

3R - 320

**GENERAL
CORRESPONDENCE**

YEAR(S):

2000-1997

Olson, William

From: m. harvey [SMTP:markh@ditell.com]
Sent: Tuesday, September 05, 2000 1:46 PM
To: Olson, William
Subject: Annual Groundwater Report (PNM)

As a follow-up to our telephone conversation last week, this serves to acknowledge the extension of time that NMOCD has granted Williams in order to submit the annual groundwater report for former PNM sites.

It is agreed that the report will be submitted by September 15, 2000 and include data from PNM efforts during 1999 and 2000. Williams appreciates the time extension and NMOCD's understanding of the complications associated with inheriting a project of this magnitude.

After submitting the report and allowing review time, Williams intends to schedule a meeting with you to discuss its' plan to effect mitigation of groundwater impacts. Your feedback will be helpful in finalizing a program strategy.

Thank you for your consideration.

Olson, William
From: Deklau, Ingrid [SMTP:Ingrid.Deklau@Williams.com]
Sent: Friday, July 07, 2000 1:35 PM
To: Olson, William
Cc: 'mark'; 'mgannon@pnm.com'
Subject: Groundwater Report Extension

Per our discussion today, this note is to confirm extension of the Annual Groundwater Report submittal from July 15, 2000 to August 31, 2000.

On March 4, 2000, Maureen Gannon of PNM emailed you and requested the April 1, 2000 deadline for the report submittal be postponed to July 15, 2000 so that PNM could incorporate all information gathered through June 30, 2000 into the report. Since then, PNM and Williams have entered into a Settlement Agreement transferring certain responsibilities to Williams. The responsibility of the preparation of this report is currently under discussion between PNM and Williams. Regardless of the responsibility, it is clear to me that this report will not be ready by the July 15, 2000 deadline.

Thank you for your assistance in this matter.

Ingrid Deklau

307-872-2880

Public Service Company
of New Mexico
Alvarado Square MS 0408
Albuquerque, NM 87158

April 27, 2000

Mr. William Olson
Hydrogeologist
Oil Conservation Division
2040 So. Pacheco
Santa Fe, New Mexico 87505



RE: HAMPTON 4M REMEDIATION PLAN

Dear Bill:

Pursuant to OCC Order No. R-11134-A in Case No. 12,033, PNM herein submits a plan for addressing groundwater remediation in the area north and downgradient of the Hampton 4M well site. The Hampton 4M well is operated by Burlington Resources (Burlington) and is located in Unit N, Section 13, Township 30 North, Range 11 West in San Juan County, New Mexico. As with all unlined surface impoundment cleanups in the San Juan Basin, PNM will follow its Groundwater Management Program- Unlined Surface Impoundment Closures submitted to the OCD in March 1996 and approved by the OCD on May 30, 1996.

Because of the existence of a continuing release or source of contamination upgradient of PNM's previous dehydrator and pit from operations that are not within PNM's control, any efforts by PNM to conduct further excavation or more aggressive remediation in the areas north and downgradient of our former activities are futile. Should free product appear in PNM's source well, MW-12, PNM will contact the OCD so that the OCD may notify Burlington of its responsibility for remediation of any free product and subsequent dissolved phase contamination that has traveled onto PNM's "portion" of the well pad from Burlington's upgradient contaminant source area.

Given the lateral limit of groundwater and contaminant flow as it travels down the wash from the well site, additional excavation in the areas north of the well pad will, in all likelihood, cause damage to the natural watercourse and surrounding environment while accomplishing little in terms of removing any significant amount of contaminated soil. The area of PNM's former pit has already been completely remediated and the former pit is not a continuing contributor to contamination at the site. Therefore, PNM's remediation plan for addressing groundwater contamination in the area north and downgradient of the Hampton 4M well site will be to continue monitoring the groundwater network already established at the site. Recent sampling of the furthest downgradient well in the network, MW-11 (located approximately 1500 feet from the well pad), indicates that BTEX constituents are non-detect in this well. PNM and Burlington are working together to establish an agreement by which both companies will jointly participate in quarterly monitoring.

With regards to conducting oversight and reporting of remediation activities in the area north and downgradient of the property, PNM will follow its groundwater management plan and submit an annual

progress report of PNM's yearly activities at the site, including all monitoring data. However, if there is a significant change in contaminant concentrations in downgradient wells, specifically MW-11, we will notify the OCD immediately. If you have any questions, please call me at (505) 241-2974.

Sincerely,



Maureen Gannon
Project Manager

cc: Colin Adams, PNM
Richard Alvidrez, Keleher & McLeod
Denny Foust, OCD-Aztec Office
Ed Hasely, Burlington Resources
Ingrid Deklau, WFS
Ronald Johnson, PNM



FEDERAL ENERGY REGULATORY COMMISSION
OFFICE OF PIPELINE REGULATION
ENVIRONMENTAL REVIEW AND COMPLIANCE BRANCH
WASHINGTON D.C. 20426

DATE: 5/4/00

TO: Maureen Gannon PSC of NM Albuquerque, NM
NAME LOCATION:

(505) 241-2974
PHONE NUMBER:

(505) 241-2340
FAX NUMBER:

FROM: John Leiss FERC D.C.
NAME LOCATION:

(202) 208-1106
PHONE NUMBER:

(202)-208- 0353 / 2853
FAX NUMBER:

ADDITIONAL COMMENTS Here's the misplaced letter we
just talked about. I'm still checking on the
original.

This information we are sending has 2 page(s), not including the cover sheet.

Please call (202) - 208-1106 if you did not receive this transmittal in its entirety.

Public Service Company
of New Mexico
Alvarado Square MS 0408
Albuquerque, NM 87158

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OFFICE OF THE SECRETARY
00 APR 28 PM 1:08

FEDERAL ENERGY
REGULATORY COMMISSION


April 27, 2000

ORIGINAL

Mr. William Olson
Hydrogeologist
Oil Conservation Division
2040 So. Pacheco
Santa Fe, New Mexico 87505

RE: HAMPTON 4M REMEDIATION PLAN

Dear Bill:

Pursuant to OCC Order No. R-11134-A in Case No. 12,033, PNM herein submits a plan for addressing groundwater remediation in the area north and downgradient of the Hampton 4M well site. The Hampton 4M well is operated by Burlington Resources (Burlington) and is located in Unit N, Section 13, Township 30 North, Range 11 West in San Juan County, New Mexico. As with all unlined surface impoundment cleanups in the San Juan Basin, PNM will follow its Groundwater Management Program- Unlined Surface Impoundment Closures submitted to the OCD in March 1996 and approved by the OCD on May 30, 1996.

Because of the existence of a continuing release or source of contamination upgradient of PNM's previous dehydrator and pit from operations that are not within PNM's control, any efforts by PNM to conduct further excavation or more aggressive remediation in the areas north and downgradient of our former activities are futile. Should free product appear in PNM's source well, MW-12, PNM will contact the OCD so that the OCD may notify Burlington of its responsibility for remediation of any free product and subsequent dissolved phase contamination that has traveled onto PNM's "portion" of the well pad from Burlington's upgradient contaminant source area.

Given the lateral limit of groundwater and contaminant flow as it travels down the wash from the well site, additional excavation in the areas north of the well pad will, in all likelihood, cause damage to the natural watercourse and surrounding environment while accomplishing little in terms of removing any significant amount of contaminated soil. The area of PNM's former pit has already been completely remediated and the former pit is not a continuing contributor to contamination at the site. Therefore, PNM's remediation plan for addressing groundwater contamination in the area north and downgradient of the Hampton 4M well site will be to continue monitoring the groundwater network already established at the site. Recent sampling of the furthest downgradient well in the network, MW-11 (located approximately 1500 feet from the well pad), indicates that BTEX constituents are non-detect in this well. PNM and Burlington are working together to establish an agreement by which both companies will jointly participate in quarterly monitoring.

With regards to conducting oversight and reporting of remediation activities in the area north and downgradient of the property, PNM will follow its groundwater management plan and submit an annual progress report of PNM's yearly activities at the site, including all monitoring data. However, if there is

Hampton 4M Remedation Plan
April 27, 2000
Page 2 of 2

a significant change in contaminant concentrations in downgradient wells, specifically MW-11, we will notify the OCD immediately. If you have any questions, please call me at (505) 241-2974.

Sincerely,



Maureen Gannon
Project Manager

- cc: Colin Adams, PNM
- Richard Alvidrez, Keleher & McLeod
- Denny Foust, OCD-Aztec Office
- Ed Hasely, Burlington Resources
- Ingrid Deklau, WFS
- Ronald Johnson, PNM

FILED
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 FEDERAL ENERGY
 REGULATORY COMMISSION



Richard L. Alvidrez
Attorney at Law
Direct Dial: 505-346-9150
E-mail: rla@keleher-law.com

COPY

April 12, 2000

(432-057)

HAND-DELIVERED

New Mexico Oil Conservation Commission
2040 South Pacheco
Santa Fe NM 87505

Attention: Clerk of the Commission

**Re: Oil Conservation Division No. 12,033; Order No. R-11134
Application of Public Service Company of New Mexico To
Reopen De Novo Hearing to Submit New and Relevant
Evidence**

Ladies and Gentlemen:

Enclosed please find for filing the original and five (5) copies of Public Service Company of New Mexico's Application for Rehearing on Order No. R-11134-A Issued by the New Mexico Oil Conservation Commission and Certificate of Service concerning the above-referenced cause. Thank you.

Very truly yours,

KELEHER & McLEOD, P.A.

By: 
Richard L. Alvidrez

W. A. Keleher (1886 -1972)
A.H. McLeod (1902 -1976)

Mailing Address
PO Drawer AA
Albuquerque NM 87103

Main Phone
505-346-4646

Street Address
Albuquerque Plaza
201 Third NW, 12th floor
Albuquerque NM 87102
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414 Silver SW, 12th floor
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affiliation of independent law firms

Running Horses © Gray Mercer 1989,
provided for the City of Albuquerque
Public Art Collection in 1991.

RLA:dam: DAM0971

Enclosures

cc: Rand Carrol, Esq.
William F. Carr, Esq.

COPY

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

IN THE MATTER OF THE HEARING CALLED
BY THE OIL CONSERVATION COMMISSION
FOR THE PURPOSE OF CONSIDERING:

APPLICATION OF PUBLIC SERVICE COMPANY
OF NEW MEXICO FOR REVIEW OF CONSERVATION
DIRECTIVE DATED MARCH 13, 1998, DIRECTING
APPLICANT TO PERFORM ADDITIONAL
REMEDATION FOR HYDROCARBON
CONTAMINATION, SAN JUAN COUNTY,
NEW MEXICO

De Novo
CASE NO. 12033
Order No. R11134-A

APPLICATION OF PUBLIC SERVICE COMPANY OF NEW MEXICO
FOR REHEARING ON ORDER NO. R-11134-A ISSUED BY
THE NEW MEXICO OIL CONSERVATION COMMISSION

COMES NOW Applicant, Public Service Company of New Mexico ("PNM"), and pursuant to §70-2-25, NMSA (1978) hereby submits its Application for Rehearing ("Application") relating to Order No. R-11134-A (the "Order") issued by the New Mexico Oil Conservation Commission ("OCC" or "Commission") in Case No. 12,033.

In support of this Application, PNM states as follows:

1. The Commission entered its Order in the above-entitled *de novo* appeal on March 24, 2000.
2. The Order is erroneous in several respects, is not supported by law and the Commission should grant a rehearing to modify the findings and terms of its Order.

3. Finding Nos. 27 and 29 of the Order are incorrect with respect to PNM. The evidence presented at the hearing confirms that the free product contamination at the Hampton 4M Well site ("Site") could not have originated from PNM's former dehydration pit. The source for the free product at the Site is upgradient from PNM's former operations and is in the area of Burlington's operations. The free product groundwater contamination and accompanying dissolved phase groundwater contamination are the result of Burlington's operations. Moreover, pursuant to OCD practice and internal policy, prior owners or operators of a facility are not regarded as the "responsible person" for purposes imposing liability for abatement of contamination at natural gas well sites. Therefore, under the OCD's practice and internal policy, PNM, as a former operator, is not a "responsible person" for purposes of any required activities resulting from the presence of the free product at the Site.

4. Finding Nos. 26, 30 and 32 are incorrect with respect to PNM. The undisputed evidence shows that all contaminated soils beneath PNM's former dehydration pit have been completely removed. There is no factual basis to require PNM to conduct further soil remediation. With respect to groundwater contamination at the Site, the volume of free product previously recovered by PNM is far in excess of any amounts that PNM could have released to the groundwater from its former dehydration pit under a worst case scenario. Thus, PNM has already completed remediation resulting from its activities at the Site, and has, in addition, remediated both soils and groundwater contamination that did not result from any discharges at the site. It is also undisputed that the free phase product at the Site was neither owned, generated or released by PNM. Thus, PNM had no control over the free phase product and related dissolved phase

contamination at the Site. The product is and remains the property of the producer, was discharged by the producer, and any additional remediation at the site must be the responsibility of the producer.

5. Finding Nos. 33 and 34 are incorrect with respect to PNM. As noted above, the groundwater contamination remaining at the site originated from Burlington's operations and not from PNM's discharges to PNM's former dehydration pit. The evidence presented shows that there is a continuing source for dissolved phase hydrocarbons, and indicates that the source of the dissolved phase groundwater contamination is from a continuous or intermittent source of free phase product at the Site. Because of the existence of a continuing source for contamination in the vicinity of the Hampton 4M well, from substances and operations that are not within the control of PNM, any efforts to conduct further remediation by PNM would be ineffective. Unless and until the specific release point of the contamination is located and this source is removed, it is unreasonable to require PNM to conduct further remediation in the area of the former pit. Moreover, the Commission's Order requiring PNM to submit a remediation plan ignores the fact that PNM has already submitted and received approval of its Closure Plan and Groundwater Management Program. The approval of these plans negates the requirement for a remediation plan.

6. Finding No. 35 is also incorrect with respect to PNM. Despite the Commission's finding that Burlington caused and contributed to groundwater contamination under the area of PNM's former dehydration pit, the Order places sole responsibility for oversight and reporting on PNM for any further work to be done. This is contrary to law and reason. PNM has no operations or control over the Site. Requiring

PNM to assume sole responsibility over contamination caused by Burlington is arbitrary and capricious.

7. The Commission also erred in refusing and failing to consider new and relevant evidence presented by PNM following the hearing in this matter. The new evidence, in the form of test results from recently installed monitoring wells at the Site, revealed significant volumes of free product in the area of Burlington's operations at the Site, substantially upgradient from PNM's former operations at the site. This further confirms that groundwater contamination at the site resulted from the free product released by Burlington, and that the contamination originated in the area of Burlington's operations and not in the area of PNM's former operations. The Commission's denial of PNM's motion to submit the new evidence was arbitrary and capricious.

8. The Commission has refused to apportion relative responsibility for the remediation of the Site based upon the quantities of contaminants released by each of the potentially responsible parties, but has instead insisted upon apportioning responsibility based upon a "geographic allocation." The practical effect of the Commission's method of apportionment places the lion's share of the responsibility for cleanup upon PNM, rather than upon Burlington, who released all or most of the contaminants affecting the groundwater at the Site. This method of apportionment is arbitrary and capricious, not supported by the evidence in the record, and contrary to law.

9. The Commission's directives in the Order are based upon erroneous and legally defective grounds.

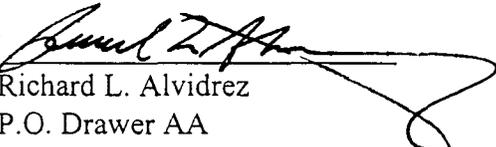
10. Based upon the foregoing, PNM respectfully requests that the OCC grant the following relief:

- a. Schedule a hearing before the OCC to consider PNM's Application in this matter;
- b. Stay the OCC Order pending a determination on PNM's Application;
- c. Declare that all soil contamination in the area of PNM's former pit has been remediated and that PNM shall have no further responsibility for soil contamination at the Site;
- d. Declare that PNM is not a responsible person for any free product underlying the Site or for the associated dissolved phase product in the vicinity of the Site;
- e. Grant PNM closure for its former unlined pit at the Site and relieve PNM of any further responsibility for investigation and remediation at the Site
- f. Grant such other relief as the OCC deems proper.

Respectfully submitted,

KELEHER & McLEOD, P.A.

BY


Richard L. Alvidrez
P.O. Drawer AA
Albuquerque, New Mexico 87103
(505) 346-4646

and

Colin L. Adams
Corporate Counsel
Public Service Company of New Mexico
Alvarado Square MS 0806
Albuquerque, New Mexico 87158
(505) 241-4538

Attorneys for Public Service Company of
New Mexico

COPY

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

IN THE MATTER OF THE HEARING CALLED
BY THE OIL CONSERVATION COMMISSION
FOR THE PURPOSE OF CONSIDERING:

APPLICATION OF PUBLIC SERVICE COMPANY
OF NEW MEXICO FOR REVIEW OF CONSERVATION
DIRECTIVE DATED MARCH 13, 1998, DIRECTING
APPLICANT TO PERFORM ADDITIONAL REMEDIATION
FOR HYDROCARBON CONTAMINATION, SAN JUAN COUNTY,
NEW MEXICO

De Novo
CASE NO. 12033
Order No. R11134-A

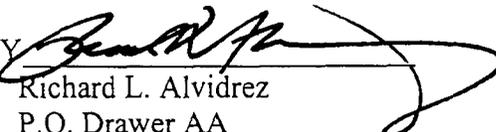
CERTIFICATE OF SERVICE

THIS WILL CERTIFY that a true and correct copy of the Application of Public Service
Company of New Mexico for Rehearing in the above matter was mailed, this 12th day of April,
2000 to the following counsel of record:

Rand Carrol, Esq.
New Mexico Oil Conservation Division
2040 South Pacheco
Santa Fe, New Mexico 87505

William F. Carr
Campbell, Carr, Berge & Sheridan, P.A.
P.O. box 2208
Santa Fe, New Mexico 87504-2208

KELEHER & McLEOD, P.A.

BY 
Richard L. Alvidrez
P.O. Drawer AA
Albuquerque, New Mexico 87103
(505) 346-4646

and

Colin L. Adams
Corporate Counsel
Public Service Company of New Mexico
Alvarado Square MS 0806
Albuquerque, New Mexico 87158
(505) 241-4538

Attorneys for Applicant Public Service Company
of New Mexico

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

**IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION FOR THE PURPOSE OF
CONSIDERING:**

**De Novo
Case No. 12033
Order No. R-11134-A**

**APPLICATION OF PUBLIC SERVICE COMPANY OF NEW MEXICO FOR
REVIEW OF OIL CONSERVATION DIVISION DIRECTIVE DATED MARCH 13,
1998, DIRECTING APPLICANT TO PERFORM ADDITIONAL REMEDIATION
FOR HYDROCARBON CONTAMINATION, SAN JUAN COUNTY, NEW MEXICO.**

ORDER OF THE COMMISSION

This case came on for hearing on August 26 and 27, 1999, at Santa Fe, New Mexico, before the New Mexico Oil Conservation Commission ("Commission").

NOW, on this 24th day of March, 2000, the Commission, a quorum being present, having considered the record of the hearing:

FINDS THAT:

(1) Due public notice has been given and the Commission has jurisdiction of this case and its subject matter.

(2) The applicant, Public Service Company of New Mexico ("PNM"), seeks an order from the Commission rescinding the March 13, 1998 Oil Conservation Division ("Division") directive ("Division Directive") to PNM requiring PNM to perform additional remediation for hydrocarbon contamination in the area of the Burlington Resources Oil & Gas Company ("Burlington") Hampton No. 4 M Well ("Hampton Well") located in Unit Letter N, Section 13, Township 30 North, Range 11 West, NMPM, San Juan County, New Mexico, and a determination by the Commission that PNM is not a responsible person pursuant to 19 NMAC 15.A.19 for purposes of further investigation and remediation of contamination at this location.

(3) Burlington appeared at the hearing and presented evidence in opposition to the application of PNM. Burlington admits that it is a responsible person for contamination at the Hampton Well site but contends that PNM is also a responsible person for contamination at this site.

(4) The Division's Environmental Bureau ("Bureau") appeared at the hearing and presented evidence in support of the Division Directive.

(5) In 1984, Burlington's predecessors Meridian Oil Company and/or Southland Royalty Company drilled and completed the Hampton Well. Burlington operates well equipment located in the southern-most portion of the Hampton Well site.

(6) Production from the Hampton Well has been sold pursuant to an agreement dated March 1, 1990, between Southland Royalty Company and Gas Company of New Mexico. PNM, successor to Gas Company of New Mexico, purchased natural gas produced from the Hampton Well pursuant to this agreement.

(7) PNM installed and operated dehydration equipment in the northern-most portion of the Hampton Well site until Williams Field Services purchased the equipment on June 30, 1995. The purpose of the dehydration equipment is to remove liquids from the gas stream produced from the Hampton Well. For more than 12 years PNM discharged the liquids, including liquid hydrocarbons, into an unlined disposal pit.

(8) During a site assessment of the Hampton Well site conducted on April 23, 1996, PNM discovered potential hydrocarbon contamination at PNM's pit. PNM began closure activities at PNM's pit in April 1996, pursuant to a Bureau-approved pit closure plan.

(9) On December 16, 1996, PNM performed a soil boring at PNM's former pit that encountered hydrocarbon groundwater contamination.

(10) On January 13, 1997, PNM notified the Bureau in writing of hydrocarbon groundwater contamination at PNM's former pit.

(11) On January 31, 1997, PNM installed two monitor wells upgradient from PNM's former pit. One of the wells, located adjacent to Burlington's equipment, encountered hydrocarbon groundwater contamination.

(12) On April 14, 1997, Burlington discovered a hydrocarbon seep along the northwestern edge of the Hampton Well site adjacent to PNM's former pit. Burlington notified both the Bureau and PNM about the seep.

(13) On April 17, 1997, Burlington conducted excavations around the northwest perimeter of the site and constructed a collection trench.

(14) On April 30, 1997, Burlington began excavation in the area of Burlington's former pit located in the southeastern portion of the Hampton Well site. Burlington drilled soil borings and monitor wells at the excavation that encountered hydrocarbon groundwater contamination.

(15) On August 1, 1997, the Bureau wrote to PNM and Burlington concerning the contamination at the Hampton Well site. Burlington was directed to submit a Soil and Groundwater Investigation Work Plan for the portion of the site upgradient of the PNM disposal pit, and PNM was directed to address the contamination downgradient of its pit.

(16) PNM installed a free-phase hydrocarbon recovery well system adjacent to PNM's former pit in November 1997, and initiated recovery of free-phase hydrocarbons from the groundwater in January 1998.

(17) On February 23, 1998, Mr. J. Burton Everett, the owner of the property immediately downgradient of the Hampton Well site, wrote the Division stating his concern about the migration of hydrocarbon contamination onto his property.

(18) On March 13, 1998, the Bureau wrote to PNM and directed PNM to remove, within 30 days, the remaining source areas with free-phase hydrocarbons in the vicinity of and immediately downgradient of PNM's former pit.

(19) In April 1998, PNM appealed the Division Directive and sought a stay of the directive pending a decision on its appeal. The Division denied PNM's request for stay on August 20, 1998.

(20) In April and May 1998, free product was discovered upgradient from the dehydration pit, and Burlington installed two additional monitor wells at the site.

(21) On September 1, 1998, the Bureau wrote PNM and Burlington and requested that they work together to remediate the Hampton Well site. The letter directed PNM and Burlington to conduct additional investigation and to determine the complete downgradient extent of hydrocarbon contamination at the Hampton Well site.

(22) Burlington set up meetings with PNM to discuss additional investigation and remediation at the Hampton Well site. No agreement was reached for a cooperative effort to address the contamination.

(23) On October 28, 1998, Burlington submitted a response to the Bureau's letter of September 1, 1998. Burlington stated that if PNM did not begin remediation of PNM's former pit by October 30, 1998, then Burlington would begin remediating the entire Hampton Well site, starting at PNM's former pit and working south towards Burlington's former pit.

(24) PNM continued recovery of free phase hydrocarbons until early November 1998, when Burlington's remediation activities resulted in the removal of PNM's free phase hydrocarbon recovery well system.

(25) PNM's appeal of the Division Directive was heard at a Division examiner hearing in November 1998. The Division entered Order No. R-11134, and PNM appealed to the Commission.

(26) At the time of the Commission *de novo* hearing, neither PNM nor Burlington had completed remediation activities at the Hampton Well site. Groundwater contamination remains at the Hampton Well site, and a plume of contamination extends approximately 1000 feet downgradient from the site.

(27) The evidence indicates that soil and groundwater contamination at the Hampton Well site is a result of hydrocarbon releases at the facilities of both PNM and Burlington, and not from off-site sources.

(28) The evidence also indicates that the groundwater gradient is from southeast to northwest.

(29) The evidence further indicates that PNM's facilities are located downgradient from Burlington's facilities and that groundwater contamination from Burlington's facilities has moved downgradient and commingled with groundwater contamination from PNM's facilities.

(30) The evidence failed to indicate that PNM or Burlington had removed all soil and ground water contamination that resulted from releases from their former pits.

(31) Burlington should be the responsible party for any contamination remaining south and upgradient of the PNM disposal pit and equipment.

(32) PNM should be the responsible party for any soil contamination below its pit.

(33) PNM and Burlington should share the responsibility of remediating any groundwater or soil contamination, other than any soil contamination below the PNM pit, remaining north and downgradient of the property for which Burlington is responsible pursuant to paragraph 31, above.

(34) Both PNM and Burlington should submit remediation plans to the Bureau, for approval, within 30 days of the date of this order. At a minimum, the remediation plans should contain plans to determine the lateral extent of contamination, to remove remaining sources of contamination, to control the downgradient migration of the plume of groundwater contamination, and to remediate the remaining contaminants.

(35) PNM should have the oversight and reporting responsibilities for ground water remediation in the area north and downgradient of the property for which Burlington is responsible pursuant to paragraph 31, above.

(36) Contamination at the Hampton Well site is a threat to public health and safety and the environment. Both PNM and Burlington should begin remedial activities within 10 days of Bureau approval of the remediation plans.

(37) The application of PNM should be denied.

IT IS THEREFORE ORDERED THAT:

(1) The application of the Public Service Company of New Mexico ("PNM") for an order rescinding the Division directive to PNM dated March 13, 1998 requiring it to perform additional remediation for hydrocarbon contamination in the area of the Burlington Resources Oil & Gas Company Hampton No. 4-M Well located in Unit N, Section 13, Township 30 North, Range 11 West, NMPM, San Juan County, New Mexico, and a determination by the Division that PNM is not a responsible person for purposes of further investigation and remediation of contamination at this location is hereby denied.

(2) Burlington shall be the responsible party for any contamination remaining south and upgradient of the PNM disposal pit and equipment.

(3) PNM shall be the responsible party for any soil contamination remaining below its pit.

(4) PNM and Burlington shall share the responsibility of remediation for any groundwater or soil contamination, other than any soil contamination below the PNM pit, remaining north and downgradient of the property for which Burlington is responsible pursuant to ordering paragraph 2, above.

