---	---	---	---

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For RCL GENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Alkalinity as CaCO3, Total (mg/l)	Carbonate Alkalinity (mg/l)	Bicarbonate Alkalinity (mg/l)	Carbon Dioxide Free as CaCO3 (mg/l)	Hydroxide as CaCO3 (mg/l)	Total dissolved solids (TDS) (mg/l)	Specific Conductivity (umh/c)	pH
MW-064	01/01/94	---	---	---	---	---	---	---	---
MW-064	04/01/94	---	---	---	---	---	---	---	---
MW-064	07/01/94	---	---	---	---	---	---	---	---
MW-064	10/01/94	---	---	---	---	---	---	---	---
MW-064	01/01/95	---	---	---	---	---	---	---	---
MW-064	07/01/95	---	---	---	---	---	---	---	---
MW-064	10/01/95	---	---	---	---	---	---	---	---
MW-064	01/01/96	---	---	---	---	---	---	---	---
MW-064	04/01/96	---	---	---	---	---	---	---	---
MW-064	02/11/97	---	---	---	---	---	---	---	---
MW-064	07/16/97	---	---	---	---	---	---	---	---
MW-065	12/01/91	---	---	---	---	---	---	---	---
MW-065	07/01/93	---	---	---	---	---	---	---	---
MW-065	10/01/94	---	---	---	---	---	---	---	---
MW-065	07/01/96	---	---	---	---	---	---	---	---
MW-065	10/01/96	---	---	---	---	---	---	---	---
MW-065	02/11/97	---	---	---	---	---	---	---	---
MW-065	05/07/97	---	---	---	---	---	---	---	---
MW-065A	12/01/91	---	---	---	---	---	---	---	---
MW-065A	04/01/92	---	---	---	---	---	---	---	---
MW-065A	07/01/92	---	---	---	---	---	---	---	---
MW-065A	10/01/92	---	---	---	---	---	---	---	---
MW-065A	01/01/93	---	---	---	---	---	---	---	---
MW-065A	04/01/93	---	---	---	---	---	---	---	---
MW-065A	07/01/93	---	---	---	---	---	---	---	---
MW-065A	10/01/93	---	---	---	---	---	---	---	---
MW-065A	01/01/94	---	---	---	---	---	---	---	---

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For RC[illegible]ENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Chloride (mg/l)	Fluoride (mg/l)	Bromide (mg/l)	Sulfate (mg/l)	Nitrate (mg/l)	Ammonia (as N) (mg/l)	Nitrogen Kjeldahl, total (as N) (mg/l)	Orthophosphate (mg/l)
MW-065A	04/01/94	15	---	---	---	---	---	---	---
MW-065A	07/01/94	10	---	---	---	---	---	---	---
MW-065A	10/01/94	18	---	---	---	---	---	---	---
MW-065A	01/01/95	12	---	---	---	---	---	---	---
MW-065A	04/01/96	12.6	---	---	---	---	---	---	---
MW-066	12/01/91	9	---	---	---	---	---	---	---
MW-066	04/01/92	8	---	---	---	---	---	---	---
MW-066	07/01/92	8	---	---	---	---	---	---	---
MW-066	10/01/92	8	---	---	---	---	---	---	---
MW-066	01/01/93	12	---	---	---	---	---	---	---
MW-066	04/01/93	8	---	---	---	---	---	---	---
MW-066	07/01/93	15	---	---	---	---	---	---	---
MW-066	10/01/93	7	---	---	---	---	---	---	---
MW-066	01/01/94	9.0	---	---	---	---	---	---	---
MW-066	04/01/94	8.7	---	---	---	---	---	---	---
MW-066	07/01/94	<5.0	---	---	---	---	---	---	---
MW-066	10/01/94	8.8	---	---	---	---	---	---	---
MW-066	01/01/95	6	---	---	---	---	---	---	---
MW-066	07/01/95	8	---	---	---	---	---	---	---
MW-066	10/01/95	9	---	---	---	---	---	---	---
MW-066	01/01/96	10	---	---	---	---	---	---	---
MW-066	04/01/96	9.6	---	---	---	---	---	---	---
MW-066	07/01/96	6	---	---	---	---	---	---	---
MW-066	10/01/96	7	---	---	---	---	---	---	---
MW-066	02/05/97	9	---	---	---	---	---	---	---
MW-066	05/06/97	9	---	---	---	---	---	---	---
MW-066	07/16/97	8	---	---	---	---	---	---	---

