

2R - 22

# APPROVALS

YEAR(S):

1999 - 1991



STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION  
2040 S. PACHECO  
SANTA FE, NEW MEXICO 87505  
(505) 827-7131

May 26, 1999

**CERTIFIED MAIL**  
**RETURN RECEIPT NO. Z-274-520-667**

Mr. Paul Peacock  
Marathon Oil Company  
P.O. Box 552  
Midland, Texas 79702-0552

**RE: REMEDIATION WORK PLAN  
MARATHON INDIAN BASIN GAS PLANT**

Dear Mr. Peacock:

The New Mexico Oil Conservation Division (OCD) has reviewed Marathon Oil Company's (MOC) March 30, 1999 "ANNUAL GROUNDWATER MONITORING REPORT, JANUARY - DECEMBER 1998, INDIAN BASIN REMEDIATION PROJECT, MARATHON OIL COMPANY".

This document contains the results of MOC's ground water remediation and monitoring of hydrocarbon contaminated ground water at MOC's Indian Basin Gas Plant. The plan also contains MOC's proposed modifications to the site ground water monitoring program.

The above ground water monitoring program modifications are approved with the following conditions:

1. The shallow zone monitor wells that are proposed to be removed from the semi-annual gauging due to a lack of fluids shall be gauged for the presence of fluid levels on an annual basis.
2. Monitor wells MW-41 and MW-44 shall be added to the shallow zone semi-annual ground water monitoring program.
3. Monitor well MW-95 and plant water wells SW-1 and SW-2 shall be added to the Lower Queen semi-annual ground water monitoring program.

Please be advised that OCD approval does not relieve MOC of liability if the plan fails to adequately monitor contamination related to MOC's activities or if contamination exists which is outside the scope of the work plan. In addition, OCD approval does not relieve MOC of responsibility for compliance with any other federal, state or local laws and regulations.

Mr. M. Paul Peacock  
May 26, 1999  
Page 2

If you have any questions, please contact me at (505) 827-7154.

Sincerely,



William C. Olson  
Hydrologist  
Environmental Bureau

xc: Tim Gum, OCD Artesia District Supervisor

Z 274 520 667

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STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION  
2040 S. PACHECO  
SANTA FE, NEW MEXICO 87505  
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May 26, 1999

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Mr. Paul Peacock  
Marathon Oil Company  
P.O. Box 552  
Midland, Texas 79702-0552

**RE: REMEDIATION WORK PLAN  
MARATHON INDIAN BASIN GAS PLANT**

Dear Mr. Peacock:

The New Mexico Oil Conservation Division (OCD) has reviewed Marathon Oil Company's (MOC) March 30, 1999 "REMEDIATION WORKPLAN, INDIAN BASIN REMEDIATION PROJECT, MARATHON OIL COMPANY". This document contains MOC's proposal to install and sample additional ground water monitoring wells within the hydrocarbon plume at MOC's Indian Basin Gas Plant. The plan also proposes to conduct a video survey, pump tests, gamma ray logs and vapor extraction tests on each well.

The above referenced work plan is approved. Please be advised that OCD approval does not relieve MOC of liability if the plan fails to adequately monitor contamination related to MOC's activities or if contamination exists which is outside the scope of the work plan. In addition, OCD approval does not relieve MOC of responsibility for compliance with any other federal, state or local laws and regulations.

If you have any questions, please contact me at (505) 827-7154.

Sincerely,

A handwritten signature in cursive script, appearing to read "Will Olson".

William C. Olson  
Hydrologist  
Environmental Bureau

xc: Tim Gum, OCD Artesia District Supervisor



United States Department of the Interior  
BUREAU OF LAND MANAGEMENT

Roswell District Office  
P.O. Box 1397  
Roswell, New Mexico 88202-1397



IN REPLY  
REFER TO:  
1703 (064)

001 18 1991

Marathon Oil Company  
Attention: A.J. Kavran  
P.O. Box 552  
Midland, Tx 79702

Re: Indian Basin Gas Plant Incident

Gentlemen:

This letter is the approval letter for the Site Characterization Plan (SCP) for the Indian Basin Gas Plant incident, as amended by the Phase II Work Plan. The SCP and amendments detail the method to be used for delineation of the contaminated area. Further amendments to this plan require written approval from the Bureau of Land Management (BLM) and Oil Conservation Division (OCD) before additional work begins.

As we discussed on July 11, 1991, the main purpose of our weekly meetings is to establish a coordinated effort for characterization and remediation of the spill area. In addition to the meetings, you are required to submit a written report detailing the past weeks' activities every week.

We also discussed the monthly summary report and risk assessment analysis. The monthly summary provides the BLM and OCD with updated geologic and hydrologic data, fluid recovery totals, and other pertinent information. The risk assessment analysis is required risk management. It also serves as a guide to remedial actions. As requested, we have extended the deadline for these reports. The due date is August 22, 1991.

If you have any questions regarding this letter or actions at the site, please contact Al Collar or Tim Kreager at the Roswell District Office at (505) 622-9042.

Sincerely,

Orig. Sgd. Francis R. Cherry, Jr.

Francis R. Cherry, Jr.  
District Manager

cc:  
-NMOCD  
Dave Boyer  
P.O. Box 2088  
Santa Fe, NM 87504

Roswell District Office

7-18-91

<u>Name</u>	<u>Organization</u>	<u>position</u>	<u>phone</u>
Al Colpar	BLM	Haz Mat Coord	622-9042
Tony Herrvell	BLM	Geologist	887-6544
JEFF BENSON	MARATHON	REGION COUNSEL	915/682-1626
BOB KUKLA	MARATHON	REGION Production Mgr.	915/682-1626
Tony KAVRAN	MARATHON	Env. + Safety Supv	915/682-1625
Tim Amos	BLM	Super PET	(505) 887-6544
Tom Zapatha	Marathon	Env. Eng	915/687-8535
Armando Lopez	BLM	ADM-Minors/L	505/622-9042
Deve Boyer	NM OCS	ENVIRONMENTAL Chief	(505) 827-5812
Fran Cherry	BLM	DM	(505) 622 9042

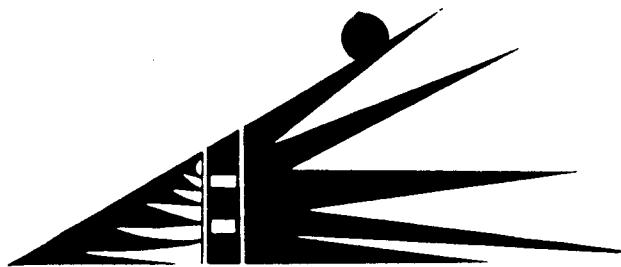
Tim Knoeger - BUM Roswell

Jeff Benson

Bill Weber  
Craig Shepard

Letter to Marathon  
on continued  
continued,  
fully investigate and propose add-  
investigation locations

continue competent, professional response



**SOUTHWEST RESEARCH AND INFORMATION CENTER**  
**P.O. Box 4524 Albuquerque, NM 87106 505-262-1862**

**MARATHON INDIAN BASIN GAS PLANT GATHERING LINE LEAK —  
INCIDENT SUMMARY AND RECOMMENDATIONS FOR ENFORCEMENT ACTION**

prepared by

Chris Shuey  
Director, Community Water Quality Program  
Southwest Research and Information Center

July 16, 1991



# MARATHON INDIAN BASIN GAS PLANT GATHERING LINE LEAK — INCIDENT SUMMARY AND RECOMMENDATIONS FOR ENFORCEMENT ACTION

prepared by  
Chris Shuey, Director, Community Water Quality Program  
Southwest Research and Information Center

July 16, 1991

This paper summarizes the available information on the leak of petroleum condensate and produced water at the Marathon Oil Company Indian Basin gas-processing plant near Carlsbad, N.M. The information and data herein are based on SRIC's review of documents provided by Marathon to the New Mexico Oil Conservation Division (NMOCD) through Monday July 8, 1991, and on interviews with officials of relevant state and federal agencies.<sup>1</sup> Much of the most recent information was taken from documents provided by NMOCD to the Water Quality Control Commission (WQCC) on July 9 and in SRIC's telephone interviews with NMOCD officials on July 10 and July 12 and with U.S. Bureau of Land Management (BLM) officials on July 15 and 16. SRIC's concerns about the leak and its recommendations for enforcement action to deter future leaks are discussed.

**SOURCE AND LOCATION OF THE LEAK** — The leak occurred in Gathering Line #4 at a point about 800 feet south of the Marathon Indian Basin plant in section 23, T.21.S., R.23.E., Eddy County, New Mexico, about 25 miles northwest of Carlsbad.

**VOLUME AND CHEMISTRY OF LEAKED FLUIDS** — According to NMOCD, 1.47 million gallons (35,000 barrels) of unrefined natural gas condensate and 840,000 gallons (20,000 barrels) of produced water leaked from the gathering line between November 1990 and April 12, 1991, when the leak was discovered by Marathon personnel. David Boyer, NMOCD environmental bureau chief, told the WQCC on July 9 that he assumes that the produced water is at least as salty as sea water, that is, that it has a total dissolved solids concentration of at least 35,000 parts per million. He also said that the natural gas condensate itself is a complex mixture of aromatic and aliphatic hydrocarbons in extremely high concentrations.

**CAUSE OF THE LEAK** — Marathon stated in a June 11 report to the Environmental Protection Agency (EPA) that the gathering line failure was "the result of interior H<sub>2</sub>S [hydrogen sulfide] corrosion in the bottom, water carrying portion of the pipe."

**GEOLOGY OF THE SITE** — The leak site is underlain by 12 feet to 16 feet of gravelly alluvium in Rocky Arroyo. The alluvium rests on alternating beds of dolomite (or "magnesium limestone") and sandstone. Fractures and joints persist throughout these strata and are acknowledged by NMOCD to be a principal path for migration of

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<sup>1</sup>SRIC has not reviewed Marathon's latest report, which was submitted to NMOCD on Tuesday July 9, 1991.

fluids to the Lower Queen aquifer, which supplies potable water to wells in the region and which begins about 175 feet below the land surface at the plant site.