(5) Both PNM and Burlington shall submit remediation plans to the Bureau, for approval, within 30 days of the date of this order. At a minimum, the remediation plans must contain plans to determine the lateral extent of contamination, to remove remaining sources of contamination, to control the downgradient migration of the plume of groundwater contamination, and to remediate the remaining contaminants.

(6) Both PNM and Burlington shall begin remedial activities within 10 days of Bureau approval of the remediation plans.

(7) PNM shall have the oversight and reporting responsibilities for groundwater remediation in the area north and downgradient of the property for which Burlington is responsible pursuant to ordering paragraph 2, above.

(8) Jurisdiction is hereby retained for the entry of such further orders as the Division may deem necessary.

CASE NO. 12033
Order No. R-11134-A
Page 6

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

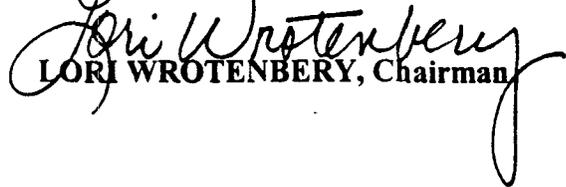
**STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION**



JAMI BAILEY, Member



ROBERT LEE, Member



LORI WROTENBERY, Chairman

S E A L

Olson, William

From: Olson, William
Sent: Monday, March 06, 2000 8:13 AM
To: 'Gannon, Maureen'
Subject: RE: Request for Extension on Annual Groundwater Report

The below requested extension is approved.

From: Gannon, Maureen [SMTP:MGannon@pnm.com]
Sent: Saturday, March 04, 2000 3:31 PM
To: Olson, William
Cc: Sikelianos, Mark; 'Ingrid Deklau'; Johnson, Ronald
Subject: Request for Extension on Annual Groundwater Report

As a follow-up to our phone conversation on Thursday, March 2, 2000, PNM herein requests an extension of the date for submittal of our San Juan Basin Annual Groundwater Report. The report is normally due on April 1st of each year. However, since PNM's environmental obligations associated with the purchase and sale of our former gas assets in the San Juan Basin will terminate on June 30, 2000 (with the exception of retained liabilities), we would like to file our annual report by July 15, 2000 so that the data and information contained in the annual report is current through the June 30th date.

Please let me know if this extension is acceptable to you. You may email me or call me at (505) 241-2974. Thank you for your time and consideration of this matter.

Maureen Gannon
Environmental Services
241-2974

DOCKET COMMISSION HEARING - WEDNESDAY - NOVEMBER 17, 1999

9:00 A.M. - OCD Hearing Room
2040 S. Pacheco
Santa Fe, New Mexico

The Land Commissioner's designee for this hearing will be Jami Bailey or Gary Carlson

The minutes of the October 14, 1999, Commission hearing will be adopted.

The Oil Conservation Commission may vote to close the open meeting to deliberate any De Novo cases heard at this hearing.

CASE 12186: De Novo - Continued from October 14, 1999, Commission Hearing - This case will be dismissed.

Application of Chesapeake Operating Inc. for compulsory pooling, Lea County, New Mexico. Applicant seeks an order pooling all mineral interests from the surface to the base of the Morrow formation underlying the following described acreage in Section 15, Township 16 South, Range 35 East, in the following manner: (a) the E/2 to form a standard 320-acre gas spacing and proration unit for any formations and/or pools developed on 320-acre gas spacing within that vertical extent, including the Townsend-Morrow Gas Pool and the North Shoe Bar-Atoka Gas Pool; (b) the NE/4 to form a standard 160-acre gas spacing and proration for any formations and/or pools developed on 160-acre gas spacing within that vertical extent, including the North Shoe Bar-Wolfcamp Gas Pool; (c) the E/2 NE/4 to form a standard 80-acre oil spacing and proration unit for any formations and/or pools developed on 80-acre oil spacing within that vertical extent; and (d) the SE/4 NE/4 to form a standard 40-acre oil spacing and proration unit for any formations and/or pools developed on 40-acre oil spacing within that vertical extent, including the Townsend-Permo Upper Pennsylvanian Pool. These units are to be dedicated to its Boyce "15" Well No. 1 which will be located at a standard location within Unit H of the section. Also to be considered will be the costs of drilling and completing this well and the allocation of the costs thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the well and a charge for risk involved in this well. This unit is located approximately 5 1/2 miles southwest of the center of the City of Lovington, New Mexico. Upon application of Ameristate Oil & Gas, Inc., this case will be heard De Novo pursuant to the provisions of Rule 1220.

CASE 12148: De Novo - Continued from October 14, 1999, Commission Hearing.

Application of The Wiser Oil Company to qualify the Skelly Unit Area Waterflood Expansion Project for the Recovered Oil Tax Rate, Eddy County, New Mexico. Applicant seeks to qualify the Skelly Unit Area Waterflood Expansion Project (Grayburg-Jackson Pool) for the recovered oil tax rate pursuant to the Enhanced Oil Recovery Act (Sections 7-29A-1 through 7-29A-5, NMSA 1978). The unit area covers all or part of Sections 13, 14, 21-23, and 26-28, Township 17 South, Range 31 East. The unit area is centered approximately 1 mile east-northeast of the intersection of U.S. Highway 82 and State Highway 529. Upon application of The Wiser Oil Company, this case will be heard De Novo pursuant to the of Rule 1220.

CASE 12149: De Novo - Continued from October 14, 1999, Commission Hearing.

Application of The Wiser Oil Company to qualify the State "D" Lease Waterflood Expansion Project for the recovered oil tax rate, Eddy County, New Mexico. Applicant seeks to qualify the State "D" Lease Waterflood Expansion Project (Grayburg-Jackson Pool) covering part of Section 26, Township 17 South, Range 31 East, for the recovered oil tax rate pursuant to the Enhanced Oil Recovery Act (Sections 7-29A-1 through 7-29A-5, NMSA 1978). The lease is located approximately 2 miles east-southeast of the intersection of U.S. Highway 82 and State Highway 529. Upon application of The Wiser Oil Company, this case will be heard De Novo pursuant to the provisions of Rule 1220.

CASE 12150: De Novo - Continued from October 14, 1999, Commission Hearing.

Application of The Wiser Oil Company to qualify the State "AZ" Lease Waterflood Expansion Project for the recovered oil tax rate, Eddy County, New Mexico. Applicant seeks to qualify the State "AZ" Lease Waterflood Expansion Project (Grayburg-Jackson Pool), covering the SW/4 SW/4 of Section 16, Township 17 South, Range 31 East, for the recovered oil tax rate pursuant to the Enhanced Oil Recovery Act (Sections 7-29A-1 through 7-29A-5, NMSA 1978). The lease is located approximately 1 mile north-northwest of the intersection of U.S. Highway 82 and State Highway 529. Upon application of The Wiser Oil Company, this case will be heard De Novo pursuant to the provisions of Rule 1220.

CASE 12223: De Novo

Application of Pogo Producing Company for Approval of a Pilot Pressure Maintenance Project and to Qualify the Project for the Recovered Oil Tax Rate pursuant to the Enhanced Oil Recovery Act, Eddy County, New Mexico. Applicant seeks approval to institute a pilot pressure maintenance project in the West Sand Dunes-Delaware Pool on Federal Leases NM 38463, 38464, NM 40859, and NM 0281482-A (comprising all or parts of Sections 20, 21, 28 and 29, Township 23 South, Range 31 East) by the injection of water into the Pure Gold "B" Fed. Well No. 20, located in Unit P of Section 20. Applicant further seeks to qualify the project for the recovered oil tax rate pursuant to the "New Mexico Enhanced Oil Recovery Act" (Sections 7-29A-1 through 7-29A-5, NMSA 1978). This project is located approximately 18 miles east of Loving, New Mexico. Upon application of Pogo Producing Company, this case will be heard De Novo pursuant to the provisions of Rule 1220.

CASE 12207: De Novo

Application of St. Mary Land & Exploration Company for statutory unitization, Eddy and Lea Counties, New Mexico. Applicant seeks an order unitizing, for the purpose of establishing an enhanced recovery project, all mineral interests in the Brushy Canyon formation of the Delaware Mountain Group, East Shugart-Delaware Pool, underlying 604.12 acres, more or less, of federal lands in the following described area:

Township 18 South, Range 31 East, NMPM

Section 13: S/2 SE/4

Section 24: NE/4, N/2 SE/4

Township 18 South, Range 32 East, NMPM

Section 18: Lot 4

Section 19: Lots 1-3, E/2 NW/4, NE/4 SW/4

The unit is to be designated the East Shugart (Delaware) Unit. Among the matters to be considered at the hearing, pursuant to the New Mexico Statutory Unitization Act, NMSA 1978 Sections 70-7-1 et seq., will be: The necessity of unit operations; the designation of a unit operator; the determination of the horizontal and vertical limits of the unit area; the determination of the fair, reasonable, and equitable allocation of production and costs of production, including capital investments, to each of the tracts in the unit area; the determination of credits and charges to be made among the various owners in the unit area for their investment in wells and equipment; and such other matters as may be necessary and appropriate for carrying on efficient unit operations, including unit voting procedures, selection, removal, or substitution of the unit operator, and time of commencement and termination of unit operations. Applicant also requests that the order issued in this case include a provision for carrying any non-consenting working interest owner within the unit area upon such terms and conditions to be determined by the Division to be just and reasonable. The unit area is located approximately 11.5 miles southeast of Loco Hills, New Mexico. Upon application of St. Mary Land & Exploration Company, this case will be heard De Novo pursuant to the provisions of Rule 1220.

CASE 12008: De Novo

Application of Robert E. Landreth for a determination of reasonable well costs, Lea County, New Mexico. Applicant, as a mineral interest owner in the standard 320-acre gas spacing and proration unit comprising the S/2 of Section 29, Township 22 South, Range 34 East, seeks an order ascertaining the reasonableness of actual well costs for: (i) the Santa Fe Energy Resources, Inc. Gaucho Unit Well No. 2-Y (API No. 30-025-34026), located 1650 feet from the South line and 1725 feet from the West line (Unit K) of Section 29; and (ii) the plugged and abandoned Gaucho Unit Well No. 2 (API No. 30-025-33682), located 1650 feet from the South and West lines (Unit K) of Section 29. This 320-acre unit was the subject of compulsory pooling Order No. R-10764, dated February 14, 1997. This area is located approximately 20 miles west by south of Eunice, New Mexico. Upon application of Robert E. Landreth, this case will be heard De Novo pursuant to the provisions of Rule 1220.

CASE 12033: Continued from August 26, 1999, Examiner Hearing.

Application of Public Service Company of New Mexico for review of Oil Conservation Division directive dated March 13, 1998 directing applicant to perform additional remediation for hydrocarbon contamination, San Juan County, New Mexico. Applicant seeks review of a Division directive dated March 13, 1998 directing applicant to perform additional remediation for hydrocarbon contamination located in the area of the Burlington Resources Hampton Well No. 4M located in Unit N, Section 13, Township 30 North, Range 11 West, and a determination by the division that applicant is not a responsible person for purposes of further investigation or remediation of the contamination. Applicant further seeks a stay of the March 13, 1998 directive pending an order in this matter. The subject area is located approximately 3 miles east-southeast of Aztec, New Mexico.

Dockets Nos. 36-99 and 37-99 are tentatively set for December 2 and December 16, 1999. Applications for hearing must be filed at least 23 days in advance of hearing date. The following cases will be heard by an Examiner:

CASE 12282: Application of Yates Petroleum Corporation for Approval of a Unit Agreement, Lea County, New Mexico. Applicant seeks approval of the Sand Springs State Unit for an area comprising 4573.92 acres, more or less, of state lands in all or portions of Sections 34 and 35, Township 10 South, Range 34 East; Sections 13 and 24, Township 11 South, Range 34 East; and Sections 5, 6, 7, and 18, Township 11 South, Range 35 East. The unit area is located approximately 12 miles east of Caprock, New Mexico.

CASE 12283: Application of Yates Petroleum Corporation for an Unorthodox Gas Well Location, Chaves County, New Mexico. Applicant seeks to reinstate the unorthodox gas well location provision of Division Order No. R-8914 by granting an exception to Division Rule 104.C(2), revised by Division Order No. R-11231, issued by the New Mexico Oil Conservation Commission in Case No. 12119 on August 12, 1999. Yates Petroleum Corporation proposes to re-enter the plugged and abandoned Hanson Operating Company, Inc. Yates Valley State Com. Well No. 1 (API No. 30-005-62691), to be redesignated the Yates Valley "ATM" State Well No. 1, which is located at an unorthodox gas well location 1650 feet from the North line and 2310 feet from the East line (Unit G) of Section 36, Township 10 South, Range 26 East. The E/2 of Section 36 is to be dedicated to this well in order to form a standard 320-acre gas spacing and proration unit for any formations from the top of the Wolfcamp formation to the base of the Montoya formation developed on 320-acre spacing. This unit is located approximately 16 miles east of Roswell, New Mexico. **IN THE ABSENCE OF OBJECTION, THIS APPLICATION WILL BE TAKEN UNDER ADVISEMENT.**

CASE 12284: Application of McElvain Oil & Gas Properties, Inc. for Compulsory Pooling and an Unorthodox Well Location, Rio Arriba County, New Mexico. Applicant seeks an order pooling all mineral interests from the base of the Pictured Cliffs formation to the base of the Dakota formation, underlying the following described acreage in Section 33, Township 26 North, Range 2 West, in the following manner: (a) the S/2 to form a standard 320-acre gas spacing and proration unit for any and all formations and/or pools developed on 320-acre spacing within this vertical extent which presently includes but is not necessarily limited to the Blanco-Mesaverde Pool, Basin-Dakota Pool, and Undesignated Gavilan Greenhorn-Graneros-Dakota Oil Pool; (b) the SE/4 to form a standard 160-acre spacing and proration unit for any and all formations and/or pools developed on 160-acre spacing within this vertical extent which presently includes but is not necessarily limited to the Undesignated Northeast Ojito Gallup-Dakota Oil Pool; and (c) the NW/4 SE/4 to form a standard 40-acre oil spacing and proration unit for any and all formations and/or pools developed on 40-acre spacing within this vertical extent. All three units are to be dedicated to a single well, the proposed Cougar Com. "33" Well No. 1, to be drilled 1970 feet from the South line and 2125 feet from the East line (Unit J) of Section 33. This location: (i) is considered standard for the Blanco-Mesaverde Pool and for all formation spaced on 40 acres; (ii) is unorthodox for the Undesignated Gavilan Greenhorn-Graneros-Dakota Oil Pool and for all formation spaced on 160 acres; and (iii) has been approved as an unorthodox gas well location for the Basin-Dakota Pool by Division Administrative Order NSL-4370, dated October 25, 1999. Also to be considered will be the cost of drilling and completing the well and the allocation of the cost thereof, as well as actual operating costs and charges for supervision, designation of applicant as the operator of the well, and a charge for risk involved in drilling the well. The proposed well location is approximately 9 miles north of Lindrieth, New Mexico.

CASE 12285: Application of Nearburg Exploration, Company, LLC. for Compulsory Pooling, Lea County, New Mexico. Applicant seeks an order pooling all mineral interests from the surface to the base of the Morrow formation underlying the N/2 for all formations developed on 320-acre spacing including but not limited to the Undesignated San Simon Wolfcamp Gas Pool, the NW/4 for all formations developed on 160-acre spacing, the N/2 NW/4 for all formations developed on 80-acre spacing, and the NW/4 NW/4 for all formations developed on 40-acre spacing, all in Section 17, Township 22 South, Range 35 East. Applicant proposes to dedicate these pooled units to a well to be drilled at a standard gas well in the NW/4 NW/4 of Section 17. Also to be considered will be the cost of drilling and completing the well and the allocation of the cost thereof, as well as actual operating costs and charges for supervision, designation of Nearburg Producing Company as operator of the well, and a charge for risk involved in drilling and completing the well. The area is located approximately 10.5 miles southwest of Oil Center, New Mexico.

CASE 12286: Application of Nearburg Exploration Company L.L.C. for an Unorthodox Gas Well Location, Eddy County, New Mexico. Applicant seeks an exception to Division Rule 104.C(2), revised by Division Order No. R-11231, issued by the New Mexico Oil Conservation Commission in Case No. 12119 on August 12, 1999, to drill its South Boyd "27" Well No. 10 to the Morrow formation at an unorthodox gas well location 510 feet from the North line and 990 feet from the East line (Unit A) of Section 27, Township 19 South, Range 25 East. The N/2 of Section 27 is to be dedicated to this well in order to form a standard 320-acre gas spacing and proration unit for the Undesignated Cemetery-Morrow Gas Pool. This unit is located approximately 6 miles west of Lakewood, New Mexico.

CASE 12275: Continued from November 4, 1999, Examiner Hearing.

Application of Nearburg Exploration Company, L.L.C. for Compulsory Pooling, Lea County, New Mexico. Applicant seeks an order pooling all mineral interests in all formations developed on 320-acre spacing in the S/2 including but not limited to the East Gem-Morrow Gas Pool, in all formations developed on 160-acre spacing in the SE/4, in all formations developed on 80-acre spacing in the N/2 SE/4, and in all formations developed on 40-acre spacing in the NW/4 SE/4 of Section 13, Township 19 South, Range 33 East. The units are to be dedicated to its Stetson 13 Federal Com Well. No. 1 to be drilled at a standard location 1650 feet from the South and East lines of Section 13 to a depth sufficient to test all formations from the surface to the base of the Morrow formation. Also to be considered will be the cost of drilling and completing the well and the allocation of the cost thereof, as well as actual operating costs and charges for supervision, designation of Nearburg Producing Company as the operator of the well, and a charge for risk involved in drilling and completing the well. These units are located approximately 9 miles northeast of Halfway, New Mexico.

CASE 12259: Readvertised

Application of Southwestern Energy Production Company for Compulsory Pooling, Eddy County, New Mexico. Applicant seeks an order pooling all mineral interests from the surface to the base of the Morrow formation underlying the following described acreage in Section 36, Township 17 South, Range 27 East, in the following manner: the N/2 to form a standard 320-acre gas spacing and proration unit for any and all formations and/or pools developed on 320-acre spacing within that vertical extent, including the Undesignated North Illinois Camp-Morrow Gas Pool, and the NW/4 to form a standard 160-acre gas spacing and proration unit for any and all formations and/or pools developed on 160-acre spacing within that vertical extent, including the Logan Draw-Wolfcamp Gas Pool and the Undesignated Empire-Pennsylvanian Gas Pool. The units are to be dedicated to applicant's No Bluff "36" State Com. Well No. 1 to be drilled at a location 660 feet from the North line and 860 feet from the West line of Section 36, as well as any other well drilled on 320-acre spacing pursuant to Division rules. Also to be considered will be the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the well, and a charge for the risk involved in drilling and completing the well. The units are located approximately 10 miles southeast of Artesia, New Mexico.

CASE 12237: Continued from November 4, 1999 Examiner Hearing.

Application of Mewbourne Oil Company for Compulsory Pooling, Eddy County, New Mexico. Applicant seeks an order pooling all mineral interests from the base of the Bone Spring formation to the base of the Morrow formation underlying the W/2 of Section 8, Township 18 South, Range 31 East, to form a standard 320-acre gas spacing and proration unit for any formations and/or pools developed on 320-acre spacing within this vertical extent, including the Undesignated North Shugart-Atoka Gas Pool and Undesignated North Shugart-Morrow Gas Pool. The unit is to be dedicated to its Fren "8" Fed. Com. Well No. 1, located at an orthodox gas well location in the NW/4 of Section 8. Also to be considered will be the cost of drilling and completing the well and the allocation of the cost thereof, as well as actual operating costs and charges for supervision, designation of applicant as the operator of the well, and a charge for risk involved in drilling and completing the well. The unit is located approximately 6 1/2 miles southeast of Loco Hills, New Mexico.

CASE 12287: Application of Nearburg Exploration Company, L.L.C. for Compulsory Pooling, Eddy County, New Mexico. Applicant seeks an order pooling all mineral interests from the surface to the base of the Morrow formation underlying the following described acreage in Section 7, Township 22 South, Range 26 East, in the following manner: the W/2 to form a standard 320-acre gas spacing and proration unit for any formations and/or pools developed on 320-acre spacing within that vertical extent, including the Undesignated Hackberry Hills-Canyon Gas Pool, Undesignated Happy Valley-Strawn Gas Pool, Undesignated Hackberry Hills-Atoka Gas Pool, and Happy Valley-Morrow Gas Pool; the SW/4 to form a standard 160-acre gas spacing and proration unit for any formations and/or pools developed on 160-acre spacing within that vertical extent; and the NE/4 SW/4 for form a standard 40-acre oil spacing and proration unit for any formations and/or pools developed on 40-acre spacing within that vertical extent, including the Undesignated Filaree Dome-Delaware Pool and Undesignated Happy Valley-Bone Spring Pool. The units are to be dedicated to its White Tip "7" Fed. Well No. 2 to be located 1500 feet from the South line and 1980 feet from the East line (Unit K) of Section 7. Also to be considered will be the cost of drilling and completing the well and the allocation of the cost thereof, as well as actual operating costs and charges for supervision, designation of Nearburg Producing Company as the operator of the well, and a charge for risk involved in drilling and completing the well. These units are located approximately 6.5 miles west-southwest of Carlsbad, New Mexico.

CASE 12244: Continued from November 4, 1999, Examiner Hearing.

Application of Nearburg Exploration Company, L.L.C. for Compulsory Pooling, Eddy County, New Mexico. Applicant seeks an order pooling all mineral interests from the surface to the base of the Morrow formation underlying the following described acreage in Section 7, Township 22 South, Range 26 East, in the following manner: the E/2 to form a standard 320-acre gas spacing and proration unit for any formations and/or pools developed on 320-acre spacing within that vertical extent, including the Undesignated Hackberry Hills-Canyon Gas Pool, Undesignated Happy Valley-Strawn Gas Pool, Undesignated Hackberry Hills-Atoka Gas Pool, and Happy Valley-Morrow Gas Pool; the SE/4 to form a standard 160-acre gas spacing and proration unit for any formations and/or pools developed on 160-acre spacing within that vertical extent; and the NE/4 SE/4 to form a standard 40-acre oil spacing and proration unit for any formations and/or pools developed on 40-acre spacing within that vertical extent, including the Undesignated Filaree Dome-Delaware Pool and Undesignated Happy Valley-Bone Spring Pool. The units are to be dedicated to its White Tip "7" Fed. Well No. 1 to be located 1550 feet from the South line and 990 feet from the East line (Unit I) of Section 7. Also to be considered will be the cost of drilling and completing the well and the allocation of the cost thereof, as well as actual operating costs and charges for supervision, designation of Nearburg Producing Company as the operator of the well, and a charge for risk involved in drilling and completing the well. The unit is located approximately 6 miles west-southeast of Carlsbad, New Mexico.

CASE 12288: Application of Kerr-McGee Oil & Gas Onshore, L.L.C. for a Non-standard Subsurface Gas Well Location/Producing Area, Eddy County, New Mexico. Applicant, in accordance with Division Rules 104.F and 111.C(2), seeks approval for a non-standard subsurface gas well location/producing area within the Indian Basin-Upper Pennsylvanian Gas Pool for its existing West Indian Basin Unit Well No. 1 (API No. 30-015-10219), located 660 feet from the South line and 1980 feet from the West line (Unit N) of Section 17, Township 21 South, Range 23 East (which is located approximately 25 miles west by north of Carlsbad, New Mexico). This well is to be recompleted back into a 640-acre gas spacing and proration unit consisting entirely of Section 17, which is a standard spacing unit for the Indian Basin-Upper Pennsylvanian Gas Pool, in such a manner that the subsurface/bottomhole location will be no closer than 660 feet from the South line of Section 17 nor closer than 1650 feet from the West, North, and East lines of Section 17.

CASE 12289: Application of Gillespie Oil, Inc. and Energen Resources Corporation to Amend Division Order No. R-10864-A for Unit Expansion, Statutory Unitization, and Qualification Of the Expanded Unit area for the Recovered Oil Tax Rate And Certification of a Positive Production Response Pursuant To the "New Mexico Enhanced Oil Recovery Act," Lea County, County, New Mexico. Applicants seek to amend Division Order No. R-10864-A to expand the West Lovington Strawn Unit and unitizing all mineral interests in the designated and undesignated West Lovington-Strawn Pool underlying all or parts of Sections 28, 32, 33, 34, and 35, Township 15 South, Range 35 East; Section 1, Township 16 South, Range 36 East, comprising 2612.90 acres, more or less, of state, federal, and fee lands. Among the matters to be considered at the hearing, pursuant to the New Mexico Statutory Unitization Act, NMSA 1978 Sections 70-7-1 et seq., will be: The necessity of unit operations; the determination of horizontal and vertical limits of the expanded unit area; the determination of the fair, reasonable, and equitable allocation of production and costs of production, including capital investments, to each of the tracts in the expanded unit area; the determination of credits and charges to be made among the various interest owners in the expanded unit area for their investment in wells and equipment; appropriate amendments to the Unit Agreement and Unit Operating Agreement; and such other matters as may be necessary and appropriate. Applicants further seek to qualify the expanded unit area for the recovered oil tax rate pursuant to the "New Mexico Enhanced Oil Recovery Act," NMSA 1978 Sections 7-29A-1 through 7-29A-5, and to certify five wells within the expanded unit area for a positive production response. The unit is located approximately 4 miles northwest of Lovington, New Mexico.

CASE 12276: Continued from November 4, 1999, Examiner Hearing.

Application of Burlington Resources Oil & Gas Company for Compulsory Pooling, San Juan County, New Mexico. Applicant seeks an order pooling all mineral interests in the Mesaverde formation and the Chacra formation underlying the following described acreage within Section 36, Township 27 North, Range 8 West, in the following manner: (i) a 320-acre gas spacing unit consisting of the W/2 of this section for gas production from the Blanco-Mesaverde Gas Pool to be dedicated to the proposed Brookhaven Com Well No. 8 to be located in the NW/4 and to the Brookhaven Com Well No. 8-A to be located in the SW/4 of this section; (ii) for a standard 160-acre gas spacing unit consisting of the NW/4 of this section for gas production from the Otero-Chacra Gas Pool to be dedicated to the Brookhaven Com Well No. 8; and (iii) for a standard 160-acre gas spacing unit consisting of the SW/4 of this section for gas production from the Otero-Chacra Gas Pool to be dedicated to the Brookhaven Com Well No. 8-A. The units are to be dedicated to Burlington Resources Oil & Gas Company's Brookhaven Com Wells No. 8 and 8-A which are to be drilled as dual completions at standard gas well locations within these quarter sections. Also to be considered will be the costs of drilling and completing the wells and the allocation of the costs thereof, as well as actual operating costs and charges for supervision, designation of applicant as the operator of the wells, and a charge for risk involved in drilling and completing the wells. The wells are located approximately 15 miles northeast of the El Huerfano Trading Post on New Mexico State Highway 44.

CASE 12277: Continued from November 4, 1999, Examiner Hearing.