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For RCL GENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Alkalinity as CaCO3, Total (mg/l)	Carbonate Alkalinity (mg/l)	Bicarbonate Alkalinity (mg/l)	Carbon Dioxide Free as CaCO3 (mg/l)	Hydroxide as CaCO3 (mg/l)	Total dissolved solids (TDS) (mg/l)	Specific Conductivity (umh/c)	pH
MW-065A	04/01/94	---	---	---	---	---	---	---	---
MW-065A	07/01/94	---	---	---	---	---	---	---	---
MW-065A	10/01/94	---	---	---	---	---	---	---	---
MW-065A	01/01/95	---	---	---	---	---	---	---	---
MW-065A	04/01/96	---	---	---	---	---	---	---	---
MW-066	12/01/91	---	---	---	---	---	---	---	---
MW-066	04/01/92	---	---	---	---	---	---	---	---
MW-066	07/01/92	---	---	---	---	---	---	---	---
MW-066	10/01/92	---	---	---	---	---	---	---	---
MW-066	01/01/93	---	---	---	---	---	---	---	---
MW-066	04/01/93	---	---	---	---	---	---	---	---
MW-066	07/01/93	---	---	---	---	---	---	---	---
MW-066	10/01/93	---	---	---	---	---	---	---	---
MW-066	01/01/94	---	---	---	---	---	---	---	---
MW-066	04/01/94	---	---	---	---	---	---	---	---
MW-066	07/01/94	---	---	---	---	---	---	---	---
MW-066	10/01/94	---	---	---	---	---	---	---	---
MW-066	01/01/95	---	---	---	---	---	---	---	---
MW-066	07/01/95	---	---	---	---	---	---	---	---
MW-066	10/01/95	---	---	---	---	---	---	---	---
MW-066	01/01/96	---	---	---	---	---	---	---	---
MW-066	04/01/96	---	---	---	---	---	---	---	---
MW-066	07/01/96	---	---	---	---	---	---	---	---
MW-066	10/01/96	---	---	---	---	---	---	---	---
MW-066	02/05/97	---	---	---	---	---	---	---	---
MW-066	05/06/97	---	---	---	---	---	---	---	---
MW-066	07/16/97	---	---	---	---	---	---	---	---

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DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Chloride (mg/l)	Fluoride (mg/l)	Bromide (mg/l)	Sulfate (mg/l)	Nitrate (mg/l)	Ammonia (as N) (mg/l)	Nitrogen Kjeldahl, total (as N) (mg/l)	Orthophosphate (mg/l)
MW-066	10/15/97	---	---	---	---	0.33	<0.03	<0.2	0.22
MW-067	12/01/91	7	---	---	---	---	---	---	---
MW-067	04/01/92	6	---	---	---	---	---	---	---
MW-067	07/01/92	3	---	---	---	---	---	---	---
MW-067	10/01/92	9	---	---	---	---	---	---	---
MW-067	01/01/93	4	---	---	---	---	---	---	---
MW-067	04/01/93	8	---	---	---	---	---	---	---
MW-067	07/01/93	6	---	---	---	---	---	---	---
MW-067	10/01/93	9.5	---	---	---	---	---	---	---
MW-067	01/01/94	8.6	---	---	---	---	---	---	---
MW-067	04/01/94	7.6	---	---	---	---	---	---	---
MW-067	07/01/94	<5.0	---	---	---	---	---	---	---
MW-067	10/01/94	7.9	---	---	---	---	---	---	---
MW-067	01/01/95	<5.0	---	---	---	---	---	---	---
MW-067	07/01/95	6	---	---	---	---	---	---	---
MW-067	10/01/95	6	---	---	---	---	---	---	---
MW-067	01/01/96	11	---	---	---	---	---	---	---
MW-067	04/01/96	7.4	---	---	---	---	---	---	---
MW-067	07/01/96	7	---	---	---	---	---	---	---
MW-067	02/10/97	9	---	---	---	---	---	---	---
MW-067	07/16/97	7	---	---	---	---	---	---	---
MW-068	12/01/91	39	---	---	---	---	---	---	---
MW-068	04/01/92	82	---	---	---	---	---	---	---
MW-068	07/01/92	15	---	---	---	---	---	---	---
MW-068	10/01/92	30	---	---	---	---	---	---	---
MW-068	01/01/93	27	---	---	---	---	---	---	---
MW-068	04/01/93	27	---	---	---	---	---	---	---

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For RCL GENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Alkalinity as CaCO3, Total (mg/l)	Carbonate Alkalinity (mg/l)	Bicarbonate Alkalinity (mg/l)	Carbon Dioxide Free as CaCO3 (mg/l)	Hydroxide as CaCO3 (mg/l)	Total dissolved solids (TDS) (mg/l)	Specific Conductivity (umh/c)	pH
MW-066	10/15/97	---	---	---	---	---	---	---	---
MW-067	12/01/91	---	---	---	---	---	---	---	---
MW-067	04/01/92	---	---	---	---	---	---	---	---
MW-067	07/01/92	---	---	---	---	---	---	---	---
MW-067	10/01/92	---	---	---	---	---	---	---	---
MW-067	01/01/93	---	---	---	---	---	---	---	---
MW-067	04/01/93	---	---	---	---	---	---	---	---
MW-067	07/01/93	---	---	---	---	---	---	---	---
MW-067	10/01/93	---	---	---	---	---	---	---	---
MW-067	01/01/94	---	---	---	---	---	---	---	---
MW-067	04/01/94	---	---	---	---	---	---	---	---
MW-067	07/01/94	---	---	---	---	---	---	---	---
MW-067	10/01/94	---	---	---	---	---	---	---	---
MW-067	01/01/95	---	---	---	---	---	---	---	---
MW-067	07/01/95	---	---	---	---	---	---	---	---
MW-067	10/01/95	---	---	---	---	---	---	---	---
MW-067	01/01/96	---	---	---	---	---	---	---	---
MW-067	04/01/96	---	---	---	---	---	---	---	---
MW-067	07/01/96	---	---	---	---	---	---	---	---
MW-067	02/10/97	---	---	---	---	---	---	---	---
MW-067	07/16/97	---	---	---	---	---	---	---	---
MW-068	12/01/91	---	---	---	---	---	---	---	---
MW-068	04/01/92	---	---	---	---	---	---	---	---
MW-068	07/01/92	---	---	---	---	---	---	---	---
MW-068	10/01/92	---	---	---	---	---	---	---	---
MW-068	01/01/93	---	---	---	---	---	---	---	---
MW-068	04/01/93	---	---	---	---	---	---	---	---