**EXTENT OF CONTAMINATION** — As of June 25, condensate and produced water were detected in several boreholes in the alluvium and in the top few inches of the dolomite at a maximum distance of 3,800 feet from the leak site. Two boreholes drilled into the dolomitic bedrock to 76 feet and 65 feet (boreholes #80 and #81 on attached Map I) had hydrocarbon odors; a third bedrock borehole, #82, encountered liquid condensate at 41.5 feet below the land surface. These three boreholes are located at distances of 2,800 feet, 3,300 feet, and 3,700 feet from the leak site. A trace of benzene, a petroleum constituent, was detected in ground water in the Lower Queen aquifer at 175 feet below the land surface in a borehole (#83) located at the southeastern edge of the contaminant plume about 3,200 feet from the leak site. During the first week of July, condensate was detected floating on the water table of the Lower Queen in two ground water monitoring wells. Borehole #84, which is located 4,200 feet northeast of the leak point, contained one-quarter inch of condensate; borehole #85, which is located about 5,000 feet due east of the leak site, contained one foot of condensate. (See Map I.) The depth to ground water in those two wells is about 207 feet. Detection of condensate on the water table of the Lower Queen suggests leakage through the dolomite via fractures and joints.

Mr. Boyer told SRIC on July 12 that a new monitoring well drilled 1,500 feet east (or downgradient) of borehole #85 did not show condensate contamination. As of July 16, BLM officials said Marathon is still trying to determine the areal extent of the contaminant plume while recovering as much petroleum product as possible.

**SOURCE OF THE CONDENSATE** — According to NMOCD, Marathon officials said last week that the condensate in boreholes #84 and #85 is "weathered" and does not chemically match that of the leaked fluids. As of late on July 12, NMOCD officials had not verified Marathon's claim. However, Mr. Boyer told WQCC members on July 9 and SRIC staff in telephone conversations on July 10 and 12 that the agency holds Marathon responsible for the contamination since there are no other sources of petroleum pollutants in the area. NMOCD Director William LeMay confirmed the agency's position in a telephone conversation with SRIC staff on July 11.<sup>2</sup>

**REGULATORY ORDERS TO DATE** — Upon notification that a spill had occurred on April 12, Marathon was ordered by both NMOCD and BLM to begin an investigation of the cause and extent of the leak. Soil organic vapor analyses were submitted by Marathon to NMOCD during the last week of April and first week of May; those data depicted a plume of contaminants grading eastward from the spill site along the

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<sup>2</sup>An inspection of a map contained in Marathon's June 11 report to EPA shows that a condensate and produced water gathering line (Line #3) traverses Section 24 in the approximate area of borehole #85. (See attached Map II.) If the chemistry of the condensate in that monitoring well is confirmed to be different than that of the leaked fluids, the possibility of previous leaks from Line #3 should be investigated.

axis of Rocky Arroyo. (See Map I.) A NMOCD letter of May 15 directed Marathon to conduct further investigations and to recover condensate and produced water. By mid-June, Marathon had received permission from NMOCD to drill monitoring wells through the dolomite and into the Lower Queen aquifer. The detection of condensate in the Lower Queen wells (boreholes #83, #84, and #85) at distances of up to nearly one mile from the leak site prompted NMOCD on July 4 to order Marathon to drill and complete additional monitoring wells 1,500 feet east of boreholes #84 and #85, or approximately 1.2 miles from the point of the pipeline leak. Marathon also is required to submit a comprehensive remediation plan to NMOCD and BLM once the full extent of the contamination is determined.

**DAMAGE TO PROPERTY** — NMOCD officials said that the closest water wells and springs used for drinking purposes are located about 3 miles east of the plant site along Rocky Arroyo. Marathon's weekly sampling and analyses of water from those sources have not detected petroleum-related contamination, NMOCD and BLM officials said. The Pecos River is about 13 miles east of the nearest domestic well.

**MARATHON COMPLIANCE** — As of the first of July, the company had drilled 85 boreholes, of which 50 are completed as recovery wells. Of those, 20 to 30 are recovering fluids from atop the dolomite at its interface with the alluvium. Mr. Boyer said that as of July 1, the company had recovered nearly 3,400 barrels of condensate (about 9.7 percent of the volume leaked) and more than 8,000 barrels of produced water (about 40 percent of the volume leaked).

**HISTORY OF THE LEAK** — Mr. Boyer told the WQCC that the leak probably began sometime in November 1990. During that month, Marathon reported a more than 50-percent reduction in condensate production. Until the time the leak was detected in April, the company told state and federal officials that it could not determine the reason for the discrepancy between actual production and theoretical production. The discrepancy persisted, however, through March 1991 when condensate production was only about a quarter of normal, as shown in Table 1 below.

At the time of the leak, the condensate and produced water gathering lines were not equipped with meters to measure flow; the total combined flow from the four gathering lines was (and continues to be) measured inside the plant. BLM officials said that condensate and produced water are separated at the production wells before being recombined for transport to the plant through the gathering lines.<sup>3</sup>

Visual inspections of the gathering lines by company personnel did not detect leakage until plant workers observed a "sinkhole" at the leak point on April 12. The leak occurred in a section of steel pipe that was installed five years ago after a flash flood in Rocky Arroyo broke an existing PVC gathering line, resulting in a much

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<sup>3</sup>Saltwater and condensate are produced from about 40 natural gas wells located within a 7-mile radius of the plant, Marathon documents show.

**Table 1. Condensate Production at Marathon Indian Basin Plant**  
(selected data from 1989, 1990, and 1991, in barrels; data from NMOCD)

Month/Year	Production
April 1989	12,000
November 1989	10,600
December 1989	12,000
April 1990	11,000
October 1990	11,600
November 1990	4,600
December 1990	4,400
January 1991	5,600
February 1991	3,800
March 1991	2,800
April 1991	7,700

smaller leak. (All gathering lines coming into the plant are made of PVC.) The new steel section was not equipped with cathodic protection to prevent external or internal corrosion. Since the April 12 leak, the failed section of gathering line has been replaced with a section of PVC inserted into a larger-diameter steel pipe.

**FUTURE REGULATORY RESPONSES** — NMOCD officials say that are concerned that the advancing age of oil-field infrastructure (gathering lines, product pipelines, storage tanks, production well casings, etc.) is causing increased environmental damage in the southeast oil fields. Mr. Boyer reported that NMOCD has observed a significant increase in leaks and spills in the last two to three years and that much of that increase is attributable to corrosion of gathering lines and injection lines. NMOCD statistics for the first four months of 1991 reveal the extent of the problem of aging infrastructure and the apparent widespread lack of compliance by operators with the spill reporting requirements of the WQCC and NMOCD regulations:

- Corrosion caused **61 percent** of all production-line leaks and **86 percent** of all injection-line leaks.
- About 3,400 barrels of petroleum condensate were lost from corrosion-caused leaks in lines and tanks; that number represents **55 percent** of all oil losses reported by operators to NMOCD in the first third of 1991.
- Corrosion was responsible for **88 percent** of the 3,900 barrels of produced water lost from leaks in production and injection lines.
- Only **10 percent to 50 percent** of all leaks are actually reported to NMOCD.

The Marathon leak points to the need to require operators to demonstrate the

integrity of their pipes, casings, tanks and other facilities on a regular basis, Mr. Boyer told the WQCC, adding that NMOCD will move aggressively by next spring to propose and adopt new regulations to ensure integrity of pipelines in order to prevent leaks. Mr. LeMay told SRIC that NMOCD intends to convene a task force to study the issue and make recommendations for regulatory actions.

**SRIC'S CONCERNS** — SRIC is concerned that the state is not contemplating additional enforcement action against Marathon. There are several reasons why court-imposed fines and penalties should be sought, including —

- The magnitude of the leak. At 2.3 million gallons, the Marathon leak is one of the largest unrefined petroleum spills in the state's history, possibly second only to the more than 500,000 barrels of crude oil that has leaked into the Ogallala Aquifer in Lea County from hundreds of corroded oil well casings whose construction dates to the 1920s and 1930s.
- The toxicity of the fluids. The leaked fluids can be acutely and chronically toxic to both humans and animals. The condensate and produced water are likely to contain very high levels of aromatic hydrocarbons such as benzene (a known human carcinogen), toluene, ethylbenzene, and xylenes. The produced water is corrosive because it is a concentrated brine. The produced water may also contain elevated concentrations of naturally occurring radioactive materials including radium-226, another carcinogen.
- The extent and duration of environmental damage. Although the extent to which ground water has been polluted remains uncertain, a large area of soils and rock has been contaminated and will remain so for years, if not decades. The fractures in the dolomite have been shown to be effective conduits for contaminant migration. The fact that condensate from some source has been found on top of the water table of the Lower Queen aquifer is indicative of the potential for long-term, continuing discharges of toxic pollutants to the ground water. The damage that these long-term discharges may bring to the regional ground water system may not be known for several years.
- Company negligence. Marathon could have prevented this leak if it had equipped the 200-foot steel section of Line #4 with cathodic protection or installed flow meters on each of the four gathering lines coming into the plant or at the individual wellheads. The company apparently did not search diligently for the cause of the discrepancy in its condensate production volumes when the 50-percent-plus loss was noted in November because that discrepancy grew even larger over the following four months.<sup>4</sup>

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<sup>4</sup>The law enforcement unit of BLM's state office in Santa Fe is conducting a "routine" investigation into the cause of the leak and whether any federal environmental, mineral, or fraud laws were violated, BLM officials confirmed. BLM law enforcement personnel have visited the plant site and interviewed Marathon employees about the cause and history of the leak.

- Possible violation of WOCC Regulations. NMOCD officials said they "take as a given" that the numerical standards of the Commission's regulations have been, or will be, violated once the fluids reach ground water, if they have not already as a result of migration of pollutants to the Lower Queen aquifer.

