2R - 40

GENERAL CORRESPONDENCE

YEAR(S): 1995

YATES PETROLEUM CORPORATION

105 SOUTH FOURTH STREET
ARTESIA, NEW MEXICO 88210
TELEPHONE (505) 748-1471

May 31, 1995

Mr. William C. Olson, Hydrogeologist
Environmental Bureau
New Mexico Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

Re: Dunnaway Draw Spill Report

Dear Mr. Olson:

This letter is submitted to the NMOCD to request that the agency reconsider the April 14, 1995 request to Yates Petroleum Corporation to provide to NMOCD a work plan for determining potential groundwater impacts related to the Dunnaway Draw (Martha Creek) produced water spill. Yates wishes to respond to comments made in your April 14 letter, re-emphasize several conclusions made in our February, 1995 report on the incident, and point out several additional facts not included with that report. Taken in total, the evidence indicates it is unlikely that groundwater has been impacted, or, if spill constituents have reached groundwater, their impact on the natural system is minimal.

Your letter lists six reasons why the NMOCD disagrees with the conclusions in our February, 1995 report. These have been reviewed, and our response to each point is provided below:

1. The OCD asserts the volume of the unrecovered fluid was a minimum of 800 to 900 barrels and not the 150 barrels as reported. The OCD figure was arrived at by making an estimate of the maximum depth of water (using water marks on the rocks) and the length (by pacing) of three ponded areas. The total volume of pooled water (1,000 to 1,122 barrels) was calculated by OCD, assuming a rectangular-shaped channel. However, the channel bottom cross-section is not rectangular, but could more accurately be described as a segment of a circle or parabolic. Either of these cross-section configurations will contain less of an area than a rectangle. Since calculation of the area of a segment of a circle requires additional information (i.e. circle radius and sector angle) not easily obtained, estimation using the area of a parabola will more accurately reflect the channel volume, and reduces the pooled volume by one-third (667 to 750 barrels). However, these calculations do not take into account the irregular bottom, nor do they include water displacement due to rocks and boulders in the pools which would further reduce estimates of the volume of water in the pools.

2. OCD suggests that the majority of their estimate of unrecovered fluids were lost to the Queen formation through direct contact with rock outcrops due to the lack of alluvial cover. Though cover is lacking on vertical rock faces, some of which are present on the south side of the arroyo, a thin

veneer of alluvial sediment and soil exists along much of the channel bottom and on the north side of the channel. During collection of samples by hand auger, auger refusal was experienced between 3 and 8 inches into the surface. Even on ledge outcrops a thin layer (1/8 to 1/4 inch) of clayey silt covers the nearly flat surface and conceals the joints.

The soil material is fine grained, mainly clayey silt and silty clay, and was very dry at the time of the spill. The shallow dry soil absorbed some volume of the water and, due to the short time of ponding (less than one day), most likely released most of the moisture back to the atmosphere. A rough calculation using the width and length of the ponded areas, and assuming a soil thickness of 6 inches and a dry soil porosity of 0.4, shows the soil likely absorbed approximately 160 barrels. This further reduces the OCD loss estimate to between 508 and 588 barrels. Deducting the 200 barrels recovered from the pooled area, this leaves an unrecovered water volume between 308 and 388 barrels. Although these estimate numbers are approximately twice the estimate of 150 unrecovered barrels provided in our spill report, the numbers are well within the range of loss estimates commonly made at locations with varying topographic and soil environments where estimation of fluid volumes is difficult due to these circumstances.

3. The OCD states that the fractured dolomite of the Queen formation is a direct conduit to underlying groundwater in the area. While the Queen is present at the surface and may be fractured, a number of additional factors need to be considered for groundwater at a depth of greater than 100 feet to be impacted from seepage during the short duration of water from the release was ponded. The number of joints and fractures have to be of adequate density and their openings of sufficient size to allow a significant amount of water to migrate during the short period water was available for infiltration. Inside tributaries to a major drainage, such as Rocky Arroyo, this is not always the case. For example, a short distance up Dunnaway Draw, a semi-permanent pool of water could be seen from the access road approaching the spill site. The pool is situated against a north cliff face at a bend in the arroyo (SW/4 Sec. 36, T-21S, R-23-E) and most likely is present due to scouring action which has created a depression in the same type of bedrock which is present at the spill site.

   Even if a small amount of water did infiltrate through rock joints at the location of the pooled water, there are additional subsurface impediments to direct downward migration of fluids beneath the site. In fractured and stratified sediments, surface joints may decrease in size or not be continuous in the subsurface. They can be clogged with fine grained material which greatly reduces the rate at which water percolates downward. Lithologic changes can cause flow to move horizontally along bedding planes prior to resuming downward movement. The presence of low permeability clastic sediments (e.g. clay or silts or their derivatives) can interrupt or delay downward fluid movement.

   All of these mechanisms play a part in controlling the amount and rate of recharge to the subsurface. In this type of environment, for recharge to be significant, it must occur over a longer reach of channel or exist for greater than a few hours. For groundwater to be significantly impacted, if at all, unrecovered release volumes would need to be significantly greater than the produced water lost in this incident.

4. The OCD asserts that the concentration of benzene in the spilled produced water was greater than 200 times the NM Water Quality Control Commission groundwater standard. While the sample value of 2.1 milligrams per liter (PPM) was obtained from the pipeline several weeks prior to this release, this value was likely in the concentration range of benzene in the produced water at the time of release. However, once released to the environment, the amount of benzene in the produced water decreased rapidly.

Benzene in water is very volatile; it is the most volatile of the aromatic hydrocarbons with a vapor pressure from 3 to 11 times those of the other volatile aromatics, and 4 times that of fresh water. During the first 15 to 20 minutes of the spill, water from the pipeline was observed to be sprayed 40 to 50 feet in the air and then flowed a distance greater than 500 feet on the surface down a side tributary to Dunnaway Draw. During that time and during the time the water was pooled prior to being recovered, benzene and other volatiles were being released to the atmosphere. Unfortunately, no samples were taken to determine benzene concentrations in the pooled water, but a significant amount of benzene was no doubt lost to evaporation during movement of the water from the break location to the pooled area. Because benzene was present in the aqueous phase in the pipeline and little or no condensate was present, concentrations in the produced water drop quickly once exposed to the atmosphere in the absence of an oil phase.

Water entering the subsurface will also lose benzene due to volatilization during transport and due to biodegradation. If movement in the subsurface is through joints and fractures as postulated by the OCD, volatilization will be enhanced since water movement in the subsurface above and below the water table will be under conditions of turbulent flow versus the laminar flow found in granular sediments such as sands, silts, and clays. Biodegradation is an important factor in reducing concentrations of benzene. Such degradation is commonly very fast in an aerobic environment where oxygen concentrations are not depleted due to excessive levels of hydrocarbons. Severely elevated levels of hydrocarbons, commonly found where condensate or other hydrocarbon product has been released to the subsurface, overwhelm the ability of the natural system to replenish oxygen used in chemical and biological transformation and degradation of the hydrocarbons. This is not the case at the current site because of the limited volume of the spill and the lack of hydrocarbon product to be transformed.

Values for the length of time for biodegradation to occur in soil, surface water, and groundwater in the absence of other mechanisms (such as the transport mechanisms of volatilization and adsorption, and dilution due to any flow recharge) have recently been compiled in the "Handbook of Environmental Degradation Rates" (Lewis Publishers, 1991). Rates of degradation are commonly expressed as half-lives which is the time for one-half of the initial concentration to biodegrade. This time is independent of the beginning concentration value. Half-lives for the types of media at the site are presented as a range of values in the table below.

Media	Low Half-life	High Half-life	Comment
Soil	5 days	16 days	Based on unacclimated aqueous aerobic biodegredation half-life
Surface Water	5 days	16 days	Based on unacclimated aqueous aerobic biodegradation half-life
Ground Water	10 days	32 days	Rate is for aerobic environment and based on unacclimated aqueous aerobic biodegradation half-life: rates for anaerobic conditions (e.g. where hydrocarbon product predominates) are significantly higher (112 days to 24 months)

All three methods of biodegradation occur in the subsurface in a fractured rock environment. In the vadose zone, some fine grained soil material has migrated into the joints and fractures. Water

seeping down through these zones flows, drips, and seeps much the same way as does surface water which allows for continued replenishment of the oxygen. After reaching the water table, and in the absence of any of the other mechanisms of attenuation, biodegradation consumes the remaining benzene in the saturated groundwater. The amount of time for aerobic biodegradation alone to degrade benzene in groundwater from 2.12 mg/l to less than the state WQCC standard of 0.010 mg/l would range from 80 to 256 days (2.7 to 8.5 months).