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DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Chloride (mg/l)	Fluoride (mg/l)	Bromide (mg/l)	Sulfate (mg/l)	Nitrate (mg/l)	Ammonia (as N) (mg/l)	Nitrogen Kjeldahl, total (as N) (mg/l)	Orthophosphate (mg/l)
MW-068	07/01/93	28	---	---	---	---	---	---	---
MW-068	10/01/93	27	---	---	---	---	---	---	---
MW-068	01/01/94	31	---	---	---	---	---	---	---
MW-068	04/01/94	30	---	---	---	---	---	---	---
MW-068	07/01/94	29	---	---	---	---	---	---	---
MW-068	10/01/94	32	---	---	---	---	---	---	---
MW-068	01/01/95	34	---	---	---	---	---	---	---
MW-068	10/17/97	---	---	---	---	0.08	<0.03	1.8	0.41
MW-069	12/01/91	154	---	---	---	---	---	---	---
MW-069	07/01/92	15	---	---	---	---	---	---	---
MW-069	10/01/92	43	---	---	---	---	---	---	---
MW-069	02/07/97	70	---	---	---	---	---	---	---
MW-069	07/18/97	64	---	---	---	---	---	---	---
MW-070	12/01/91	10	---	---	---	---	---	---	---
MW-070	04/01/92	8	---	---	---	---	---	---	---
MW-070	07/01/92	9.2	---	---	---	---	---	---	---
MW-070	10/01/92	17	---	---	---	---	---	---	---
MW-070	01/01/93	8	---	---	---	---	---	---	---
MW-070	04/01/93	8	---	---	---	---	---	---	---
MW-070	07/01/93	8	---	---	---	---	---	---	---
MW-070	10/01/93	11	---	---	---	---	---	---	---
MW-070	01/01/94	10	---	---	---	---	---	---	---
MW-070	04/01/94	9.5	---	---	---	---	---	---	---
MW-070	07/01/94	8.0	---	---	---	---	---	---	---
MW-070	10/01/94	9.5	---	---	---	---	---	---	---
MW-070	01/01/95	9.0	---	---	---	---	---	---	---
MW-070	07/01/95	9	---	---	---	---	---	---	---

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For RCL GENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Alkalinity as CaCO3, Total (mg/l)	Carbonate Alkalinity (mg/l)	Bicarbonate Alkalinity (mg/l)	Carbon Dioxide Free as CaCO3 (mg/l)	Hydroxide as CaCO3 (mg/l)	Total dissolved solids (TDS) (mg/l)	Specific Conductivity (umh/c)	pH
MW-068	07/01/93	---	---	---	---	---	---	---	---
MW-068	10/01/93	---	---	---	---	---	---	---	---
MW-068	01/01/94	---	---	---	---	---	---	---	---
MW-068	04/01/94	---	---	---	---	---	---	---	---
MW-068	07/01/94	---	---	---	---	---	---	---	---
MW-068	10/01/94	---	---	---	---	---	---	---	---
MW-068	01/01/95	---	---	---	---	---	---	---	---
MW-068	10/17/97	---	---	---	---	---	---	---	---
MW-069	12/01/91	---	---	---	---	---	---	---	---
MW-069	07/01/92	---	---	---	---	---	---	---	---
MW-069	10/01/92	---	---	---	---	---	---	---	---
MW-069	02/07/97	---	---	---	---	---	---	---	---
MW-069	07/18/97	---	---	---	---	---	---	---	---
MW-070	12/01/91	---	---	---	---	---	---	---	---
MW-070	04/01/92	---	---	---	---	---	---	---	---
MW-070	07/01/92	---	---	---	---	---	---	---	---
MW-070	10/01/92	---	---	---	---	---	---	---	---
MW-070	01/01/93	---	---	---	---	---	---	---	---
MW-070	04/01/93	---	---	---	---	---	---	---	---
MW-070	07/01/93	---	---	---	---	---	---	---	---
MW-070	10/01/93	---	---	---	---	---	---	---	---
MW-070	01/01/94	---	---	---	---	---	---	---	---
MW-070	04/01/94	---	---	---	---	---	---	---	---
MW-070	07/01/94	---	---	---	---	---	---	---	---
MW-070	10/01/94	---	---	---	---	---	---	---	---
MW-070	01/01/95	---	---	---	---	---	---	---	---
MW-070	07/01/95	---	---	---	---	---	---	---	---