**SRIC'S RECOMMENDATIONS** — SRIC believes that state must take additional enforcement action against Marathon in order to send a clear message that the people of New Mexico expect industry to take proactive steps to prevent leaks and spills of toxic substances. Two legal avenues are available to the state in this regard:

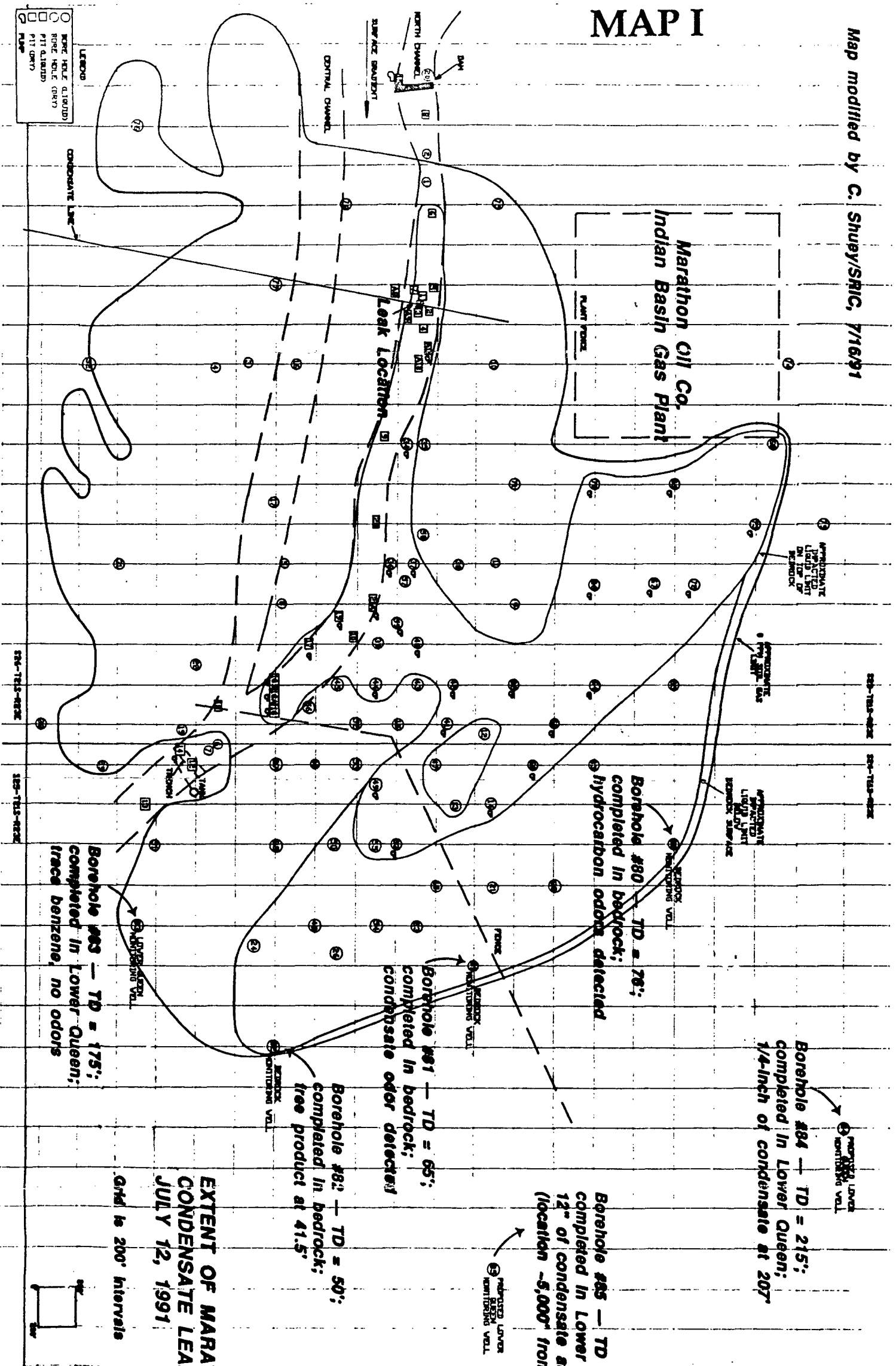
- Court-imposed penalties and fines. Should ground water be confirmed to have been contaminated as a result of the leak, NMOCD, on behalf of the Water Quality Control Commission, should initiate a civil action in state district court for Eddy County against Marathon for violation of the Commission's regulations. Such action is authorized by the state Water Quality Act (WQA, §74-6-10.B.). The action should seek fines commensurate with the damage caused by the leak and recovery of expenses incurred in investigating the leak and prosecuting the claims.
- Assurance of Discontinuance. Either independent of a court action or as a result of it, the Commission should require Marathon to enter into an Assurance of Discontinuance (authorized by WQA §74-6-10.D.) that will guide cleanup of the leak and serve to regulate (and mitigate) ongoing leakage of pollutants through the bedrock into the aquifer below.

To ensure that leaks and spills are prevented and to facilitate state legal action when pollution occurs, at least two regulatory and statutory changes are needed:

- New regulations for aging infrastructure. As soon as is reasonably feasible, NMOCD should propose and adopt, after notice and opportunity for public comment and hearings, regulations that require demonstration of the integrity of all lines and equipment that have the potential to leak contaminants into the waters of the state.
- Administrative penalties and citizens suits. The Water Quality Act (§74-6-1 through 13, N.M.S.A. 1978, as amended) and the Oil and Gas Act (§70-2-1 through 36, N.M.S.A. 1978, as amended) should be amended to grant the WQCC and its constituent agencies and the Oil Conservation Commission the authority to impose administrative penalties and fines for violations of the acts and their implementing regulations. These statutes also should be amended to allow for private causes of action by citizens against state agencies that fail to carry out nondiscretionary duties and against operators that violate state laws and regulations.

# MAP I

**Marathon Oil Co.  
Indian Basin Gas Plant**



Borehole #84 — TD = 215';  
completed in Lower Queen;  
1/4-inch of condensate at 207'

Borehole #85 — TD = 215';  
completed in Lower Queen;  
12" of condensate at 207'  
(location ~5,000' from leak site)

Borehole #81 — TD = 65';  
completed in bedrock;  
condensate odor detected

Borehole #82 — TD = 50';  
completed in bedrock;  
free product at 41.5'

Borehole #83 — TD = 175';  
completed in Lower Queen;  
trace benzene, no odors

Borehole #80 — TD = 76';  
completed in bedrock;  
hydrocarbon odor detected

## EXTENT OF MARATHON CONDENSATE LEAK AS OF JULY 12, 1991

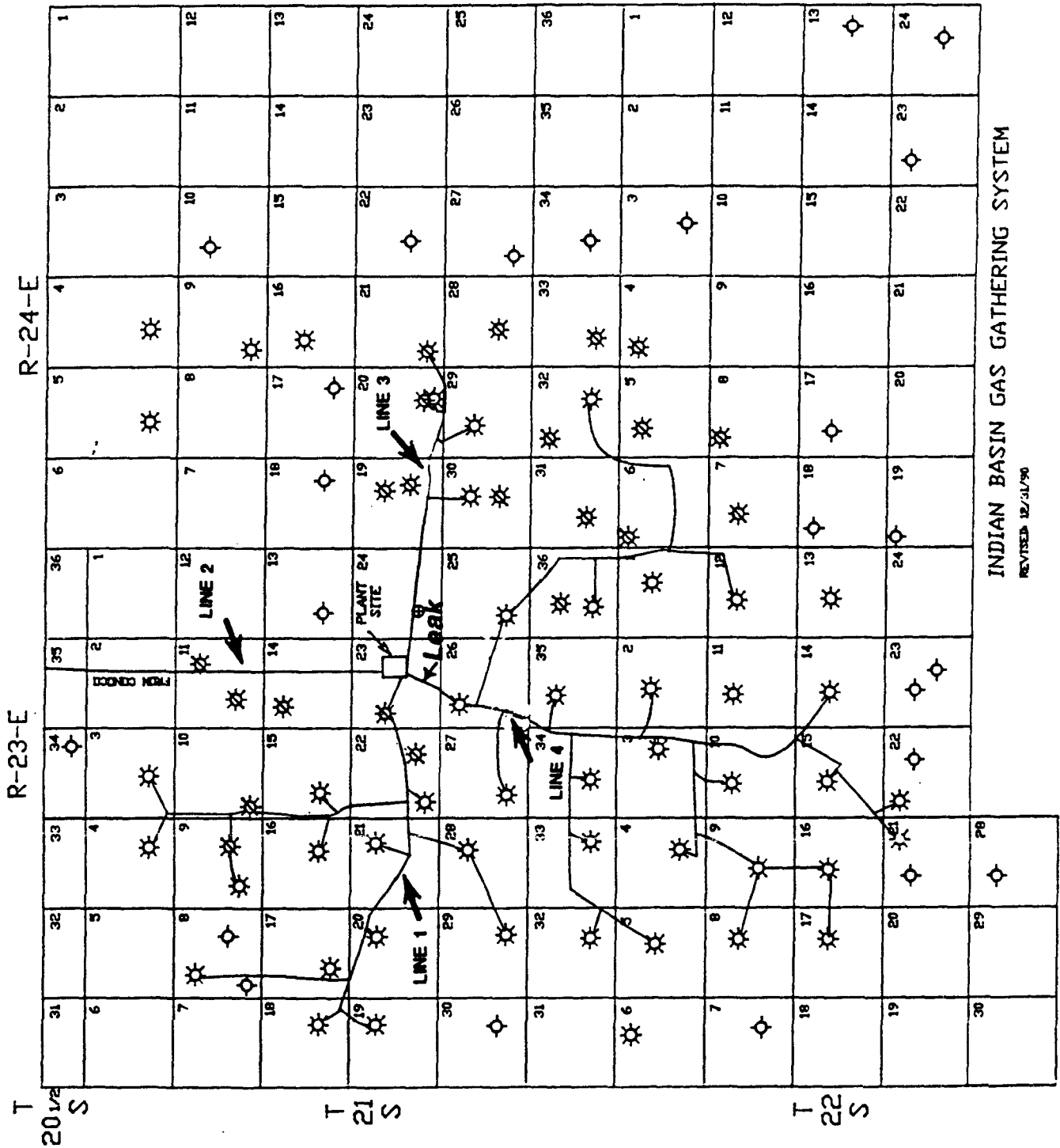
Grid is 200' intervals

**LEGEND**

- BORE HOLE (CIRCLED)
- BORE HOLE (SQUARE)
- PIT (CIRCLED)
- PIT (SQUARE)
- PUMP

N1490 N1480 N1470 N1460 N1450 N1440 N1430 N1420 N1410 N1400  
E1400 E1410 E1420 E1430 E1440 E1450 E1460 E1470 E1480 E1490

# MAP II



## RECEIVED

JUN 17 1991

OIL CONSERVATION DIV.  
SANTA FE





STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION  
2040 S. PACHECO  
SANTA FE, NEW MEXICO 87505  
(505) 827-7131

March 4, 1999

**CERTIFIED MAIL**  
**RETURN RECEIPT NO. Z-274-520-629**

Mr. Paul Peacock  
Marathon Oil Company  
P.O. Box 552  
Midland, Texas 79702-0552

**RE: SITE CHARACTERIZATION REPORT  
MARATHON INDIAN BASIN GAS PLANT**

Dear Mr. Peacock:

The New Mexico Oil Conservation Division (OCD) has reviewed Marathon Oil Company's (MOC) December 31, 1998 "COMPREHENSIVE SITE CHARACTERIZATION REPORT, INDIAN BASIN REMEDIATION PROJECT, MARATHON OIL COMPANY". This document contains the results of MOC's recent ground water investigations and comprehensive water quality sampling at MOC's Indian Basin Gas Plant. The document also contains MOC's plan for modification of the ground water monitoring program.