However, all of the mechanisms discussed above were at work to degrade benzene in the produced water. Volatilization occurred from the running and pooled water; adsorption occurred into the soil along the route of flow and at the temporary pools. Finally, biodegradation of the remaining benzene occurred in the soil sediment. The effectiveness of these processes in removing benzene were demonstrated by results of the soil sampling at the site (Table 1, p. 6 of the investigation report). None of the five soil samples, collected 18 days after the spill, showed benzene to be present at concentrations as low as 0.001 mg/kg.

Enclosed are some photographs of the site that were taken on June 6, 1995. The spill area is clearly shown and more specifically the exposed rock area where infiltration would occur. As can be seen in these photos, there is a pool of water in the depression that held the spill. This particular water happens to be storm runoff water that, at the time of the photograph, had been ponded in this depression for at least eight days. Even at the date of this letter there is still some water remaining in this pool. Considering that the immediate aeration that occurred at the pipe rupture, the length of run through the silt lined natural channels, and the short duration of exposure in the rocky creek bottom, it is highly unlikely that any significant infiltration of benzene or other petroleum product occurred. The weight of the evidence presented above demonstrates that benzene has been sufficiently attenuated such that it is not a problem at this site.

5. OCD comments that groundwater in the Queen in this area is of exceptionally good quality. Yates agrees that protection of groundwater is important in this semi-arid region. Our actions in responding to the spill and performing immediate remedial action demonstrate our commitment in this area. We commissioned a report that investigated the potential for groundwater contamination and possible impact on a Marathon monitor well and concluded that there was at worst a minimal likelihood of spill impact on this well. The Marathon well is approximately 3000 feet from the spill site. The nearest downgradient water supply well is over 13,000 feet (2.5 miles) away and on the opposite side of Rocky Arroyo from this spill site. The distance from this small-volume spill to the well location insures that no impacts will be observed at this well.

6. OCD's final comment repeats a portion of our report conclusion that groundwater may have been impacted. Yates continues to believe that it is unlikely that groundwater has been or will be affected by the spill given the size of the spill and response actions taken, but made calculations as if such impact had occurred. The calculations concluded that if such impact did or will occur, the effect will only be in the immediate vicinity of the spill. To evaluate a possible impact, calculations presented in the report assumed all the unrecovered spill volume reached the groundwater and estimated that an area of approximately 250 feet by 129 feet to a depth of 5 feet could have groundwater with a chloride concentration in excess of 250 mg/l, the state WQCC standard. Unlike benzene, chloride is a conservative groundwater constituent. Benzene from the spill will be attenuated above and below the subsurface as discussed in our response to OCD Comment 4 above.

The report and the above discussion have highlighted how different this incident was from a release of fluid containing petroleum product hydrocarbon. The major difference between produced water and

fluid containing hydrocarbon product is that the original source of the hydrocarbon is not present to continually replenish benzene and other hydrocarbons lost to the mechanisms of attenuation listed above. Additionally, this incident was detected almost immediately after it commenced and fluids removed within only several hours. All the actions taken by Yates were designed to prevent the spill release from having a significant impact on the environment.

During the preparation of the investigative report on this spill, we reviewed the collected sample data and site information on groundwater depth and location of nearby water wells that could serve as environmental receptors. We compared that information with published NMOCD guidelines for remediation of spills, leaks and releases, and concluded that our response and follow-up actions complied with the letter and spirit of the guidelines. In response to your April 14 letter, we have reviewed your comments, especially with respect to benzene, and developed the additional information which we presented above.

On the basis of the information presented and discussed above, Yates does not believe additional groundwater investigation is warranted or necessary and presents this request for reconsideration to the NMOCD. Additionally, if such discussion would be helpful, we would be pleased to meet in person in Santa Fe or Artesia to discuss this information with you.

We look forward to your response on this matter. In the interim, if you have any questions, you can contact me at (505) 748-1471.

Very truly yours,

YATES PETROLEUM CORPORATION

Jim Brown

James S. Brown
Operations Engineering Supervisor

CC: Mr. Tim Gum, NMOCD, Artesia, NM (w/o pcitures)

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 14, 1995

CERTIFIED MAIL
RETURN RECEIPT NO. P-667-242-244

Mr. Paul Ragsdale
Yates Petroleum Corporation
105 South Fourth St.
Artesia, New Mexico 88210

RE: DUNNAWAY DRAW SPILL REPORT
YATES PETROLEUM COMPANY

Dear Mr. Ragsdale:

The New Mexico Oil Conservation Division (OCD) has completed a review of Yates Petroleum Corporation's (YPC) March 1, 1995 correspondence and February 1995 "PRODUCED WATER PIPELINE RELEASE INVESTIGATION, DUNNAWAY DRAW (MARTHA CREEK), EDDY COUNTY, NEW MEXICO". These documents contain the results of YPC's investigation of the extent of contamination related to a produced water pipeline spill into Dunnaway Draw in Eddy County, New Mexico. The report also recommends that no further action is required at the site due to a risk analysis and the low levels of contaminants in the surface soils.

The spill response actions taken are satisfactory. However, for the following reasons, the OCD does not concur with Yates conclusions that it is unlikely that ground water has not been impacted from the spill:

1. The volume of the spill appears to be larger than documented in the report. During an inspection of the site on January 19, 1995, the OCD measured the average size of the three pooled areas in Dunnaway Draw in which the majority of the spilled produced water was contained. These areas were calculated as containing approximately 1000 to 1100 barrels of produced water. This calculation does not include the volume of any fluids lost to seepage during containment in the draw nor fluids lost to seepage along the approximately 700 foot long drainage channel between Dunnaway Draw and the pipeline break. Since only 200 barrels were recovered, the OCD has estimated the volume of unrecovered fluids to be a minimum of 800 to 900 barrels.

2. A large percentage of the fluids were contained in a pool located in a bend of the draw where the fractured dolomite of the Queen Formation is exposed. Since the produced waters were pooled in direct contact with the fractured outcrop in this area and since little alluvial cover exists for storage of fluids in other areas, it is highly likely that the majority of the unrecovered fluids were lost to the Queen Formation.

3. Fractured dolomite of the Queen Formation is a direct conduit to underlying ground water in this area.

4. The concentration of benzene in the spilled produced water was over 200 times the New Mexico Water Quality Control Commission (WQCC) ground water standard.

5. The ground water contained in the Queen Formation in this area is of exceptionally high quality.

6. YPC's February report acknowledges that ground water may have been impacted by the spill.

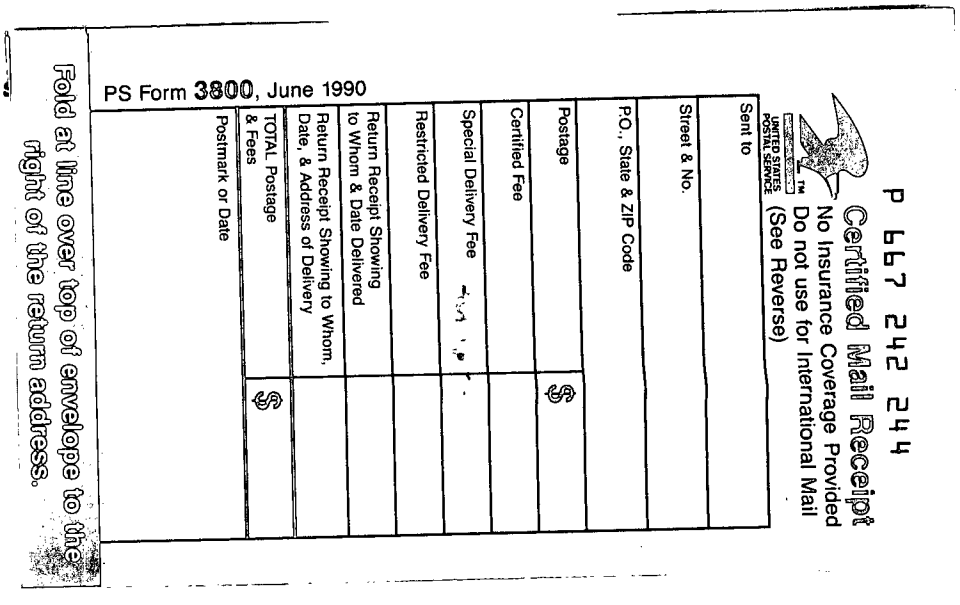
For the above reasons, the OCD requests that YPC submit to the OCD, by June 9, 1995, a work plan for determining potential ground water impacts related to this spill.