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DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Chloride (mg/l)	Fluoride (mg/l)	Bromide (mg/l)	Sulfate (mg/l)	Nitrate (mg/l)	Ammonia (as N) (mg/l)	Nitrogen Kjeldahl, total (as N) (mg/l)	Orthophosphate (mg/l)
MW-070	10/01/95	10	---	---	---	---	---	---	---
MW-070	01/01/96	11	---	---	---	---	---	---	---
MW-070	04/01/96	9.7	---	---	---	---	---	---	---
MW-070	07/01/96	8	---	---	---	---	---	---	---
MW-070	10/01/96	10	---	---	---	---	---	---	---
MW-070	02/05/97	10	---	---	---	---	---	---	---
MW-070	10/15/97	---	---	---	---	2.7	<0.03	<0.2	0.30
MW-071	10/01/93	15	---	---	---	---	---	---	---
MW-071	01/01/94	18	---	---	---	---	---	---	---
MW-071	04/01/94	17	---	---	---	---	---	---	---
MW-071	07/01/94	<5.0	---	---	---	---	---	---	---
MW-071	10/01/94	22	---	---	---	---	---	---	---
MW-071	01/01/95	<5.0	---	---	---	---	---	---	---
MW-071	07/01/95	22	---	---	---	---	---	---	---
MW-071	10/01/95	21	---	---	---	---	---	---	---
MW-071	01/01/96	18	---	---	---	---	---	---	---
MW-071	04/01/96	23	---	---	---	---	---	---	---
MW-071	07/01/96	26	---	---	---	---	---	---	---
MW-071	10/01/96	30	---	---	---	---	---	---	---
MW-071	02/09/97	24	---	---	---	---	---	---	---
MW-071	05/06/97	17	---	---	---	---	---	---	---
MW-071	07/17/97	16	---	---	---	---	---	---	---
MW-071	10/16/97	---	---	---	---	0.06	0.63	0.6	0.18
MW-072	04/01/94	32	---	---	---	---	---	---	---
MW-072	07/01/94	32	---	---	---	---	---	---	---
MW-072	01/01/95	52	---	---	---	---	---	---	---
MW-074	07/18/97	260	---	---	---	---	---	---	---

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For RCL GENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Alkalinity as CaCO3, Total (mg/l)	Carbonate Alkalinity (mg/l)	Bicarbonate Alkalinity (mg/l)	Carbon Dioxide Free as CaCO3 (mg/l)	Hydroxide as CaCO3 (mg/l)	Total dissolved solids (TDS) (mg/l)	Specific Conductivity (umh/c)	pH
MW-070	10/01/95	---	---	---	---	---	---	---	---
MW-070	01/01/96	---	---	---	---	---	---	---	---
MW-070	04/01/96	---	---	---	---	---	---	---	---
MW-070	07/01/96	---	---	---	---	---	---	---	---
MW-070	10/01/96	---	---	---	---	---	---	---	---
MW-070	02/05/97	---	---	---	---	---	---	---	---
MW-070	10/15/97	---	---	---	---	---	---	---	---
MW-071	10/01/93	---	---	---	---	---	---	---	---
MW-071	01/01/94	---	---	---	---	---	---	---	---
MW-071	04/01/94	---	---	---	---	---	---	---	---
MW-071	07/01/94	---	---	---	---	---	---	---	---
MW-071	10/01/94	---	---	---	---	---	---	---	---
MW-071	01/01/95	---	---	---	---	---	---	---	---
MW-071	07/01/95	---	---	---	---	---	---	---	---
MW-071	10/01/95	---	---	---	---	---	---	---	---
MW-071	01/01/96	---	---	---	---	---	---	---	---
MW-071	04/01/96	---	---	---	---	---	---	---	---
MW-071	07/01/96	---	---	---	---	---	---	---	---
MW-071	10/01/96	---	---	---	---	---	---	---	---
MW-071	02/09/97	---	---	---	---	---	---	---	---
MW-071	05/06/97	---	---	---	---	---	---	---	---
MW-071	07/17/97	---	---	---	---	---	---	---	---
MW-071	10/16/97	---	---	---	---	---	---	---	---
MW-072	04/01/94	---	---	---	---	---	---	---	---
MW-072	07/01/94	---	---	---	---	---	---	---	---
MW-072	01/01/95	---	---	---	---	---	---	---	---
MW-074	07/18/97	---	---	---	---	---	---	---	---

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For RCI GENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Chloride (mg/l)	Fluoride (mg/l)	Bromide (mg/l)	Sulfate (mg/l)	Nitrate (mg/l)	Ammonia (as N) (mg/l)	Nitrogen Kjeldahl, total (as N) (mg/l)	Orthophosphate (mg/l)
MW-077	07/01/95	110	---	---	---	---	---	---	---
MW-077	01/01/96	120	---	---	---	---	---	---	---
MW-077	04/01/96	120	---	---	---	---	---	---	---
MW-077	07/01/96	100	---	---	---	---	---	---	---
MW-077	10/01/96	140	---	---	---	---	---	---	---
MW-077	05/07/97	150	---	---	---	---	---	---	---
MW-077	07/18/97	150	---	---	---	---	---	---	---
MW-078	10/01/96	31	---	---	---	---	---	---	---
MW-078	02/10/97	75	---	---	---	---	---	---	---
MW-078	05/07/97	59	---	---	---	---	---	---	---
MW-078	07/17/97	48	---	---	---	---	---	---	---
MW-079	01/01/95	36.0	---	---	---	---	---	---	---
MW-079	07/01/95	31	---	---	---	---	---	---	---
MW-079	10/01/95	30	---	---	---	---	---	---	---
MW-079	01/01/96	23	---	---	---	---	---	---	---
MW-079	04/01/96	30	---	---	---	---	---	---	---
MW-079	07/01/96	17	---	---	---	---	---	---	---
MW-079	10/01/96	20	---	---	---	---	---	---	---
MW-079	02/10/97	24	---	---	---	---	---	---	---
MW-079	05/07/97	24	---	---	---	---	---	---	---
MW-079	07/17/97	24	---	---	---	---	---	---	---
MW-082	10/01/95	76	---	---	---	---	---	---	---
MW-086	10/17/97	---	---	---	---	1.91	2.77	14	0.5
MW-087	08/01/96	---	---	---	---	---	---	---	---
MW-087	08/22/96	11	---	---	---	---	---	---	---
MW-087	10/01/96	12	---	---	---	---	---	---	---
MW-087	02/09/97	11	0.63	<0.3	230	---	---	---	---