The OCD would like to commend MOC on the quality of the investigations conducted and the content of the report. The above referenced ground water monitoring work plan is approved with the following conditions:

1. MOC will submit a work plan for delineating the southern extent of ground water contamination south of monitor well MW-98. The work plan will be submitted to the OCD Santa Fe Office by May 4, 1999 with a copy provided to the OCD Artesia District Office.
2. Monitor well MW-105 will be included in the semi-annual shallow zone sampling events.
3. Monitor wells MW-94, MW-104 and MW-108 will be included in the annual Lower Queen sampling events.
4. The annual sampling events will include analysis of ground water for concentrations of total dissolved solids (TDS) and chlorides.
5. Every other year MOC will analyze ground water from all sampled monitor wells for semivolatile organics and New Mexico Water Quality Control Commission (WQCC) metals.

Mr. M. Paul Peacock

March 4, 1999

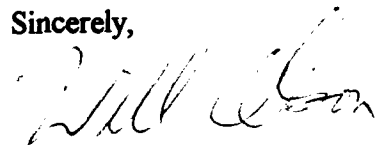
Page 2

6. MOC will notify the OCD at least 1 week in advance of water quality sampling events such that the OCD has the opportunity to witness the events and split samples.

Please be advised that OCD approval does not relieve MOC of liability if the plan fails to adequately monitor contamination related to MOC's activities. In addition, OCD approval does not relieve MOC of responsibility for compliance with any other federal, state or local laws and regulations.

If you have any questions, please contact me at (505) 827-7154.

Sincerely,



William C. Olson

Hydrologist

Environmental Bureau

xc: Tim Gum, OCD Artesia District Supervisor

Z 274 520 629

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**Olson, William**

**From:** Olson, William  
**Sent:** Monday, February 22, 1999 9:55 AM  
**To:** 'M P Peacock'  
**Subject:** RE: IBRP Annual Report Extension

The OCD approves of the below requested extension of the deadline for submission of the annual report on the Indian Basin gas Plant.

**From:** M P Peacock [SMTP:MPPeacock@MarathonOil.com]

**Sent:** Monday, February 22, 1999 9:26 AM  
**To:** Olson, William  
**Subject:** IBRP Annual Report Extension

Bill,

Marathon Oil Company (Marathon) requests approval from the New Mexico Oil Conservation Division (OCD) for a 31 day extension of the March 1, 1999 deadline of the Annual Monitoring Report for the Indian Basin Remediation Project. Marathon is currently reviewing the draft report prepared by ARCADIS Geraghty & Miller, Inc and will send the final report to the OCD by April 1, 1999.

Please advise if the 31 day deadline extension to April 1, 1999 is approved by the OCD.

M. Paul Peacock  
Ph: 915/687-8312  
Fax: 915/687-8305  
E-mail: [mppeacock@marathonoil.com](mailto:mppeacock@marathonoil.com)



STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION  
2040 S. PACHECO  
SANTA FE, NEW MEXICO 87505  
(505) 827-7131

May 14, 1998

**CERTIFIED MAIL**  
**RETURN RECEIPT NO. P-288-259-067**

Mr. M. Paul Peacock  
Marathon Oil Company  
P.O. Box 552  
Midland, Texas 79702-0552

**Re: Discharge Plan GW-21 Minor Modification  
Indian Basin Gas Plant/Remediation Project  
Infiltration of Exempt Reverse Osmosis Reject Water into the Lower Queen Aquifer  
Eddy County, New Mexico**

Dear Mr. Peacock:

The modified groundwater discharge plan GW-21 for the Marathon Oil Company (Marathon) Indian Basin Gas Plant located in the NE/4 of Section 23, Township 21 South, Range 23 East, NMPM, Eddy County, New Mexico is **hereby approved** under the conditions contained in the enclosed attachment. The application consists of the discharge plan modification dated August 27, 1997, and additional information dated April 1, 1998. Enclosed are two copies of the conditions of approval. **Please sign and return one copy to the New Mexico Oil Conservation Division (OCD) Santa Fe Office within 10 working days of receipt of this letter.**

The discharge plan modification application was submitted pursuant to Section 3106 of the New Mexico Water Quality Control Commission (WQCC) Regulations. It is approved pursuant to Section 3109.A. Please note Sections 3109.E and 3109.F., which provide for possible future amendments or modifications of the plan. Please be advised that approval of this plan does not relieve Marathon of liability should operations result in pollution of surface water, ground water, or the environment.

Please be advised that all exposed pits, including lined pits and open tanks (tanks exceeding 16 feet in diameter), shall be screened, netted, or otherwise rendered nonhazardous to wildlife including migratory birds.

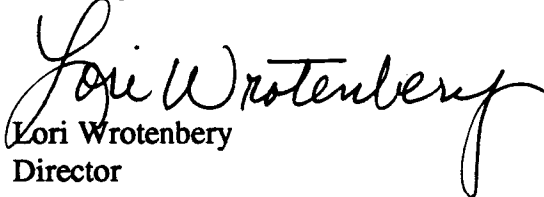
Mr. M. Paul Peacock  
May 14, 1998  
Page 2

Please note that Section 3104 of the regulations provides: "When a facility has been approved, discharges must be consistent with the terms and conditions of the plan." Pursuant to Section 3107.C., Marathon is required to notify the Director of any facility expansion, production increase, or process modification that would result in any change in the discharge of water quality or volume.

The discharge plan modification application for the Marathon Oil Company Indian Basin Gas Plant is subject to WQCC Regulation 3114. Every billable facility submitting a modification will be assessed a fee equal to the filing fee of \$50. The OCD received the filing fee.

On behalf of the staff of the OCD, I wish to thank you and your staff for your cooperation during this discharge plan review.

Sincerely,

  
Lori Wrotenbery  
Director

LW/mwa  
Attachment

xc: OCD Artesia Office

ATTACHMENT TO THE DISCHARGE PLAN MODIFICATION GW-21 APPROVAL  
MARATHON OIL COMPANY  
INDIAN BASIN GAS PLANT  
DISCHARGE PLAN MODIFICATION APPROVAL CONDITIONS  
(May 14, 1998)

1. **Marathon Commitments:** Marathon will abide by all commitments submitted in the discharge plan modification dated August 27, 1997, and the additional information dated April 1, 1998.
2. **Waste Disposal:** All wastes shall be disposed of at an OCD approved facility. Only oilfield exempt wastes shall be disposed of down Class II injection wells. Non-exempt oilfield wastes that are non-hazardous may be disposed of at an OCD approved facility upon proper waste characterization per 40 CFR Part 261.
3. **Drum Storage:** All drums containing materials other than fresh water must be stored on an impermeable pad with curbing. All empty drums will be stored on their sides with the bungs in and lined up on a horizontal plane. Chemicals in other containers such as sacks or buckets will also be stored on an impermeable pad and curb type containment.
4. **Process Areas:** All process and maintenance areas which show evidence that leaks and spills are reaching the ground surface must be either paved and curbed or have some type of spill collection device incorporated into the design.
5. **Above Ground Tanks:** All above ground tanks which contain fluids other than fresh water must be bermed to contain a volume of one-third more than the total volume of the largest tank or of all interconnected tanks. All new tanks or existing tanks that undergo a major modification, as determined by the Division, must be placed within an impermeable bermed enclosure.
6. **Above Ground Saddle Tanks:** Above ground saddle tanks must have impermeable pad and curb type containment unless they contain fresh water or fluids that are gases at atmospheric temperature and pressure.
7. **Labeling:** All tanks, drums and containers should be clearly labeled to identify their contents and other emergency notification information.
8. **Below Grade Tanks/Sumps:** All below grade tanks, sumps, and pits must be approved by the OCD prior to installation or upon modification and must incorporate secondary containment and leak-detection into the design. All pre-existing sumps and below-grade tanks must demonstrate integrity on an annual basis. Integrity tests include pressure testing to 3 pounds per square inch above normal operating pressure and/or visual

inspection of cleaned out tanks and/or sumps, or other OCD approved methods. The OCD will be notified at least 72 hours prior to all testing.