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

Sincerely,

William C. Olson
Hydrogeologist
Environmental Bureau

xc: Tim Gum, OCD Artes



Bill Olson

From: Bill Olson
To: Tim Gumm
Cc: Ray Smith
Subject: Yates Dunnaway Draw Spill
Date: Thursday, April 13, 1995 11:05AM
Priority: High

Atached is a draft letter requiring Yates to submit a ground water work plan for the Dunnaway Draw spill. Please provide me with any comments by 11:00 am on 4/17/95. Thanks!

<<File Attachment: INVEST1.REQ>>

Bill Olson

From: Ray Smith
Date sent: Thursday, April 13, 1995 1:04PM
To: Bill Olson
Subject: Registered: Ray Smith

Your message
To: Ray Smith
Subject: Yates Dunnaway Draw Spill
Date: Thursday, April 13, 1995 11:05AM
was accessed on
Date: Thursday, April 13, 1995 1:04PM

Bill Olson

From: Tim Gumm
Date sent: Thursday, April 13, 1995 1:23PM
To: Bill Olson
Subject: Registered: Tim Gumm

Your message
To: Tim Gumm
Subject: Yates Dunnaway Draw Spill
Date: Thursday, April 13, 1995 11:05AM
was accessed on
Date: Thursday, April 13, 1995 1:23PM

MARTIN YATES, III
1912 - 1985
FRANK W. YATES
1936 - 1986

YATES PETROLEUM CORPORATION

105 SOUTH FOURTH STREET
ARTESIA, NEW MEXICO 88210
TELEPHONE (505) 748-1471

S. P. YATES
CHAIRMAN OF THE BOARD
JOHN A. YATES
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SECRETARY
DENNIS G. KINSEY
TREASURER

March 1, 1995

Mr. Tim Gum
New Mexico Oil Conservation Division
P. O. Drawer DD
Artesia, NM 88210

Dear Tim:

Attached please find our report on the Dunnaway Draw (Martha Creek) water pipeline leak that occurred on January 3, 1995.

Groundwater is at a depth in excess of 110 ft. and the intervening sediments are of very low permeability except along joints and fractures. For reasons discussed in the report, it is unlikely that these pathways are as well developed beneath Dunnaway Draw as under Rocky Arroyo. Additionally, pooled water was present only several hours before being pumped to trucks for disposal. Because the spilled liquids were relatively freshwater and not condensate, subsurface attenuation mechanisms, such as volatilization, sorption, and biodegradation will degrade organics relatively quickly. If any fluids do migrate to groundwater, the relatively low concentration of salts and small volume entering the subsurface will be diluted to below groundwater standards by mixing in the immediate vicinity of the spill. No water wells of any type are located within 3000 ft. of the spill location; the nearest domestic or livestock wells are several miles distant.

The spilled water contained only 2445 mg/l chlorides and trace amounts of hydrocarbons. The field investigation conducted January 21 show only residual hydrocarbons remaining in soils underlying the spill area. Benzene, total BTEX and TPH concentrations determined by sampling are below levels requiring remediation pursuant to NMOCD guidelines.

Because of conditions described in the report and summarized above, further soil and groundwater investigation and/or remediation is not warranted. As previously discussed, Yates has taken measures to minimize reoccurrence of pipeline failures and will continue to communicate progress in this regard to you.

If you have any questions regarding this report, please contact me at 748-4187.

Sincerely,

Paul Ragsdale

Paul Ragsdale
Operations Engineer

PR/th

xc: (w/report) Bill Olson, NMOCD, Santa Fe

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

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☑ Telephone ☐ Personal	Time	Date 3/21/95

Originating Party	Other Parties
Bill Olson - Envir. Bureau	Al Coller - BLM Carlsbad

Subject

Yates Martha Creek Spill

Discussion

Discussed Yates spill
Told him OCD awaiting Yates report on extent of contamination which was due on 2/19

BLM recieved no response at this time

Conclusions or Agreements

OCD has lead on subsurface, ground water
BLM maintains jurisdiction over surface

Distribution
file
Roger Anderson

Signed Bill Olson

YATES PETROLEUM CORPORATION
105 SOUTH FOURTH STREET
ARTESIA, NEW MEXICO 88210
TELEPHONE (505) 748-1471

February 21, 1995

Mr. Richard L. Manus
Area Manager
Bureau of Land Management
Carlsbad Resource Area Headquarters
P. O. Box 1778
Carlsbad, NM 88221-1778

Dear Mr. Manus:

Thank you for your letter of February 13, 1995 (enclosed for your reference) regarding a produced water pipeline leak in Section 25, Township 21 South, Range 23 East in Eddy County, New Mexico. Yates Petroleum already performed many of the investigative and remedial actions which BLM has recommended. This letter is to advise BLM of these actions, to respond to BLM's requests for additional information, and to outline a course of action to respond to all of BLM's recommendations.

A chronology of events is enclosed as Attachment 1. This chronology was given to NMOCD in a meeting in Artesia on January 19, 1995. Attachment 1 shows that the release occurred at about 12:00 noon on January 3, 1995. The emergency response actions shown on Attachment 1 include shutting in all wells, closing upstream pipeline valves, vacuuming all free-standing water from Martha Creek and all points between the spill and Martha Creek. Two hundred barrels of water was removed. The line was repaired by 10:00 p.m. January 3rd. These actions were taken as quickly as possible to minimize the impact of the spill. The following day, absorbent was spread on the spill site. Per your request, the Material Safety Data Sheet is enclosed as Attachment 2. Attachment 1 also lists the actions taken to ensure prevention of future spills.

The spill was reported to NMOCD via fax at 4:50 p.m. on January 6, 1995. See Attachment 3. It was reported via telephone conversation to you at approximately 4:30 p.m. on January 6, 1995 by Mr. Jim Brown of Yates Petroleum. A followup written report was sent to you (Attachment 4). The National Response Center (NRC) was notified via telephone at 4:30 p.m. on January 6, 1995, to Miss Coleman, Report number 275438, by Mr. Jim Brown. A written verification of the NRC report was sent to the EPA (Attachment 5). The written report to the EPA Water Management Division is attached (Attachment 6).

The volume of the spill was not known at the time of reporting to the agencies named above. Subsequent to reporting of the spill, Yates Petroleum estimated the total fluid spilled to be 350 barrels. We have documentation to show that 200 barrels of water was vacuumed up and hauled away (Attachment 7). Therefore, our best estimate is that 150 barrels of water was lost. These numbers were reported to the NMOCD in the January 19th meeting (Attachment 1), and to the EPA (Attachment 5). The basis of the

spill volume (350 barrels) was the water production rate times the total elapsed leak time, as shown in Attachment 1.

Yates Petroleum has taken water and soil samples. We have hired a consultant to inspect the spill site, analyze the spilled fluids and soils, and make remediation recommendations to Yates Petroleum. The consultant's report will be finished by February 23, 1995. We would like to meet with NMOCD during the week of February 27th to present the report to them and to discuss remediation requirements. We will also send you a copy of the consultant's report.