Application of Burlington Resources Oil & Gas Company for Compulsory Pooling, San Juan County, New Mexico. Applicant seeks an order pooling all mineral interests in the Mesaverde formation within the E/2 of Section 16, Township 31 North, Range 11 West for a 320-acre gas spacing unit consisting of the E/2 of this section for gas production from the Blanco-Mesaverde Gas Pool to be dedicated to the proposed Brookhaven Com B Well No. 3B to be located in the NE/4 SE/4 of Section 16. Also to be considered will be the cost of drilling and completing the well and the allocation of the cost thereof, as well as actual operating costs and charges for supervision, designation of applicant as the operator of the well, and a charge for risk involved in drilling and completing the well. The unit is located approximately 5 miles north of Aztec, New Mexico.

CASE 12290: Application of Burlington Resources Oil & Gas Company to amend the Special Rules and Regulations for the Basin-Dakota Gas Pool for purposes of changing well location requirements for Dakota Wells, Rio Arriba and San Juan Counties, New Mexico. Applicant seeks to amend Rule 2(d) of the Special Rules and Regulations for the Basin-Dakota Gas Pool set forth in Division Order No. R-8170, as amended, in order to: (a) change the initial and infill well location boundary requirements to not closer than 660 feet to any outer boundary of a gas proration and spacing unit and to not closer than 10 feet to any quarter-quarter section line or subdivision inner boundary; (b) delete the 920 foot minimum distance between wells; and (c) add well location requirements for federal exploratory units.

CASE 12291: Application of Yates Petroleum Corporation for an Unorthodox Gas Well Location, Lea County, New Mexico. Applicant seeks an exception to Division Rule 104.C(2), revised by Division Order No. R-11231, issued by the New Mexico Oil Conservation Commission in Case No. 12119 on August 12, 1999, to re-enter and deepen the plugged and abandoned R. L. Burns Corporation Witt Well No. 1 (API No. 30-025-24559) to be redesignated the R. T. Burns "ATL" Well No. 1, to the Mississippian formation at an unorthodox gas well location 330 feet from the South and East lines (Unit P) of Section 11, Township 16 South, Range 35 East. The E/2 of Section 2 is to be dedicated to this well in order to form a standard 320-acre gas spacing and proration unit for the Undesignated North Townsend-Mississippian Gas Pool. This unit is located approximately one mile southwest of the Lovington Lea County – Zip Franklin Memorial Airport.

CASE 12256: Continued from November 4, 1999, Examiner Hearing.

Application of E.G.L. Resources, Inc. for Compulsory Pooling, Eddy County, New Mexico. Applicant seeks an order pooling all mineral interests from the surface to the base of the Yates formation underlying the NW/4 of Section 27, Township 20 South, Range 28 East, to form a standard 160-acre gas spacing and proration unit for any formations and/or pools developed on 160-acre spacing within that vertical extent, including the Undesignated South Burton-Yates Gas Pool. This unit is to be dedicated to a well to be drilled at a standard gas well location thereon. Also to be considered will be the cost of drilling and completing the well and the allocation of the cost thereof, as well as actual operating costs and charges for supervision, designation of applicant as the operator of the well, and a charge for risk involved in drilling and completing the well. The unit is located approximately 9.5 miles north-northeast of Carlsbad, New Mexico.

CASE 12257: Continued from November 4, 1999, Examiner Hearing.

Application of E.G.L. Resources, Inc. for Compulsory Pooling, Eddy County, New Mexico. Applicant seeks an order pooling all mineral interests from the surface to the base of the Yates formation underlying the NW/4 of Section 23, Township 20 South, Range 28 East to form a standard 160-acre gas spacing and proration unit for any formations and/or pools developed on 160-acre spacing within that vertical extent, including the Russell-Lower Yates Gas Pool. This unit is to be dedicated to a well to be drilled at a standard gas well location thereon. Also to be considered will be the cost of drilling and completing the well and the allocation of the cost thereof, as well as actual operating costs and charges for supervision, designation of applicant as the operator of the well, and a charge for risk involved in drilling and completing the well. The unit is located approximately 11 miles north-northeast of Carlsbad, New Mexico.

CASE 12268: Continued from November 4, 1999, Examiner Hearing.

Application of E. G. L. Resources, Inc. for Compulsory Pooling, Eddy County, New Mexico. Applicant seeks an order pooling all mineral interests from the surface to the base of the Morrow formation underlying the W/2 of Section 4, Township 20 South, Range 27 East, to form a standard 320-acre gas spacing and proration unit for any formations and/or pools developed on 160-acre spacing within that vertical extent. The unit is to be dedicated to its Trigg Federal Well No. 1, to be drilled at an orthodox location in the W/2 of Section 4. Also to be considered will be the cost of drilling and completing the well and the allocation of the cost thereof, as well as actual operating costs and charges for supervision, designation of applicant as the operator of the well, and a charge for risk involved in drilling and completing the well. The unit is located approximately 5 miles east-southeast of Lakewood, New Mexico.

CASE 12278: Continued from November 4, 1999, Examiner Hearing.

Application of Pride Energy Company for Division rescission of approval of a change of operator, Lea County, New Mexico. Applicant seeks a Division order rescinding its October 5, 1999 approval of a request by EGL Resources Inc. for a change of operator (Division form C-104) from Pride Energy Company to EGL Resources, Inc. for the Arco State Well No. 1 located in Unit P, Section 16, Township 18 South, Range 35 East, Lea County, New Mexico. This well is located approximately 19 miles west of Hobbs, New Mexico.

CASE 12086: Consolidated – Continued from October 7, 1999, Examiner Hearing.

Application of Yates Petroleum Corporation and Hanley Petroleum Inc. for allowable reduction and the escrow of production proceeds, Lea County, New Mexico. Applicants seek an order (1) reducing the depth bracket allowable for wells in the West Lovington-Strawn Pool to a level that will only permit operators to avoid lease terminations for failure of wells to produce in paying quantities; (2) providing for termination of the reduced depth bracket allowable for the pool when the West Lovington Strawn Unit is expanded to protect the correlative rights of each owner in the pool pursuant to a ratified statutory unitization order of the Oil Conservation Commission; and (3) requiring Gillespie-Crow, Inc. to escrow all payments received for production from the unit, and less payments for royalties and taxes thereon, from the date of the order until the unit has been expanded pursuant to a ratified statutory unitization order of the Commission to include all lands affected by the pressure maintenance project being conducted in the pool. The unit is located approximately 4.5 miles west-northwest of Lovington, New Mexico.

CASE 12086: Consolidated - Continued from October 7, 1999, Examiner Hearing.

Application of Energen Resources Corporation for allowable reduction and the escrow of production proceeds, Lea County, New Mexico. Applicants seek an order (1) reducing the depth bracket allowable for wells in the West Lovington-Strawn Pool to a level that will only permit operators to avoid lease terminations for failure of wells to produce in paying quantities; (2) providing for termination of the reduced depth bracket allowable for the pool when the West Lovington Strawn Unit is expanded to protect the correlative rights of each owner in the pool pursuant to a ratified statutory unitization order of the Oil Conservation Commission; and (3) requiring Gillespie-Crow, Inc. to escrow all payments received for production from the unit, and Snyder "C" Well No. 4, and the Snyder "EC" Com Well No. 1, less payments for royalties and taxes thereon, from the date of the order until the unit has been expanded pursuant to a ratified statutory unitization order of the Commission to include all lands affected by the pressure maintenance project being conducted in the pool. The unit is located approximately 4.5 miles west-northwest of Lovington, New Mexico.

CASE 12279: Continued from November 4, 1999, Examiner Hearing.

Application of Oil Conservation Division for an order requiring Merit Energy Company to plug three (3) wells in Eddy County, New Mexico. In the matter of the hearing called by the Oil Conservation Division to permit the operator, Merit Energy Company and all other interested parties to appear and show cause why three (3) wells located in Section 1, Township 21 South, Range 27 East, Eddy County, New Mexico (the Burton Flat Wells No. 1, 2 and 3 located in Units J, O and P, respectively), should not be plugged and abandoned in accordance with a Division-approved plugging program. Further, should the operator fail to properly plug these wells, the Division seeks an order (i) requiring operator to properly plug these wells; (ii) authorizing the Division to plug these wells; (iii) ordering a forfeiture of the plugging bond, and (iv) assessing fines for failure to comply with the order. These wells are located approximately 12 miles southeast of Lakewood, New Mexico.

CASE 12280: Continued from November 4, 1999, Examiner Hearing.

Application of Oil Conservation Division for an order requiring Rault Petroleum Corporation to plug four (4) wells in Lincoln, De Baca and Chaves Counties, New Mexico. In the matter of the hearing called by the Oil Conservation Division to permit the operator, Rault Petroleum Corporation and all other interested parties to appear and show cause why the following four (4) wells located in (i) Unit J, Section 2, Township 3, South, Range 19 East, Lincoln County (the Armstrong State Well No. 1), (ii) Unit M, Section 33, Township 3 South, Range 25 East, De Baca County (the Mark W. Isler Well No. 1), (iii) Unit G, Section 24, Township 1 North, Range 20 East, De Baca County (the Ridge State Well No. 1), and (iv) Unit F, Section 24, Township 8 South, Range 27 East, Chaves County, (the Union State Well No. 1), should not be plugged and abandoned in accordance with a Division-approved plugging program. Further, should the operator fail to properly plug these wells, the Division seeks an order (i) requiring operator to properly plug these wells; (ii) authorizing the Division to plug these wells; (iii) ordering a forfeiture of the plugging bond, and (iv) assessing fines for failure to comply with the order.

CASE 12292: In the matter of the hearing called by the Oil Conservation Division for an order creating and contracting certain pools in Chaves and Eddy Counties, New Mexico.

- (a) CREATE a new pool in Eddy County, New Mexico, classified as a gas pool for Barnett production and designated as the Empire-Barnett Gas Pool. The discovery well is the OXY USA, Inc. P.I.B. Federal Well No. 1 located in Unit G of Section 21, Township 17 South, Range 28 East, NMPM. Said pool would comprise:

TOWNSHIP 17 SOUTH, RANGE 28 EAST, NMPM
Section 21: E/2

- (b) CREATE a new pool in Chaves County, New Mexico, classified as a gas pool for Wolfcamp production and designated as the South Four Ranch-Wolfcamp Gas Pool. The discovery well is the Yates Petroleum Corporation Samedan "ATH" State Well No. 1 located in Unit I of Section 35, Township 10 South, Range 26 East, NMPM. Said pool would comprise:

TOWNSHIP 10 SOUTH, RANGE 26 EAST, NMPM
Section 35: E/2

- (c) CREATE a new pool in Eddy County, New Mexico, classified as a gas pool for Morrow production and designated as the South Washington Ranch-Morrow Gas Pool. The discovery well is the Marbob Energy Corporation Primero Federal Well No. 1 located in Unit D of Section 23, Township 26 South, Range 24 East, NMPM. Said pool would comprise:

TOWNSHIP 26 SOUTH, RANGE 24 EAST, NMPM
Section 23: N/2

- (d) CONTRACT the Empire-Pennsylvanian Gas Pool in Eddy County, New Mexico, by the deletion of the following described area:

TOWNSHIP 17 SOUTH, RANGE 28 EAST, NMPM
Section 21: NE/4

IN THE ABSENCE OF OBJECTION, THIS CASE WILL BE TAKEN UNDER ADVISEMENT.



Richard L. Alvidrez
Attorney at Law
Direct Dial: 505-346-9150
E-mail: rla@keleher-law.com

November 9, 1999

432-057

Marilyn S. Hebert
Legal Counsel
New Mexico Oil Conservation Commission
2040 South Pacheco
Santa Fe, New Mexico 87505

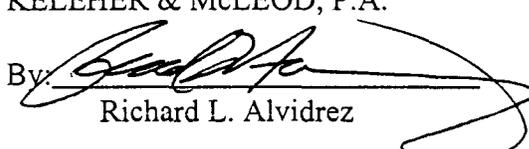
**Re: Oil Conservation Division No. 12,033; Order No. R-11134
Application of Public Service Company of New Mexico To Reopen
De Novo Hearing to Submit New and Relevant Evidence**

Dear Ms. Hebert:

Enclosed please find for your consideration Public Service Company
of New Mexico's Application to Reopen *De Novo* Hearing to Submit New and
Relevant Evidence and Certificate of Service concerning same.

Very truly yours,

KELEHER & McLEOD, P.A.

By: 

Richard L. Alvidrez

RLA:dlb
Enclosures

DAM0596

cc: William F. Carr, Esq. (with enc.)
Rand L. Carroll, Esq. (with enc.)

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A.H. McLeod (1902 - 1976)

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

IN THE MATTER OF THE HEARING CALLED
BY THE OIL CONSERVATION COMMISSION
FOR THE PURPOSE OF CONSIDERING:

APPLICATION OF PUBLIC SERVICE COMPANY
OF NEW MEXICO FOR *DE NOVO* HEARING ON
ORDER NO. R-11134 ISSUED BY THE NEW
MEXICO OIL CONSERVATION DIVISION IN
OCD CASE NO. 12,033

CASE NO. 12, 033

**APPLICATION OF PUBLIC SERVICE COMPANY OF NEW MEXICO TO
REOPEN *DE NOVO* HEARING TO SUBMIT
NEW AND RELEVANT EVIDENCE**

COMES NOW Applicant, Public Service Company of New Mexico ("PNM"), and hereby requests that the New Mexico Oil Conservation Commission ("OCC" or "Commission") re-open the *de novo* hearing in the above matter for purposes of allowing PNM leave to submit additional, new and relevant evidence in Case No. 12,033. In support of this application, PNM states as follows:

1. PNM filed an application for a *de novo* hearing on OCD Order No. R-11134 requiring PNM to undertake certain further investigation and remediation activities at the Hampton 4M well site operated by Burlington Resources Oil and Gas Company ("Burlington").

2. A *de novo* hearing was held before the Commission on August 26 and 27, 1999. At the hearing, PNM, Burlington and the New Mexico Oil Conservation Division

("OCD") submitted pre-filed direct and rebuttal testimony, including exhibits, and tendered their respective witnesses for cross-examination.

3. At the conclusion of the hearing, the Commission verbally instructed the parties to the proceeding to confer about what appropriate further site investigation may be required at the Hampton 4M site.

4. PNM, Burlington and the OCD met at the Hampton 4M site and conferred about appropriate further investigation, including the installation of additional monitoring wells.

5. At the instruction of the OCD, Burlington installed three (3) new wells at the Hampton 4M site on October 13, 1999. The three new wells were denominated as MW-14, MW-15 and MW-16. MW-14 was installed in the southeast corner of the well pad between the former TPW-5 and TPW-7, near the former location of Burlington's liquids storage tanks. MW-15 was installed directly north and downgradient of the vicinity of Burlington's separator fluids pit. MW-16, a four-inch diameter product recovery well, was installed along the eastern limits of Burlington's former mass excavation on the northern portion of the well-pad, near and slightly upgradient of PNM's former pit location. The locations of the new wells are depicted in the diagram attached as Exhibit "A".

6. On October 21, 1999, PNM conducted sampling of all existing wells at the Hampton 4M site, including the new wells installed by Burlington. Sampling in MW-14, the monitoring well installed near the former location of Burlington's liquids storage tanks, revealed approximately two (2) feet of free product floating on the groundwater in the southeast corner of the well-pad, substantially upgradient from PNM's former and

Williams' existing operations at the site. The newly detected two (2) feet of free product on the groundwater confirms that a continuing release of free product exists, or alternatively, that a large volume of free product is still present in the vadose zone near Burlington's operations. These recent findings have confirmed PNM's opinion, as expressed at the hearing in this matter, that had Burlington allowed TPW-5 or 7 to remain in place for a sufficient time, free product would most likely have been detected in this area at a much earlier date.

7. The sampling has also produced additional data that reveal an upward trend of hydrocarbon contamination in the seep area and in wells downgradient from the well pad. These new findings are consistent with PNM's opinion that Burlington's mass excavation was not an effective remediation strategy and is likely responsible for a renewed mobilization of groundwater contaminants and an increasing trend of contaminant movement off-site. The off-site migration of contaminants indicates that the source of contamination has not been stopped or remediated and the natural attenuation processes are not able to remove contaminants as quickly as they are being released. A copy of the most recent cumulative sampling results, including the sampling results from MW-14, MW-15 and MW-16, is attached as Exhibit "B".

8. The latest sampling results are relevant to the issues in this proceeding in the following respects:

- a. They confirm the presence of significant free product contamination in the area of Burlington's present and former operations at the Hampton 4M well site far upgradient from PNM's former dehydration pit.

- b. They confirm either the presence of a continuing release of free product, or alternatively, that a large volume of free product is still present in the vadose zone near Burlington's operations, and that further remediation efforts in the area of PNM's former pit as directed by the OCD would be futile.
- c. They confirm that Burlington's remediation efforts, in the form of a mass excavation in the area of PNM's former dehydration pit, were ineffective at remediating free product contamination upgradient in the southeastern area of the well pad.
- d. They confirm that Burlington's remediation efforts, in the form of a mass excavation in the area of PNM's former dehydration pit, has likely resulted in a renewed mobilization of groundwater contaminants off-site and that the source of contamination has not been stopped or remediated.
- e. They confirm that the natural attenuation processes are not able to remove contaminants as quickly as they are being released and that natural attenuation is an ineffective remedy unless and until free product is removed from groundwater underlying the southeastern portion of the site.
- f. They confirm that free product migrated downgradient from the area of Burlington's operations to the area of PNM's former dehydration pit.

- g. They confirm that additional investigation and well installations are advisable in the area of Burlington's operations.
- h. They confirm that the most effective location for additional investigation and remediation activities is in the area of Burlington's operations, not in the area of PNM's former operations.
- i. They confirm that the installation of a free product recovery well or wells by Burlington and/or the institution of additional source control measures by Burlington in the vicinity of their operations at the southeastern portion of the wellpad to is highly advisable.
- j. They confirm that the continuing release or residual from former releases of free product from Burlington's operations on the southern portion of the well pad upgradient of PNM's former and Williams' current operations will likely cause recontamination of the already remediated portions of the wellpad, including the area of PNM's former pit, as well as promote the offsite migration of hydrocarbon contaminants.
- k. They confirm that dissolved phase contamination will continue to persist and propagate further into offsite areas until the free phase product located under Burlington's operations is remediated.
- l. They confirm that free product accumulates on the southeastern portion of the well pad adjacent to bedrock and that the free

product moves along the east edge of the well pad from the area of Burlington's operations to downgradient locations.

9. The installation of the new wells and the recent sampling data from these new and existing wells constitutes new and highly relevant evidence to the outcome of the present *de novo* appeal. This new evidence did not previously exist and could not have been presented to the Commission in either pre-filed testimony or at the hearing held in this matter.

10. PNM proposes to present the new evidence to the Commission in the form of either pre-filed testimony or live testimony, with accompanying exhibits, as may be directed by the Commission. PNM anticipates that such testimony would be presented by PNM Witness Maureen Gannon who previously provided both pre-filed and live testimony in this proceeding.

11. The Commission has not ruled in this matter and has not issued any briefing schedule. The hearing transcript has not yet been transcribed. There would be no prejudice to any party by the admission of this new evidence, nor would the admission of such new evidence unduly delay the resolution of this matter. Conversely, if PNM is not allowed to present this new and highly relevant evidence, it would be deprived of a full and fair hearing on the merits of its case.

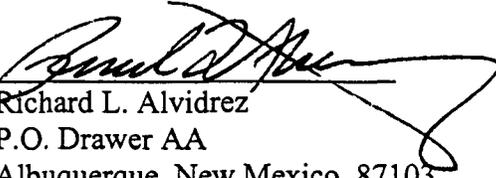
12. For the foregoing reasons, PNM respectfully requests that the Commission grant PNM leave to offer and have admitted into the record the new evidence as described above.

13. Counsel for PNM has conferred with counsel for Burlington and the OCD and has been informed that this motion is opposed by Burlington. Counsel for PNM has not received a response from counsel from the OCD.

Respectfully submitted,

KELEHER & McLEOD, P.A.

BY


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New Mexico

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

IN THE MATTER OF THE HEARING CALLED
BY THE OIL CONSERVATION COMMISSION
FOR THE PURPOSE OF CONSIDERING:

APPLICATION OF PUBLIC SERVICE COMPANY
OF NEW MEXICO FOR *DE NOVO* HEARING ON
ORDER NO. R-11134 ISSUED BY THE NEW
MEXICO OIL CONSERVATION DIVISION IN
OCD CASE NO. 12,033

CASE NO.12,033

CERTIFICATE OF SERVICE

THIS WILL CERTIFY that a true and correct copy of the APPLICATION OF PUBLIC SERVICE COMPANY OF NEW MEXICO TO REOPEN *DE NOVO* HEARING TO SUBMIT NEW AND RELEVANT EVIDENCE was mailed this 5TH day of November, 1999 to the following:

William F. Carr
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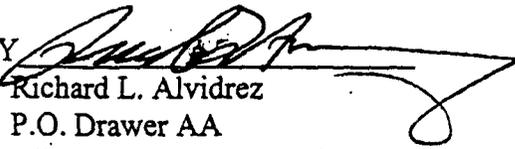
Rand L. Carroll
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NEW MEXICO ENERGY, MINERALS
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November 4, 1999

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✓ Mr. Rand L. Carroll
Oil Conservation Division
2040 South Pacheco
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Re: Case No. 12033

Application of Public Service Company of New Mexico for Review of Oil Conservation Division Directive Dated March 31, 1998, Directing Applicant to Perform Additional Remediation for Hydrocarbon Contamination, San Juan County, New Mexico.

Dear Counsel:

Pursuant to the direction of the Oil Conservation Commission ("Commission") this letter sets forth the schedule for updating the Commission regarding the ground water contamination that is the subject of the above-referenced case. The Commission will meet on November 17, 1999, in Santa Fe, New Mexico at the Oil Conservation Division offices of the Energy, Minerals and Natural Resources Department. Although Case No. 12033 will be on the Commission's agenda, no evidence will be taken in this case. However, the attorneys representing the parties will inform the Commission of the status of monitoring at the site, the current plan of action and any other developments at the site since August 27, 1999. After consideration of the status reports, the Commission may determine that additional evidence is needed in the case and schedule a hearing sometime in early 2000, at which time the record in Case No. 12033 would be reopened to receive additional evidence.

In the event the case is not reopened, closing statements and draft orders are due January 14, 2000.

Please contact me at 827-1364 if you have any questions regarding this matter.

Best regards,

Marilyn S. Hebert



Richard L. Alvidrez
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Direct Dial: 505-346-9150
E-mail: rla@keleher-law.com

November 4, 1999

(00432-057)

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VIA FACSIMILE (505) 827-7177

Rand L. Carroll, Legal Counsel
New Mexico Oil Conservation Division
2040 South Pacheco
Santa Fe, New Mexico 87505

Re: Oil Conservation Commission Case No: 12, 033

Dear Counsel:

As you may be aware, Burlington Oil and Gas Resources installed three (3) wells last month at the Hampton 4M site. One of the new wells, MW14, revealed almost two (2) feet of free product. MW14 is located in the vicinity of former TPW-05 near the former Burlington tank battery.

I am enclosing a copy of a letter dated October 29, 1999 from Maureen Gannon of PNM to William Olson of the Oil Conservation Division. The enclosed letter outlines the most recent findings and test data related to the Hampton 4M site.

PNM believes that the confirmation of a significant amount of free product in the area of Burlington's operations is extremely significant. We also believe that the most recent test data showing increasing levels in down gradient wells is also significant. We wish to present this new evidence to the Oil Conservation Commission for consideration in the above-referenced proceeding. We anticipate that the new evidence will be submitted in the form of direct testimony of Maureen Gannon together with supporting exhibits showing the most recent sampling results and the location of new wells.

PNM will file a motion with the Commission requesting the opportunity to present this new evidence. The purpose of this letter is to inquire whether the

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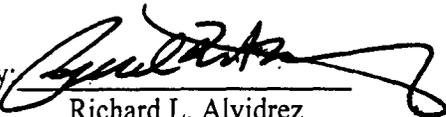
Running Horses © Gray Mercer 1989,
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submission of this additional evidence is opposed by your clients. In anticipation that your respective clients may wish to present testimony on this new evidence, I am very willing to discuss an agreed procedure to provide for responsive testimony from witnesses on behalf of your respective clients.

Please advise me by close of business on November 5, 1999, whether you will oppose PNM's Motion. If you have any questions, please don't hesitate to call.

Very truly yours,

KELEHER & McLEOD, P.A.

By: 
Richard L. Alvidrez

RLA/dlb
Enclosure
DAM0592

Public Service Company
of New Mexico
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Albuquerque, NM 87158

RECEIVED

October 29, 1999

OCT 01 1999



Mr. William Olson
Hydrogeologist
Oil Conservation Division
2040 So. Pacheco
Santa Fe, New Mexico 87505

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

RE: HAMPTON 4M WELL SITE THIRD QUARTER 1999 SAMPLING RESULTS

Dear Bill:

PNM herein provides the results of third quarter 1999 groundwater sampling activities at the Hampton 4M well site, and an analysis of present conditions and our recommendations for additional characterization and remediation work at the site.

PNM conducted groundwater sampling on October 21, 1999 which included three new groundwater monitoring wells recently installed on the well pad by Burlington Resources (Burlington). Burlington was present during sampling and obtained split samples from two of the ten wells now at the site. PNM measured water levels in all wells and collected groundwater samples for chemical analysis of BTEX using EPA method 8021B.

Figure 1 provides the locations of the three new monitoring wells, MW-14, MW-15 and MW-16, as well as all wells now in existence at the Hampton 4M. To our knowledge, Burlington has not surveyed in the new wells; thus, the locations shown in figure 1 are approximate. Burlington installed the new wells on October 13, 1999. MW-14 was drilled in the southeast corner of the well pad in the vicinity of the former TPW-7. Burlington installed MW-15 immediately downgradient of their separator fluids pit. MW-16, a 4-inch product recovery well, was installed along the eastern limits of Burlington's excavation conducted during the winter of 1998/1999.

Appendix A provides an historic account of all BTEX analytical results collected at the site, including those obtained as a result of the October 21, 1999 sampling event. The table includes the results from all wells (whether existing or removed) that have been installed throughout the course of the Hampton 4M remediation project. Table 2 below provides a summary of the most recent results, observations and trends in existing wells at the site.