9. **Underground Process/Wastewater Lines:** All underground process/wastewater pipelines must be tested to demonstrate their mechanical integrity at present and then every 5 years thereafter, or prior to discharge plan renewal. Permittees may propose various methods for testing such as pressure testing to 3 pounds per square inch above normal operating pressure or other means acceptable to the OCD. The OCD will be notified at least 72 hours prior to all testing.
10. **Class V Wells:** Leach fields and other wastewater disposal systems at OCD regulated facilities which inject non-hazardous fluid into or above an underground source of drinking water are considered Class V injection wells under the EPA UIC program. All Class V wells that inject non-hazardous industrial wastes or a mixture of industrial wastes and domestic wastes will be closed unless it can be demonstrated that groundwater will not be impacted in the reasonably foreseeable future. Closure of Class V wells must be in accordance with a plan approved by the Division's Santa Fe Office. The OCD allows industry to submit closure plans which are protective of human health, the environment and groundwater as defined by the WQCC, and are cost effective. Class V wells that inject domestic waste only must be permitted by the New Mexico Environment Department.
11. **Housekeeping:** All systems designed for spill collection/prevention will be inspected weekly and after each storm event to ensure proper operation and to prevent overtopping or system failure. A record of inspections will be retained on site for a period of five years.
12. **Spill Reporting:** All spills/releases shall be reported pursuant to OCD Rule 116 and WQCC 1203 to the OCD Artesia District Office.
13. **Transfer of Discharge Plan:** The OCD will be notified prior to any transfer of ownership, control, or possession of a facility with an approved discharge plan. A written commitment to comply with the terms and conditions of the previously approved discharge plan must be submitted by the purchaser and approved by the OCD prior to transfer.
14. **Closure:** The OCD will be notified when operations of the facility are discontinued for a period in excess of six months. Prior to closure of the facility a closure plan will be submitted for approval by the Director. Closure and waste disposal will be in accordance with the statutes, rules and regulations in effect at the time of closure.
15. **Treatment System Monitoring:** Marathon will sample and analyze the treatment system effluent on a monthly basis for benzene, toluene, ethylbenzene and xylenes (BTEX) and on a quarterly basis for major cations/anions and polynuclear aromatic hydrocarbons

using EPA approved methods. The results of these sampling events will be included in the quarterly ground water remediation monitoring reports for the facility.

16. **Reverse Osmosis (RO) Reject and Commingled Water:** Marathon will sample and analyze the RO reject and commingled water on a quarterly basis for major cations/anions using EPA approved methods. The concentrations present in the water to be infiltrated will not exceed the WQCC limits as listed in WQCC Regulation 3101. The results of these sampling events will be included in the quarterly ground water remediation monitoring reports for the facility.
17. **Certification:** Marathon, by the officer whose signature appears below, accepts this permit and agrees to comply with all terms and conditions contained herein. Marathon further acknowledges that these conditions and requirements of this permit may be changed administratively by the Division for good cause shown as necessary to protect fresh water, human health and the environment.

Accepted:

MARATHON OIL COMPANY

by \_\_\_\_\_  
Title





STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

2040 S. PACHECO  
SANTA FE, NEW MEXICO 87505  
(505) 827-7131

March 12, 1997

**CERTIFIED MAIL**

**RETURN RECEIPT NO. P-269-269-281**

Mr. Robert J. Menzie, Jr.  
Marathon Oil Company  
P.O. Box 552  
Midland, Texas 79702-0552

**RE: GROUND WATER REMEDIATION MONITORING MODIFICATIONS  
MARATHON INDIAN BASIN GAS PLANT  
EDDY COUNTY, NEW MEXICO**

Dear Mr. Menzie:

The New Mexico Oil Conservation Division (OCD) has completed a review of Marathon Oil Company's (MOC) January 24, 1997 "INDIAN BASIN GAS REMEDIATION PROJECT, PROPOSED GROUNDWATER MONITORING PLAN MODIFICATION". This document contains Marathon's proposal for modifying the existing ground water remediation monitoring program for MOC's Indian Basin Gas Plant.

The above referenced ground water monitoring modifications are approved with the following conditions:

1. The annual report will be submitted to the OCD by March 1 of each respective year. The annual report will contain:
  - a. A description of all remedial and monitoring activities which occurred during the past calendar year including conclusions and recommendations.
  - b. A tabular summary of all past and present laboratory analytic results of water quality and remediation system sampling for each monitoring point.
  - c. The laboratory analyses and associated quality assurance/quality control data for all samples taken during the past calendar year.
  - d. Quarterly ground water isoconcentration maps for contaminants of concern monitored during the past calendar year.
  - e. Quarterly water table elevation maps using the water table elevation of the ground water in all monitor wells.

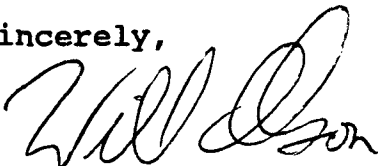
Mr. Robert J. Menzie  
March 12, 1997  
Page 2

- f. Quarterly product thickness maps using the product thickness on the ground water in all monitor wells.
  - g. Plots of water table elevation vs. time for each ground water monitoring well.
  - h. Plots of concentration vs. time for contaminants of concern for each monitoring well.
  - i. Plots or tables showing the amount of product recovered each quarter and the cumulative amount of product recovered over time.
  - j. Plots or tables showing the volume of fluids recovered from each recovery well each quarter and the total volume of fluids recovered over time.
  - k. Plots or tables showing the volume of treated water reinjected each quarter and the total volume of treated water reinjected over time.
2. Marathon will notify the OCD at least 1 week in advance of all scheduled activities such that the OCD has the opportunity to witness the events and/or split samples.
  3. All original documents will be submitted to the OCD Santa Fe Office with copies provided to the OCD Artesia Office.

Please be advised that OCD approval does not relieve MOC of liability should contamination exist which is beyond the scope of the remediation and monitoring plan, or if the activities fail to adequately remediate and monitor contamination related to MOC's activities. In addition, OCD approval does not relieve MOC of responsibility for compliance with any other federal, state or local laws and/or regulations.

If you have any questions, please call me at (505) 827-7154.

Sincerely,



William C. Olson  
Hydrogeologist  
Environmental Bureau

xc: OCD Artesia District Office

P 269 269 261

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STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION  
2040 S. PACHECO  
SANTA FE, NEW MEXICO 87505  
(505) 827-7131

May 9, 1996

**CERTIFIED MAIL**  
**RETURN RECEIPT NO. P-269-269-144**

Mr. Robert J. Menzie  
Marathon Oil Company  
P.O. Box 552  
Midland, Texas 79702-0552

**RE: Discharge Plan GW-21 Modification  
Indian Basin Gas Plant  
Eddy County, New Mexico**

Dear Mr. Menzie:

The groundwater discharge plan modification, GW-21, for Marathon's Indian Basin Gas Plant Facility located in the NE/4 of Section 23, Township 21 South, Range 23 East, NMPM, Eddy County, New Mexico, is hereby approved under the conditions contained in the enclosed attachment. The application consists of the discharge plan modification application dated January 15, 1996; and the amended modification dated April 18, 1996. Enclosed are two copies of the conditions of approval. Please sign and return one copy to the New Mexico Oil Conservation Division (OCD) Santa Fe Office within five working days of receipt of this letter.

The discharge plan modification application was submitted pursuant to Section 3109.F of the Water Quality Control Commission (WQCC) Regulations. It is approved pursuant to Section 3109.A. Please note Section 3109.F., which provides for possible future amendments or modifications of the plan. Please be advised that approval of this plan does not relieve Marathon of liability should operations result in pollution of surface or ground waters, or the environment.

Please be advised that all exposed pits, including lined pits and open top tanks (exceeding 16 feet in diameter) shall be screened, netted, or otherwise rendered nonhazardous to wildlife including migratory birds.

Please note that Section 3104 of the regulations requires that "when a plan has been approved, discharges must be consistent with the terms and conditions of the plan." Pursuant to Section

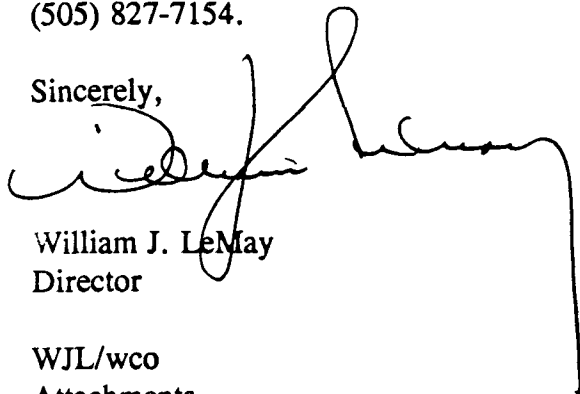
Mr. Robert J. Menzie  
May 9, 1996  
Page 2

3107.C. Marathon is required to notify the Director of any facility expansion, production increase, or process modification that would result in any change in the discharge of water quality or volume.

The discharge plan modification application for the Marathon Indian Basin Gas Plant is subject to WQCC Regulation 3114. Every billable facility submitting a discharge plan modification will be assessed a fee equal to the filing fee of \$50 plus one half of the flat fee or \$1,667.50 for gas processing plants. The \$50 filing fee was received by the OCD on January 19, 1996. The OCD has not received the flat fee of \$1,667.50 which may be paid in a single payment due on the date of the discharge plan modification or in equal installments over the remaining duration of the discharge plan. Installment payments shall be remitted yearly, with the first installment due on the date of the discharge plan approval and subsequent installments due on this date of each calendar year.

On behalf of the staff of the OCD, I wish to thank you and your staff for your cooperation during this discharge plan review. If you have any questions, please contact Bill Olson of my staff at (505) 827-7154.