Sincerely,

MW Slater

MW Slater
Operations Manager

MWS/th

xc: Tim Gum, NMOCD
Bill Olson, NMOCD

Yates Petroleum
Report of Spill in Martha Creek

January 19, 1995

1. Spill amounts : Estimated 350 bbls of produced water. Picked up 200 bbls from spill site. Net 150 bbls lost.

Spill Events	Daily Production	1/2/93	1/3/93
	Anemone 2-3	3920	3469
	Hickory	693	354
	Brannigan	1321	1350
	S.F. Old Ranch	4922	1136
	Zingaro	1230	1219
Total		12086	7528
	bbl/hr	503	313

Events:

01-03-95 12:15 Marathon notified Yates of water leak
13:00 All wells were shut in, Upstream valve shut off
13:15 Line on a vacuum to Dagger Draw
14:00 Backhoe arrived to dig up break
15:00 Vacuum trucks arrived and vacuumed ditch and line
16:00 Installed fas-line and pump to pump out ponded water
22:00 Line repaired and returned to service

01-04-95 08:00 to 16:00 Broadcast "Oilgator" and cleanup site
Inspected Pressure reducing valve and removed rock
Also, implemented 24 hour watch on line

01-05-95 09:00 to 16:00 Broadcast "Oilgator" and site cleanup.
Also, brought in Hydraulic Engineering Consultant and Valve Technician to inspect line. Also, raining and snowing intermittently.

01-06-95 Re-inspected Pressure reducing valves. Notified spill to BLM,OCD,EPA

Measures to prevent future spills

1. 24 hour surveillance on pipeline , monitoring pressures and rates
2. Installed 5 pressure/temperature recorders in the line
3. Inspected each pressure reducing valve. Installed filters and screens in pilot line to catch trash. Purchased repair kits for all valves and holding in stock. Ordering stand-by valves for emergency replacement.
4. Redesigning manifolds to place a duplicate valve in the line in series to "back-up" first valve, to place in line filters and in line meters in service.
5. In process of installing safety shut-down valves and switches on all batteries
6. Installing 14,000 feet of 12" line to reduce pressure on north end
7. Waiting on Right of way to install 12,000 feet of 8" in south end
8. Organized a "SWAT" team to handle any future emergencies.

Material Safety Data Sheet
May be osed to comply with OSHA's
Hazard Communication Standard
29 CFR 1910.1200. Standard must be
consulted for specific requirements

U.S. Department of Labor
Occupational Safety and Health Administration
(Non-Mandatory Form)
Form Approved
OMB No. 1218-0072

IDENTITY (As Used on Label and List) **Oil Gator**

Section I

Manufacturer's Name:	Product Services Company	Emergency Telephone Number:	(601) 922-0868
Address:	266 Upton Drive	Telephone Number for Information:	(601) 922-0868
	Jackson, Mississippi 39209	Date Prepared:	Nov. 30, 1992

Section II - Hazardous Ingredients / Identity Information

Hazardous Components (Specific Chemical Identity; Common Name(s)	OSHA PEL	AGGIH	Other Limits Recommended	%(Optional)
NONE KNOWN				

Section III - Physical Chemistry Characteristics

Boiling Point - N/A Specific Gravity (H_2O * 1) - 1.25 g/cc Vapor Pressure (mm Hg) - N/A Melting Point - N/A Vapor Density (Air * 1) - N/A
Evaporation Rate (Butyl Acetate * .1) - N/A *Solubility in Water - No* Appearance in Water - Brown Fibrous Powder, Odorless

Section IV - Fire and Explosion Hazard Data

Flash Point (Method Used) - N/A Flammable Limits - 500 Degrees C LEL - N/A UEL - N/A Extinguishing Media - Water
Special Fire Fighting Procedures - Fight as you would a paper fire
Unusual Fire and Explosion Hazards - As with any finely divided powder, the possibility of explosion exists if ignited

Section V - Reactivity Data

Stability	Unstable		Conditions to Avoid
	Stable	X	Incompatibility (Materials to Avoid) - Strong Concentrated Acids
	May Occur		Hazardous Decomposition or Byproducts - May evolve ammonia gas in contact with strong caustic

YATES PETROLEUM CORPORATION

105 SOUTH FOURTH STREET
ARTESIA, NEW MEXICO 88210
TELEPHONE (505) 748-1471

January 6, 1995

REPORT OF UNDESIRABLE EVENT

On Tuesday, January 3, 1995, Yates Petroleum Corporation had a very minor water spill in the S/2 of Section 25-T21S-R23E, Eddy County, New Mexico, on the south bank of Martha Creek Draw. Line was immediately repaired.

James S. Brown
Operations Engineering Supervisor

copy to:

Oil Conservation Division (fax and mail)
811 South 1st Street
Artesia, NM 88210

P.01

TRANSACTION REPORT

JAN-06-95 FRI 16:50

DATE	START	RECEIVER	TX TIME	PAGES	TYPE	NOTE	M#
JAN-06	16:49	97489720	44"	1	SEND	OK	

YATES PETROLEUM CORPORATION

105 SOUTH FOURTH STREET
ARTESIA, NEW MEXICO 88210
TELEPHONE (505) 748-1471

REPORT OF UNDESIRABLE EVENT

On January 6, 1995, Yates Petroleum Corporation advised Mr. Dick Manus with the Bureau of Land Management in Carlsbad, New Mexico via telephone that a leak had occurred in the water pipeline that transports water from East Indian Basin to Dagger Draw. The very minor spill occurred in the S/2 of Section 25-T21S-R23E, Eddy County, NM, on the south bank of Martha Creek Draw, on January 3, 1995.

The line was immediately repaired. The cause of the failure was excessive pressure caused by a malfunctioning pressure control valve. The malfunction was caused by a rock which had lodged in the valve seat. Changes are being made to prevent recurrence.

The other agencies informed of the spill are:

- NMOCD, Artesia, NM
- National Response Center, Report #275438, Miss Coleman
- EPA, Dallas

James S. Brown
Operations Engineering Supervisor

Sent to: BLM, Carlsbad
Attn: Mr. Dick Manus

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
EMERGENCY RESPONSE BRANCH (6E-EP)
1445 ROSS AVENUE
DALLAS, TEXAS 75202-2733
REGION 6

Mailed To:
Alicia Varner
1-30-95

++++++++++++++++++++++++++
+ ERNS VERIFICATION FORM +
++++++++++++++++++++++++++

NRC NUMBER : 275438 - Martha Creek Draw REGION 6 NUMBER : F95-1320

PRP : YATES PETROLEUM CORP

CONTACT PERSON : BROWN, JAMES

PHONE NUMBER : 505-748-4167-

LOCATION : SOUTH HALF/SEC-25, R-23 EAST, T-21 SOUTH

ARTESIA NM

	ORIGINALLY REPORTED:	VERIFIED:
MAT. NAME:	PRODUCED WATER	Produced Water
QUANTITY:	0.00	350 spilled/200 recovered/150 net loss
UNIT:	U - Unknown	barrels (42 gallons/barrel)
SPILL DATE:	01/03/95	01/03/95
SPILL TIME:	0	12:15 PM - 1st detection

VERIFIED BY : _____

DATE/TIME: _____

COMMENTS: _____

_____

CALLED :
MAILED LETTER :
UPDATED :

ATTACHMENT 5

MARTIN YATES, III
1912 - 1985
FRANK W. YATES
1936 - 1986

YATES PETROLEUM CORPORATION

105 SOUTH FOURTH STREET
ARTESIA, NEW MEXICO 88210
TELEPHONE (505) 748-1471

S. P. YATES
CHAIRMAN OF THE BOARD
JOHN A. YATES
PRESIDENT
PEYTON YATES
EXECUTIVE VICE PRESIDENT
RANDY G. PATTERSON
SECRETARY
DENNIS G. KINSEY
TREASURER

January 13, 1995

Ms. Cecilia Kernodle, Environmental Engineer
Mail Code 6W-ET
Environmental Protection Agency
Water Management Division
1445 Ross Ave.
Dallas, TX 75202

Dear Ms. Kernodle,

Yates Petroleum accidentally spilled water onto the surface of the ground on January 3rd, 1995. The spill occurred in the S/2 of Section 25-T21S-R23E, Eddy County, New Mexico. This site is about 25 miles south-southwest of Artesia, New Mexico.

The water is very low in salinity (3000 mg/l chlorides), and is water that is produced from wells operated by Yates Petroleum. The spill occurred when a water pipeline leaked. The leak was immediately repaired. The leak was caused by excessive pressure. A rock had lodged in the pressure regulating valve, causing it to malfunction. Steps are being taken to prevent recurrence.