**Figure 1: Hampton 4M Site Map
(Monitor Well Locations)**

Table 2. Summary of 10/22/99 Results and Observations

<i>Monitoring Well</i>	<i>Location</i>	<i>Summary</i>
MW-1	Upgradient, off well pad	Well not sampled; BTEX concentrations below WQCC standards between 10/30/97 & 07/12/99
MW-5	Off well pad, downgradient of seep	9,600 ppb benzene; 22,350 ppb BTEX (little change in benzene or BTEX since well installation 10/97; sheen noted for past three quarters)
MW-7	Off well pad, next to Williams pipeline; approx. 900 feet from well pad	260 ppb benzene; 375 ppb BTEX (100% increase in benzene, 44% increase in BTEX from 2 nd quarter 1999)
MW-9	Upgradient of PNM's former pit; along western boundary of well pad	320 ppb benzene; 320 ppb BTEX (little change from last quarter; sheen noted for first time)
MW-11	Furthest downgradient well (next to county road)	No contamination detected.
MW-12	In vicinity of MW-6, the former product recovery well	5600 ppb benzene; 9680 ppb BTEX (slight decrease in benzene and 28% decrease in BTEX from last sampling event of 8/99; sheen noted for 3 quarters since well installation);
MW-13	Just downgradient of Burlington's SE excavation to water	1600 ppb benzene, 1600 ppb BTEX (slight decrease from 8/99 sampling event)
MW-14	New well located on SE corner of well pad at location of Burlington tank battery	New well: 2' of free product measured during 10/99 sampling event; no sample taken
MW-15	Slightly downgradient of Burlington's existing separator pit	New well: no contamination detected
MW-16	4-inch well along eastern limits of Burlington's 12/98-1/99 excavation	New well: 214 ppb benzene; 637 ppb BTEX
Hydrocarbon Seep	Downgradient in arroyo off northwest edge of well pad	65 ppb benzene; 740 ppb BTEX (BTEX 63 ppb in 4/99-order of magnitude increase between 4/99 and 10/99); sheen is visible; black soil
TMP-1 (temporary well since 11/97)	Downgradient in arroyo midway between MW-5 and MW-7	1000 ppm benzene; 14210 ppm BTEX (no change in benzene since last sampling in 11/98 but BTEX has increased from 4504 ppm to 14210 ppm or over 200% since that time)

Of obvious significance is the presence of 2 feet of free phase product in MW-14. As indicated previously, this well is located in the southeast corner of the well pad very near the former location of TPW-7. A review of analytical results obtained from a groundwater sample taken from TPW-7 in June of 1997 shows benzene at 7000 ppb. As PNM has asserted all along, TMP-7 would most likely have shown free product contamination if it had been left in place for a sufficient period of time. Therefore, it is not surprising that free product is present in MW-14. Clearly, Burlington's recent remedial actions, which concentrated in the area of PNM's former pit, were not effective in eliminating continuing hydrocarbon sources on site. The occurrence of a significant level of free phase product in MW-14 confirms that a continuing release of free product exists or a large volume of free product is still residing in the vadose zone near Burlington's operations and substantially upgradient of PNM's former operations.

The newly-acquired data also reveal an upward trend of hydrocarbon concentrations in the seep area and wells downgradient of the well pad. As PNM has previously expressed, the disruption caused by the massive Burlington excavation has probably resulted in a renewed mobilization or "pulse" of contaminants. The offsite migration of contaminants continues, thereby indicating that the source of contamination has not been stopped or remediated and the natural attenuation processes are not able to remove contaminants as quickly as they are being released.

As well demonstrated by Burlington's recent remedial attempt, these ongoing hydrocarbon sources will continue to contribute free phase and dissolved phase contamination to downgradient areas without proper characterization and remediation. PNM stated in its testimony in Case No. 12033 before the Oil Conservation Commission in August 1999 that our theory regarding a continuing release or the presence of a large volume of free product at the Hampton 4M could be supported through three key indicators (Gannon 1999). These were: (1) The appearance of free product in either PNM's source well or the **monitoring wells upgradient of PNM's former operations at the site**; (2) An upward trend in dissolved phase contamination over time in those wells; or (3) A shift in the BTEX ratios where the ratio of benzene to other constituents is increasing. A substantial quantity of free product is now appearing in MW-14, a monitoring well significantly upgradient of PNM's operations and located in the area of Burlington's former tank battery and suspected pit. PNM believes that over time the wells between PNM's former activities and Burlington's activities will begin to show consistent upward trends in both dissolved phase contamination and the benzene concentrations. We also fully expect to see a recontamination of groundwater and overlying soils in the area of our former pit, unless the upgradient contamination is intercepted by an appropriately placed recovery well or wells.

In order to closely monitor, characterize and successfully remediate the free product release from Burlington's operations at the Hampton 4M, additional groundwater monitoring wells are needed. Since free product was detected almost immediately in MW-14, PNM suggests that Burlington install a new groundwater monitoring well in the location of TPW-5. As you recall, TPW-5 was another temporary well that also contained extremely high concentrations of dissolved phase hydrocarbons (5800 ppb benzene, 29260 ppb BTEX) and most likely would have seen free product had it been left in place. PNM recommends that the new well be installed as a 4-inch product recovery well so Burlington can immediately commence free product recovery. (MW-16 may prove ineffective as a product recovery well because it is not located in alluvium. From PNM's on-site observations, the well was drilled in sandstone to an approximate depth of 15 feet. PNM does not have a record of the well log and Burlington is better equipped to confirm MW-16's location and lithology).

PNM recommends that another well or wells be installed along the eastern edge of the well pad between MW-13 and the former MW-8. MW-8 contained free phase product during the last several quarters of its existence. Historic information and new data strongly suggest that free phase product accumulates on the east end of the well pad adjacent to bedrock there, and that the product continues to move along the east edge from the area of Burlington's operations to downgradient areas. Additional wells are also needed to monitor the northwest component of the groundwater gradient. PNM recommends that this well or wells be located on the well pad to the northwest of Burlington's former tank battery.

PNM has no existing source of contamination on site. Our pit was remediated on two separate occasions- first by PNM in April of 1996 and again by Burlington during the winter of 1998/1999. We ceased discharge from our dehydrators in April 1996 and have conducted no other operations or activities on site other than those related to our investigation and remediation program. The appearance of free product in the southeast corner of the well pad and the upward trend of BTEX concentrations in downgradient wells and the seep area are unquestionably the result of Burlington's past and possibly present operations. As PNM has contended for the past two years and as is now clearly demonstrated by the presence of free product in MW-14, significant upgradient sources remain in place beneath Burlington's equipment and operations. It is past time for Burlington to take responsibility for these sources and apply appropriate methodologies to characterize and clean up the contamination from their operations at this site.

Pursuant to PNM's Groundwater Management Plan, PNM will continue to monitor the site and conduct quarterly groundwater sampling. If significant changes occur, particularly in wells downgradient of the well pad, I will contact you immediately. In the meantime, if you have any questions, please call me at (505) 241-2974.

Sincerely,



Maureen Gannon
Project Manager

Attachment

cc: Colin Adams, PNM
Richard Alvidrez, Keleher & McLeod
Ingrid Deklau, WFS
Denny Foust, OCD-Aztec Office
Ed Hasely, Burlington Resources
Toni Ristau, PNM
Bill VonDrehle, WFS

Appendix A: Analytical Results Summary – Hampton 4M

ANALYTICAL RESULTS SUMMARY - Hampton 4M

Well	Sample Notes	Date Sampled	GW Elev. (ft,msl)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)	Total BTEX (ppb)	Product Thickness (ft)
Existing Monitor Well Network									
MW-1		10/30/97	6110.10	2.4	2.3	<0.2	1.1	5.8	--
Upgradient well		01/12/98	6107.47	4.3	3.3	0.2	1.0	8.8	--
		04/14/98	6107.52	1.0	1.3	<0.5	<0.5	2.3	--
		07/01/98	6107.13	1.3	1.0	<0.5	3.7	6.0	--
		10/05/98	6106.09	<1.0	<1.0	<1.0	<3.0	<6.0	--
		11/09/98	6107.40	NA	NA	NA	NA	NA	--
		01/27/99	6107.51	0.8	0.9	<0.5	<1.5	1.7	--
		05/05/99	6106.76	NA	NA	NA	NA	NA	--
		07/12/99	6106.55	1.1	0.5	<0.5	<0.5	1.6	--
		08/17/99	6106.47	NA	NA	NA	NA	NA	--
		10/21/99	6106.60	NA	NA	NA	NA	NA	--
MW-5		10/29/97	6075.23	5934.0	10024.0	709.0	8188.0	24855.0	--
Downgradient along wash		1/12/98	6075.09	7521.0	11213.0	779.0	8436.0	27949.0	--
		4/14/98	6075.33	7000.0	11000.0	720.0	7800.0	26520.0	--
		7/1/98	6075.43	6500.0	10000.0	780.0	7500.0	24780.0	--
		10/5/98	6074.48	6800.0	8400.0	740.0	6900.0	22840.0	--
		11/9/98	6074.89	6200.0	8200.0	670.0	6500.0	21570.0	--
		1/27/99	6074.87	6400.0	8900.0	660.0	6700.0	22660.0	--
		5/5/99	6075.23	6800.0	9800.0	900.0	7800.0	25300.0	--
	(Burlington)	5/26/99	NR	6600.0	10000.0	650.0	8100.0	25350.0	--
		7/12/99	6075.60	6300.0	10000.0	750.0	8800.0	25850.0	--
		8/17/99	6076.23	5400.0	9800.0	670.0	7500.0	23370.0	Sheen
	(Eco. Split)	8/17/99	6076.23	5900.0	8900.0	500.0	6200.0	21500.0	Sheen
	(prelim.)	10/21/99	6076.17	5200.0	9600.0	650.0	6900.0	22350.0	Sheen
MW-7		1/12/98	6047.12	780.0	246.0	258.0	3942.0	5226.0	--
Downgradient along wash; adj pipeline		04/14/98	6047.09	820.0	340.0	190.0	2450.0	3800.0	--
		07/01/98	6047.03	950.0	440.0	200.0	3020.0	4610.0	--
		10/05/98	6046.77	1800.0	930.0	180.0	1530.0	4240.0	--
		11/09/98	6046.77	1800.0	1000.0	160.0	1240.0	4200.0	--
		01/27/99	6046.77	2100.0	1000.0	160.0	1050.0	4310.0	--
		05/05/99	6046.44	210.0	2.9	30.0	147.0	389.9	--
	(Burlington)	05/26/99	--	190.0	7.4	32.0	150.0	379.4	--
		7/12/99	6046.04	130.0	7.2	22.0	101.3	260.5	--
		8/17/99	6046.61	NA	NA	NA	NA	NA	--
	(prelim.)	10/21/99	6047.47	260.0	11.0	15.0	89.0	375.0	--
MW-9		7/1/98	6100.12	12.0	0.2	0.6	1.3	14.1	--
Upgradient PNM, crossgradient Burlington		10/5/98	6100.03	16.0	<1.0	1.1	2.1	19.2	--
		11/9/98	6100.40	12.0	<1.0	<1.0	<3.0	12.0	--
		1/27/99	6099.23	0.8	<0.5	<0.5	2.2	3.0	--
		5/5/99	6099.92	73.0	<0.5	2.2	1.6	76.8	--
		5/26/99	6100.07	120.0	<0.5	2.5	1.8	124.3	--
	(Burlington)	5/26/99	--	120.0	<0.5	1.6	0.8	122.4	--
		7/12/99	6100.18	140.0	<0.5	1.5	<0.5	141.5	--
	(prelim.)	8/17/99	6100.92	290.0	<0.5	0.6	<1.5	290.6	--
	(prelim.)	10/21/99	6100.73	320.0	<0.5	0.6	<1.5	320.0	Sheen
MW-11		1/27/99	5958.60	<0.5	2.5	0.7	13.1	16.3	--
Downgradient well - 1800', near road		5/5/99	5958.65	<0.5	<0.5	<0.5	<1.5	0.0	--
	(Burlington)	5/26/99	--	0.8	1.7	<0.5	1.1	3.6	--
		7/12/99	5958.27	NA	NA	NA	NA	NA	--
		8/17/99	5958.62	NA	NA	NA	NA	NA	--
	(prelim.)	10/21/99	5958.90	<0.5	<0.5	<0.5	<1.5	<3.0	--
MW-12		5/5/99	--	790.0	840.0	260.0	2880.0	4770.0	--
New source well @ MW-6	(Soil sample)	5/5/99	--	1200.0	13000.0	5100.0	68000.0	87300.0	TPH = 2350 mg/kg
		5/26/99	6099.45	1900.0	820.0	200.0	1720.0	4640.0	Sheen
	(Burlington)	5/26/99	--	1800.0	640.0	160.0	1600.0	4200.0	--
		7/12/99	6099.63	4500.0	760.0	400.0	3100.0	8760.0	Sheen
	(duplicate)	7/12/99	--	4600.0	730.0	390.0	3080.0	8800.0	Sheen
		8/17/99	6100.56	4800.0	5000.0	320.0	3390.0	13510.0	Sheen
	(Eco. Split)	8/17/99	6100.56	5900.0	6100.0	390.0	4100.0	16490.0	Sheen
	(prelim.)	10/21/99	6100.17	5600.0	650.0	540.0	2890.0	9680.0	Sheen
MW-13		5/26/99	--	1800.0	25.0	12.0	35.3	1872.3	--
BROG well between pit & MW-4	(Burlington)	5/26/99	--	2100.0	22.0	8.8	29.0	2159.8	--
		7/12/99	6104.3	2100.0	14.0	9.9	10.9	2134.8	--
		8/17/99	6104.7	1900.0	<10	<10	<30	1900.0	--
	(prelim.)	10/21/99	6104.71	1600.0	<10	<10	<30	1600.0	--
MW-14		10/21/99	--	not sampled - 2 feet of free product depth to water 22.14, depth to product 20.22 (no datum surveyed yet)					1.92
BROG well near TPW07	--								

ANALYTICAL RESULTS SUMMARY - Hampton 4M

Well	Sample Notes	Date Sampled	GW Elev. (ft.msl)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)	Total BTEX (ppb)	Product Thickness (ft) / TPH
MW-15	(prelim.)	10/21/99	--	<0.5	1.2	<0.5	1.5	2.7	--
			BROG well near separator pit depth to water 17.84 (no datum surveyed yet)						
MW-16	(prelim.)	10/21/99	--	220.0	300.0	5.4	142.0	667.4	--
			Recovery well near excavation (Burlington) 10/21/99 depth to water 14.93 (no datum surveyed yet)						
TMP-1		11/11/97	--	2171.0	4185.0	190.0	2856.0	9402.0	--
			Temporary well; wash midway MW-5, MW-7 7/1/98 6057.61 2000.0 4300.0 180.0 2700.0 9180.0						
			11/9/98 -- 980.0 1900.0 84.0 1540.0 4504.0						
			(prelim.) 10/21/99 6058.11 1000.0 3100.0 410.0 9700.0 14210.0						
<u>Destroyed Monitor Well Network Points</u>									
MW-2		12/16/96	--	3840.0	7960.0	896.0	7920.0	20616.0	NM
			PNM drip pit well 02/04/97 -- NA NA NA NA NA 4.40						
			08/27/97 -- NA NA NA NA NA 4.75						
			10/29/97 -- NA NA NA NA NA 4.58						
			01/12/98 -- NA NA NA NA NA 4.41						
			04/14/98 -- NA NA NA NA NA 2.59						
			07/01/98 -- NA NA NA NA NA 2.25						
			10/05/98 -- NA NA NA NA NA 2.01						
			11/09/98 -- NA NA NA NA NA 2.15						
			Well destroyed during Burlington excavation						
MW-3		1/31/97	--	<0.2	<0.2	<0.2	<0.2	<0.2	--
			Up & cross-gradient to PNM 2/4/97 6101.06 NA NA NA NA NA --						
			5/5/97 -- NA NA NA NA NA --						
			(Burlington) 10/29/97 6101.19 <0.2 <0.2 <0.2 <0.2 <0.2 --						
			1/12/98 6101.11 <0.2 <0.2 <0.2 <0.2 <0.2 --						
			4/14/98 6100.97 <0.5 <0.5 <0.5 <0.5 <0.5 --						
			7/1/98 6101.14 0.03 JB 0.05 JB <0.5 <0.5 0.08 JB --						
			10/5/98 6100.57 <1.0 <1.0 <1.0 <3.0 <6.0 --						
			11/9/98 6100.89 <1.0 <1.0 <1.0 <3.0 <6.0 --						
			Well destroyed during Burlington excavation						
MW-4		1/31/97	--	811.7	1420.5	31.0	388.1	2651.3	--
			Upgradient PNM; downgradient Burlington 2/4/97 6106.16 NA NA NA NA NA --						
			(Burlington) 5/1/97 -- 1162.0 1797.0 41.0 486.0 3486.0 --						
			8/27/97 6106.87 NA NA NA NA NA --						
			10/29/97 6106.73 NA NA NA NA NA --						
			1/12/98 6105.88 1251.0 6.0 82.0 24.0 1363.0 --						
			4/14/98 6105.93 1100.0 7.2 28.0 12.0 1147.2 --						
			7/1/98 6106.14 1400.0 50.0 120.0 124.0 1694.0 --						
			10/5/98 -- NA NA NA NA NA 0.63						
			11/9/98 -- NA NA NA NA NA 0.26						
			1/27/99 -- NA NA NA NA NA 0.40						
			Well destroyed during Burlington excavation						
MW-6		11/12/97	--	NA	NA	NA	NA	NA	4.80
			PNM drip pit/product recovery 1/12/98 -- NA NA NA NA NA 4.71						
			4/14/98 -- NA NA NA NA NA pumping						
			7/1/98 -- NA NA NA NA NA pumping						
			10/5/98 -- NA NA NA NA NA pumping						
			11/9/98 -- NA NA NA NA NA 2.27						
			Well destroyed during Burlington excavation						
MW-8		1/12/98	6104.71	6410.0	17301.0	693.0	9397.0	33801.0	Sheen
			Upgradient PNM; downgradient Burlington 4/14/98 6104.41 NA NA NA NA NA 0.37						
			7/1/98 6105.14 NA NA NA NA NA 0.37						
			10/5/98 6104.54 NA NA NA NA NA 0.13						
			11/9/98 6104.77 NA NA NA NA NA 0.02						
			Well destroyed during Burlington excavation						
MW-10		7/1/98	--	NA	NA	NA	NA	NA	2.00
			Upgradient PNM, downgradient Burlington 10/5/98 -- NA NA NA NA NA 1.91						
			11/9/98 -- NA NA NA NA NA 2.10						
			Well destroyed during Burlington excavation						

ANALYTICAL RESULTS SUMMARY - Hampton 4M

Sample Point	Sample Notes	Date Sampled	GW Elev. (ft,msl)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)	Total BTEX (ppb)	Product Thickness (ft) / TPH
Other Sampling Points									
EB WELL		11/25/97	5959.74	<0.2	<0.2	<0.2	<0.2	<0.2	--
Downgradient private well		10/21/99	5960.93	NA	NA	NA	NA	NA	--
Burlington Excavation	Surface Water	2/11/98	--	1800	1700	<25	1420	4920	rainbow
(Fall 1998 near former PNM pit)	Surface Water	7/1/98	--	10.0	0.4	0.1	1.5	12.0	rainbow
	Surface Water	11/9/98	--	2.9	16.0	<1	18.1	37.0	--
	Soil - @ water	7/1/98	--	36000.0	560000.0	100000.0	1430000.0	2126000.0	--
Hydrocarbon Seep		7/1/98	6098.72	1.6	0.7	0.6	0.36	3.26	rainbow
(Surface Water)		4/14/99	--	40.0	2.2	2.1	19.00	63.30	rainbow
	(prelim.)	10/21/99	--	65.0	230.0	11.0	434.00	740.00	rainbow
TPW-01	Water	6/5/97	--	20.0	<1	<1	<1	20.0	--
(Temporary Burlington well point)	Soil	6/5/97	25-26'	<1	<1	<1	<1	<1	TPH <10 mg/kg
TPW-02	Water	6/5/97	Product	NA	NA	NA	NA	NA	NM
(Temporary Burlington well point)	Soil	6/5/97	25-26'	2000.0	4600.0	14000.0	39000.0	59600.0	TPH = 600 mg/kg
TPW-03	Water	6/5/97	Dry	NA	NA	NA	NA	NA	--
(Temporary Burlington well point)	Soil	6/5/97	25-26'	<1	<1	<1	<1	<1	TPH = 25 mg/kg
TPW-04	Water	6/6/97	--	2000.0	3100.0	57.0	810.0	5967.0	--
(Temporary Burlington well point)	Soil	6/6/97	20-21.5'	28.0	3.4	76.0	40.0	147.4	TPH = 52 mg/kg
TPW-05	Water	6/6/97	--	5800.0	460.0	16000.0	7000.0	29260.0	--
(Temporary Burlington well point)	Soil	6/6/97	15-16'	4000.0	10000.0	4500.0	28000.0	46500.0	TPH = 61 mg/kg
TPW-06	Water	6/6/97	--	1600.0	3400.0	48.0	690.0	5738.0	--
(Temporary Burlington well point)	Soil	6/6/97	16-16.5'	<1	<1	2.8	4.8	7.6	TPH = 11 mg/kg
TPW-07	Water	6/6/97	--	5300.0	18000.0	620.0	9300.0	33220.0	--
(Temporary Burlington well point)	Soil	6/6/97	15-16'	7000.0	74000.0	20000.0	170000.0	271000.0	TPH = 250 mg/kg
SB-1 (near BROG excavation)	Soil	10/8/98	15-16'	335.0	697.0	181.0	1808.0	3021.0	TPH = 26.4 mg/kg
(Soil boring)									
SB-2 (near PNM former pit)	Soil	10/8/98	15'	1950.0	9960.0	2460.0	22590.0	36960.0	TPH = 194 mg/kg
(Soil boring)									
TH-1 (PNM test hole along wash)	Soil	11/11/97	12.7'	NA	NA	NA	NA	NA	PID = 1412 ppm
TH-2 (PNM test hole along wash)	Soil	11/11/97	14.4'	NA	NA	NA	NA	NA	PID = 1357 ppm
TH-3 (PNM test hole along wash)	Soil	11/11/97	16.5'	NA	NA	NA	NA	NA	PID = 0 ppm
TH-4 (PNM test hole along wash)	Soil	11/11/97	15'	NA	NA	NA	NA	NA	PID = 279 ppm
TH-5 (PNM test hole along wash)	Soil	11/11/97	14.5'	NA	NA	NA	NA	NA	PID - 1211 ppm
TH-6 (PNM test hole along wash)	Soil	11/11/97	16'	NA	NA	NA	NA	NA	PID = 0 ppm
TH-7 (temporary well along wash)	Water	11/11/97	NA	2171.0	4185.0	190.0	2856.0	170000.0	PID = 279 ppm
TH-8 (PNM test hole along wash)	Soil	11/12/97	14'	NA	NA	NA	NA	NA	PID = 0 ppm

Notes:

All samples are water, and sampled by PNM, unless otherwise noted in "Sample Notes" column.
 Analytical results for benzene, toluene, xylene, ethylbenzene, and BTEX given in ppb (for water, ug/L, and for soil, ug/kg).
 "Product Thickness (ft) / TPH" column gives product thickness (ft) in wells. For soil samples, analytical results for TPH given in mg/kg or PID results given in ppm.
 J = Analyte detected below Practical Quantitation Limit NM = Not measured -- = Not measured or not analyzed,
 B = Analyte detected in the associated Method Blank NA = Not analyzed or not calculated (free product)



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

<input checked="" type="checkbox"/> Telephone	<input type="checkbox"/> Personal	Time 1111 hrs.	Date 10/22/99
---	-----------------------------------	----------------	---------------

<u>Originating Party</u>	<u>Other Parties</u>
Maureen Cannon - PNM	Bill Olson - OCD vice mail

Subject
 Hampton 4M

Discussion
 Sampled new monitor wells
 2' at product in new monitor well south of
 Burlington
 PNM will file to reopen hearing.

Conclusions or Agreements

Distribution

Signed *Bill Olson*

Public Service Company
of New Mexico
Alvarado Square MS 0408
Albuquerque, NM 87158

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OCT 0 6 1999

September 30, 1999

Mr. Ed Hasely
Burlington Resources
3535 E. 30th St.
Farmington, New Mexico 87402-8801

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION



**RE: RESPONSE TO BURLINGTON LETTER PROPOSING COST SHARING FOR
NEW WELLS AT THE HAMPTON 4M SITE**

Dear Ed:

This letter is in response to your letter of September 21, 1999, requesting that PNM reconsider its stance of "non-participation" and work cooperatively with Burlington Resources (Burlington) in sharing the cost and installation of three monitoring wells to be installed at the Hampton 4M as directed by the OCD.

At the outset, PNM must take issue with your assertion that PNM is a "non-participant" and is unwilling to share in the installation of monitoring wells. The record is clear that since 1996 through November of 1998, PNM took the lead in the investigative and remediation efforts at the Hampton 4M site and surrounding area. During this timeframe, PNM paid for the installation of several monitoring wells, and also provided oversight; conducted sampling and well surveying; obtained laboratory analyses of samples; and analyzed and reported data for the OCD. PNM also freely shared its data and analyses with Burlington, despite the fact that Burlington did not pay any of the associated costs.

Our concern regarding any cost sharing agreement on future well installations at the Hampton 4M revolves around equity. To date, PNM has installed and paid for nine monitoring wells at the site. Four of the wells installed by PNM were upgradient of PNM's former operation (MW-1, -3, -4 and -8). Another well, MW-2, was installed as a source well in the location of PNM's former pit. This well was later replaced with MW-12 after Burlington destroyed MW-2 during their excavation activities in December of 1998. Another well, MW-6, was installed as a 4-inch well with a \$3,000 product recovery pump system that, for the 10 months it was in operation prior to Burlington's decision to remove it, recovered more than 1,000 gallons of free-phase floating hydrocarbon product from groundwater beneath the **entire** well pad site. PNM also installed two downgradient monitoring wells, MW-5 and MW-7, and a temporary well, TMP-1, and performed the only detailed hydrogeological characterization of the site that has been done to date. In addition, PNM obtained access to and performed sampling of the Everett Burton well (private well located offsite). This event took several hours to perform and required the added expense of dedicated equipment.

As noted above, PNM has borne the cost of almost all monitoring (sampling and contract laboratory services) on and off the site, including providing an environmental technician and sampling equipment for well sampling events that produced data that Burlington has used to meet its site characterization and reporting obligations to the OCD. PNM also conducted a survey of neighboring property owners to confirm that they had access to the municipal water supply in the

area. By contrast, Burlington has installed very few wells and has performed minimal sampling. Also, Burlington destroyed five of PNM's wells during their recent excavation work. These wells were extremely important in understanding the characteristics and dynamics of groundwater and contaminant flow beneath the site.

As you know, PNM previously offered not only to cost-share for work at this site on a going-forward basis, but to pay a portion of Burlington's prior costs as well (including a portion of their remediation costs) if Burlington would agree to specific criteria establishing the effectiveness of Burlington's remediation efforts. Burlington refused PNM's offer of April 1999 to share the costs of the work on a going-forward basis or to replace any of the monitoring well network that Burlington destroyed.

We agree that the work at this site should proceed without regard to cost apportionment issues, as this is the position that PNM has always taken at the site. Because PNM has already installed 9 wells to date, including the five that were destroyed by Burlington, we support Burlington's decision to proceed with installation of the additional wells requested by the OCD. As has been the case when PNM has taken the lead in well installation and other investigations, we expect that Burlington will provide data and other results to PNM from this effort so that PNM may include the data in its analysis of conditions at the site, reporting of the results to the OCD, etc. Of course, PNM will, as PNM has to date, continue to perform ongoing activities related to PNM's groundwater management plan, such as oversight, sampling/analysis, data analysis, and reporting to the OCD.