Sincerely,



William J. LeMay  
Director

WJL/wco  
Attachments

xc: OCD Artesia Office

ATTACHMENT TO THE DISCHARGE PLAN MODIFICATION GW-21 APPROVAL  
MARATHON INDIAN BASIN GAS PLANT  
DISCHARGE PLAN MODIFICATION REQUIREMENTS  
(May 8, 1996)

1. Payment of Discharge Plan Fees: The \$1,667.50 flat fee shall be submitted upon receipt of this approval. The required flat fee may be paid in a single payment due at the time of approval, or in equal annual installments over the remaining duration of the plan, with the first payment due upon receipt of this approval.
2. Marathon Commitments: Marathon will abide by all commitments submitted in the Discharge plan modification application dated January 15, 1996; and additional information dated April 18, 1996.
3. Drum Storage: All drums containing materials other than fresh water must be stored on an impermeable pad and curb type containment. All empty drums should be stored on their sides with the bungs in place and lined up on a horizontal plane. Chemicals in other containers such as sacks or buckets should also be stored on an impermeable pad and curb type containment.
4. Process Areas: All process and maintenance areas which show evidence that leaks and spills are reaching the ground surface must be either paved and curbed or have some type of spill collection device incorporated into the design.
5. Above Ground Tanks: All above ground tanks which contain fluids other than fresh water must be bermed to contain a volume of one-third more than the total volume of the largest tank or of all interconnected tanks. All new facilities or modifications to existing facilities must place the tank on an impermeable type pad.
6. Above Ground Saddle Tanks: Above ground saddle tanks must have impermeable pad and curb type containment unless they contain fresh water or fluids that are gases at atmospheric temperature and pressure.
7. Tank Labeling: All tanks should be clearly labeled to identify their contents and other emergency information necessary if the tank were to rupture, spill, or ignite.
8. Below Grade Tanks/Sumps: All below grade tanks, sumps, and pits must be approved by the OCD prior to installation or upon modification and must incorporate secondary containment and leak-detection into the design. All pre-existing sumps and below-grade tanks must demonstrate integrity on an annual basis. Integrity tests include pressure testing to 3 pounds per square inch above normal operating pressure and/or visual inspection of

Mr. Robert J. Menzie  
May 9, 1996  
Page 4

cleaned out tanks /or sumps.

9. Underground Process/Wastewater Lines: All underground process/wastewater pipelines must be tested to demonstrate their mechanical integrity at present and then every 5 years there after. Permittees may propose various methods for testing such as pressure testing to 3 pounds per square inch above normal operating pressure or other means acceptable to the OCD.
10. Housekeeping: All systems designed for spill collection/prevention should be inspected to ensure proper operation and to prevent overtopping or system failure.
11. Spill Reporting: All spills/releases or exceedances of WQCC standards in the injected effluent shall be reported pursuant to OCD Rule 116 and WQCC 1203 to the OCD Santa Fe Office.
12. Transfer of Discharge Plan: The OCD will be notified prior to any transfer of ownership, control, or possession of a facility with an approved discharge plan. A written commitment to comply with the terms and conditions of the previously approved discharge plan must be submitted by the purchaser and approved by the OCD prior to transfer.
13. Closure: The OCD will be notified when operations of the facility are discontinued for a period in excess of six months. Prior to closure of the facility a closure plan will be submitted for approval by the Director. Closure and waste disposal will be in accordance with the statutes, rules and regulations in effect at the time of closure.
14. Treatment System Monitoring: Marathon will sample and analyze the treatment system effluent on a monthly basis for benzene, toluene, ethylbenzene and xylenes (BTEX) and on a quarterly basis for major cations/anions and polynuclear aromatic hydrocarbons using appropriate EPA methods. The results of these sampling events will be included in the quarterly ground water remediation monitoring reports for the facility.
15. Conditions accepted by:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

2040 S. PACHECO  
SANTA FE, NEW MEXICO 87505  
(505) 827-7131

May 7, 1996

**CERTIFIED MAIL**  
**RETURN RECEIPT NO. P-269-269-142**

Mr. Robert J. Menzie, Jr.  
Marathon Oil Company  
P.O. Box 552  
Midland, Texas 79702-0552

**RE: ADDITIONAL GROUND WATER INVESTIGATIONS  
MARATHON INDIAN BASIN GAS PLANT  
EDDY COUNTY, NEW MEXICO**

Dear Mr. Menzie:

The New Mexico Oil Conservation Division (OCD) has completed a review of Marathon Oil Company's (MOC) April 18, 1996 "INDIAN BASIN GAS PLANT, GROUND WATER DISCHARGE PLAN (GW-21) AMENDED MODIFICATION", February 26, 1996 "INDIAN BASIN REMEDIATION PROJECT, PROPOSED WELL DRILLING WORKPLAN" and December 18, 1995 "INDIAN BASIN REMEDIATION PROJECT, PROPOSED WELL DRILLING WORKPLAN". These documents contain Marathon's proposed work plan for installation of additional monitor wells, injection wells for reinjection of treated ground water and installation of vapor extraction wells at the Indian Basin Gas Plant.

The above referenced work plans are approved with the following conditions:

1. The proposed Lower Queen monitor wells will be installed and sampled by October 1, 1996.
2. Water quality samples will be obtained from all shallow zone and Lower Queen wells. The OCD suggests that the sampling be coordinated with a quarterly sampling event to reduce costs and prevent duplication of efforts. The ground water from these wells will be sampled and analyzed for benzene, ethylbenzene, toluene, xylene (BTEX), total dissolved solids (TDS), major cations and anions and polynuclear aromatic hydrocarbons (PAH's) using appropriate EPA methods.
3. The investigation report will contain:
  - a. A description of all investigation and remedial activities which have occurred including conclusions and recommendations. The recommendations should include any necessary modifications to the current ground water monitoring program.



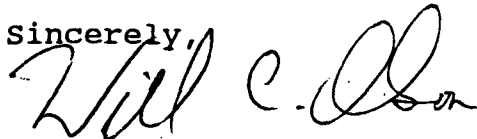
Mr. Robert J. Menzie  
May 7, 1996  
Page 2

- b. Lithologic logs and as built well completion diagrams for each new well.
  - c. A summary of all past and present laboratory analytic results of ground water quality sampling and copies of the laboratory analyses.
  - d. Ground water quality isoconcentration maps for contaminants of concern in both the Lower Queen and shallow zone aquifers (ie. benzene, TDS, chloride, PAH's, etc.).
  - e. Water table elevation maps for both the Lower Queen and shallow zone aquifers using the water table elevation of ground water in all site monitor wells.
  - f. Product thickness maps for both the Lower Queen and shallow zone aquifers based on the product thickness in all site monitor wells.
4. Marathon will notify the OCD at least 48 hours in advance of all scheduled activities such that the OCD has the opportunity to witness the events and/or split samples.
  5. All original documents will be submitted to the OCD Santa Fe Office with copies provided to the OCD Artesia Office.
  6. MOC will not operate the injection wells until the discharge plan modification for the Indian Basin Gas Plant has been approved.

Please be advised that OCD approval does not limit Marathon to the work proposed should the investigations fail to adequately define the extent of contamination, if remedial actions fail to adequately remediate contamination at the site, or if contamination exists which is beyond the scope of the work plan. In addition, OCD approval does not relieve Marathon of responsibility for compliance with any other federal, state and local laws and/or regulations.

If you have any questions, please contact me at (505) 827-7154.

Sincerely,



William C. Olson  
Hydrogeologist  
Environmental Bureau

xc: OCD Artesia District Office

P 219 269 142

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STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION  
2040 S. PACHECO  
SANTA FE, NEW MEXICO 87505  
(505) 827-7131

April 27, 1995

**CERTIFIED MAIL**

**RETURN RECEIPT NO. P-667-242-246**

Mr. Robert J. Menzie, Jr.  
Production Environmental Representative  
Marathon Oil Company  
P.O. Box 552  
Midland, Texas 79702-0552

**RE: PIPELINE SPILL REMEDIATION/INVESTIGATION  
MARATHON INDIAN BASIN GAS PLANT  
EDDY COUNTY, NEW MEXICO**

Dear Mr. Menzie:

The New Mexico Oil Conservation Division (OCD) has completed a review of Marathon Oil Company's (MOC) March 3, 1995 "LINE #1 PIPELINE SPILL ASSESSMENT, MARATHON INDIAN BASIN GAS PLANT, EDDY COUNTY, NEW MEXICO". This document contains Marathon's workplan for supplemental investigation of the vertical extent of contamination from a July 13, 1994 leak of condensate and produced water at MOC's Indian Basin Gas Plant.

The above referenced workplan is approved with the following condition:

1. MOC will submit a report containing the results of the remedial activities to the OCD for approval by August 1, 1995.

Please be advised that OCD approval does not relieve MOC of liability should the investigation actions fail to adequately determine the extent of contamination related to MOC's activities. In addition, OCD approval does not relieve you of responsibility for compliance with any other federal, state or local laws and/or regulations.

If you have any questions please contact me at (505) 827-7154.

Sincerely,

William C. Olson  
Hydrogeologist  
Environmental Bureau

xc: Tim Gum, OCD Artesia District Supervisor  
Ray Smith, OCD Artesia District

P 467 242 246



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PS Form 3800, June 1990

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right of the return address.

**Bill Olson**

---

**From:** Bill Olson  
**To:** Tim Gumm  
**Cc:** Ray Smith  
**Subject:** Marathon Line #1 Spill  
**Date:** Monday, April 24, 1995 11:59AM  
**Priority:** High

Attached is a draft approval letter for Marathon's recent investigation workplan for the Line #1 spill at the Indian Basin Plant. Please provide me with any comments in writing by 12:00 pm on 4/26/95. Thanks!

<<File Attachment: SPILL2.APR>>

**Bill Olson**

---

**From:** Ray Smith  
**Date sent:** Monday, April 24, 1995 1:09PM  
**To:** Bill Olson  
**Subject:** Registered: Ray Smith

**Your message**

**To:** Ray Smith  
**Subject:** Marathon Line #1 Spill  
**Date:** Monday, April 24, 1995 11:59AM  
**was accessed on**  
**Date:** Monday, April 24, 1995 1:09PM

**Bill Olson**

---

**From:** Tim Gumm  
**Date sent:** Wednesday, April 26, 1995 7:58AM  
**To:** Bill Olson  
**Subject:** Registered: Tim Gumm

**Your message**

**To:** Tim Gumm  
**Subject:** Marathon Line #1 Spill  
**Date:** Monday, April 24, 1995 11:59AM  
**was accessed on**  
**Date:** Wednesday, April 26, 1995 7:58AM

State of New Mexico  
**ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT**  
Santa Fe, New Mexico 87505



OIL CONSERVATION DIVISION  
2040 S. Pacheco St.  
Santa Fe, New Mexico 87505



January 6, 1995

**CERTIFIED MAIL**  
**RETURN RECEIPT NO. P-667-242-196**

Mr. Robert J. Menzie, Jr.  
Production Environmental Representative  
Marathon Oil Company  
P.O. Box 552  
Midland, Texas 79702-0552

**RE: LINE #1 PIPELINE SPILL REMEDIATION  
MARATHON INDIAN BASIN GAS PLANT  
EDDY COUNTY, NEW MEXICO**

Dear Mr. Menzie:

The New Mexico Oil Conservation Division (OCD) has completed a review of the Marathon Oil Company's (MOC) November 2, 1994 "INDIAN BASIN GAS PLANT, PIPELINE SPILL (LINE #1) REMEDIATION REPORT". This document presents the results of MOC's remediation of soils contaminated as a result of a July 13, 1994 pipeline leak of condensate and produced water at MOC's Indian Basin Gas Plant.