Yates Petroleum reported the spill within 3 days to the US Bureau of Land Management, the New Mexico Oil Conservation Division, and the National Response Center. This report complies with the General NPDES Permit for releases of produced water.

If you need further information, please do not hesitate to call me at (505)748-4167.

Sincerely,

James S. Brown

James S. Brown
Operations Engineering Supervisor

JB/sj

ATTACHMENT 6

Jim's Water Service of New Mexico

A DIVISION OF JIM'S WATER SERVICE OF COLORADO, INC.
P.O. Box 718 • Brighton, Colorado 80601 • (303) 659-6606

DELIVERY TICKET

Nº 43874

ARTESIA TERMINAL
Drawer 1387 • Artesia, New Mexico 88211-1387 • 748-1352

DATE 1-3-95

BILL TO: Yates Petroleum Corp

P.O. NUMBER 106-0650

AFE NUMBER

LEASE Hackberry Pipe Line

WELL NO.

ORDERED BY: Ron Beasley
Production

W.O. NUMBER 4629

	DESCRIPTION	QTY	RATE	CHARGE
199	DIW	130		N/C
		9 Hrs	61.00	549.00

DRIVER Darrell Billington TRUCK NO. 269

START 2:00 FINISH 11:00 TOTAL 9-0 RECEIVED

TAX	28.82
TOTAL	577.82

Martha Draw Lease

Jim's Water Service of New Mexico

DELIVERY TICKET

A DIVISION OF JIM'S WATER SERVICE OF COLORADO, INC.
P.O. Box 718 • Brighton, Colorado 80601 • (303) 659-6606

№ 43895

ARTESIA TERMINAL
Drawer 1387 • Artesia, New Mexico 88211-1387 • 748-1352

DATE 1-3-95

BILL TO: YATES

P.O. NUMBER 106-0650

AFE NUMBER

LEASE McKNOCY WATER LINE

WELL NO.

ORDERED BY: Ron Beasley
Production

W.O. NUMBER 4629

	DESCRIPTION	QTY	RATE	CHARGE
199	P/U	138		NC
		130		NC
		10 1/2 Hrs.	61.00	640.50

DRIVER Charles Hampton TRUCK NO. 249

START 1 30P FINISH 12 30A TOTAL RECEIVED

TAX 33.63

TOTAL 674.13

Jim's Water Service of New Mexico

A DIVISION OF JIM'S WATER SERVICE OF COLORADO, INC.
P.O. Box 718 • Brighton, Colorado 80601 • (303) 659-6606

DELIVERY TICKET

№ 43896

ARTESIA TERMINAL
Drawer 1387 • Artesia, New Mexico 88211-1387 • 748-1352

DATE 1-4-95

BILL TO: YATES

P.O. NUMBER 106-0650

AFE NUMBER

LEASE Hi Mory water Gathering

WELL NO. System Pipe Line

ORDERED BY: Ron Beasley

W.O. NUMBER 4629

Production

	DESCRIPTION	QTY	RATE	CHARGE
		5½ Hrs	66.00	335.50
		75	N/C	N/C

DRIVER Charles Hampton TRUCK NO. 247

START 7:00 FINISH 12:30 TOTAL RECEIVED

TAX 12.61

TOTAL 353.11

[illegible] New Mexico **DELIVERY TICKET**

START 2 P.M FINISH 12 P.M TOTAL _____ RECEIVED _____

Jim's Water Service of New Mexico

A DIVISION OF JIM'S WATER SERVICE OF COLORADO, INC.
P.O. Box 718 • Brighton, Colorado 80601 • (303) 659-6606

DELIVERY TICKET

№ 44426

ARTESIA TERMINAL
Drawer 1387 • Artesia, New Mexico 88211-1387 • 748-1352

DATE 1-4-94

BILL TO: Yates

P.O. NUMBER 106-2650

AFE NUMBER

LEASE Victory Pike King

WELL NO.

ORDERED BY: Ron Beasley Production

W.O. NUMBER 4629

199	A/W DESCRIPTION	QTY	RATE	CHARGE
		4 Hrs.	61.00	244.00

DRIVER Dan Hoyl TRUCK NO. 269 TAX 12.81

START 8:00 FINISH 12:00 TOTAL _____ RECEIVED _____ TOTAL 256.81

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Carlsbad Resource Area Headquarters
P.O. Box 1778
Carlsbad, New Mexico 88221-1778

IN REPLY REFER TO:

New Mexico Oil Conservation Division
811 South 1st
Artesia, New Mexico
Attn: Mr. Tim Gum

FEB 13 1995

Dear Mr. Gum:

The New Mexico Oil Conservation Division (OCD) is authorized by the New Mexico Oil and Gas Act and the New Mexico Water Quality Act to:

1) require actions that protect public health and the environment and;

2) require corrective actions necessary to contain, remove, or mitigate damage caused by a release or discharge of pollutants.

This letter is a request for your assistance in the investigation, assessment, containment, removal, and mitigation of actual or potential environmental pollution that occurred as a result of the pipeline break in sec 25, Township 21 south, Range 23 East, Eddy County, New Mexico. Yates Petroleum Corporation owns the pipeline and is the responsible party for this incident. Yates Petroleum Corporation is expected to complete all required investigative and corrective actions related to this incident. We are requesting that the OCD assume the lead-agency role for investigation and remediation of this incident. Bureau of Land Management (BLM) staff are available for discussion and advice concerning requirements.

The Bureau of Land Management (BLM) requires at a minimum the following information on the incident:

- time and date of release
- time and date release was reported to the BLM and OCD
- time and date release was reported to the National Response Center (with confirmation)
- copy of the written report required by the Environmental Protection Agency (EPA), Water Management Division
- type and nature of emergency response actions taken (including Material Safety Data Sheets for materials used to absorb fluids)
- estimate of volume of fluids lost in incident (followed up by actual data)
- type of fluid lost (followed up by lab sampling)

This information was requested by letter dated 2/13/95. We will send you copies of information received.

The following are the BLM recommendations for site characterization and recommendations. We are willing to discuss recommendations, but recognize time is a critical issue in this case. Site characterization actions should begin as soon as possible.

- Initial sampling phase:
    - fluid in pipeline
    - 3 soil-gas samples
    - 3 soil and sediment samples (ICAP metals, arsenic, selenium, and mercury), 1 up-gradient and 2 down-gradient
    - 3 sampling and monitoring wells drilled to the lower Queen aquifer as identified by the Marathon Remedial Project near Rocky Arroyo.

- Remedial or corrective action phase:
  (largely depends on data from initial phase)
    - soil-gas venting, if necessary
    - groundwater clean-up
    - groundwater monitoring

Your assistance in this matter is greatly appreciated. BLM staff are available for discussion of issues, but request that site characterization work begin before February 28, 1995. Pursuant to the Federal Land Policy and Management Act (FLPMA), all actions at the site require BLM approval prior to beginning work.

If you have any questions or require additional information in this matter, please contact Al Collar or Gary Bowers at (505) 887-6544.

Sincerely,

Richard L. Manus
Area Manager

cc:
Bill Olsen
NM Oil Conservation Division
P.O. Box 2088
Santa Fe, NM 87504

United States Department of the Interior
BUREAU OF LAND MANAGEMENT
Carlsbad Resource Area Headquarters
P.O. Box 1778
Carlsbad, New Mexico 88221-1778

IN REPLY REFER TO:

FEB 13 1995

Yates Petroleum Corporation
105 South 4th Street
Artesia, New Mexico 88210
Attn: Mr. Mike Slater

RECEIVED
FEB 24 1995
Environmental Bureau
Oil Conservation Division

Dear Mr. Slater:

On January 6, 1995, we received notice that produced water was released from your transportation pipeline in sec 25, Township 21 South, Range 23 East, Eddy County, New Mexico. This letter outlines the investigative and remedial actions you are requested to conduct as a result of this release, and requests additional information concerning the release.

The requested investigative and remedial actions assure rapid assessment and response to the potential release of hazardous substances, pollutants, or contaminants in this matter. They also reduce future risk and liability of potentially responsible parties, including the United Sates government. Your voluntary compliance in these actions is appreciated.