We look forward to participating in the well installation and sampling process as Burlington moves forward with this work. Please contact us as soon as you have the well installation work scheduled, as we wish to have a representative onsite, and will likely also take samples or split samples with Burlington at that time. In addition, PNM is willing to discuss an appropriate written cost sharing agreement relating to this site and will be very happy to sit down with you and discuss the details. If you would like, I will send you a more detailed analysis of the expenses incurred by PNM to date to facilitate such a discussion, provided, of course, that you will supply similar documentation to PNM for Burlington's costs.

If you have any questions, please call me at (505) 241-2974.

Sincerely,



Maureen Gannon
Project Manager

cc: Richard Alvidrez, Keleher & McLeod
Denny Foust, OCD
Bill Olson, OCD
Ron Johnson, PNM
Toni Ristau, PNM
Colin Adams, PNM

FAX COVER SHEET



**Public Service Company of New Mexico
Environmental Services Dept.
Alvarado Square - MS 0408
Albuquerque, NM 87158**

Date: August 25, 1999

To:	Fax #:
William Carr	(505) 983-6043
Rand Carroll	(505) 827-8177

From: Maureen Gannon

Telephone No. (505) 241-2974

Fax Telephone No. (505) 241-2340

Number of pages being transmitted including cover sheet: 4

Message:

Attached is an update of Exhibit 48 as part of PNM's pre-filed testimony on the Hampton 4M.

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Table 1: SUMMARY OF ANALYTICAL RESULTS
GROUNDWATER MONITORING DATA - collected by PNM, except as noted

Well	Date Sampled	GWEL (ft,msl)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	Total BTEX (ug/L)	Product Thickness (ft)	
MW-1 Upgradient well MP = 6149.42	10/30/97	6110.10	2.4	2.3	<0.2	1.1	5.8	--	
	01/12/98	6107.47	4.3	3.3	0.2	1.0	8.8	--	
	04/14/98	6107.52	1.0	1.3	<0.5	<0.5	2.3	--	
	07/01/98	6107.13	1.3	1.0	<0.5	3.7	6.0	--	
	10/05/98	6106.09	<1.0	<1.0	<1.0	<3.0	<6.0	--	
	11/09/98	6107.40	NA	NA	NA	NA	NA	--	
	01/27/99	6107.51	0.8	0.9	<0.5	<1.5	1.7	--	
	05/05/99	6106.78	NA	NA	NA	NA	NA	--	
	07/12/99	6106.55	1.1	0.5	<0.5	<0.5	1.6	--	
	08/17/99	6106.47	NA	NA	NA	NA	NA	--	
MW-2 PNM drip pit well MP = 6122.29	12/16/96	NM	3840.0	7960.0	896.0	7920.0	20616.0	NM	
	02/04/97	NC	NA	NA	NA	NA	NA	4.40	
	08/27/97	NC	NA	NA	NA	NA	NA	4.75	
	10/29/97	NC	NA	NA	NA	NA	NA	4.58	
	01/12/98	NC	NA	NA	NA	NA	NA	4.41	
	04/14/98	NC	NA	NA	NA	NA	NA	2.59	
	07/01/98	NC	NA	NA	NA	NA	NA	2.25	
	10/05/98	NC	NA	NA	NA	NA	NA	2.01	
	11/09/98	NC	NA	NA	NA	NA	NA	2.15	
	MW-3 Up & cross-gradient to PNM MP = 6121.49 (Burlington)	1/31/97	NM	<0.2	<0.2	<0.2	<0.2	<0.2	--
2/4/97		6101.06	NA	NA	NA	NA	NA	--	
5/5/97		NM	NA	NA	NA	NA	NA	--	
10/29/97		6101.19	<0.2	<0.2	<0.2	<0.2	<0.2	--	
1/12/98		6101.11	<0.2	<0.2	<0.2	<0.2	<0.2	--	
4/14/98		6100.97	<0.5	<0.5	<0.5	<0.5	<0.5	--	
7/1/98		6101.14	0.03 JB	0.05 JB	<0.5	<0.5	0.08 JB	--	
10/5/98		6100.57	<1.0	<1.0	<1.0	<3.0	<6.0	--	
11/9/98		6100.89	<1.0	<1.0	<1.0	<3.0	<6.0	--	
MW-4 Upgradient PNM; downgradient Burlington MP = 6123.105		1/31/97	NM	811.7	1420.5	31.0	388.1	2651.3	--
	2/4/97	6106.16	NA	NA	NA	NA	NA	--	
	5/1/97	NM	1162.0	1797.0	41.0	486.0	3486.0	--	
	8/27/97	6106.87	NA	NA	NA	NA	NA	--	
	10/29/97	6106.73	NA	NA	NA	NA	NA	--	
	1/12/98	6105.88	1251.0	6.0	82.0	24.0	1363.0	--	
	4/14/98	6105.93	1100.0	7.2	28.0	12.0	1147.2	--	
	7/1/98	6106.14	1400.0	50.0	120.0	124.0	1694.0	--	
	10/5/98	NC	NA	NA	NA	NA	NA	0.63	
	11/9/98	NC	NA	NA	NA	NA	NA	0.26	
1/27/99	NC	NA	NA	NA	NA	NA	0.40		
MW-5 Downgradient along wash MP = 6090.825	10/29/97	6075.23	5934.0	10024.0	709.0	8188.0	24855.0	--	
	1/12/98	6075.09	7521.0	11213.0	779.0	8436.0	27949.0	--	
	4/14/98	6075.33	7000.0	11000.0	720.0	7800.0	26520.0	--	
	7/1/98	6075.43	6500.0	10000.0	780.0	7500.0	24780.0	--	
	10/5/98	6074.48	6800.0	8400.0	740.0	6900.0	22840.0	--	
	11/9/98	6074.89	6200.0	8200.0	670.0	6500.0	21570.0	--	
	1/27/99	6074.87	6400.0	8900.0	660.0	6700.0	22660.0	--	
	5/5/99	6075.23	6800.0	9800.0	900.0	7800.0	25300.0	--	
	Burlington	5/26/99	NR	6600.0	10000.0	650.0	8100.0	25350.0	--
	7/12/99	6075.60	6300.0	10000.0	750.0	8800.0	25850.0	--	
8/17/99	6076.23	5400.0	9800.0	670.0	7500.0	23370.0	Sheen		
MW-6 PNM drip pit/product recovery MP = 6124.87	11/12/97	NC	NA	NA	NA	NA	NA	4.80	
	1/12/98	NC	NA	NA	NA	NA	NA	4.71	
	4/14/98	NM	NA	NA	NA	NA	NA	pumping	
	7/1/98	NC	NA	NA	NA	NA	NA	pumping	
	10/5/98	NC	NA	NA	NA	NA	NA	pumping	
	11/9/98	NC	NA	NA	NA	NA	NA	2.27	
MW-7 Downgradient along wash; adj pipeline MP = 6066.91	1/12/98	6047.12	780.0	246.0	258.0	3942.0	5226.0	--	
	04/14/98	6047.09	820.0	340.0	190.0	2450.0	3800.0	--	
	07/01/98	6047.03	950.0	440.0	200.0	3020.0	4610.0	--	
	10/05/98	6046.77	1600.0	930.0	180.0	1530.0	4240.0	--	
	11/09/98	6046.77	1800.0	1000.0	160.0	1240.0	4200.0	--	
	01/27/99	6046.77	2100.0	1000.0	160.0	1050.0	4310.0	--	
	05/05/99	6046.44	210.0	2.9	30.0	147.0	389.9	--	
	Burlington	05/26/99	NR	190.0	7.4	32.0	150.0	379.4	--
	7/12/99	6046.04	130.0	7.2	22.0	101.3	260.5	--	
	8/17/99	6046.61	NA	NA	NA	NA	NA	--	
MW-8 Upgradient PNM; downgradient Burlington MP = 6122.971	1/12/98	6104.71	6410.0	17301.0	693.0	9397.0	33801.0	Sheen	
	4/14/98	6104.41	NA	NA	NA	NA	NA	0.37	
	7/1/98	6105.14	NA	NA	NA	NA	NA	0.37	
	10/5/98	6104.54	NA	NA	NA	NA	NA	0.13	
	11/9/98	6104.77	NA	NA	NA	NA	NA	0.02	

Notes: J = Analyte detected below Practical Quantitation Limit NM = Not measured NC = Not Calculated (prod.)
B = Analyte detected in the associated Method Blank NA = Not analyzed

Table 1: SUMMARY OF ANALYTICAL RESULTS

Sample	Matrix	Date Sampled	GWEL (ft, msl)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)	Total BTEX (ppb)	Product Thickness (ft)
MW-9 Upgradient PNM, crossgradient Burlington MP = 6122.515	Burlington	7/1/98	6100.12	12.0	0.2	0.6	1.3	14.1	--
		10/5/98	6100.03	16.0	<1.0	1.1	2.1	19.2	--
		11/9/98	6100.40	12.0	<1.0	<1.0	<3.0	12.0	--
		1/27/99	6099.23	0.8	<0.5	<0.5	2.2	3.0	--
		5/5/99	6099.92	73.0	<0.5	2.2	1.6	76.8	--
		5/26/99	6100.07	120.0	<0.5	2.5	1.8	124.3	--
		5/26/99	NR	120.0	<0.5	1.6	0.8	122.4	--
		7/12/99	6100.18	140.0	<0.5	1.5	<0.5	141.5	--
		8/17/99	6100.92	290.0	<0.5	0.6	<1.5	290.6	--
MW-10 Upgradient PNM, downgradient Burlington MP = 6122.5	Burlington	7/1/98	NC	NA	NA	NA	NA	NA	2.00
		10/5/98	NC	NA	NA	NA	NA	NA	1.91
		11/9/98	NC	NA	NA	NA	NA	NA	2.10
MW-11 Downgradient well - 1800', near road 6015.75 Burlington	Burlington	1/27/99	5958.60	<0.5	2.5	0.7	13.1	16.3	--
		5/5/99	5958.65	<0.5	<0.5	<0.5	<1.5	0.0	--
		5/26/99	NR	0.8	1.7	<0.5	1.1	3.6	--
		7/12/99	5958.27	NA	NA	NA	NA	NA	--
		8/17/99	5958.62	NA	NA	NA	NA	NA	--
MW-12 (new source well @ MW-6) SOIL sample TPH (ppm) 2350 6109.02 Burlington duplicate	Burlington	5/5/99		790.0	840.0	260.0	2880.0	4770.0	--
		5/5/99		1200	13000	5100	68000	87300.0	--
		5/26/99	6099.45	1900	820	200	1720	4640.0	Sheen
		5/26/99		1800	640	160	1600	4200.0	--
		7/12/99	6099.63	4500	760	400	3100	8760.0	Sheen
		7/12/99		4600	730	390	3080	8800.0	Sheen
		8/17/99	6100.56	4800	5000	320	3390	13510.0	Sheen
		8/17/99							
MW-13 BROG well between pit & MW-4 Burlington 6122.76	Burlington	5/26/99	--	1800.0	25.0	12.0	35.3	1872.3	--
		5/26/99	--	2100	22	8.8	29	2159.8	--
		7/12/99	6104.3	2100	14	9.9	10.9	2134.8	--
		8/17/99	6104.7	1900	<10	<10	<30	1900.0	--
TMP-1 Temporary well; wash midway MW-5, MW-7 MP = 6076.48	Burlington	11/11/97	NM	2171.0	4185.0	190.0	2856.0	9402.0	--
		7/1/98	6057.81	2000.0	4300.0	180.0	2700.0	9180.0	--
		11/9/98	NM	980.0	1900.0	84.0	1540.0	4504.0	--
EB WELL Downgradient private well MP = 6028.64	Burlington	11/25/97	5959.74	<0.2	<0.2	<0.2	<0.2	<0.2	--
Burlington Excavation	Surface Water	2/11/98	15'	1800	1700	<25	1420	4920	rainbow
	Surface Water	7/1/98	6108.26	10.0	0.4	0.1	1.5	12.0	rainbow
	Surface Water	11/9/98	NM	2.9	16.0	<1	18.1	37.0	--
	Soil - @ water	7/1/98	NM	36000.0	560000.0	100000.0	1430000.0	2126000.0	--
Hydrocarbon Seep	Surface Water	7/1/98	6098.72	1.6	0.7	0.6	0.36	3.26	rainbow
	Surface Water	4/14/99		40.0	2.2	2.1	19.00	63.30	rainbow
Burlington Temporary Monitoring Well Sampling									
Sample	Matrix	Date Sampled	Depth (ft)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)	Total BTEX (ppb)	TPH (mg/Kg)
TPW-01	Water	6/5/97		20.0	<1	<1	<1	20.0	NA
	Soil		25-26'	<1	<1	<1	<1	<1	<10
TPW-02	Water	6/5/97	Product	NA	NA	NA	NA	NA	NA
	Soil		25-26'	2000.0	4600.0	14000.0	39000.0	59600.0	600.0
TPW-03	Water	6/5/97	Dry	NA	NA	NA	NA	NA	NA
	Soil	6/5/97	25-26'	<1	<1	<1	<1	<1	25
TPW-04	Water	6/6/97		2000.0	3100.0	57.0	810.0	5967.0	NA
	Soil	6/6/97	20-21.5'	28.0	3.4	76.0	40.0	147.4	52
TPW-05	Water	6/6/97		5800.0	460.0	16000.0	7000.0	29260.0	NA
	Soil	6/6/97	15-16'	4000.0	10000.0	4500.0	28000.0	46500.0	81
TPW-06	Water	6/6/97		1600.0	3400.0	48.0	690.0	5738.0	NA
	Soil	6/6/97	16-16.5'	<1	<1	2.8	4.8	7.6	11
TPW-07	Water	6/6/97		5300.0	18000.0	620.0	9300.0	33220.0	NA
	Soil	6/6/97	15-16'	7000.0	74000.0	20000.0	170000.0	271000.0	250

Burlington Profile Borings

SB-1 (near BROG excavation)	Soil	10/8/98	15-16'	335	697	181	1808	3021	26.4
SB-2 (near PNM former pit)	Soil	10/8/98	15'	1950	9960	2460	22590	36960	194

PNM Test Holes along Wash

									PID (ppm)
TH-1	Soil	11/11/97	12.7'	NA	NA	NA	NA	NA	1412
TH-2	Soil	11/11/97	14.4'	NA	NA	NA	NA	NA	1357
TH-3	Soil	11/11/97	16.5'	NA	NA	NA	NA	NA	0
TH-4	Soil	11/11/97	15'	NA	NA	NA	NA	NA	279
TH-5	Soil	11/11/97	14.5'	NA	NA	NA	NA	NA	1211
TH-6	Soil	11/11/97	16'	NA	NA	NA	NA	NA	0
TH-7 (temporary well)	Water	11/11/97	NA	2171.0	4185.0	190.0	2856.0	170000.0	279
TH-8	Soil	11/12/97	14'	NA	NA	NA	NA	NA	0

Notes:

J = Analyte detected below Practical Quantitation Limit
 B = Analyte detected in the associated Method Blank

NM = Not measured
 NA = Not analyzed

NC = Not Calculated (prod.



Richard L. Alvidrez
Attorney at Law
Direct Dial: 505-346-9150
E-mail: rlu@keleher-law.com

August 22, 1999

William Carr, Esq.
Campbell, Carr, Berg & Sheridan, P.A.
PO Box 2208
Santa Fe NM 87504-2208

**Re: Public Service Company of New Mexico On-Site Remediation
Operations on Burlington Resources Oil and Gas Company Well Sites.**

Dear Mr. Carr:

This letter is in response to yours of August 12, 1999 requesting the identification of any authority to allow Public Service Company of New Mexico ("PNM") to use leasehold surface acreage at Burlington operated sites to conduct land farm operations.

As indicated in my letter to you of July 20, 1999, PNM has been conducting its remediation activities, including onsite land farming, at various well sites in the San Juan Basin pursuant to its approved Pit Remediation Plan ("Plan"). As you are aware, PNM's Plan has been approved by both the New Mexico Oil Conservation Division ("OCD") as well as the Bureau of Land Management ("BLM"). This approved Plan forms the basis for PNM's authority to conduct onsite land farming activities at sites operated by Burlington as well as others

The majority of sites that have been remediated this season by PNM and that have active land farm operations are on federal leases. This includes the majority of Burlington operated sites. PNM has authority to conduct land farm operations as a part of its remediation at federally managed sites as evidenced by the enclosed letter to Denver Bearden, formerly of PNM, from Mike Poole, District Manager for the BLM. Please note, the third paragraph of the BLM letter states:

For all other pit remediation work on federal leases within the Farmington District of the San Juan Basin, remediation work may proceed upon approval of the pit remediation plan and concurrence of the Environmental Section of the New Mexico State Oil Conservation Division, or other approving agency.

The enclosed letter from the BLM constitutes express authority for PNM to conduct its remediation, including land farming activities, on federal lease sites managed by the BLM. There is no exclusion for federal sites where Burlington has operations. In fact, you will note that the letter quoted above involved a Burlington Resources site.

W. A. Keleher (1886 -1972)
A.H. McLeod (1902 -1976)

Mailing Address
PO Drawer AA
Albuquerque NM 87103

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505-346-4646

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William Carr, Esq.

August 22, 1999

Page 2

There are a limited number of non-federal sites where PNM is conducting land farm activities as a part of its approved remediation Plan, and where Burlington serves as operator. If there are any non-federal lease sites which Burlington has concerns about with respect to PNM land farming operations, please provide us with a list of specific sites of concern, together with documentation of the authority which Burlington believes it has to preclude PNM's access to conduct land farming activities at those sites.

In reviewing this matter, we are prompted to ask by what authority Burlington is asserting its right to halt PNM from conducting on-site land farming, activities, particularly with respect to federal leased land. Although Burlington may have the right to conduct gas production activities on federal leased land, we are not aware of any authority which grants Burlington exclusive surface rights over these properties. If such authority exists, we once again request that Burlington provide us with the documentation granting Burlington's exclusive rights to the surface and Burlington's ability to exclude other lawful users.

As indicated in prior correspondence and in telephone conversations, PNM is very disappointed with Burlington's attempt to unnecessarily complicate PNM's pit remediation progress by prohibiting PNM's access to complete its remediation activities through on-site land farming. When conducting land farming activities, PNM field personnel have always willingly accommodated specific needs related to egress and operational concerns that Burlington's field representatives have had at individual sites; therefore, it is incomprehensible why Burlington chooses to act in this manner. Burlington's actions will only serve to increase the costs of remediation and enhance the potential for environmental degradation with no other purpose than to inflict unnecessary expense upon PNM. We further view these actions by Burlington as an assertion of complete control over these sites and the contaminants that may be at these sites. Burlington's actions constitute an admission of Burlington's own control over these sites as a whole, over the contamination present at these sites, and of Burlington's sole responsibility for clean-up at these sites.

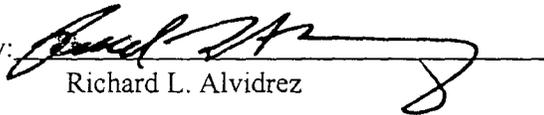
We trust that the enclosed letter addresses your question as to our right of access to conduct remediation activities, including onsite land farming, on federal leased land. We await documentation of Burlington's asserted right to attempt to order PNM to cease land farming activities at these sites.

Should you have any questions, please do not hesitate to call.

Very truly yours,

KELEHER & McLEOD, P.A.

By:


Richard L. Alvidrez

RLA:dm:dam0391

cc Rand Carroll-OCD
William Olson
Roger Anderson



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Farmington District Office
1253 La Plaza Highway
Farmington, New Mexico 87401

IN REPLY REFER TO:
3160 (07600)
NM 077056

Mr. Denver Bearden
Public Service Company of New Mexico
PNM Gas Services
603 W. Elva Street
Farmington, New Mexico 87401

Dear Mr. Bearden:

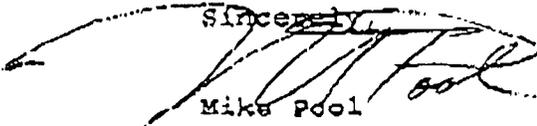
This letter is to serve as written confirmation for Public Service Company of New Mexico, PNM Gas Services to conduct soil remediation on contaminated soils on the 1 Cozzens "B" located 1660' FSL, 990' FWL, and the 1-E Cozzens "B", 1620' FSL and 1525' FEL; both located in section 19, T.29N., R.11 W., NMPM., lease number NM 077056.

All work should follow your approved pit remediation plan and any instructions from the Environmental Section of the New Mexico State Oil Conservation Division. Remediation of ground water contamination will be under the primacy of the Environmental Section of the New Mexico State Oil Conservation Division.

* For all other pit remediation work on federal leases within the Farmington District of the San Juan Basin, soil remediation work may proceed upon approval of a pit remediation plan and concurrence of the Environmental Section of the New Mexico State Oil Conservation Division, or other approving agency.

If you have any questions, please contact Ilyse Gold at (505) 599-6330.

Sincerely,


Mike Pool
District Manager

cc: Meridian Oil
Williams Field Services
NMOCD



**NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT**

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

July 30, 1999

Richard L. Alvidrez, Esq.
Kelleher & McLeod, P.A.
P.O. Drawer AA
Albuquerque, NM 87103

Attorneys for PNM

William F. Carr, Esq.
Campbell, Carr, Berge & Sheridan, P.A.
P.O. Box 2208
Santa Fe, NM 87504-2208

Attorneys for Burlington Resources

RE: OCC Case No. 12033 (De Novo)--Application of PNM for review of the cleanup
Actions required by OCD letter dated March 13, 1998

Dear Messrs. Alvidrez and Carr:

Enclosed is a copy of the OCD Rebuttal Testimony of William C. Olson in the above-referenced case.

If you have any questions, please feel free to call me at 505/827-8156.

Sincerely,

A handwritten signature in black ink, appearing to read "Bill Olson".

for
Rand Carroll
Legal Counsel

c: Bill Olson, OCD Environmental Bureau

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

IN THE MATTER OF THE HEARING CALLED BY)
THE OIL CONSERVATION COMMISSION FOR THE)
PURPOSE OF CONSIDERING:)

CASE NO. 12,033

APPLICATION OF PUBLIC SERVICE COMPANY OF)
NEW MEXICO FOR REVIEW OF OIL CONSERVATION)
DIVISION DIRECTIVE DATED MARCH 13, 1998,)
DIRECTING APPLICANT TO PERFORM ADDITIONAL)
REMEDIAION FOR HYDROCARBON CONTAMINATION,)
SAN JUAN COUNTY, NEW MEXICO)
_____)

NEW MEXICO OIL CONSERVATION DIVISION
REBUTTAL TESTIMONY OF
WILLIAM C. OLSON

July 30, 1999

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Q. Some statements were made by Toni Ristau, one of PNM's witnesses, in her direct testimony regarding New Mexico Oil Conservation Commission (OCC) Order R-7940C. Are you familiar with OCC Order R-7940C?

A. Yes. I was originally hired by the Division in 1986 to work on the San Juan Basin "Vulnerable Areas" and conducted the Division field studies which were the basis of OCC Order R-7940C. I prepared the Division's proposed special rules and regulations for the disposal of oil and gas wastes in the "Vulnerable Area" which were subsequently adopted by the OCC. I also provided the Division testimony before the OCC on the Division's studies and proposed rules.

Q. On pages 8 and 9 of Ms. Ristau's direct testimony she states that the requirements for ceasing discharge and closure of unlined pits in OCC Order R-7940C only apply to producers or operators of oil and gas wells.

Do you agree with this interpretation?

A. No. The Division's proposed special rules and regulations for the disposal of oil and gas wastes in the "Vulnerable Area" were not developed nor intended to apply only to producers or operators of oil and gas wells. The final rules adopted in OCC Order R-7940C reflect that this is not the intent of these rules. The attached OCD Exhibit 1 is a copy of OCC Order R-

1
2 7940C. Exhibit A of Order R-7940C contains "SPECIAL
3 RULES AND REGULATIONS FOR THE DISPOSAL OF OIL AND
4 NATURAL GAS WASTES IN THE VULNERABLE AREA IN SAN JUAN,
5 MCKINLEY, RIO ARRIBA AND SANDOVAL COUNTIES, NEW
6 MEXICO". Rule 1 (Applicability) of Exhibit A states
7 that "These rules shall apply to the disposal of **all**
8 oil and natural gas wastes generated within the
9 Vulnerable Area whether such wastes are disposed of
10 within or without said area". Oil and natural gas
11 wastes as defined in Exhibit A, Rule 2.(c) "shall mean
12 those wastes produced in conjunction with the
13 production, refining, processing and transportation of
14 crude oil and/or natural gas and commonly collected at
15 field storage, processing or disposal facilities, and
16 waste collected at gas processing plants, refineries
17 and other processing or transportation facilities".
18 As you can see, these rules are applicable to a wide
19 range of parties which actually discharge wastes and
20 are not limited to the operators or producers of oil
21 and gas wells.

22 Q. Does OCC Order R-7940C contain any limitations or
23 exceptions elsewhere in the order which states that
24 the rules apply only to the producers or operators of
25 oil and gas wells?
26

1

2 A. No. Order R-7940-C specifically applies to the party
3 that owns and operates the equipment that discharges
4 the wastes and the pit to which it is disposed.

5 Q. Regarding the testimony of PNM witness Maureen Gannon,
6 on page 46 of Ms. Gannon's direct testimony she stated
7 that PNM had received no response from the Division on
8 PNM's November 12, 1998 closure report for the Hampton
9 4M dehydration unit. Could you explain the reasons
10 for the Division's lack of response to the closure
11 report.

12 A. The Division received PNM's closure report on November
13 13, 1998. This was 6 days before the Division
14 Examiner Hearing which was held for the purpose of
15 considering PNM's protest of the Division's directive
16 to perform additional remediation at the site. The
17 issues raised in the closure report were a matter of
18 dispute and were the subject of the upcoming hearing,
19 so the Division believed that the appropriate forum
20 for resolution of the dispute was the Division
21 Examiner Hearing which was held on November 19, 1998.

22 Q. Does this conclude your testimony?

23 A. Yes.

CERTIFICATE OF SERVICE

I hereby certify that a true copy of the foregoing:

OCD Rebuttal Testimony of William C. Olson

was mailed July 30, 1999 by regular delivery, U.S. Mail, to:

Richard L. Alvidrez, Esq.
Kelleher & McLeod, P.A.
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STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION COMMISSION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION FOR THE PURPOSE OF
CONSIDERING:

BEFORE THE
OIL CONSERVATION COMMISSION

Santa Fe, New Mexico

OCD Exhibit No. 1

Case No. 12033

CASE 10436
Order No. R-7940-C

AMENDMENT OF COMMISSION ORDER R-7940 TO PROVIDE FOR THE EXPANSION OF THE DESIGNATED VULNERABLE AREA OF THE SAN JUAN BASIN, ELIMINATION OF DISCHARGES TO UNLINED PITS, CREATION OF WELLHEAD PROTECTION AREAS, ESTABLISHMENT OF DEADLINES FOR COMPLIANCE, AND REGISTRATION OF CERTAIN PITS.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9:00 A.M. on January 16, April 9, May 21, 1992, November 12, 1992 and January 14, 1993, at Santa Fe, New Mexico, before the Oil Conservation Commission, hereinafter referred to as the "Commission."