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For RCL GENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Alkalinity as CaCO3, Total (mg/l)	Carbonate Alkalinity (mg/l)	Bicarbonate Alkalinity (mg/l)	Carbon Dioxide Free as CaCO3 (mg/l)	Hydroxide as CaCO3 (mg/l)	Total dissolved solids (TDS) (mg/l)	Specific Conductivity (umh/c)	pH
MW-077	07/01/95	---	---	---	---	---	---	---	---
MW-077	01/01/96	---	---	---	---	---	---	---	---
MW-077	04/01/96	---	---	---	---	---	---	---	---
MW-077	07/01/96	---	---	---	---	---	---	---	---
MW-077	10/01/96	---	---	---	---	---	---	---	---
MW-077	05/07/97	---	---	---	---	---	---	---	---
MW-077	07/18/97	---	---	---	---	---	---	---	---
MW-078	10/01/96	---	---	---	---	---	---	---	---
MW-078	02/10/97	---	---	---	---	---	---	---	---
MW-078	05/07/97	---	---	---	---	---	---	---	---
MW-078	07/17/97	---	---	---	---	---	---	---	---
MW-079	01/01/95	---	---	---	---	---	---	---	---
MW-079	07/01/95	---	---	---	---	---	---	---	---
MW-079	10/01/95	---	---	---	---	---	---	---	---
MW-079	01/01/96	---	---	---	---	---	---	---	---
MW-079	04/01/96	---	---	---	---	---	---	---	---
MW-079	07/01/96	---	---	---	---	---	---	---	---
MW-079	10/01/96	---	---	---	---	---	---	---	---
MW-079	02/10/97	---	---	---	---	---	---	---	---
MW-079	05/07/97	---	---	---	---	---	---	---	---
MW-079	07/17/97	---	---	---	---	---	---	---	---
MW-082	10/01/95	---	---	---	---	---	---	---	---
MW-086	10/17/97	---	---	---	---	---	---	---	---
MW-087	08/01/96	---	---	---	---	---	810	---	---
MW-087	08/22/96	---	---	---	---	---	---	---	---
MW-087	10/01/96	---	---	---	---	---	---	---	---
MW-087	02/09/97	222	<1	222	---	<1	580	814	7.8

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For RCI GENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Chloride (mg/l)	Fluoride (mg/l)	Bromide (mg/l)	Sulfate (mg/l)	Nitrate (mg/l)	Ammonia (as N) (mg/l)	Nitrogen Kjeldahl, total (as N) (mg/l)	Orthophosphate (mg/l)
MW-087	05/06/97	13	---	---	---	---	---	---	---
MW-087	10/16/97	---	---	---	---	0.52	<0.03	<0.2	0.06
MW-087A	10/01/96	110	---	---	---	---	---	---	---
MW-087A	02/09/97	150	1.9	1.2	1900	---	---	---	---
MW-087A	05/07/97	140	---	---	---	---	---	---	---
MW-087A	10/16/97	---	---	---	---	<0.06	0.17	0.9	0.09
MW-088	08/01/96	---	---	---	---	---	---	---	---
MW-088	08/22/96	35	---	---	---	---	---	---	---
MW-088	10/01/96	25	---	---	---	---	---	---	---
MW-088	02/05/97	30	1.13	---	390	---	---	---	---
MW-088	04/30/97	26	---	---	---	---	---	---	---
MW-088	10/15/97	---	---	---	---	<0.06	1.20	1.1	<0.5
MW-089	08/01/96	---	---	---	---	---	---	---	---
MW-089	08/22/96	63	---	---	---	---	---	---	---
MW-089	10/01/96	63	---	---	---	---	---	---	---
MW-089	02/05/97	60	0.8	---	250	---	---	---	---
MW-089	04/30/97	58	---	---	---	---	---	---	---
MW-089	10/15/97	---	---	---	---	<0.06	<0.03	<0.2	0.24
MW-090	02/10/97	26	0.36	---	25	---	---	---	---
MW-090	05/07/97	25	---	---	---	---	---	---	---
MW-090	07/17/97	19	---	---	---	---	---	---	---
MW-091	02/11/97	80	0.19	0.5	<5	---	---	---	---
MW-094	10/17/97	---	---	---	---	2.4	<0.03	<0.2	<0.05
MW-095	04/30/97	---	0.4	<0.3	19	---	---	---	---
MW-096	04/30/97	---	0.8	<0.3	160	---	---	---	---
MW-096	10/16/97	---	---	---	---	0.38	<0.03	<0.2	0.08
MW-097	04/30/97	---	0.5	<0.3	150	---	---	---	---