We have requested assistance from the New Mexico Oil Conservation Division (OCD) in this matter. The Bureau of Land Management (BLM) provided general requirements for investigation and remediation of the site to the OCD. The BLM requested that OCD assume a lead agency role in the case.

As lead agency, the OCD will review and approve work plans, on-site activities, and remediation methodology. The BLM will review plans and objectives and make recommendations to the OCD.

Since the release occurred on public lands, regulations under the Federal Land Policy and Management Act (FLPMA) apply to actions conducted at this site. Compliance with the National Environmental Policy Act (NEPA) is also required before any activity begins. Written authorization from the BLM is required before beginning work at the site.

The BLM requests you provide the following information related to this incident to the Carlsbad Resource Area Office:

- time and date of release
- time and date release was reported to the BLM and OCD
- time and date release was reported to the National Response Center (with confirmation)

- copy of the written report required by the Environmental Protection Agency (EPA), Water Management Division
- type and nature of emergency response actions taken (including Material Safety Data Sheets for materials used to absorb fluids)
- estimate of volume of fluids lost in incident (followed up by actual data)
- type of fluid lost (followed up by lab sampling for BTEX, ICAP metals, arsenic, selenium, and mercury, and TPH)

The following are the BLM recommendations for site characterization and remediation. We are willing to discuss recommendations, but recognize time is a critical issue in this case. Site characterization actions should begin as soon as possible.

- Initial sampling phase:
    - fluid in pipeline
    - 3 soil-gas samples
    - 3 soil and sediment samples (BTEX, TPH, ICAP metals, arsenic, selenium, and mercury), 1 up-gradient and 2 down-gradient
    - 3 sampling and monitoring wells drilled to the lower Queen aquifer as identified by the Marathon Remedial Project near Rocky Arroyo (BTEX, TPH, ICAP metals, arsenic, selenium, and mercury)

- Remedial or corrective action phase:
  (largely depends on data from initial phase)
    - soil-gas venting, if necessary
    - groundwater clean-up
    - groundwater monitoring

We are recommending a start date no later than February, 28, 1995. BLM staff are available for discussion of issues.

If you have any questions or require additional information in this matter, please contact Al Collar or Gary Bowers at (505) 887-6544.

Sincerely,

Richard L. Manus
Area Manager

cc:
Bill Olsen
NM Oil Conservation Division
P.O. Box 2088
Santa Fe, NM 87504

Tim Gum
NM Oil Conservation Division
811 South 1st
Artesia, New Mexico

Yates Petroleum
Report of Spill in Martha Creek

January 19, 1995

1. Spill amounts : Estimated 350 bbls of produced water. Picked up 200 bbls from spill site. Net 150 bbls lost.

Spill Events	Daily Production	1/2/93	1/3/93
	Anemone 2-3	3920	3469
	Hickory	693	354
	Brannigan	1321	1350
	S.F. Old Ranch	4922	1136
	Zingaro	1230	1219
Total		12086	7528
	bbl/hr	503	313

Events:

01-03-95 12:15 Marathon notified Yates of water leak
13:00 All wells were shut in, Upstream valve shut off
13:15 Line on a vacuum to Dagger Draw
14:00 Backhoe arrived to dig up break
15:00 Vacuum trucks arrived and vacuumed ditch and line
16:00 Installed fas-line and pump to pump out ponded water
22:00 Line repaired and returned to service

01-04-95 08:00 to 16:00 Broadcast "Oilgator" and cleanup site
Inspected Pressure reducing valve and removed rock
Also, implemented 24 hour watch on line

01-05-95 09:00 to 16:00 Broadcast "Oilgator" and site cleanup.
Also, brought in Hydraulic Engineering Consultant and Valve Technician to inspect line. Also, raining and snowing intermittently.

01-06-95 Re-inspected Pressure reducing valves. Notified spill to BLM,OCD,EPA

Measures to prevent future spills

1. 24 hour surveillance on pipeline , monitoring pressures and rates
2. Installed 5 pressure/temperature recorders in the line
3. Inspected each pressure reducing valve. Installed filters and screens in pilot line to catch trash. Purchased repair kits for all valves and holding in stock. Ordering stand-by valves for emergency replacement.
4. Redesigning manifolds to place a duplicate valve in the line in series to "back-up" first valve, to place in line filters and in line meters in service.
5. In process of installing safety shut-down valves and switches on all batteries
6. Installing 14,000 feet of 12" line to reduce pressure on north end
7. Waiting on Right of way to install 12,000 feet of 8" in south end
8. Organized a "SWAT" team to handle any future emergencies.

Victor Indian Basin Leak 1/19/95

arrived on site at 1200 hrs
with Mike Stubblefield OCD Artesia

inspected leak site in Dinaway Draw
leak flowed approx 960 ft.
leak occured on 1/3/95
surface stained (+rocks)
Took sample for headspace measurement 6" deep
in low spot at junction of side draw
and Dinaway Draw (see diagram at 1/20/95)
PID = 28 ppm

1/20/95

returned at 1340 hrs
measured and diagramed spill areas
(see site diagram)

warmer day than 1/19, clear calm

Heavy hydrocarbon odor

site diagram

Area 1

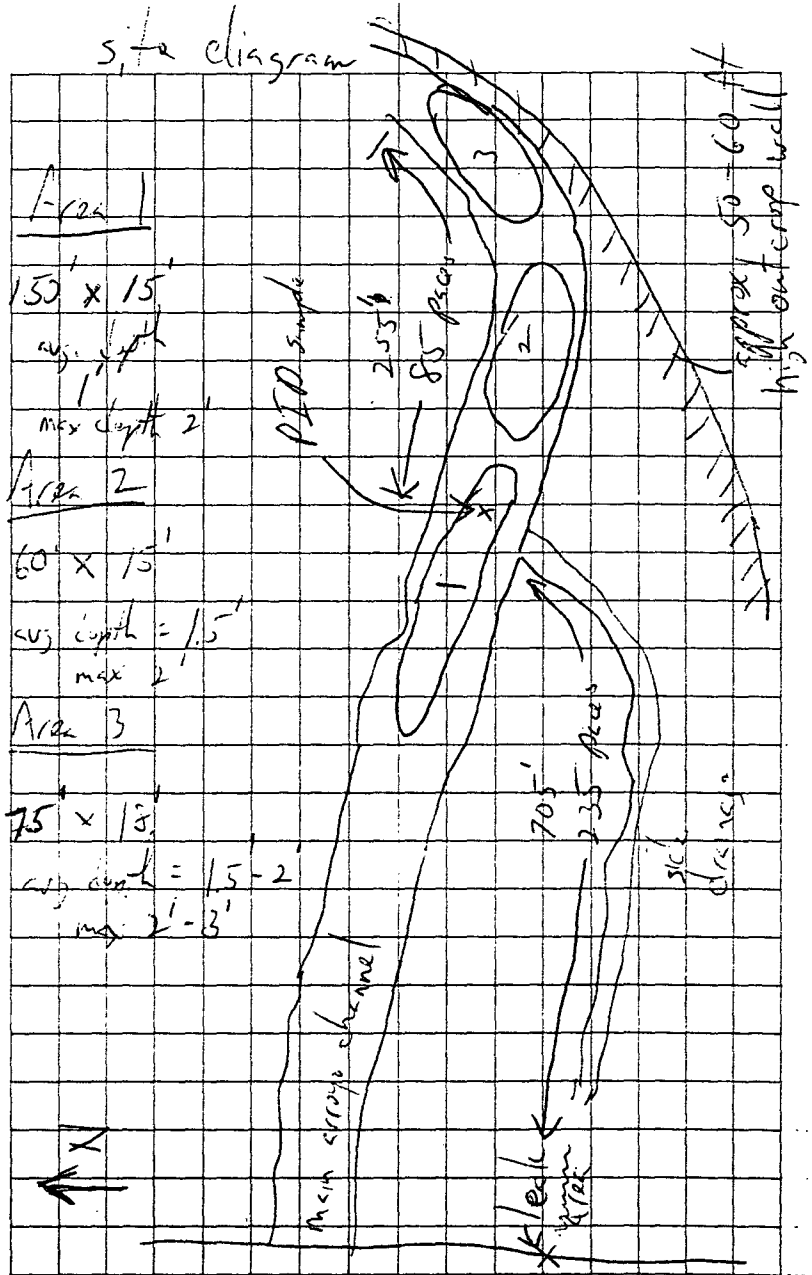
150' x 15'
avg depth 1'
max depth 2'