NOW, on the 14th day of January, 1993, the Commission, a quorum being present, having considered the testimony presented and the exhibits received at said hearing, and being fully advised in the premises,

FINDS THAT:

(1) Due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) This matter was heard by the Commission on January 16, April 9, and May 21, 1992, at Santa Fe, New Mexico. On those dates the Commission took evidence and heard arguments of counsel on behalf of the parties to the proceeding. The Commission also received closing statements and comments from several parties following the close of evidence, and on August 5, 1992, the Commission entered Order number R-7940-B. That order was amended *nunc pro tunc* by Commission Order R-7940-B(1) on August 21, 1992.

(3) Following the entry of Order R-7940-B, the Four Corners Gas Producers Association, (FCGPA), and the New Mexico Oil and Gas Association, (NMOGA), filed with the Commission a Petition for Rehearing. The Commission granted rehearing but limited the issues on rehearing to the following:

- (a) to reconsider allowing extensions of up to two years to the basic one-year, two-year, three-year timetable for the elimination of discharges;
- (b) to reconsider the establishment of a different radius wellhead protection area around private water wells and springs which are not part of a community or municipal water supply;
- (c) to consider clarifying language for the provision of the order which provides for variances on a "case by case" basis and to determine appropriate notice requirements for a variance request.

(4) Without further testimony FCGPA, NMOGA, Southwest Research and Information Center (SRIC) and the New Mexico Oil Conservation Division, (Division) have submitted this proposed revised order setting forth the provisions of the Commission's Order R-7940-B on issues for which rehearing was not granted and language for the specific issues on which the Commission granted rehearing. The provisions of this proposed order are supported by the evidence presented to the Commission during the evidentiary hearings above. Orders R-7940-B and R-7940-B(1) should be withdrawn and this revised order issued in its place to adopt the complete rules in a single order.

(5) Section 70-2-12 B(15) authorizes the Oil Conservation Division (Division) and Commission "to regulate the disposition of water produced or used in connection with the drilling for or producing of oil or gas or both and to direct surface or subsurface disposal of the water in a manner that will afford reasonable protection against contamination of fresh water supplies designated by the state engineer."

(6) Section 70-2-12 B(21) authorizes the Oil Conservation Division and Commission "to regulate the disposition of non-domestic wastes resulting from the exploration, development, production or storage of crude oil or natural gas to protect public health and the environment."

(7) The State Engineer has designated all surface waters of the State and all ground waters containing 10,000 milligrams per liter (mg/l) of total dissolved solids (TDS), or less, for which there is a reasonably foreseeable future use as fresh water.

(8) In June of 1984, the Oil Conservation Division conducted hearings into proposals for groundwater protection from discharges of produced water into unlined pits in Northwest New Mexico.

(9) In July of 1985 a committee was appointed by the Director of the Oil Conservation Division to study and report on produced water disposal practices in Northwest New Mexico and their resultant impact on groundwater.

(10) Said committee divided itself into long-range and short-range committees.

(11) Data compilation and recommendations from the short-term committee formed the basis for Case No. 8224 which resulted in Oil Conservation Commission Order No. R-7940 which established and defined the "vulnerable area" in Northwest New Mexico where disposal of produced water or production fluids in excess of 5 barrels per day in unlined pits was prohibited.

(12) The long-term committee was charged with investigating unresolved short-term committee issues and met at least 10 times between September, 1985 and October, 1991 resulting in recommendations and suggestions which formed the basis for Oil Conservation Division proposals to expand the vulnerable area and provide for additional groundwater protection measures.

(13) The Division presented unrefuted evidence of ground water contamination from small volume discharges to unlined produced water pits sited in alluvial fill in the currently defined Vulnerable Area.

(14) The high permeability of alluvium allows contaminants, particularly benzene, toluene, ethylbenzene and xylene, to migrate into ground water.

(15) Alluvium is the primary shallow aquifer or subsurface reservoir containing protectable fresh water supplies and as such should be the definitive criteria for establishing water protection measures in an expanded vulnerable area.

(16) *FCGPA presented testimony in support of an exemption for dry gas wells outside of the existing vulnerable area producing less than 1 barrel of produced water per day. Evidence was presented to confirm the natural remediation process which works to eliminate groundwater contamination.*

Finding: The soil sample evidence presented by FCGPA raised sufficient doubt as to whether dry gas wells were a source of groundwater contamination but lacked critical produced water discharge analysis data and underlying groundwater analysis data to warrant an exemption for dry gas wells at this time.

- (17) *The Oil Conservation Division proposed eliminating discharges on a one-year, two-year, three-year schedule for different parts of the vulnerable area. The Division proposal allows for a two-year extension of time. NMOGA proposed a one-year, three-year, five-year compliance schedule for elimination of discharges in the vulnerable area, based on the location of sites, plus possible two year extensions for compliance, based upon the economics of eliminating the discharges. SRIC requested a one-year, one and one-half year, two year compliance schedule for compliance with discharge elimination.*

Finding: A phased one-year, two-year, three-year compliance schedule essentially as proposed by the Division will provide adequate protection to ground water while recognizing the economic realities within the oil field infrastructure. The Division should be able to authorize a single extension of up to two years for good cause to accommodate a reasonable compliance plan or unexpected contingencies.

(18) NMOGA requested an exemption from the rules for dehydration pits downstream of producing wells, also based upon economic reasons. There was no supporting scientific evidence to show that discharges from dehydration pits would not contaminate groundwater, and an exemption based solely on economic arguments should not be implemented.

- (19) *B.C.O. Inc. presented testimony in support of an exception for the Lybrook area based upon the contention that alluvium was not present, and that the relatively impermeable shales of the Nacimiento formation overlaid the Ojo Alamo Sandstone which contained the only potable water supply in the area. Much of the BCO testimony was discredited by subsequent testimony showing protectable ground water in alluvium deposits within the Lybrook area. [Italics added]*

Finding: The evidence does not support an exemption from the requirement of the proposed rules for the Lybrook area.

(20) SRIC proposed expanding the proposed vulnerable area to include alluvium underlying the Lee Acres Land Fill. Because this area is at risk for contamination, it should be included within the vulnerable area.

- (21) *The Division proposed a wellhead protection area be established for sites outside of the proposed vulnerable area, and originally recommended that no unlined pits be allowed within 1000 feet of existing water sources. The Division later revised its recommendation to reduce the protection radius to 200 feet around private, domestic water sources, based on the fact that private water sources do not influence as wide an area. FCGPA requested radii around municipal water wells of 1,000 feet, 200 feet for public water sources and 100 feet around all other water sources. SRIC supported a protection area of 1,000 feet for all water sources. Both sides testified in support of their respective positions.*

FINDING: None of the evidence conclusively showed what area around a water well, spring or other water source might be affected by discharges to unlined pits. Based upon the limited data available, harm to water sources should be prevented by a wellhead protection area of 1,000 feet, except private, domestic water sources which should be adequately protected by a protection area with a radius of 200 feet. This protection should only apply to water sources in existence at the time of this order.

(22) Based upon public health and environmental risk assessment, all parties agreed that there should be no blanket exclusions within the existing vulnerable area because of higher population densities.

(23) The economics of pit closure were addressed in testimony but this issue is not germane to this case since pits would eventually be closed at well abandonment even if granted an exception.

(24) The economic impact of prohibiting operators from discharging production fluids into unlined earthen pits could be substantial with resultant negative effects on state revenues because many marginal gas wells could not sustain the additional burden of installing tanks or lining pits, but providing reasonable protection to fresh water supplies requires implementation of rules and regulations which prohibit discharges of production fluids into unlined pits in water bearing alluvium and protection of fresh water sources such as water supply wells and springs.

(25) To prevent unnecessary regulation which imposes unnecessary costs on operators resulting in corresponding reductions in revenues without offsetting public health and environmental benefits, there should be a reasonable procedure established to grant variances to discharge prohibition where the applicant can demonstrate that:

- (a) the discharge site is not located in water bearing alluvium; or
- (b) the discharge quality is within Ground Water Standards established by the New Mexico Water Quality Control Commission (WQCC); or

(c) no protectable ground water (as defined by the New Mexico State Engineer) is present or if present, will not be adversely affected by the discharge; and

(d) the discharge is not located within a Wellhead Protection Area.

(26) In order to provide notice to appropriate parties who may be affected by a variance application, the operator requesting such variance should be required to notify the record owner of all surface lands and occupants of permanent residences within one-half mile of any site for which a variance is requested.

IT IS THEREFORE ORDERED THAT:

(1) Order R-7940-B and R-7940-B(1) are hereby withdrawn.

(2) The areas currently defined as "Vulnerable Area" under OCC Order R-7940 (1) (a,b and c) are expanded to include those alluvial areas which lie within 50 vertical feet, measured perpendicularly to the drainage channel, of all major perennial and ephemeral creeks, canyons, washes, arroyos and draws located within the oil and gas producing areas of the San Juan Basin in northwestern New Mexico.

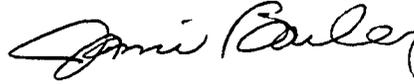
(3) To protect fresh waters, Special Rules and Regulations governing the disposal of oil and gas wastes in the Vulnerable Area of San Juan, McKinley, Rio Arriba and Sandoval Counties are hereby promulgated as set forth in Exhibit "A" attached hereto and incorporated herein:

(4) This order shall become effective March 1, 1993.

(5) Jurisdiction of this cause is retained for the entry of further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

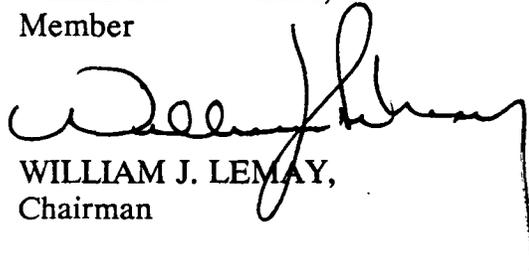
STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION



JAMI BAILEY
Member



WILLIAM W. WEISS,
Member



WILLIAM J. LEMAY,
Chairman

S E A L

dr/

ORDER R-7940-C
EXHIBIT "A"

SPECIAL ~~RULES~~ RULES AND REGULATIONS FOR THE DISPOSAL OF
OIL AND NATURAL GAS WASTES IN THE VULNERABLE AREA IN
SAN JUAN, MCKINLEY, RIO ARriba AND SANDOVAL
COUNTIES, NEW MEXICO

RULE 1. APPLICABILITY

These rules shall apply to the disposal of all oil and natural gas wastes generated within the Vulnerable Area whether such wastes are disposed of within or without said area.

RULE 2. DEFINITIONS

(a) *Alluvium* includes detrital material which has been transported by water or other erosional forces and deposited at points along the flood plain of a watercourse. It is typically composed of sands, silts and gravels, exhibits high porosity and permeability and generally carries fresh water.

(b) *Fresh water to be protected* includes the water in lakes and playas, the surface waters of all streams regardless of the quality of the water within any given reach, and all underground waters containing 10,000 milligrams per liter (mg/l) or less of total dissolved solids (TDS). The water in lakes and playas shall be protected from contamination even though it may contain more than 10,000 mg/l of TDS unless it can be shown that hydrologically connected fresh water will not be adversely affected.

(c) *Oil and natural gas wastes* shall mean those wastes produced in conjunction with the production, refining, processing and transportation of crude oil and/or natural gas and commonly collected at field storage, processing or disposal facilities, and waste collected at gas processing plants, refineries and other processing or transportation facilities.

(d) *Field, storage, processing or disposal facilities* include but are not limited to: separators, dehydrators, blowdown pits, workover pits, burn pits, lease tanks, commingled tank batteries, LACT units, community or lease salt water disposal systems, gathering and transmission line drip pits.

(e) *Pits* are defined as below grade or surface excavations which receive any type of oil and gas waste as described above.

(f) *Water Sources* shall mean wells, springs or other sources of fresh groundwater extraction or discharge. *Private, domestic water sources* shall mean those water sources which are used by less than five households for domestic or stock purposes.

RULE 3. PROHIBITIONS

(a) Disposal of oil and natural gas wastes produced within the Vulnerable Area onto the ground surface or into unlined pits is prohibited.

(b) Current discharges of oil and natural gas wastes to unlined pits within the Vulnerable Area will be eliminated pursuant to the following schedule:

(1) All discharges of oil and natural gas wastes to all unlined pits located in the areas defined as the original Vulnerable Area by Order R-7940 (1) (a,b, and c) will be eliminated within one year of the effective date of this order.

(2) All discharges of oil and natural gas wastes into unlined pits located in those areas included in the expanded Vulnerable Area as defined in this order will be eliminated within two years of the effective date of this order. The expanded area will include alluvial areas within fifty vertical feet of the following major tributaries of the respective river systems:

a. San Juan River

Armenta Canyon	Laguna Seca Draw
Benito Canyon	Locke Arroyo
Bloomfield Canyon	Malpais Arroyo
West Fork Bloomfield Canyon	Mansfield Canyon
Caballo Canyon	Manzanares Canyon
Cabresto Canyon	Many Devils Wash
Canon Bancos	Munoz Canyon
Canon Largo	Negro Andy Canyon
Carracas Canyon	Ojo Amarillo Canyon
Chaco River/Chaco Wash	Potter Canyon
Chavez Canyon	Pump Canyon
Collidge Canyon	Rattlesnake Wash
Cottonwood Canyon	Red Wash
Creighton Canyon	Ruins Canyon
Dain Arroyo	Salt Creek Wash
Eagle Nest Wash	Shiprock Wash
Eul Canyon	Shumway Arroyo
Farmington Glade	Slane Canyon

Exhibit "A"

Case No. 10436

Order No. R-7940-C

Page 3

Frances Creek
Gallegos Canyon
Gobernador Canyon
Green Canyon
Hare Canyon
Head Canyon
Horn Canyon
Kutz Canyon
La Fragua Canyon
La Jara Canyon

Little Slane Canyon
Stevens Arroyo
Stewart Canyon
Sullivan Canyon
Tom Gale Canyon
Vaca Canyon
Valdez Canyon
Waughan Arroyo
Wright Canyon

Unnamed arroyo in parts of Sections 21 and 22, Township 29 North,
Range 12 West, known as the Lee Acres Landfill arroyo.

b. Animas River

Arch Rock Canyon
Barton Arroyo
Blancett Arroyo
Bohanan Canyon
Calloway Canyon
Cook Arroyo
Cox Canyon
Ditch Canyon
Estes Arroyo
Flora Vista Arroyo
Hampton Arroyo
Hart Canyon

Hood Arroyo
Johnson Arroyo
Jones Arroyo
Kiffen Canyon
Knowlton Canyon
Kochis Arroyo
Miller Canyon
Rabbit Arroyo
Tucker Canyon
Williams Arroyo
Wyper Arroyo

c. La Plata River

Barker Arroyo
Conner Arroyo
Cottonwood Arroyo
Coyne Arroyo
McDermott Arroyo

Murphy Arroyo
Pickering Arroyo
Thompson Arroyo
Two Cross Arroyo

(3) All discharges to unlined pits located in alluvial material within fifty vertical feet of all remaining tributaries to the San Juan, Animas and La Plata Rivers will be eliminated within three years from the effective date of this order.

(c) A wellhead protection area to provide protection for springs and fresh water wells outside the original and expanded Vulnerable Areas is hereby established. All discharges to unlined pits within a radius of 200 feet of private, domestic water sources and 1,000 horizontal feet of all other water sources will be eliminated within two years from the effective date of this order.

(d) Wellhead protection areas shall not include areas around water wells which are drilled after the effective date of this order if such water wells are located within 1000 feet of an existing source of oil or natural gas waste.

(e) For good cause shown, the Director of the Division may administratively allow an extension of the time schedule for elimination of discharges to unlined pits, as described above, for a period not to exceed two years.

(f) The transfer of fluids out of the Vulnerable and Expanded Vulnerable Areas and Wellhead Protection Areas for disposal into unlined or unpermitted pits is prohibited unless specifically authorized by the Director of the Division.

RULE 4. SURFACE DISPOSAL FACILITIES TO BE APPROVED/REGISTERED

(a) No oil and natural gas wastes may be disposed of or stored in below grade tanks or lined pits except after application to and approval by the Division. The Division Director may administratively approve the use of lined pits and below grade tanks within the Vulnerable Area for disposal or storage of oil and natural gas wastes upon a proper showing that the tank or lined pit will be constructed and operated in such a manner as to safely contain the wastes to be placed therein and to detect leakage therefrom.

(b) All unlined pits outside the Vulnerable Areas and Wellhead Protection Areas receiving greater than five (5) barrels of fluids per day will be registered with the Oil Conservation Division (OCD) within one year of the effective date of this order.

RULE 5. PIT CLOSURE

Exhibit "A"

Case No. 10436

Order No. R-7940-C

Page 5

(a) Applications or plans to close existing unlined pits in the Vulnerable and Expanded Vulnerable Areas and Wellhead Protection Areas will be submitted to the OCD for approval not later than sixty (60) days after the final date scheduled for elimination of the discharge pursuant to Rule 3.

RULE 6. VARIANCES

(a) The Director of the OCD may administratively approve a variance to the discharge prohibition on a case by case basis if the discharger can demonstrate that:

1. the discharge site is (sites are) not located in alluvium; or
2. the discharge quality is within Ground Water Standards established by the New Mexico Water Quality Control Commission (WQCC); or
3. no protectable ground water (as defined by the New Mexico State Engineer) is present or if present, will not be adversely affected by the discharge; and
4. the discharge is not located within a Wellhead Protection Area:

(b) Such variance may be granted for multiple sites under a single application upon a demonstration by the applicant that the sites possess common characteristics that would justify the granting of the variance.

(c) Notice of request for variance for a specific discharge point will be sent by the operator to surface owners of record and occupants of permanent residences within 1/2 mile of the site for which the variance is sought. Notice shall be by certified mail, return receipt requested, or other means of service for which proof of delivery is available. Such persons will be given twenty (20) days from the date of delivery of notice to comment to the OCD on the request. In addition, the applicant must provide public notice, in a form approved by the Division, by legal advertisement in a newspaper of general paid circulation published at least weekly within the county or counties in which the site(s) for which the variance is sought is (are) located .



July 20, 1999

COPY

FAX (505) 983-6043

William F. Carr
Campbell, Carr, Berge & Sheridan, P.A.
P.O. Box 2208
Suite 1-110 North Guadalupe
Santa Fe, New Mexico 87504-4421

Re: *Public Service Company of New Mexico on site land farm operations on Burlington Resources Oil and Gas well sites*

Dear Mr. Carr:

This letter is in response to your letter to me of July 16, 1999 concerning PNM's ongoing practice of landfarming soils on Burlington Resources leasehold sites. We are very surprised at this most recent development and can only regard it as a form of retribution for PNM's appeal in Case 12033 before the New Mexico Oil Conservation Commission.

As you know, PNM has been landfarming soils at various sites, including sites operated by Burlington Resources, for a number of years now. On-site landfarming has been expressly approved by the New Mexico Oil Conservation Division ("OCD") through their approval of PNM's Pit remediation program. This process has been efficient and cost effective and has been carried out without incident.

PNM has alerted the OCD to Burlington's recent position prohibiting PNM from conducting on-site landfarming at Burlington operated sites. The OCD informs us that before PNM's current practice of onsite landfarming can be altered or discontinued, PNM will need to seek a variance from or modification to its approved Pit Remediation Plan from the OCD and the Bureau of Land Management ("BLM"). Therefore, before we can take any action to address Burlington's directive, we will need time to develop a variance or modification to our plan and to submit and obtain approval for such a variance or modification. We will advise Burlington Resources of a time schedule of when we believe this approval can be obtained once we have received further direction from the OCD and BLM.

W. A. Keleher (1886-1972)
A.H. McLeod (1902-1976)

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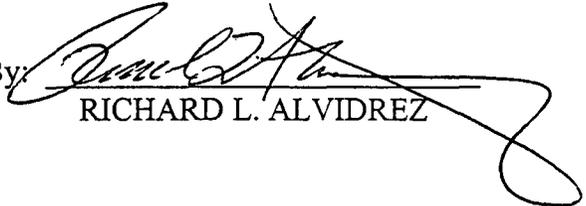
Letter to William F. Carr
July 20, 1999
Page 2

We are very disappointed in Burlington's recent decision not to allow PNM to conduct on site landfarming. Despite assurances in your letter to the contrary, we can only regard this as an attempt to impede PNM's remediation efforts and to cause PNM to incur additional unnecessary costs. PNM will certainly make note of this fact in any future action for cost recovery.

If you have any questions concerning the foregoing, or disagree with the process outlined above, please advise us at once.

Very truly yours,

KELEHER & MCLEOD, PA

By: 
RICHARD L. ALVIDREZ

cc: William Olson, OCD
Roger Anderson, OCD

OIL CONSERVATION DIV.
60 NOV 1998 AM 9:01

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

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 12033

APPLICATION OF PUBLIC SERVICE COMPANY
OF NEW MEXICO FOR REVIEW OF OIL CONSERVATION
DIVISION DIRECTIVE DATED MARCH 13, 1998,
DIRECTING APPLICANT TO PERFORM
ADDITIONAL REMEDIATION FOR HYDROCARBON
CONTAMINATION, SAN JUAN COUNTY, NEW MEXICO.

**BURLINGTON RESOURCES OIL AND GAS COMPANY'S
MOTION TO DISMISS THE APPLICATION OF
PUBLIC SERVICE COMPANY OF NEW MEXICO
TO REOPEN *DE NOVO* HEARING TO SUBMIT
NEW AND RELEVANT EVIDENCE**

COMES NOW Burlington Resources Oil and Gas Company ("Burlington") and hereby moves the Oil Conservation Commission for an order dismissing the application of the Public Service Company of New Mexico ("PNM") to reopen the *de novo* hearing for the purpose of submitting new evidence, and in support of its motion states:

1. By letter dated March 13, 1998, the Oil Conservation Division wrote PNM concerning ground water contamination at the Hampton 4M well site. The Division expressed concern about the migration of contaminated ground water onto downgradient

private lands and the presence of private water wells downgradient of the site. The Division's letter further "required PNM to "...take additional remedial actions within 30 days to remove the remaining source areas with free phase hydrocarbons in the vicinity of and immediately downgradient of the dehy pit."

2. This case is before the Commission on the application of the Public Service Company of New Mexico in which it asks the Oil Conservation Commission to "...reverse and nullify the OCD's Final Determination [the March 13, 1998 letter] and enter a finding that PNM is not a "responsible person" for purposes of any further investigation or remediation at the Hampton 4M site." The sole issue before the Commission in this proceeding is whether or not PNM is a responsible person for remediation and investigation at this site.

3. Burlington Resources Oil & Gas Company is the operator of the Hampton 4M Well. It has admitted that it is one of the responsible parties for contamination at this well site. Burlington has expended substantial funds and efforts to remediate the site. Their effort are not concluded.

4. Since it first filed its application in this case, PNM has attempted to direct the case away from the issue before the Commission, to a critique of the efforts of Burlington to remediate this site- an effort in which PNM has refused to participate and for which PNM has refused to pay remediation costs.

5. This case was the subject of a two day Commission hearing in August 1998, in which PNM appealed the determination of the Oil Conservation Division that PNM

was a responsible party for investigation and remediation at the Hampton 4M Well site.

6. Following the August hearing, the Division requested that additional monitor wells be drilled at the site. Three wells were drilled by Burlington. PNM has declined to share any of the costs of drilling. All three wells are located up gradient of the former PNM unlined surface disposal pit.

7. Additional data has been obtained and will continue to be acquired from these wells, including the new wells, at this site until the contamination has been remediated.

8. Recent sample results show additional contamination at the site above the location of the former PNM pit.

9. PNM seeks to reopen the *de novo* hearing in this case so it can present evidence which it characterizes as "highly relevant" to the issues in this proceeding.

10. The problem with PNM's "highly relevant" new evidence is that it is not relevant to the issue before the Commission. That issue is whether or not PNM should be relieved of responsibility for investigation and remediation at this site after March 13, 1998.

11. PNM's new "highly relevant" evidence is described in paragraph 8 of its application to reopen as follows:

A. PNM reports that the new evidence shows contamination remains at the well site (sub-paragraphs a, b, f, j and l). There is no dispute as to this fact and Burlington is working with the Division to remediate

the site. PNM declines to contribute to the cost of this effort.

However, the presence of contamination on the upgradient portion of the well site has no relevance to the issue of whether PNM is a responsible person for the remediation of the contamination which resulted from the discharge of hydrocarbons from its dehydration equipment into an unlined surface pit downgradient of the new monitor wells at the Hampton 4M Well site.

- B. PNM complains, as it did throughout the August hearing, about the way Burlington has conducted the Division approved remediation at the site(sub-paragraphs c, d, f and j). These complaints have no relevance to the issue of whether PNM is a responsible person for remediation at the site.
- C. PNM calls for additional investigation and remediation at the site (sub-paragraphs, g, h, i and k). Investigation and remediation are occurring without the contribution of PNM to the costs associated with this effort. What is being done today to remediate the site by Burlington, or what needs to be done in the future, is not relevant to the question of whether or not PNM contributed to this contamination and should be responsible for some portion of the remediation at the site.

12. As long as Burlington and the Division attempt to remediate the

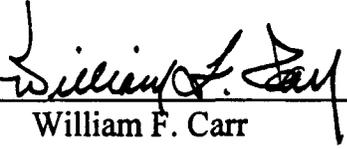
contamination at this site, new data will continue to be developed. Further efforts to remediate will be governed by this data. However, this new data should not be used to divert the review of the PNM application away from the issue which PNM has brought before the Commission. That issue is whether PNM is a responsible party for contamination at this site.

13. Furthermore, to continually reopen a case every time there is additional evidence to permit a party who is not paying the costs of remediation to complain about those who are complying with Oil Conservation Division Environmental Bureau directives, will set as a precedent which will discourage anyone in the future from ever attempting to remediate a site while a case is pending before the Division or Commission.

WHEREFORE, Burlington Resources Oil & Gas Company requests that the Commission deny PNM's request to reopen the *de novo* hearing in this matter because the "new data" is not relevant to the determination of whether PNM is a responsible person for remediation of the Hampton 4M Well site.

Respectfully submitted,

CAMPBELL, CARR, BERGE
AND SHERIDAN, P.A.

By: 
William F. Carr
Post Office Box 2088
Santa Fe, New Mexico 87501
(505) 988-4412

Attorneys for Burlington
Resources Oil & Gas Company

May 3, 1999

Transmitted via Fax (505-827-8177)
and via First Class mail



Mr. William Olson
State of New Mexico
Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

RE: FUTURE PNM ACTIVITIES AT THE HAMPTON 4M WELL SITE

Dear Mr. Olson:

As you know, the order resulting from the November 1998 hearings on the issues at the Hampton 4M has been stayed pending the outcome of the appeal. It appears that the appeal will not be heard until August 1999 at the earliest. Therefore, the companies have been relieved from compliance with that order pending the outcome of the appeal, so our understanding is that no further action to comply with that order need be taken at this time.