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For RCL GENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Alkalinity as CaCO3, Total (mg/l)	Carbonate Alkalinity (mg/l)	Bicarbonate Alkalinity (mg/l)	Carbon Dioxide Free as CaCO3 (mg/l)	Hydroxide as CaCO3 (mg/l)	Total dissolved solids (TDS) (mg/l)	Specific Conductivity (umh/c)	pH
MW-087	05/06/97	---	---	---	---	---	---	---	---
MW-087	10/16/97	---	---	---	---	---	---	---	---
MW-087A	10/01/96	---	---	---	---	---	---	---	---
MW-087A	02/09/97	352	<1	352	---	<1	3200	3350	7.2
MW-087A	05/07/97	---	---	---	---	---	---	---	---
MW-087A	10/16/97	---	---	---	---	---	---	---	---
MW-088	08/01/96	---	---	---	---	---	1200	---	---
MW-088	08/22/96	---	---	---	---	---	---	---	---
MW-088	10/01/96	---	---	---	---	---	---	---	---
MW-088	02/05/97	---	---	---	---	---	970	---	---
MW-088	04/30/97	---	---	---	---	---	---	---	---
MW-088	10/15/97	---	---	---	---	---	---	---	---
MW-089	08/01/96	---	---	---	---	---	900	---	---
MW-089	08/22/96	---	---	---	---	---	---	---	---
MW-089	10/01/96	---	---	---	---	---	---	---	---
MW-089	02/05/97	---	---	---	---	---	840	---	---
MW-089	04/30/97	---	---	---	---	---	---	---	---
MW-089	10/15/97	---	---	---	---	---	---	---	---
MW-090	02/10/97	370	<1	370	---	<1	460	749	7.4
MW-090	05/07/97	---	---	---	---	---	---	---	---
MW-090	07/17/97	---	---	---	---	---	---	---	---
MW-091	02/11/97	510	<1	510	---	<1	590	1010	7.6
MW-094	10/17/97	---	---	---	---	---	---	---	---
MW-095	04/30/97	310	1	310	31	<1	370	---	7.3
MW-096	04/30/97	300	<1	300	48	<1	560	---	7.1
MW-096	10/16/97	---	---	---	---	---	---	---	---
MW-097	04/30/97	270	1	270	27	<1	550	---	7.3

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For RCI_GENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Chloride (mg/l)	Fluoride (mg/l)	Bromide (mg/l)	Sulfate (mg/l)	Nitrate (mg/l)	Ammonia (as N) (mg/l)	Nitrogen Kjeldahl, total (as N) (mg/l)	Orthophosphate (mg/l)
MW-097	10/17/97	---	---	---	---	1.71	<0.03	<0.2	0.43
MW-098	04/30/97	---	0.4	<0.3	25	---	---	---	---
MW-104	07/17/97	11.6	0.8	<0.3	200	0.72	---	---	---
MW-106	02/11/97	10	0.24	<0.3	37	---	---	---	---
MW-106	05/07/97	4	---	---	---	---	---	---	---
MW-106	07/18/97	5	---	---	---	---	---	---	---
MW-108	07/17/97	3.2	0.4	<0.3	33	2.6	---	---	---
PIPELINE_4	05/01/91	9000	---	---	1860	---	---	---	---
SUMP-16A	05/01/91	190	---	---	---	---	---	---	---
SUMP-16A	07/01/91	49	---	---	---	---	---	---	---
SUMP-16A	09/01/91	---	---	---	<10	---	---	---	---
SUMP-16A	12/01/91	683	---	---	---	---	---	---	---
SUMP-16A	04/01/92	522	---	---	---	---	---	---	---
SUMP-16A	07/01/92	82	---	---	---	---	---	---	---
SUMP-16A	10/01/92	225	---	---	---	---	---	---	---
SUMP-16A	01/01/93	229	---	---	---	---	---	---	---
SUMP-16A	04/01/93	218	---	---	---	---	---	---	---
SUMP-16A	10/01/94	128	---	---	---	---	---	---	---
SUMP-16A	01/01/95	90.0	---	---	---	---	---	---	---
SUMP-16A	10/01/95	63	---	---	---	---	---	---	---
SUMP-16A	07/01/96	14	---	---	---	---	---	---	---
SUMP-A10	04/01/91	17000	---	---	---	---	---	---	---
SUMP-A10	05/01/91	3750	---	---	---	---	---	---	---
SUMP-A10	10/01/94	4.2	---	---	---	---	---	---	---
SUMP-A10	10/01/95	3	---	---	---	---	---	---	---
SW-01	07/01/91	19	1.3	---	164	3	---	---	---
SW-01	04/01/92	16	---	---	---	---	---	---	---