The OCD approves of the remedial work performed. However, the remediation levels achieved in the bottom of the excavated area are greatly in excess of the OCD's recommended soil remediation levels. Therefore, the OCD defers comment on the need for additional remedial actions and requires that MOC submit to the OCD by March 3, 1995 a work plan to define the vertical extent of contamination related to this spill.

If you have any questions please contact me at (505) 827-7154.

Sincerely,

A handwritten signature in cursive script, appearing to read "William C. Olson".

William C. Olson  
Hydrogeologist  
Environmental Bureau

xc: OCD Artesia District Office

---

VILLAGRA BUILDING - 408 Galisteo  
Forestry and Resources Conservation Division  
P.O. Box 1948 87504-1948  
827-5830  
Park and Recreation Division  
P.O. Box 1147 87504-1147  
827-7465

---

2040 South Pacheco  
Office of the Secretary  
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Administrative Services  
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Energy Conservation & Management  
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Mining and Minerals  
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PS Form 3800, June 1990

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STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

BRUCE KING  
GOVERNOR

January 5, 1995

2040 S. PACHECO  
SANTA FE, NEW MEXICO 87505  
(505) 827-7131

**CERTIFIED MAIL**  
**RETURN RECEIPT NO. P-667-242-194**

Mr. Robert J. Menzie, Jr.  
Production Environmental Representative  
Marathon Oil Company  
P.O. Box 552  
Midland, Texas 79702-0552

**RE: GROUND WATER REMEDIATION PROJECT  
MARATHON INDIAN BASIN GAS PLANT  
EDDY COUNTY, NEW MEXICO**

Dear Mr. Menzie:

The New Mexico Oil Conservation Division (OCD) has completed a review of the Marathon Oil Company's (MOC) November 11, 1994 "INDIAN BASIN TREATMENT PLAN MODIFICATION". This document presents Marathon's proposal to convert monitor well MW-61A at MOC's Indian Basin Gas Plant ground water remediation system from a pumping well to a downgradient monitoring well. The water quality in monitor well MW-61A is proposed to be analyzed on a quarterly basis.

The above referenced remediation/treatment plan modification is approved.

Please be advised that OCD approval does not limit MOC to monitoring water quality in monitor well MW-61A if future water quality analyses are found to exceed New Mexico Water Quality Control Commission ground water standards. In addition, OCD approval does not relieve MOC of responsibility for compliance with any other federal, state and local laws and/or regulations.

If you have any questions, please contact me at (505) 827-7154.

Sincerely,

A handwritten signature in cursive script, appearing to read "W.C. Olson".

William C. Olson  
Hydrogeologist  
Environmental Bureau

xc: Tim Gum, OCD Artesia District Supervisor



P 667 242 194

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BRUCE KING  
GOVERNOR

ANITA LOCKWOOD  
CABINET SECRETARY



2040 S. PACHECO  
SANTA FE, NEW MEXICO 87505  
(505) 827-7131

November 22, 1994

**CERTIFIED MAIL**

**RETURN RECEIPT NO. P-667-242-178**

Mr. Robert J. Menzie, Jr.  
Production Environmental Representative  
Marathon Oil Company  
P.O. Box 552  
Midland, Texas 799702-0552

**RE: GROUND WATER REMEDIATION PROJECT  
MARATHON INDIAN BASIN GAS PLANT  
EDDY COUNTY, NEW MEXICO**

Dear Mr. Menzie:

The New Mexico Oil Conservation Division (OCD) has completed a review of the Marathon Oil Company's November 22, 1994 "INDIAN BASIN REMEDIATION PROJECT WORKPLAN". This document presents Marathon's proposal to conduct additional investigation activities related to contaminated ground water at Marathon's Indian Basin Gas Plant.

The above referenced work plan is approved with the following conditions:

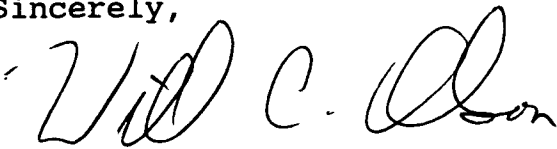
1. For all open hole completions, the steel conductor casing will be seated at least five (5) feet below the alluvium/bedrock contact and grouted into place with a cement/bentonite grout.
2. Marathon will notify the OCD at least 48 hours in advance of all scheduled activities such that the OCD has the opportunity to witness the events.
3. All original documents will be submitted to the OCD Santa Fe Office with copies provided to the OCD Artesia Office.

Mr. Robert J. Menzie, Jr.  
 November 22, 1994  
 Page 2

Please be advised that OCD approval does not limit Marathon to the work proposed should contaminants be found to be migrating from the site or if contamination exists which is beyond the scope of the work plan. In addition, OCD approval does not relieve Marathon of responsibility for compliance with any other federal, state and local laws and/or regulations.

If you have any questions, please contact me at (505) 827-7154.

Sincerely,



William C. Olson  
 Hydrogeologist  
 Environmental Bureau

xc: Tim Gum, OCD Artesia District Supervisor

P 667 242 178

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ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION



BRUCE KING  
GOVERNOR

August 25, 1994

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ANITA LOCKWOOD  
CABINET SECRETARY

**CERTIFIED MAIL**  
**RETURN RECEIPT NO. P-111-334-160**

Mr. Robert J. Menzie, Jr.  
Production Environmental Representative  
Marathon Oil Company  
P.O. Box 552  
Midland, Texas 79702

**RE: PIPELINE SPILL REMEDIATION  
MARATHON INDIAN BASIN GAS PLANT  
EDDY COUNTY, NEW MEXICO**

Dear Mr. Menzie:

The New Mexico Oil Conservation Division (OCD) has completed a review of the Marathon Oil Company's (MOC) July 29, 1994 "INDIAN BASIN GAS PLANT, LINE #1 RELEASE REMEDIATION WORKPLAN". This document presents Marathon's workplan for remediation of soils contaminated as a result of a July 13, 1994 leak of condensate and produced water at MOC's Indian Basin Gas Plant.

The above referenced workplan is approved with the following condition:

1. MOC will submit a report containing the results of the remedial activities to the OCD for approval by November 4, 1994.

Please be advised that OCD approval does not relieve MOC of liability should the remedial actions fail to adequately remediate contaminants related to MOC's activities. In addition, OCD approval does not relieve you of responsibility for compliance with any other federal, state or local laws and/or regulations.

If you have any questions please contact me at (505) 827-5885.

Sincerely,

William C. Olson  
Hydrogeologist  
Environmental Bureau

xc: OCD Artesia District Office

P 111 334 160



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August 18, 1994

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**CERTIFIED MAIL**  
**RETURN RECEIPT NO. P-111-334-154**

Mr. Robert J. Menzie, Jr.  
Production Environmental Representative  
Marathon Oil Company  
P.O. Box 1324  
Artesia, New Mexico

**RE: GROUND WATER REMEDIATION SYSTEM GATHERING LINE  
MARATHON INDIAN BASIN GAS PLANT  
EDDY COUNTY, NEW MEXICO**

Dear Mr. Menzie:

The New Mexico Oil Conservation Division (OCD) has completed a review of the Marathon Oil Company's August 16, 1994 "INDIAN BASIN REMEDIATION PROJECT, GATHERING LINE REPLACEMENT". This document presents Marathon's proposal to replace a 0.8 mile section of gathering line which conveys contaminated ground water from the offsite ground water recovery wells to the treatment system at the plant.

The above referenced proposal is approved with the following conditions:

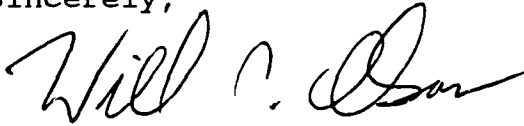
1. The underground gathering line will be designed to allow for pressure testing to determine the integrity of the pipe.
2. Prior to operation, the piping will be pressure tested and shall maintain a pressure of 3 psi above operating pressure for a period of 4 hours.
3. The results of the pressure testing will be submitted to the OCD upon completion of the project.
4. Marathon will notify the OCD at least 48 hours in advance of all scheduled activities such that the OCD has the opportunity to witness the events.

Mr. Robert J. Menzie, Jr.  
August 18, 1994  
Page 2

Please be advised that OCD approval does not relieve Marathon of liability should operation of the gathering line result in actual contamination of ground water, surface water or the environment. In addition, OCD approval does not relieve you of responsibility for compliance with any other federal, state or local laws and/or regulations.

If you have any questions please contact me at (505) 827-5885.

Sincerely,



William C. Olson  
Hydrogeologist  
Environmental Bureau

xc: OCD Artesia District Office

P 111 334 154

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STATE OF NEW MEXICO

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BRUCE KING  
GOVERNOR

May 17, 1993

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(505) 827-5800

ANITA LOCKWOOD  
CABINET SECRETARY

**CERTIFIED MAIL**  
**RETURN RECEIPT NO. P-667-242-342**

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

**RE: MONITOR WELL INSTALLATION  
MARATHON INDIAN BASIN GAS PLANT  
EDDY COUNTY, NEW MEXICO**

Dear Mr. Learned:

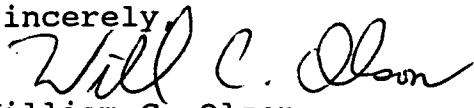
The New Mexico Oil Conservation Division (OCD) has reviewed the Marathon Oil Company's April 7, 1993 "INDIAN BASIN GAS PLANT REMEDIATION ACTIVITIES. This document requests OCD approval of Marathon's proposal to install an additional monitor well downgradient of monitor well MW-87A to complete a definition of the extent of petroleum contaminated ground water related to Marathon's activities at the Indian Basin Gas Plant.