As we have discussed, PNM will continue activities at the Hampton 4M Well Site despite the lack of agreement between Burlington Resources and PNM on the future course of action at the site. Therefore, pending the outcome of the appeal, PNM will proceed with activities at the site according to PNM's approved Groundwater Management Plan and any modifications to that plan that may have or will be approved by the Oil Conservation Division (OCD). We understand that Burlington has been directed by the OCD to reinstall the monitoring wells that PNM originally had installed and that Burlington removed or destroyed during its remediation activities at the site. We have asked Burlington to inform us when they reinstall the wells, so we can have someone onsite to observe the work. After the wells are properly installed and completed, PNM will recommence sampling and monitoring according to PNM's approved groundwater management plan.

The one exception to the above is the reinstallation of a monitoring well within the area of PNM's former pit. PNM will site and reinstall that monitoring well, and will offer Burlington the opportunity to observe the installation if Burlington so chooses. As always, Burlington is welcome to split samples or perform its own sampling from any of the wells that have been installed by PNM, and PNM will furnish data to Burlington from any sampling activities undertaken by PNM. We have asked for similar consideration from Burlington regarding data they may collect independently of PNM's efforts.

If you have any questions, please contact me at (505) 241-2015. Please contact Maureen Gannon directly to discuss any suggestions you may have regarding the foregoing.

Sincerely,

A handwritten signature in cursive script, appearing to read "Toni Ristau", is located below the word "Sincerely,".

Toni Ristau
Director, Environmental Services

William Olson, OCD

May 3, 1999

Page 2

cc: Bruce Gantner, Burlington Resources
C. Adams, Esq., PNM
R. Alvidrez, Esq., Keleher & McLeod
M. Gannon, PNM

Public Service Company
of New Mexico
Alvarado Square MS. 0408
Albuquerque, NM 87158

May 3, 1999

Transmitted via Fax (505-827-8177)
and via First Class mail



Mr. William Olson
State of New Mexico
Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

RE: FUTURE PNM ACTIVITIES AT THE HAMPTON 4M WELL SITE

Dear Mr. Olson:

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If you have any questions, please contact me at (505) 241-2015. Please contact Maureen Gannon directly to discuss any suggestions you may have regarding the foregoing.

Sincerely,

A handwritten signature in dark ink, appearing to read "Toni Ristau", is written over a light-colored background.

Toni Ristau
Director, Environmental Services

William Olson, OCD
May 3, 1999
Page 2

cc: Bruce Gantner, Burlington Resources
C. Adams, Esq., PNM
R. Alvidrez, Esq., Keleher & McLeod
M. Gannon, PNM

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

**CASE NO. 12033
DE NOVO**

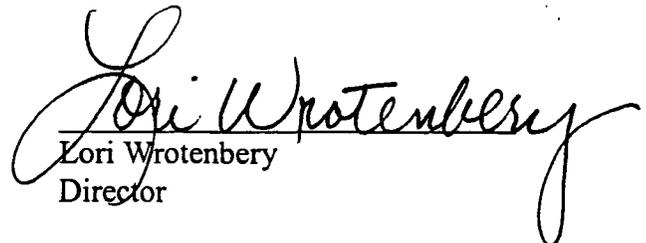
**APPLICATION OF PUBLIC SERVICE COMPANY
OF NEW MEXICO FOR REVIEW OF OIL CONSERVATION
DIVISION DIRECTIVE DATED MARCH 13, 1998, DIRECTING
APPLICANT TO PERFORM ADDITIONAL REMEDIATION
FOR HYDROCARBON CONTAMINATION,
SAN JUAN COUNTY, NEW MEXICO.**

STAY OF ORDER NO. R-11134

Burlington Resources Oil & Gas Company ("Burlington") filed a Motion for Partial Stay of Order R-11134 on April 5, 1999. Pursuant to order ¶ 5 on page 5, Burlington and PNM are to submit remediation plans to the Oil Conservation Division by April 6, 1999. However, Burlington and Public Service Company of New Mexico ("PNM") filed applications for a *de novo* hearing before the Oil Conservation Commission. Consequently, a Commission hearing will be scheduled and an order entered based upon the evidence presented at that hearing. Therefore, the Division Order R-11134 is hereby stayed in its entirety pending a Commission hearing.

On February 26, 1999, a Motion of the Division for Clarification/Reconsideration of Order No. 11134 was filed; that motion has been withdrawn.

Done this 5th day of April 1999.


Lori Wrotenbery
Director

CAMPBELL, CARR, BERGE
& SHERIDAN, P.A.
LAWYERS

MICHAEL B. CAMPBELL
WILLIAM F. CARR
BRADFORD C. BERGE
MARK F. SHERIDAN
MICHAEL H. FELDEWERT
ANTHONY F. MEDEIROS
PAUL R. OWEN
KATHERINE M. MOSS

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OF COUNSEL

JEFFERSON PLACE
SUITE 1 - 110 NORTH GUADALUPE
POST OFFICE BOX 2208
SANTA FE, NEW MEXICO 87504-2208
TELEPHONE: (505) 988-4421
FACSIMILE: (505) 983-6043
E-MAIL: ccbspa@ix.netcom.com

April 5, 1999

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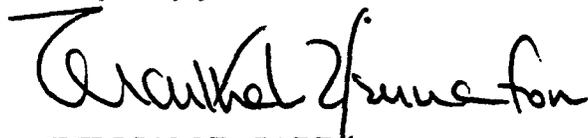
Marilyn S. Hebert
Special Assistant Attorney General
New Mexico Oil Conservation Commission
2040 South Pacheco Street
Santa Fe, New Mexico 87505

Re: *Oil Conservation Division Case No. 12033; Order No. R-11134
Application of Public Service Company of New Mexico for Review of Oil
Conservation Division Directive dated March 13, 1998, Directing Applicant
to Perform Additional Remediation for Hydrocarbon Contamination, San
Juan County, New Mexico*

Dear Ms Hebert:

Enclosed for your consideration is Burlington Resources Oil & Gas Company's Motion for Partial Stay of Order No. R-11134.

Very truly yours,


WILLIAM F. CARR

WFC:mlh

Enc.

cc: ✓ Richard L. Alvidrez, Esq.
✓ Rand Carroll, Esq.
John H. Bemis, Esq.

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

**APPLICATION OF PUBLIC SERVICE
COMPANY OF NEW MEXICO FOR
REVIEW OF OIL CONSERVATION
DIVISION DIRECTIVE DATED MARCH 13,
1998, DIRECTING APPLICANT TO PERFORM
ADDITIONAL REMEDIATION FOR
HYDROCARBON CONTAMINATION,
SAN JUAN COUNTY, NEW MEXICO.**

**CASE NO. 12033
ORDER NO. R-11134**

**BURLINGTON RESOURCES OIL & GAS COMPANY'S
MOTION FOR PARTIAL STAY OF ORDER NO. R-11134**

Burlington Resources Oil & Gas Company ("Burlington"), by and through their undersigned attorneys, moves the Oil Conservation Division and/or Commission for an order staying the provisions of Order No. R-11134 entered on February 5, 1999, which require the filing of additional plans for remediation at the Hampton 4-M well site and in support of its motion states:

1. The Division entered Order No. R-11134 on February 5, 1999 denying the application of The Public Service Company of New Mexico ("PNM") in this case and determining that both PNM and Burlington are responsible parties for hydrocarbon contamination in the area of the Burlington Resources Oil & Gas Company Hampton 4-M Well located in Unit N, Section 13, Township 30 North, Range 11 West, NMPM, San Juan County, New Mexico.
2. Order paragraph 5 of Order No. R-11134 also directed PNM and Burlington to submit remediation plans to the Environmental Bureau of the Oil Conservation Division ("Bureau"), for approval, within 60 days of the date of the order. At a minimum these plans are to contain plans

to determine the lateral extent of contamination, to remove remaining sources of contamination, and to remediate the remaining contamination. These remediation plans must be filed by April 6, 1999.

3. Since the entry of Order No. R-11134, PNM and Burlington each filed an application for a hearing *de novo* on this application by the Oil Conservation Commission.

4. The Commission has set a prehearing conference on Tuesday, April 13, 1999, in preparation for a Commission hearing.

5. The order which results from a Commission hearing could supercede Division Order No. R-11134 on any or all issues in this case including the requirement for new remediation plans..

6. At this time, each party has a remediation plan on file which has been approved by the Bureau and which governs the remediation activities of the parties at this location.

7. A stay of order paragraph 5 of Order No. R-11134 will defer the filing of additional remediation plans until the Commission can fully review the issues in this case, including the need for additional remediation plans at the pending hearing *de novo*.

WHEREFORE, Burlington Resources Oil & Gas Company, requests that the Division and/or the Commission enter its order staying the provisions of order paragraph 5 of Division Order No. R-11134 pending the entry of a Commission order in the pending hearing *de novo* in this case.

Respectfully submitted,

CAMPBELL, CARR, BERGE
& SHERIDAN, P. A.

By: 
WILLIAM F. CARR

Post Office Box 2208
Santa Fe, New Mexico 87504-2208

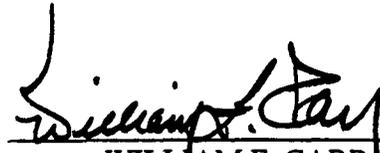
BURLINGTON RESOURCES OIL & GAS
COMPANY

CERTIFICATE OF SERVICE

I hereby certify that I have caused a true and correct copy of the foregoing Motion for Partial Stay of Division Order No. R-11134 to be mailed and/or hand-delivered to the following counsel of record on this 5th day of April, 1999:

Richard L. Alvidrez, Esq.
Keleher & McLeod, P.A.
Post Office Drawer AA
Albuquerque, New Mexico 87103

Rand Carroll, Esq.
Oil Conservation Division
New Mexico Department of Energy,
Minerals and Natural Resources
2040 South Pacheco
Santa Fe, New Mexico 87505


WILLIAM F. CARR

Public Service Company
of New Mexico
Alvarado Square MS 0408
Albuquerque, NM 87158

April 2, 1999

Mr. William Olson
Hydrogeologist
Oil Conservation Division
2040 So. Pacheco
Santa Fe, New Mexico 87505



RE: HAMPTON 4M REMEDIATION PLAN - RESPONSE TO OCD ORDER R-11134

Dear Bill:

This letter is in response to Order No. R-11134 in Oil Conservation Division Case No. 12033 issued on February 5, 1999. In the Order, the OCD directed PNM to submit a remediation plan to address soil and groundwater contamination at the Hampton 4M well site within 60 days of the Order. PNM respectfully submits this letter as our remediation plan for the Hampton 4M. Our approach at the site is presented below.

1. Since 1993, PNM has implemented unlined surface impoundment activities in the San Juan Basin as per closure plans submitted to the New Mexico Oil Conservation Division (OCD) (PNM, September 1, 1993) and the U.S. Department of Interior - Bureau of Land Management (BLM) (PNM, Winter 1993). Soil remediation is proceeding under workplans identified above which were prepared following the general provisions of OCD Order R-7940-C (March 1993) and Unlined Surface Impoundment Closure Guidelines (Appendix A of Unlined Pit Remediation and Closure Program for the Farmington and Albuquerque Districts, Environmental Assessment, NM-070-93-9004, Farmington, New Mexico, July 1993). Groundwater remediation (at sites where impacts to groundwater have occurred) is proceeding under the provisions of the PNMGS Groundwater Management, Unlined Surface Impoundment Closure Plan-San Juan Basin (March 1996).

To date, PNM has remediated approximately 1000 pits and received closure approval from the OCD on essentially 100% of those sites submitted for closure (roughly 10 sites were returned by the OCD requesting documentation correction but were subsequently approved). Since 1996, PNM has discovered 37 sites where groundwater impacts have occurred. To date, we received OCD-approved closure on 9 groundwater sites and will submit another 4 sites for closure in April 1999. We are currently managing 24 active groundwater sites.

All soil and groundwater investigation and remediation activities have been successfully conducted under the PNM's established workplans. Our track record from both soil and groundwater work supports the completeness and credibility of these plans.

2. In April 1996, PNM ceased discharges from the dehydrator operated by Williams at the Hampton 4M and conducted remediation of soils underneath the former pit. In addition, between January 1998 and November 1998, PNM recovered over 1000 gallons of free product from the groundwater table underlying the Hampton 4M well site. Data developed as a result of Burlington's free product remediation efforts November 1998 through January 1999 confirm that the release(s) of free product

that form the source of dissolved phase contamination in groundwater and subsurface soils in the vicinity of PNM's former dehydrator pit at the Hampton 4M are ongoing. As PNM has not conducted any kind of dehydration or similar gas gathering operations at this site since June 30, 1995, soil or groundwater contamination that may be discovered at this site through additional investigations cannot possibly have originated from PNM's activities.

3. Through their remediation activities at the site in late 1998, Burlington has thus demonstrated conclusively that the release point or points of free product are upgradient of PNM's former operations in the area of Burlington's activities.

In lieu of submitting a new remediation plan as directed in the Order No. R-11134, and in conformance with our discussions with you, PNM requests that any further investigative and remediation activities of soil and groundwater associated with dehydration activities at the Hampton 4M be conducted pursuant to existing PNM workplans currently approved and in place.

PNM will not conduct additional investigation/remediation activities unless and until the release(s) of free product by Burlington to the groundwater upgradient from and in the area of PNM's former operations are identified, the release(s) or discharge(s) are ceased, and any additional soil contamination and the dissolved-phase groundwater contamination attributable to the presence of free product is remediated.

If you have any questions regarding the contents of this letter, please call me at (505) 241-2974.

Sincerely,
PNM Environmental Services Department



Maureen Gannon
Project Manager

cc: C. Adams, Esq., PNM
R. Alvidrez, Esq., Keleher & McLeod
T. Ristau, PNM
I. Deklau, Williams
B. von Drehle, Williams
E. Hasely, Burlington Resources



NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

April 1, 1999

William F. Carr
Campbell, Carr, Berge & Sheridan, P.A.
Post Office Box 2208
Santa Fe, New Mexico 87504-2208

Richard L. Alvidrez
Keleher & McLeod, P.A.
Post Office Drawer AA
Albuquerque, New Mexico 87103

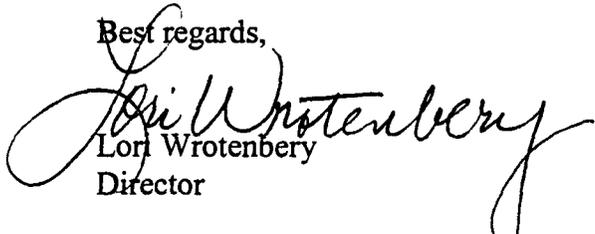
**Re: Application of Public Service Company of New Mexico for review of Oil Conservation Division directive dated March 13, 1998, directing applicant to perform additional remediation for hydrocarbon contamination, San Juan County, New Mexico.
Case No. 12033 *de novo***

Gentlemen:

In preparation of the *de novo* hearing before the Oil Conservation Commission ("Commission"), a prehearing conference will be held on Tuesday, April 13, 1999, at 2:00 p.m. at the Oil Conservation Division at 2040 South Pacheco, Santa Fe, New Mexico.

The matters to be discussed at the conference will include the following: a discovery schedule, if necessary; witness and exhibit lists; the use of prepared written testimony; stipulations as to facts; and length and schedule for the Oil Conservation Commission hearing. Lyn Hebert, attorney for the Commission, will conduct the conference.

Best regards,


Lori Wrotenbery
Director

cc: Rand Carroll



Direct Dial: 505-346-9113

March 5, 1999

HAND-DELIVERED

State of New Mexico
Oil Conservation Commission
2040 South Pacheco
Santa Fe, New Mexico 87501

RECEIVED

MAR 09 1999

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

Re: OCD Case No. 12,033

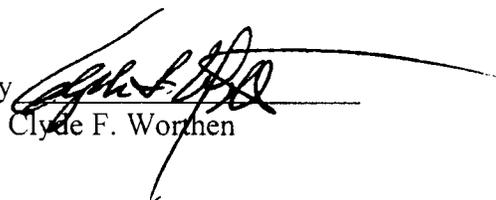
Ladies and Gentlemen:

Enclosed for filing with the Oil Conservation Commission, please find an original and three copies of Public Service Company of New Mexico's Application and Request for *de novo* Hearing on Order No. R-11134 Issued by the New Mexico Oil Conservation Division. After filing the Application, please return an endorsed copy in the self-addressed and stamped envelope which is also enclosed.

Thank you for your assistance in this matter. If you have any questions or comments, please do not hesitate to contact me.

Very truly yours,

KELEHER & McLEOD, P.A.

By 
Clyde F. Worthen

CFW:lcb

Enclosures

cc: (w/encl.) Colin Adams, Esq.
" Toni Ristau, Esq.
" Mr. Ron Johnson
" Ms. Maureen Gannon
" Rick Alvidrez, Esq.

Russell Moore
William B. Keleher
Michael L. Keleher
Charles A. Pharris
Richard B. Cole
Arthur O. Beach
Thomas F. Keleher
Charles L. Moore
Robert H. Clark
Clyde F. Worthen
Spencer Reid
Elizabeth E. Whitefield
Robert C. Conklin
Patrick V. Apodaca
Margaret E. Davidson
Thomas C. Bird
Richard L. Alvidrez
Kurt Wihl
Eric R. Burris
S. Charles Archuleta
Tracy J. Ahr
Susan M. McCormack
David W. Peterson
Sean Olivas
Claudia Gayheart Crawford
Jacqueline M. Woodcock
Gary J. Van Luchene
James C. Jacobsen
Kathleen M. Regan
Alfred A. Park
Evan S. Hobbs
Mary R. Jenke

W. A. Keleher (1886-1972)
A.H. McLeod (1902-1976)

Of Counsel
L. Skip Vernon

Mailing Address
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Albuquerque NM 87103

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

IN THE MATTER OF THE HEARING CALLED
BY THE OIL CONSERVATION COMMISSION
FOR THE PURPOSE OF CONSIDERING:

APPLICATION OF PUBLIC SERVICE COMPANY
OF NEW MEXICO FOR *DE NOVO* HEARING ON
ORDER NO. R-11134 ISSUED BY THE NEW
MEXICO OIL CONSERVATION DIVISION IN
OCD CASE NO. 12.033

CASE NO. _____

**APPLICATION AND REQUEST FOR *DE NOVO* HEARING
ON ORDER NO. R-11134 ISSUED BY
THE NEW MEXICO OIL CONSERVATION DIVISION**

COMES NOW Applicant, Public Service Company of New Mexico ("PNM"), and pursuant to 19 NMAC 15 § 1220, hereby submits its application and request for a *de novo* hearing relating to Order No. R-11134 (the "Order") issued by the New Mexico Oil Conservation Division ("OCD" or "Division") in OCD Case No. 12.033. In support of this application, PNM states as follows:

1. PNM is a combined natural gas and electric utility providing natural gas service to customers in various areas of the State of New Mexico.
2. In furtherance of its business as a gas utility, PNM procures a portion of its gas supply from various producers in the northwestern part of New Mexico.

3. PNM has procured natural gas from Burlington Resources, Inc. and its predecessors, Meridian Oil Company and/or Southland Royalty Company (collectively "Burlington"). Burlington has owned and operated a well known as the Burlington Resources Hampton 4M well ("Hampton 4M") located at Unit Letter N, Section 13, Township 30N, Range 11 W near Aztec, New Mexico. The Hampton 4M is located on certain land leased by Burlington from the United States Bureau of Land Management ("BLM"). PNM has purchased natural gas produced from the Hampton 4M.

4. Burlington installed, maintained and continues to operate an extensive amount of well equipment located in the southernmost portion of the site, including two combination unit separators which discharged into an unlined earthen pit at the site. In addition, Burlington maintained two large volume product tanks on the site. Historical records show that Burlington maintained at least two unlined pits at the site. There is evidence of surface releases from Burlington's equipment at the site.

5. PNM, or its subsidiary Sunterra Gas Gathering Company, formerly owned and operated the gathering system and certain natural gas dehydration equipment located adjacent to and downgradient from Burlington's operations at the Hampton 4M site. The dehydration equipment was and is used to dehydrate the natural gas from the Hampton 4M as an accommodation for Burlington and its predecessors.

6. The dehydration units owned and operated by PNM at the Hampton 4M site are and were intended to remove water vapor from the natural gas stream. Water vapor and other liquids in the gas pipelines will cause operational problems, including freezing and shut ins of wells. The combination unit separators owned and operated by Burlington are

necessary for proper well operation in order to prevent free product from entering the dehydration unit and causing malfunctions and loss of glycol from the dehydration equipment. PNM, as a public utility, has an absolute obligation to serve its customers. Therefore, PNM installs dehydrators to remove moisture from its gas lines to help ensure operational integrity and to ensure that it can meet its obligations to serve its customers. All of PNM's former operations and equipment at the Hampton 4M were located downstream and downgradient from Burlington's operations at this site.

7. On June 30, 1995, PNM sold the gathering system and dehydration equipment associated with the Hampton 4M to Williams Gas Processing-Blanco, Inc. ("Williams"). Since June 30, 1995, Williams has owned and continued to operate the gathering system and natural gas dehydration equipment which services the Hampton 4M.

8. In 1996, PNM undertook actions to timely cease discharge into its former dehydrator pit located adjacent to the Hampton 4M by installation of a collection tank. The cease discharge was undertaken pursuant to OCD Order R-7940-C relating to the elimination of discharges into unlined pits ("Discharge Order") and PNM's Pit Closure Plan ("Closure Plan") which was submitted to and approved by the OCD and BLM in 1993.

9. In addition to achieving cease discharge, PNM undertook remediation activities to address certain hydrocarbon soil contamination in the area of the former dehydrator pit which is located downgradient from the Hampton 4M wellhead and Burlington's operations. Pursuant to the Discharge Order and PNM's Closure Plan, PNM removed and properly treated approximately 300 cubic yards of soil in and around the

former dehydrator pit at the Hampton 4M site and backfilled the pit with clean soil. PNM took the lead in these activities pursuant to its agreement with Williams for the sale of the gathering system.

10. In December 1996, subsequent to the cessation of discharge by PNM at the site and remediation of the soil contamination in the vicinity of the dehydrator pit, PNM assessed the vertical extent of the soil contamination underlying the former pit. This work was conducted pursuant to direction by the OCD and in accordance with PNM's approved Groundwater Management Plan for Surface Impoundments Closures dated March 1996 ("Groundwater Management Program"). PNM encountered groundwater at 28 ft. below surface. Initial sampling of the groundwater beneath the site revealed an approximate 2 inch layer of free phase hydrocarbons. As detailed below, the free phase hydrocarbon layer underlying the site significantly increased in thickness over the next several months, though there was no additional discharge to ground from Williams' operations at the site.

11. Upon information and belief, after PNM notified the OCD of the unusual levels of contamination at this site, the OCD directed Burlington to undertake certain investigatory and remedial activities in the immediate vicinity of Burlington's ongoing activities at the Hampton 4M. The investigation and remediation performed by Burlington included the limited removal of certain contaminated soils and the installation of temporary well borings. Temporary well borings installed by Burlington at Hampton 4M in the area upgradient of PNM's former operations detected significant soil contamination at the 15 to 16 foot level. Burlington's excavation of contaminated soils was performed to only 15 feet below grade level, leaving documented contamination in place at Hampton 4M.

12. Groundwater flow in the vicinity of the Hampton 4M is down-canyon toward the northwest. The hydraulic gradient is fairly steep and subparallel to the topographic gradient at approximately 0.10 (a slope of approximately 10%). The former dehydrator pit area is located downgradient and downstream from Burlington's Hampton 4M well and wellhead equipment.

13. In August 1997, the OCD "drew a line in the sand" on the Hampton 4M well pad between the location of PNM's former dehydration pit on the north (downgradient) end of the site and Burlington's equipment on the south (upgradient) end of the site. PNM was designated responsibility for *all* contamination north of the OCD line of demarcation (downgradient of the wellhead and all operating equipment at the site) and Burlington was designated responsibility for *all* contamination on the south end of the well pad (upgradient of the wellhead and of Williams' operating equipment at the site).

14. The basis for the OCD's line of demarcation at the well pad was the belief that there were two sources of contamination at the site. One source was thought to be PNM's former dehydrator pit and the other was some unknown source located to the south and upgradient of PNM's pit on the Burlington portion of the well pad.

15. Pursuant to a Groundwater Management Program, PNM commenced groundwater monitoring and recovery of free phase hydrocarbons in the vicinity of the Hampton 4M site. PNM installed a free product recovery well, MW-6, in November 1997 and initiated recovery of free phase hydrocarbons in January 1998. At that time, free product thickness in MW-6 was 4.71 feet and 4.41 feet in MW-2.

16. PNM installed monitoring well MW-8 downgradient from the Burlington source area and upgradient from PNM's former pit area. Test results from the well showed soil contamination at depths of 14 to 20 feet below grade. In addition, the groundwater had a visible sheen and analytical results showed high concentrations of dissolved phase hydrocarbons. The foregoing test results show that upgradient contamination from Burlington's operations exists and is impacting the area of PNM's former pit.

17. Burlington installed temporary well TPW-02 upgradient of PNM's former pit. Analysis from the well boring showed significant soil contamination at a depth of 25 to 26 feet. In addition, analysis of water from the temporary well showed the presence of free product in the groundwater. Because free product will not migrate upgradient, particularly when a recovery well is pumping in an area downgradient from the temporary well, the contamination at TPW-02 originated from an upgradient source and was released through the normal operation or malfunction of Burlington's equipment at the site.

18. Sampling results from monitoring wells indicate that hydrocarbon contamination has migrated downgradient from the area of the Hampton 4M well head and well head equipment to the area of PNM's former dehydrator pit. In addition, these sampling results show that contamination may have migrated to downgradient off-site locations.

19. The OCD issued a letter dated March 13, 1998 directing PNM to "take additional remedial actions within 30 days to remove the remaining source area with free phase hydrocarbons in the vicinity of and immediately downgradient of the dehy pit." The

March 13, 1998 constituted an appealable final determination by the OCD (Final Determination"). A true and correct copy of the OCD's Final Determination is attached as Exhibit "A".

20. PNM continued recovery of free product until early November of 1998 when MW-6 was removed from the site by Burlington, effectively rendering any additional free product recovery by PNM an impossibility. Over the nearly 11 months of operation, PNM recovered approximately 1,100 gallons of free product from the groundwater. Free product thickness decreased by two feet as a result of PNM's recovery actions. PNM also continued to conduct additional sampling from the monitoring wells at and around the site. The continued monitoring showed the presence of free product in wells far upgradient from PNM's former unlined pit in the location of Burlington's operations.