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For RCL GENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Alkalinity as CaCO3, Total (mg/l)	Carbonate Alkalinity (mg/l)	Bicarbonate Alkalinity (mg/l)	Carbon Dioxide Free as CaCO3 (mg/l)	Hydroxide as CaCO3 (mg/l)	Total dissolved solids (TDS) (mg/l)	Specific Conductivity (umh/c)	pH
MW-097	10/17/97	---	---	---	---	---	---	---	---
MW-098	04/30/97	240	1	240	19	<1	330	---	7.4
MW-104	07/17/97	268	<1	268	---	<1	580	815	7.6
MW-106	02/11/97	315	<1	315	---	<1	430	636	7.4
MW-106	05/07/97	---	---	---	---	---	---	---	---
MW-106	07/18/97	---	---	---	---	---	---	---	---
MW-108	07/17/97	297	<1	297	---	<1	360	585	7.6
PIPELINE_4	05/01/91	---	---	---	---	---	18500	---	---
SUMP-16A	05/01/91	---	---	---	---	---	876	---	---
SUMP-16A	07/01/91	---	---	---	---	---	---	---	---
SUMP-16A	09/01/91	---	---	---	---	---	263	---	---
SUMP-16A	12/01/91	---	---	---	---	---	---	---	---
SUMP-16A	04/01/92	---	---	---	---	---	---	---	---
SUMP-16A	07/01/92	---	---	---	---	---	---	---	---
SUMP-16A	10/01/92	---	---	---	---	---	---	---	---
SUMP-16A	01/01/93	---	---	---	---	---	---	---	---
SUMP-16A	04/01/93	---	---	---	---	---	---	---	---
SUMP-16A	10/01/94	---	---	---	---	---	---	---	---
SUMP-16A	01/01/95	---	---	---	---	---	---	---	---
SUMP-16A	10/01/95	---	---	---	---	---	---	---	---
SUMP-16A	07/01/96	---	---	---	---	---	---	---	---
SUMP-A10	04/01/91	---	---	---	---	---	---	---	---
SUMP-A10	05/01/91	---	---	---	---	---	8780	---	---
SUMP-A10	10/01/94	---	---	---	---	---	---	---	---
SUMP-A10	10/01/95	---	---	---	---	---	---	---	---
SW-01	07/01/91	---	---	---	---	---	583	---	---
SW-01	04/01/92	---	---	---	---	---	---	---	---

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For RCI_GENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Chloride (mg/l)	Fluoride (mg/l)	Bromide (mg/l)	Sulfate (mg/l)	Nitrate (mg/l)	Ammonia (as N) (mg/l)	Nitrogen Kjeldahl, total (as N) (mg/l)	Orthophosphate (mg/l)
SW-01	07/01/92	19	---	---	---	---	---	---	---
SW-01	10/01/92	25	---	---	---	---	---	---	---
SW-01	04/01/93	20	---	---	---	---	---	---	---
SW-01	07/01/93	21	---	---	---	---	---	---	---
SW-01	10/01/93	21.3	---	---	---	---	---	---	---
SW-01	01/01/94	22	---	---	---	---	---	---	---
SW-01	04/01/94	22	---	---	---	---	---	---	---
SW-01	07/01/94	22	---	---	---	---	---	---	---
SW-01	10/01/94	22	---	---	---	---	---	---	---
SW-01	01/01/95	33	---	---	---	---	---	---	---
SW-01	07/01/95	25	---	---	---	---	---	---	---
SW-01	10/01/95	24	---	---	---	---	---	---	---
SW-01	01/01/96	25	---	---	---	---	---	---	---
SW-01	04/01/96	27	---	---	---	---	---	---	---
SW-01	07/01/96	22	---	---	---	---	---	---	---
SW-01	10/01/96	23	---	---	---	---	---	---	---
SW-01	02/10/97	21	0.54	<0.3	140	---	---	---	---
SW-01	12/10/97	21	0.6	---	190	2.5	---	---	---
SW-02	04/01/92	10	---	---	---	---	---	---	---
SW-02	07/01/92	20	---	---	---	---	---	---	---
SW-02	10/01/92	252	---	---	---	---	---	---	---
SW-02	01/01/93	344	---	---	---	---	---	---	---
SW-02	04/01/93	363	---	---	---	---	---	---	---
SW-02	01/01/95	81	---	---	---	---	---	---	---
SW-03	07/01/96	24	---	---	---	---	---	---	---
SW-03	10/01/96	24	---	---	---	---	---	---	---
TH-21A	05/01/91	8250	---	---	---	---	---	---	---

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For RCL GENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Alkalinity as CaCO3, Total (mg/l)	Carbonate Alkalinity (mg/l)	Bicarbonate Alkalinity (mg/l)	Carbon Dioxide Free as CaCO3 (mg/l)	Hydroxide as CaCO3 (mg/l)	Total dissolved solids (TDS) (mg/l)	Specific Conductivity (umh/c)	pH
SW-01	07/01/92	---	---	---	---	---	---	---	---
SW-01	10/01/92	---	---	---	---	---	---	---	---
SW-01	04/01/93	---	---	---	---	---	---	---	---
SW-01	07/01/93	---	---	---	---	---	---	---	---
SW-01	10/01/93	---	---	---	---	---	---	---	---
SW-01	01/01/94	---	---	---	---	---	---	---	---
SW-01	04/01/94	---	---	---	---	---	---	---	---
SW-01	07/01/94	---	---	---	---	---	---	---	---
SW-01	10/01/94	---	---	---	---	---	---	---	---
SW-01	01/01/95	---	---	---	---	---	---	---	---
SW-01	07/01/95	---	---	---	---	---	---	---	---
SW-01	10/01/95	---	---	---	---	---	---	---	---
SW-01	01/01/96	---	---	---	---	---	---	---	---
SW-01	04/01/96	---	---	---	---	---	---	---	---
SW-01	07/01/96	---	---	---	---	---	---	---	---
SW-01	10/01/96	---	---	---	---	---	---	---	---
SW-01	02/10/97	275	<1	275	---	<1	520	<796	7.6
SW-01	12/10/97	---	---	---	---	---	500	---	---
SW-02	04/01/92	---	---	---	---	---	---	---	---
SW-02	07/01/92	---	---	---	---	---	---	---	---
SW-02	10/01/92	---	---	---	---	---	---	---	---
SW-02	01/01/93	---	---	---	---	---	---	---	---
SW-02	04/01/93	---	---	---	---	---	---	---	---
SW-02	01/01/95	---	---	---	---	---	---	---	---
SW-03	07/01/96	---	---	---	---	---	---	---	---
SW-03	10/01/96	---	---	---	---	---	---	---	---
TH-21A	05/01/91	---	---	---	---	---	16000	---	---