**The above referenced request is hereby approved with the following conditions:**

1. The monitor well will be constructed in the same manner as previously approved monitor wells completed in the Lower Queen Aquifer.
2. Marathon will notify OCD at least 72 hours in advance of any drilling or sampling activity associated with the proposed monitor well such that OCD may have the opportunity to witness the work elements and/or split ground water samples

If you have any questions, please contact me at (505) 827-5885.

Sincerely,

  
William C. Olson  
Hydrogeologist  
Environmental Bureau

xc: OCD Artesia District Office



State of New Mexico  
ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT  
Santa Fe, New Mexico 87505

OIL CONSERVATION DIVISION



BRUCE KING  
GOVERNOR

December 2, 1992

ANITA LOCKWOOD  
CABINET SECRETARY

MATTHEW BACA  
DEPUTY SECRETARY

**CERTIFIED MAIL**  
**RETURN RECEIPT NO. P-756-903-836**

Robert F. Unger  
Production Manager/Midland Operations  
Marathon Oil Company  
P.O. Box 552  
Midland, Texas 79702

**RE: WATER QUALITY SAMPLING  
MARATHON INDIAN BASIN GAS PLANT  
EDDY COUNTY, NEW MEXICO**

Dear Mr. Unger:

The New Mexico Oil Conservation Division (OCD) has reviewed the Marathon Oil Company's November 20, 1991 request to reduce the frequency of sampling of water wells and springs in the vicinity of Marathon's Indian Basin Gas Plant.

Due to the lack of petroleum-related contaminants in these wells over time, the OCD approves of Marathon's proposed reduced sampling schedule contained in the above referenced correspondence. At the December 13, 1991 OCD/Marathon meeting, OCD will discuss with Marathon additional requirements for investigation and monitoring to ensure containment of ground water contaminants related to Marathon's remedial activities.

If you have any questions, please contact me at (505) 827-5885.

Sincerely,

A handwritten signature in black ink that reads "William C. Olson".

William C. Olson  
Hydrogeologist/Environmental Bureau

xc: OCD Artesia District Office  
Al Collar, Bureau of Land Management Roswell Office

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P.O. Box 1948 87504-1948  
827-5830

Park and Recreation Division  
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Office of the Secretary  
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STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

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BRUCE KING  
GOVERNOR

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(505) 827-5800

April 2, 1992

**CERTIFIED MAIL**  
**RETURN RECEIPT NO. P-756-903-840**

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

**RE: ENVIRONMENTAL TREATMENT PLAN  
MARATHON INDIAN BASIN GAS PLANT  
EDDY COUNTY, NEW MEXICO**

Dear Mr. Unger:

The New Mexico Oil Conservation Division (OCD) has completed a review of the Marathon Oil Company's March 5, 1992 "INDIAN BASIN ENVIRONMENTAL TREATMENT PLAN, TECHNOLOGICAL DESCRIPTION AND PLANS FOR IMPLEMENTATION". The plan presents Marathon's proposal to remediate petroleum contamination of ground water related to Marathon's Indian Basin activities.

The OCD approves of the above referenced remediation plan with the following conditions which were agreed upon during an April 2, 1992 conversation between OCD and Marathon:

1. OCD will defer comment on the section "Treatment Leading To Closure" until such time that Marathon proposes cessation of remedial actions.
2. Marathon will submit a detailed plan for reinjection of treated ground water into the either the shallow zone or the Lower Queen Aquifer to OCD for approval prior to construction.
3. During the initial quarterly sampling, Marathon will perform ground water quality sampling for benzene, toluene, ethylbenzene and xylene (BTEX) using the standard bailing sampling method on 20% of the monitor wells sampled using the proposed variable speed sampling pump. The analytical results comparing these methods will be included in Marathon's initial quarterly report to OCD.

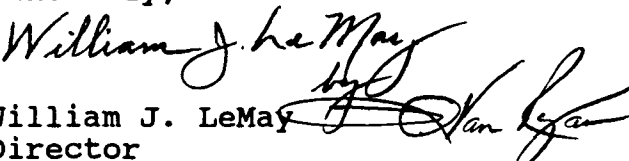
Mr. Robert F. Unger  
April 2, 1992  
Page 2

4. In order to maintain quality assurance/quality control of the performance of Marathon's proposed High Performance Liquid Chromatography (HPLC) analytical method for BTEX, Marathon will perform duplicate sampling on 10% of all samples to be analyzed by the HPLC method. These duplicate samples will be analyzed using the standard EPA 8020 analytical method.
5. Marathon will submit quarterly reports to OCD within 6 weeks of the end of the respective quarter. Quarterly reports will include:
  - a. All field measurements and laboratory analytical results from water quality sampling conducted during the quarter.
  - b. Monthly potentiometric maps of the Lower Queen Aquifer including, if available, product thickness.
  - c. Quarterly potentiometric maps of the Shallow Zone based upon monitor wells sampled during the quarter.
  - d. Volumes of oil and water recovered from both the shallow zone and the Lower Queen Aquifer and the pumping wells from which fluids were recovered.
  - e. The status of the soil venting activities.

Please be advised that OCD approval does not limit you to the work plan proposed should the recovery system fail to contain and remediate petroleum contaminated ground water related to Marathon's activities. In addition, OCD approval does not relieve you of liability which may be actionable under any other laws and/or regulations.

The OCD commends Marathon for their cooperation and initiative in addressing this problem. If you have any questions please contact William Olson of my staff at (505)827-5885.

Sincerely,

  
William J. LeMay  
Director

xc: William Olson, Environmental Bureau  
Mike Williams, OCD Artesia District Office  
Chris Eustice, OCD Hobbs District Office  
John Pfeil, ED Ground Water Protection and Remediation Bureau  
Al Collar, Bureau of Land Management Roswell Office



STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION DIVISION



BRUCE KING  
GOVERNOR

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SANTA FE, NEW MEXICO 87504  
(505) 827-5800

March 9, 1992

**CERTIFIED MAIL**  
**RETURN RECEIPT NO. P-690-154-687**

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

**RE: WATER QUALITY SAMPLING  
MARATHON INDIAN BASIN GAS PLANT  
EDDY COUNTY, NEW MEXICO**

Dear Mr. Lynn:

The New Mexico Oil Conservation Division (OCD) has reviewed the Marathon Oil Company's March 5, 1992 request to reduce the frequency of sampling of water wells and springs in the vicinity of Marathon's Indian Basin Gas Plant.

Due to the lack of petroleum-related contaminants in these wells over time, the OCD approves of Marathon's proposed reduced sampling schedule contained in the above referenced correspondence.

If you have any questions, please contact me at (505) 827-5885.

Sincerely,

William C. Olson  
Hydrogeologist  
Environmental Bureau

xc: Mike Williams, OCD Artesia District Office  
Chris Eustice, OCD Hobbs District Office  
Al Collar, Bureau of Land Management Roswell Office



STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

BRUCE KING  
GOVERNOR

June 18, 1991

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(505) 827-5800

**CERTIFIED MAIL**  
**RETURN RECEIPT P-327-278-198**

Mr. A. J. Kavran  
Environmental and Safety Supervisor  
Marathon Oil Company  
P. O. Box 552  
Midland, Texas 79702

RE: Bedrock Monitoring Wells Work Plan, Marathon Indian Basin Gas Plant

Dear Mr. Kavran:

This letter provides written verification of our phone conversation of Friday, June 14, in which we discussed the Phase II Work Plan for the subsurface investigation and installation of bedrock monitoring wells at your Indian Basin facility. The work plan was attached to your June 12 letter which was received the same day.

The Oil Conservation Division (OCD) reviewed the work plan and verbally approved its content and implementation with the exception of the changes agreed to by telephone and detailed below:

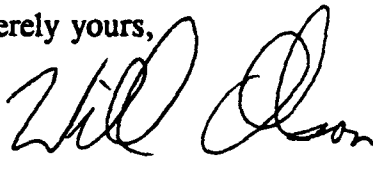
1. Section 2.2.1,p.3. If bedrock is within five feet of the surface at shallow boring locations, the steel surface casing may be eliminated. (However, if condensate is found in that thin interval, I request that surface casing be used. This contingency was not discussed during our phone conversation).
2. Section 2.5.1.,p.9. One purpose for coring is to determine the occurrence of joints and fractures, their size and degree of cementation. Marathon states that ASTM methods D 2487 and D2488, proposed in the plan, will be used to evaluate these features of the bedrock. This is acceptable to OCD.
3. Section 2.6.,p.10. OCD requests that the borehole be screened two feet above the top of liquids in the wells to allow for possible changes in fluid elevations. Though not stated explicitly in the text, Marathon correctly pointed out that the diagrams of the proposed well construction do show the screen above the fluid level, and the wells will be completed in this manner.

4. Section 2.6.,p.11. OCD remarked that bridging of bentonite pellets can occur above the sand pack. Marathon suggested slurring the bentonite to prevent this and OCD concurs. Also, specifications for Volclay Gold Grout were provided and it is approved for the use proposed.
5. Section 2.7.,p.12. At OCD's request, Marathon provided additional information on the use of an organic vapor monitor with an isobutylene standard. The use of that equipment is authorized provided its sensitivity is at least equal to that of the HNu meter (calibrated for benzene) commonly used in these type of investigations.
6. Section 2.12.,p.16. OCD approves the use of Gamma Ray, Density and Induction logs proposed by Marathon for use at the site.

Thank you for the prompt submission of the work plan for our review. I am pleased with detail provided even though it was prepared on very short notice. Although I am unable to be present for the drilling of these wells, I look forward to discussing the results of the drilling operation.

If you have any questions on this letter or on the ground water monitoring aspects of your investigation, please contact myself or Bill Olson at (505) 827-5812.

Sincerely yours,

 for David G. Boyer

David G. Boyer, Hydrogeologist  
Environmental Bureau Chief

DGB/sl

cc: OCD Artesia Office  
Dick Manus, BLM Carlsbad  
Al Collar, BLM Roswell