Area 2

60' x 15'
avg depth = 1.5'
max 2'

Area 3

75' x 15'
avg depth = 1.5 - 2'
max 2' - 3'



YATES PETROLEUM CORPORATION

105 SOUTH FOURTH STREET
ARTESIA, NEW MEXICO 88210
TELEPHONE (505) 748-1471

January 6, 1995

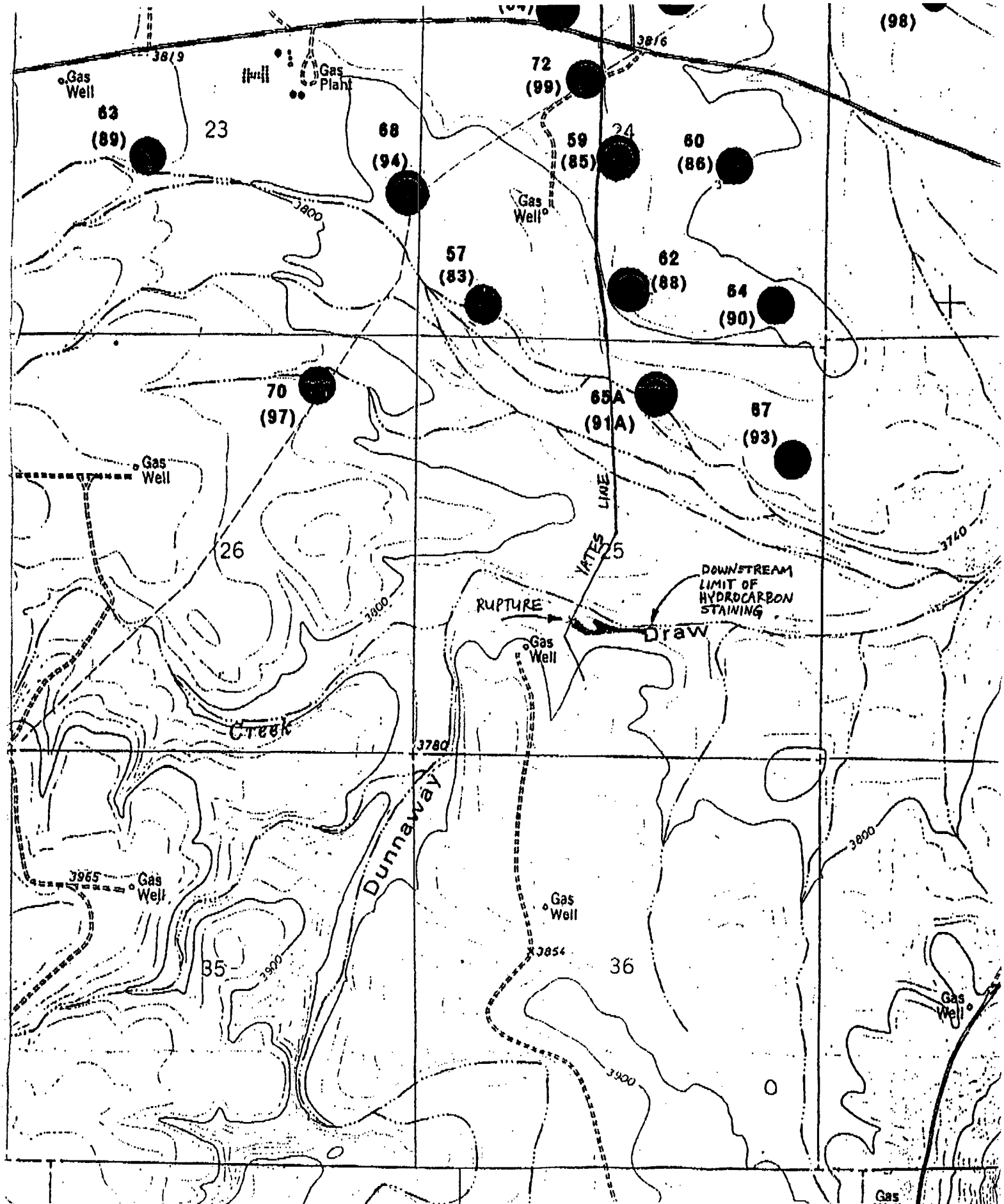
REPORT OF UNDESIRABLE EVENT

On Tuesday, January 3, 1995, Yates Petroleum Corporation had a very minor water spill in the S/2 of Section 25-T21S-R23E, Eddy County, New Mexico, on the south bank of Martha Creek Draw. Line was immediately repaired.

James S. Brown
Operations Engineering Supervisor

copy to:

Oil Conservation Division (fax and mail)
811 South 1st Street
Artesia, NM 88210


(98)
3816
3819
Gas Well
Gas Plant
72 (99)
63 (89)
23
68 (94)
59 (85)
24
60 (86)
Gas Well
3800
57 (83)
62 (88)
64 (90)
70 (97)
65A (91A)
67 (93)
Gas Well
26
YATES LINE
25
3740
DOWNSTREAM LIMIT OF HYDROCARBON STAINING
RUPTURE
3900
Draw
Gas Well
Creek
3780
Dunnaway
3800
3965
Gas Well
Gas Well
35
3900
3854
36
Gas Well
3900

Spill Volume Estimate 1/24/95

Area 1

$150' \times 15 \times 1' = 2250\ ft^3$

Area 2

$60' \times 15' \times 1.5' = 1350\ ft^3$

Area 3

$75' \times 18' \times 1.5' = 2025\ ft^3$

or $75' \times 18' \times 2.0' = 2700\ ft^3$

$5625\ ft^3$ to $6300\ ft^3$

$42{,}088$ gal (1000 bbls) to $47{,}124$ gal (1,122 bbls)

$1\ gal = \frac{0.03531\ ft^3}{0.2642} = 0.13365\ ft^3$ or $7.48\ gal/ft^3$

1/19/95 Yates/OCD Meeting on Spills 1:30 pm

Met in Artesia with Yates at OCD Artesia Office

Expect report on Stinking Draw in 1-2 weeks
- report on extent in Martha Creek in approx. 30 days

Will send copy of Stinking Draw spill report to OCD Artesia

Attendees - Bill Olson - OCD Envir. Bureau
- Ray Smith - OCD Artesia
- Paul Ragsdale - Yates
- Rex Gates - Yates
- Dave Boyer - RESPEC (Yates consultant)
- Daryl - Yates

Bob Menzie } McCrellon 1/9/95 8:00 am
Noel Gurtz }

Memo

From
WILLIAM OLSON
Hydrogeologist

To Last Tues.