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For RC[illegible]ENCHEM

DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Chloride (mg/l)	Fluoride (mg/l)	Bromide (mg/l)	Sulfate (mg/l)	Nitrate (mg/l)	Ammonia (as N) (mg/l)	Nitrogen Kjeldahl, total (as N) (mg/l)	Orthophosphate (mg/l)
TH-21A	07/01/91	636	---	---	---	---	---	---	---
TH-A11	04/01/91	12800	---	---	613	---	---	---	---
TH-A11	07/01/91	1470	---	---	---	---	---	---	---
TH-A11	09/01/91	---	---	---	<10	---	---	---	---
TH-A11	12/01/91	670	---	---	---	---	---	---	---
TH-A11	04/01/92	433	---	---	---	---	---	---	---
TH-A11	07/01/92	60	---	---	---	---	---	---	---
TH-A11	10/01/92	124	---	---	---	---	---	---	---
UIHS_ARROYO	04/01/92	16.2	---	---	---	---	---	---	---
UIHS_ARROYO	07/01/92	8.5	---	---	---	---	---	---	---
UIHS_ARROYO	10/01/92	13.5	---	---	---	---	---	---	---
UIHS_ARROYO	01/01/93	11.4	---	---	---	---	---	---	---
UIHS_ARROYO	04/01/93	13.5	---	---	---	---	---	---	---
UIHS_ARROYO	07/01/93	12.9	---	---	---	---	---	---	---
UIHS_ARROYO	10/01/93	10.3	---	---	---	---	---	---	---
UIHS_ARROYO	01/01/94	11	---	---	---	---	---	---	---
UIHS_ARROYO	04/01/94	14	---	---	---	---	---	---	---
UIHS_ARROYO	07/01/94	8	---	---	---	---	---	---	---
UIHS_ARROYO	10/01/94	13	---	---	---	---	---	---	---
UIHS_ARROYO	01/01/95	10	---	---	---	---	---	---	---
UIHS_ARROYO	07/01/95	12	---	---	---	---	---	---	---
UIHS_ARROYO	10/01/95	14	---	---	---	---	---	---	---
UIHS_ARROYO	01/01/96	10	---	---	---	---	---	---	---
UIHS_ARROYO	04/01/96	10.9	---	---	---	---	---	---	---
UIHS_ARROYO	07/01/96	10	---	---	---	---	---	---	---
UIHS_ARROYO	10/01/96	8	---	---	---	---	---	---	---
UIHS_ARROYO	02/10/97	11	---	---	---	---	---	---	---

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DISSOLVED-PHASE GENERAL CHEMISTRY CONCENTRATIONS
(ALL DATA)

Indian Basin Remediation Project
Eddy County, NM

SITE	DATE	Alkalinity as CaCO3, Total (mg/l)	Carbonate Alkalinity (mg/l)	Bicarbonate Alkalinity (mg/l)	Carbon Dioxide Free as CaCO3 (mg/l)	Hydroxide as CaCO3 (mg/l)	Total dissolved solids (TDS) (mg/l)	Specific Conductivity (umh/c)	pH
TH-21A	07/01/91	---	---	---	---	---	---	---	---
TH-A11	04/01/91	---	---	---	---	---	26200	---	---
TH-A11	07/01/91	---	---	---	---	---	---	---	---
TH-A11	09/01/91	---	---	---	---	---	1050	---	---
TH-A11	12/01/91	---	---	---	---	---	---	---	---
TH-A11	04/01/92	---	---	---	---	---	---	---	---
TH-A11	07/01/92	---	---	---	---	---	---	---	---
TH-A11	10/01/92	---	---	---	---	---	---	---	---
UIHS_ARROYO	04/01/92	---	---	---	---	---	---	---	---
UIHS_ARROYO	07/01/92	---	---	---	---	---	---	---	---
UIHS_ARROYO	10/01/92	---	---	---	---	---	---	---	---
UIHS_ARROYO	01/01/93	---	---	---	---	---	---	---	---
UIHS_ARROYO	04/01/93	---	---	---	---	---	---	---	---
UIHS_ARROYO	07/01/93	---	---	---	---	---	---	---	---
UIHS_ARROYO	10/01/93	---	---	---	---	---	---	---	---
UIHS_ARROYO	01/01/94	---	---	---	---	---	---	---	---
UIHS_ARROYO	04/01/94	---	---	---	---	---	---	---	---
UIHS_ARROYO	07/01/94	---	---	---	---	---	---	---	---
UIHS_ARROYO	10/01/94	---	---	---	---	---	---	---	---
UIHS_ARROYO	01/01/95	---	---	---	---	---	---	---	---
UIHS_ARROYO	07/01/95	---	---	---	---	---	---	---	---
UIHS_ARROYO	10/01/95	---	---	---	---	---	---	---	---
UIHS_ARROYO	01/01/96	---	---	---	---	---	---	---	---
UIHS_ARROYO	04/01/96	---	---	---	---	---	---	---	---
UIHS_ARROYO	07/01/96	---	---	---	---	---	---	---	---
UIHS_ARROYO	10/01/96	---	---	---	---	---	---	---	---
UIHS_ARROYO	02/10/97	---	---	---	---	---	---	---	---

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