Martha Creek

Water spill

PW spill & oil

1/4 mile from NW-67

100 bbls reported to BLM

Less than mile from Lyman well

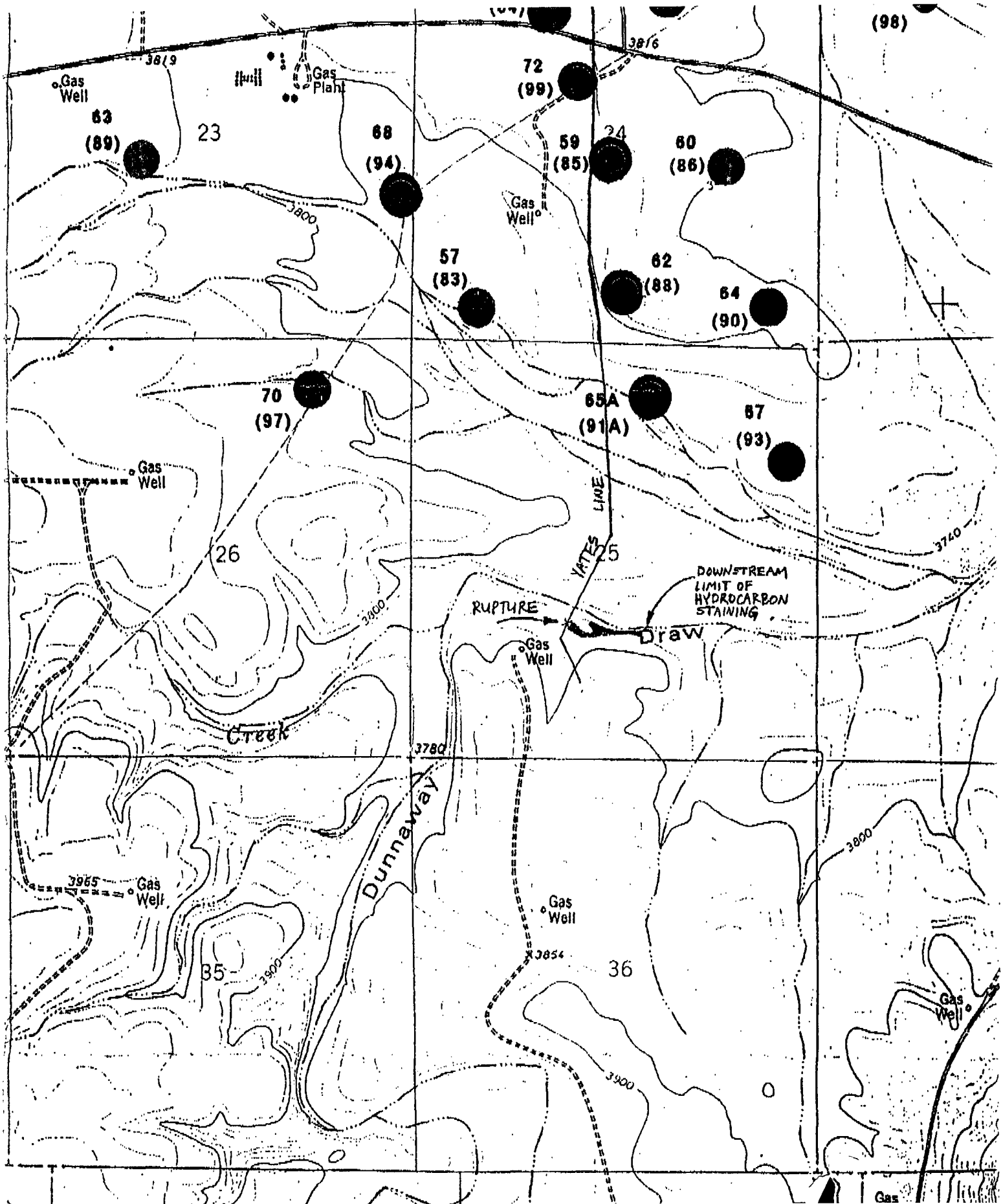
2 spills Nov. 1994

1 at 10,000 bbls.

Stinking Draw

NW 1/4 1/2 section 36 T20S R23E

Fax 457-2544


(98)
3816
3819
Gas Well
Gas Plant
72 (99)
63 (89)
23
68 (94)
59 (85)
24
60 (86)
3800
Gas Well
57 (83)
62 (88)
64 (90)
70 (97)
65A (91A)
67 (93)
Gas Well
26
YATES LINE
25
3740
DOWNSTREAM LIMIT OF HYDROCARBON STAINING
RUPTURE
Draw
Gas Well
3900
Creek
3780
Dunnaway
3800
3965
Gas Well
Gas Well
35
3900
3854
36
Gas Well
3900
Gas


A
LEAK OCCURRED ABOUT HERE IN R.O.W.
WEST

6-6-95 LOOKING WEST TO R.O.W.
WHERE LEAK OCCURRED

#1

A

MARTHA CREEK


A
ROW
APPROXIMATE LIMIT OF SPILL POOL

6-6-95 Looking West Along Creek Bottom To R.O.W. Where Leak Occurred. Note Water In Pool Has Been Here Since 5-30-95

#10

It Has No Oil Sheen And No Sludge Was Found Along Banks

NOTE: Water Is Run Off Water From Rain

A

Martha Creek

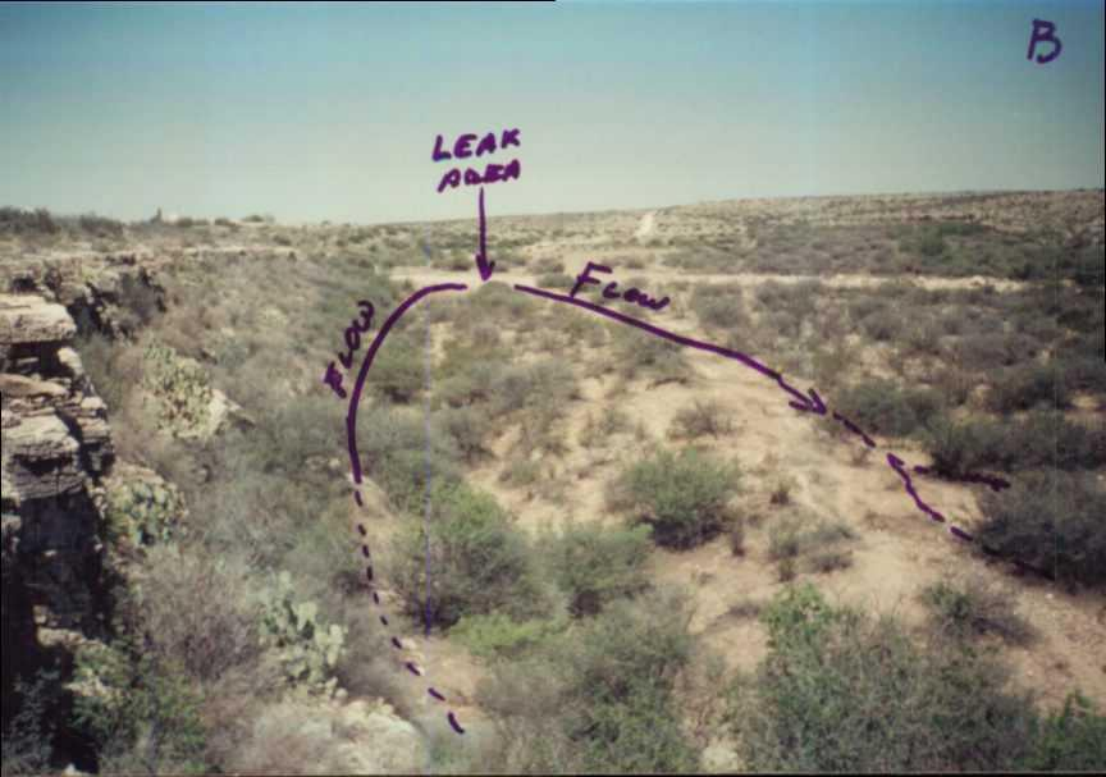

B
APPROXIMATE
LIMIT OF SPILL
POOL

6-6-95 LOOKING WEST ALONG CREEK BOTTOM RAIN WATER IS ^ RUNOFF WATER THAT HAS BEEN PONDED SINCE 5-30-95

#11

B

MARTHA CREEK


B
LEAK AREA
FLOW
FLOW

6-6-95

#2

MARTHA CREEK

6-6-95 CLOSE VIEW OF POOL AREA THAT RECEIVED SOME OF THE SPILL. NO OIL SHEEN PRESENT

RAIN RUNOFF WATER FROM 5-30-95 RAIN

#12

6-6-95 PIPE LINE R.O.W. WHERE LEAK OCCURRED IN LINE. NO OIL OR SLUDGE PRESENT

#3

MARTHA CREEK

6-6-95 Looking East Immediately Down Stream Of Pipeline. The Produced Water Ran In The Channel To Creek Bottom.

#4

Martha Creek

6-6-95 View Of Natural Channel
That Carried Some Of Spill
Water To Creek Bottom

#5

Martha Creek

6-6-95. Look East From The Most Western Point of Spill Flow in Bottom Area.

#6

MARTHA CREEK

6-6-95 Looking East From Upper End Of Spill Area. No Sludge Or Oil Present.

Note: This Is In Creek Bottom

#7

Martha Creek

6-6-95 Looking West To West End Of Spill Flow In Bottom Area

#8

Martha Creek

LOOKING EAST 6-6-95

LAST RAIN WAS 5-30-95 - THIS IS RUNOFF

WATER REMAINING IN POOL - NO OIL SHEEN PRESENT.

#9

MARTHA CREEK