21. In early November 1998, Burlington undertook soil remediation in the area of PNM's former unlined pit. Burlington used a bulldozer to excavate in the area of the former pit until Burlington encountered groundwater. The groundwater contained free product contamination. Burlington's use of the bulldozers resulted in the removal and destruction of PNM's monitoring and recovery wells in this area. Burlington excavated all of the remaining soil underlying PNM's former pit location (as well as underlying Williams' current operations) thereby completely eliminating either the dehydrator or the former pit as a potential source of any further soil or groundwater contamination.

22. Burlington's stated remediation strategy was to remove the free product contamination by pumping the groundwater (including any free product on the groundwater) dry under the Hampton 4M well pad. Upon information and belief,

Burlington has been unsuccessful at pumping all of the groundwater from under the site or in removing all free product contamination at the site.

23. Data developed as a result of Burlington's free product remediation efforts confirm that the free product contamination at the Hampton 4M could not have originated from PNM's former pit. The release point of the free product is clearly upgradient in the area of Burlington's operations. Moreover, the volume of free product recovered thus far is far in excess of any amounts that PNM could have released to the groundwater from its pit under a worst case scenario.

24. The data developed during the course of investigation at this site show that there is a continuing source for dissolved phase hydrocarbons and suggest a continuous or intermittent source of free phase product in the vicinity of the Hampton 4M. The data also show that the source for the dissolved phase and free phase product is upgradient from PNM's former dehydrator pit and did not originate from the pit.

25. Because of the existence of a continuing source for contamination in the vicinity of the Hampton 4M, from operations and locations that are not within the control of PNM, any efforts to conduct further remediation by PNM would be ineffective.

26. Unless and until the specific release point or points of the contamination is located and this source is removed, it is unreasonable to require PNM to conduct further remediation in the area of the former pit.

27. It is likely that operational deficiencies relating to the separators and tanks owned and operated by Burlington and its predecessors as Hampton 4M have resulted in

the release of free phase product to the environment which has impacted the soils and groundwater in the vicinity of the Hampton 4M.

28. In the alternative, it is possible that a casing leak or leaks, or leaks in underground piping wellhead operated by Burlington on Burlington's leasehold, has caused and/or is causing the release of free product to the environment. As PNM is neither the lessee nor the operator of the well or the wellhead equipment, PNM cannot investigate or control this release.

29. Under either alternative, the free phase product in the vicinity of the Hampton 4M is neither owned, generated or released by PNM. The product is and remains the property of the producer, wherever it may be situated. Thus, PNM had no control over the free phase product and related dissolved phase contamination which are present in the groundwater or which caused soil contamination. Accordingly, PNM has no liability for further investigation or remediation of the free phase product or dissolved phase contamination at the site, and, as PNM has completely remediated all soils which may have been contaminated by its operations, also has no liability for further investigation or remediation of soil contamination at the site.

30. Moreover, based upon the data concerning the area and thickness of the free product plume, PNM has been able to calculate an estimated volume of free product under the site. A conservative estimate of the volume of free product under the site is between 7,700 and 13,000 gallons.

31. There is also an apparent anomaly in production rates of hydrocarbon product from the Hampton 4M well. The production records showing the oil and gas ratios

for the Hampton 4M well indicate that there was no recovery of any oil or liquid hydrocarbons from the Mesa Verde formation for a period of at least two years, though gas production from the formation continued during that period. This loss of production is unexplained. The product unaccounted for by Burlington for the year 1995 alone represents 100 to 125 percent of the volume of free product currently estimated to underlie the site.

32. The combination unit separators owned and operated by Burlington have at least a 99 percent efficiency rate. This means that the separators remove over 99 percent of any free product from the natural gas piped to PNM's dehydration equipment. Under these circumstances, very little free product would ever reach PNM's dehydrators. The dehydrators were designed and operated so that if carryover hydrocarbons were received from upstream operations, the dehydrator sensing element would detect the carryover and would shut in the well. Indeed, the operational history gathered concerning PNM's dehydrators suggests that they were working well. Field personnel indicated that, on occasion, the well would be found to have been shut in, so the sensing element was operating properly to prevent carryover of hydrocarbons into the dehydrator and thus into the discharge pits. Also, no excessive glycol loss or other operational problems with the dehydrators were noted, indicating that the dehydrators neither received nor discharged significant amounts of free product. If significant amounts of free product had gone to the dehydrators due to a malfunction of Burlington's equipment and subsequent malfunction of the sensing element on the dehydrator, significant loss of glycol and other loss of function would have resulted. Because there was no significant loss of glycol or other major

dehydrator operational problems noted, it is reasonable to conclude that the dehydrators were working properly and that little free product was discharged to the pit through the dehydrator.

33. Using data concerning hydrocarbon production from the Hampton 4M well, together with information concerning the relative efficiencies of the separators and volatilization of the free product, PNM was also able to calculate the maximum amount of free product which could have been discharged to its former pit. These calculations show that a maximum of 523 gallons of free product would have been discharged into PNM's pit during the entire existence of the unlined pit. This figure represents the maximum amount of product that could have possibly entered the pit as contrasted with the maximum possible amount that could have entered the ground water. The amount that could have entered the ground water would be significantly less than this amount. As large amounts of free product were never observed in the pit, any hydrocarbons that were released to the pit would have been released slowly, over a long period of time, and soils in and underlying the pit would have absorbed the free product before it could reach the ground water. Other natural processes would also have served to begin the breakdown of the hydrocarbons before it reached groundwater. All of this data suggest that free product could not have come through PNM's pit, migrated through the soil column and ended up as more than four feet of free product in the ground water. PNM did not handle sufficient volume of product through its dehydration pit to result in such contamination.

34. PNM maintains that even if it were determined that PNM somehow contributed to the presence of free product at the Hampton 4M site, it has already recovered

well in excess of any amounts that it could have possibly introduced to the ground water. As noted above, the maximum amount of free product that could possibly have been discharged by PNM is approximately 500 gallons. Up to the time when PNM's recovery well was removed by Burlington, PNM had recovered in excess of 1,100 gallons of free product from the site.

35. As noted above, PNM is no longer owner of the gathering system and dehydration equipment associated with Hampton 4M. The subject system and equipment was sold to Williams on June 30, 1995. At the time that pit remediation was commenced at the Hampton 4M site, PNM no longer owned or operated any facilities at the site. To the extent that any contamination occurred at the former pit location at the Hampton 4M site after June 30, 1995, such contamination is not the responsibility of PNM.

36. Pursuant to OCD practice and internal policy, prior owners or operators of a facility are not regarded as the "responsible person" for purposes imposing liability for abatement of contamination at natural gas well sites. Therefore, under the OCD's practice and internal policy, PNM, as a former operator, is not a "responsible person" for purposes of any required activities in the vicinity of the Hampton 4M.

37. PNM filed a timely application for appeal of the OCD's Final Determination on April 13, 1998. A hearing was held before Hearing Examiner Mark Ashley on November 19 and 20, 1998 in Santa Fe, New Mexico. Appearing at the hearing were PNM, the OCD and Burlington.

38. On February 5, 1999, the Hearing Examiner issued his Order which was adopted by the Division Director. A true and correct copy of the Order is attached as

Exhibit "B". The Order modified the OCD's Final Determination in several respects. The Order concluded that both PNM and Burlington had contributed to free phase contamination under the Hampton 4M well pad. The Order determined that PNM was responsible for any soil contamination on the north side of the previous OCD line of demarcation on the well pad. The Order further determined that Burlington was responsible for any soil and groundwater contamination on the south side of the OCD line of demarcation. As to any groundwater contamination on the north side of the OCD line of demarcation, the Hearing Examiner ruled that PNM and Burlington were jointly responsible for such contamination. PNM and Burlington were directed to submit proposed remediation plans within 60 days of the Order. PNM was assigned primary responsibility for any required reporting.

39. PNM is seeking a *de novo* review of the Order by the Oil Conservation Commission ("OCC") pursuant to 19 NMAC 15 § 1220. PNM seeks a determination by the OCD that PNM has completed all remediation activities relating to its former unlined pit and has no further responsibility for the remediation of any soil contamination, free product contamination and the associated dissolved phase hydrocarbons at and in the vicinity of the Hampton 4M well site.

40. The bases for the relief sought by PNM in this application are as follows: 1) PNM's former unlined pit is not the source for any free phase product in the groundwater under the site; 2) the data show that the free phase product underlying the Hampton 4M well pad originated at a release point or points upgradient of PNM's former dehydration pit; 3) PNM is not the owner of any free product under the site; 4) to the extent that free

product may have been discharged into PNM's former unlined pit it was the result of operational or mechanical failure of Burlington's upgradient equipment and operations; 5) PNM has already recovered more free product from the ground water than could have possibly been discharged into its former unlined pit under any reasonable scenario; 6) all soil contamination underlying PNM's former unlined pit that was potentially a result of discharges from PNM operations was removed, and any additional contamination that has occurred in the area has been conveyed there from upgradient release points/sources and/or from discharges from equipment that is not owned, operated, or controlled by PNM; and 7) the OCD has no authority to require PNM to submit a remediation plan as PNM has already submitted and received approval of its Closure Plan and Groundwater Management Program.

41. Based upon the foregoing, PNM respectfully requests that the OCC grant the following relief:

- a. Schedule a *de novo* hearing before the OCC to consider PNM's application in this matter:
- b. Stay the OCD Order pending a determination by the OCC on PNM's application:
- c. Declare that all soil contamination in the area of PNM's former pit has been remediated and that PNM shall have no further responsibility for soil contamination at the site:

- d. Declare that PNM is not a responsible party for any free product underlying the Hampton 4M site or for the associated dissolved phase product in the vicinity of the site:
- e. Grant PNM closure for its former unlined pit at the Hampton 4M site and relieve PNM of any further responsibility for investigation and remediation at this site
- f. Grant such other relief as the OCD deems proper.

Respectfully submitted,

KELEHER & McLEOD, P.A.

BY


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New Mexico

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

IN THE MATTER OF THE HEARING CALLED
BY THE OIL CONSERVATION COMMISSION
FOR THE PURPOSE OF CONSIDERING:

APPLICATION OF PUBLIC SERVICE COMPANY
OF NEW MEXICO FOR *DE NOVO* HEARING ON
ORDER NO. R-11134 ISSUED BY THE NEW
MEXICO OIL CONSERVATION DIVISION IN
OCD CASE NO. 12.033

CASE NO. _____

CERTIFICATE OF SERVICE

THIS WILL CERTIFY that a true and correct copy of the Application and Request for Hearing of Public Service Company of New Mexico for Review of a Final Determination by the New Mexico Oil Conservation Division was mailed, this 13th day of April, to the following:

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of New Mexico

Olson, William

From: Ristau, Toni[SMTP:TRistau@mail.pnm.com]
Sent: Wednesday, March 03, 1999 4:57 PM
To: Olson, William
Subject: FW: Hampton 4M photos from 3/1/99



h4m0399e.doc

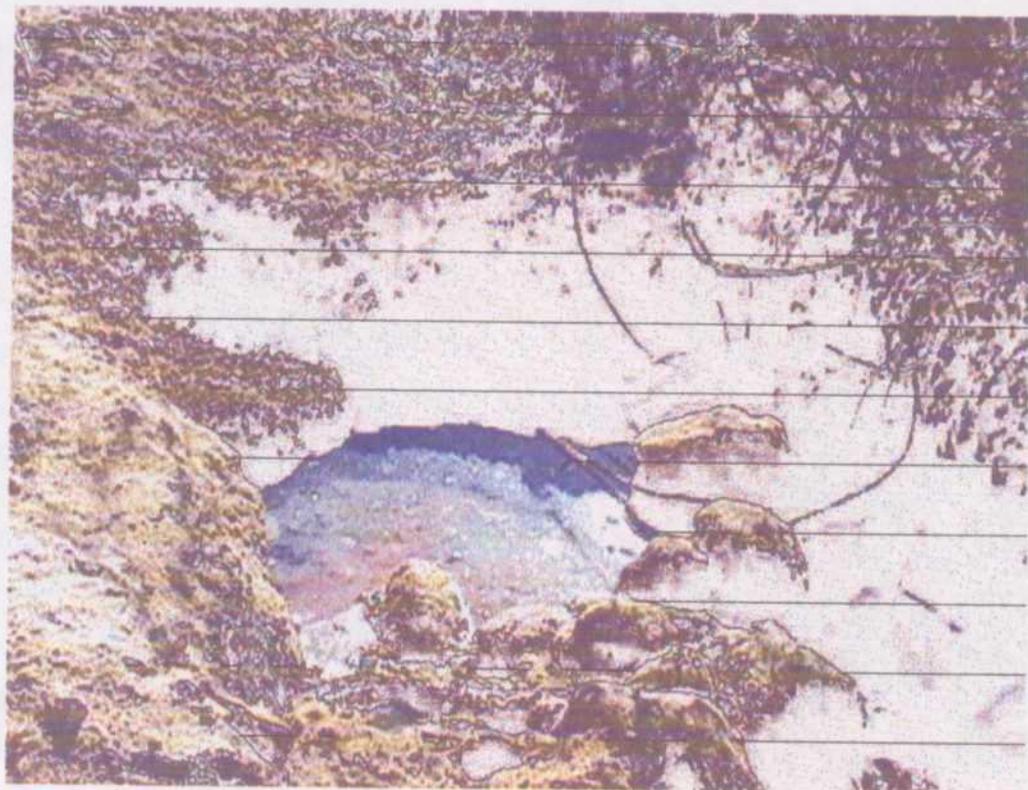
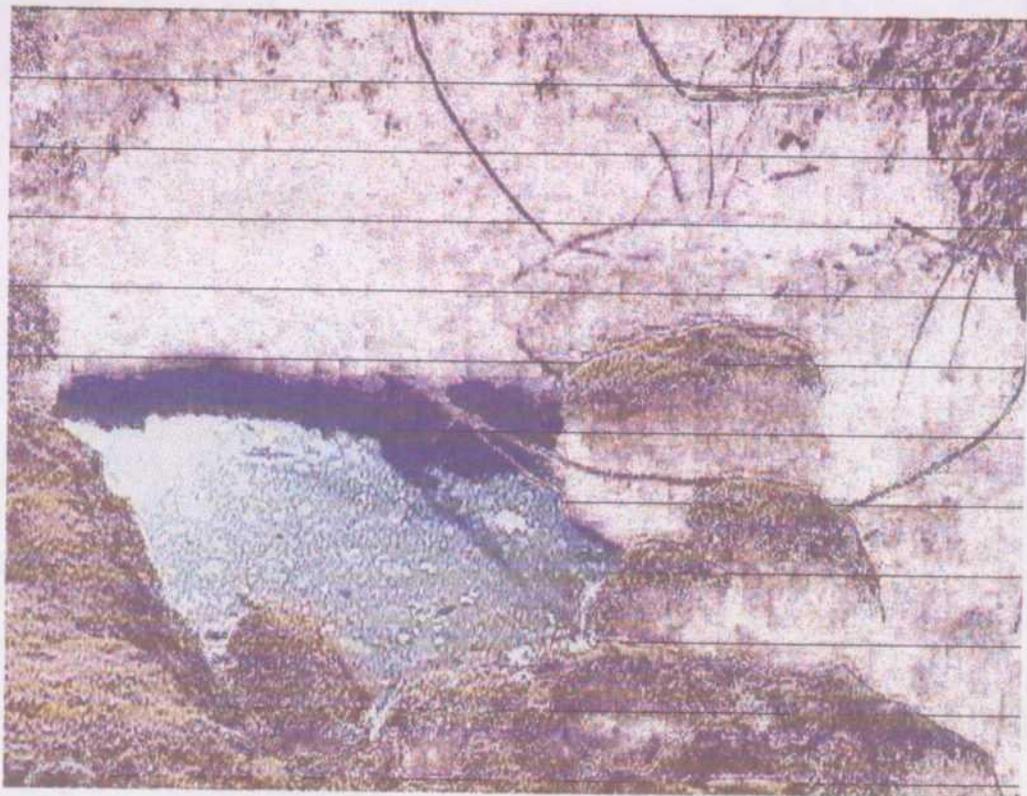
> -----
> **From:** Ristau, Toni
> **Sent:** Wednesday, March 03, 1999 10:55 AM
> **To:** 'wolson@state.nm.us'
> **Subject:** Hampton 4M photos from 3/1/99
>
> Bill --
>
> The attached file has photos taken at the Hampton 4M site on March 1,
> 1999. I dropped them into a Word document so I could include captions.
>
> I tried sending these all as one megafile, but it was apparently too big,
> and I kept getting an "undeliverable" message. So - I'm trying again,
> one page at a time (so you should get a total of five identical email
> messages, each with a different attachment).
>
> If you have trouble retrieving these, let me know, and I'll try another
> method/format for getting them to you.
>
> Toni Ristau
> PNM Environmental Services
> (505) 241-2015
>
> Fifth page --
>
> <<h4m0399e>>
>
>

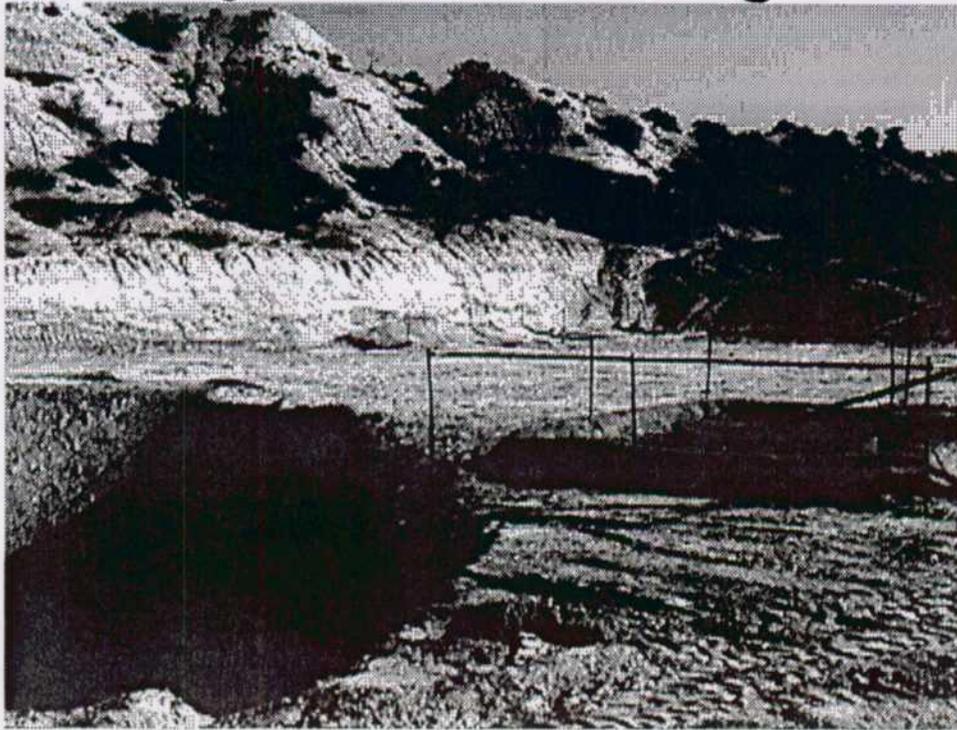


**Upper portion of seep at toe of Hampton 4M wellpad –
standing water w/oil sheen on surface
(March 1, 1999)**

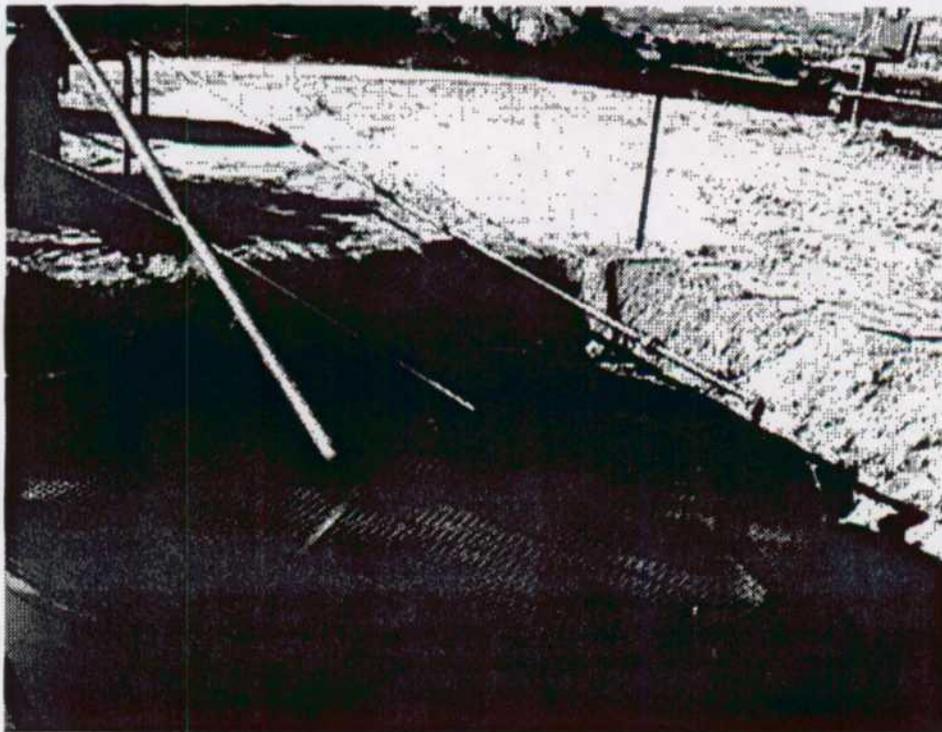


**Upper portion of seep at toe of Hampton 4M wellpad –
standing water w/oil sheen (rainbow) on surface
(March 1, 1999)**



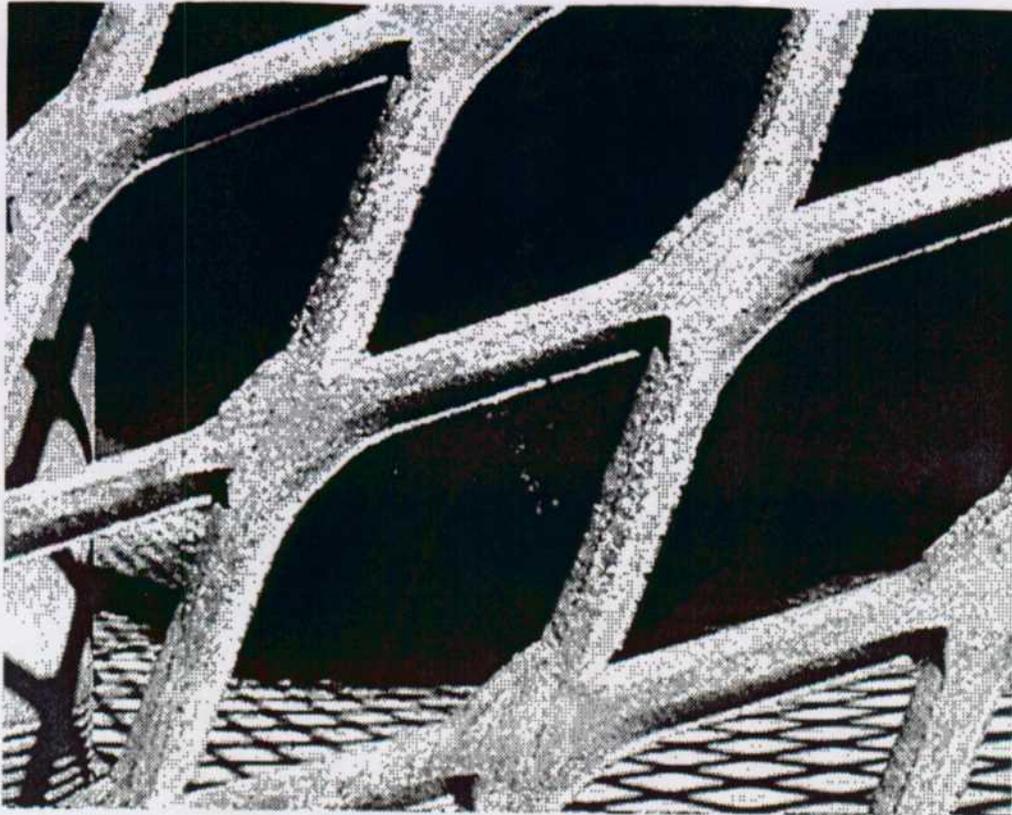


Williams' open tank at Hampton 4M (at right) – excavation on left of picture is area where dehy pit was formerly located; has been partially backfilled, and wellpad is now truncated, w/Williams' equipment moved to south, closer to wellhead (March 1, 1999)

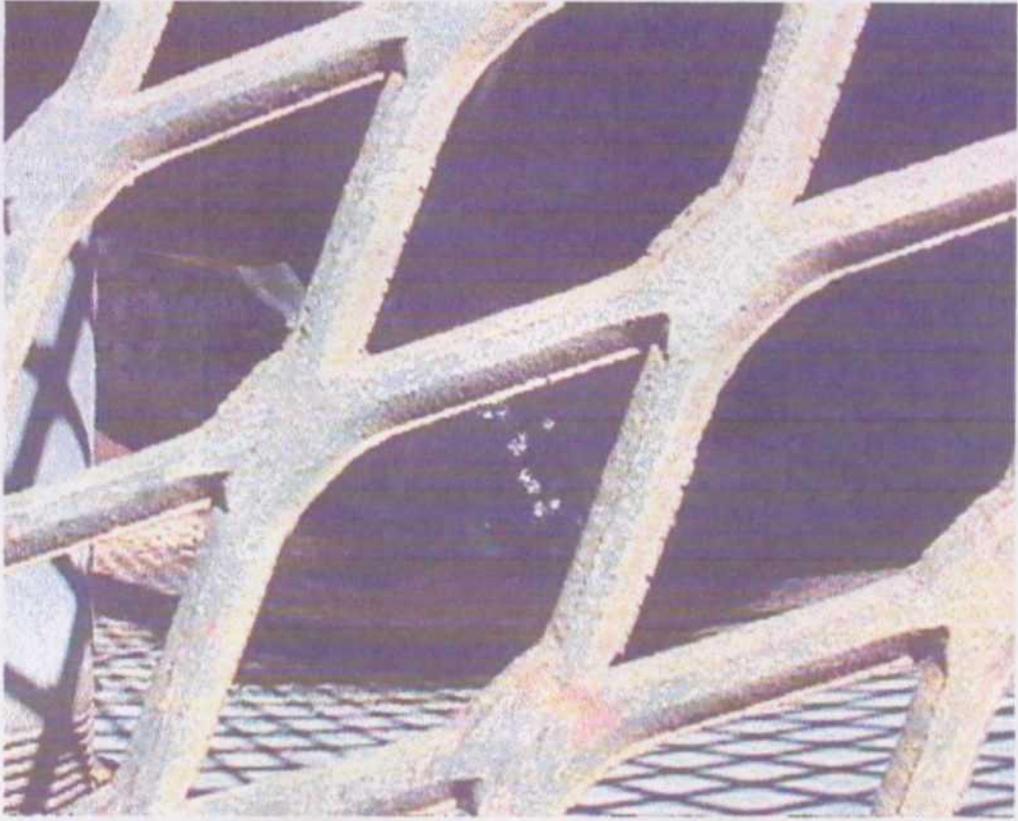


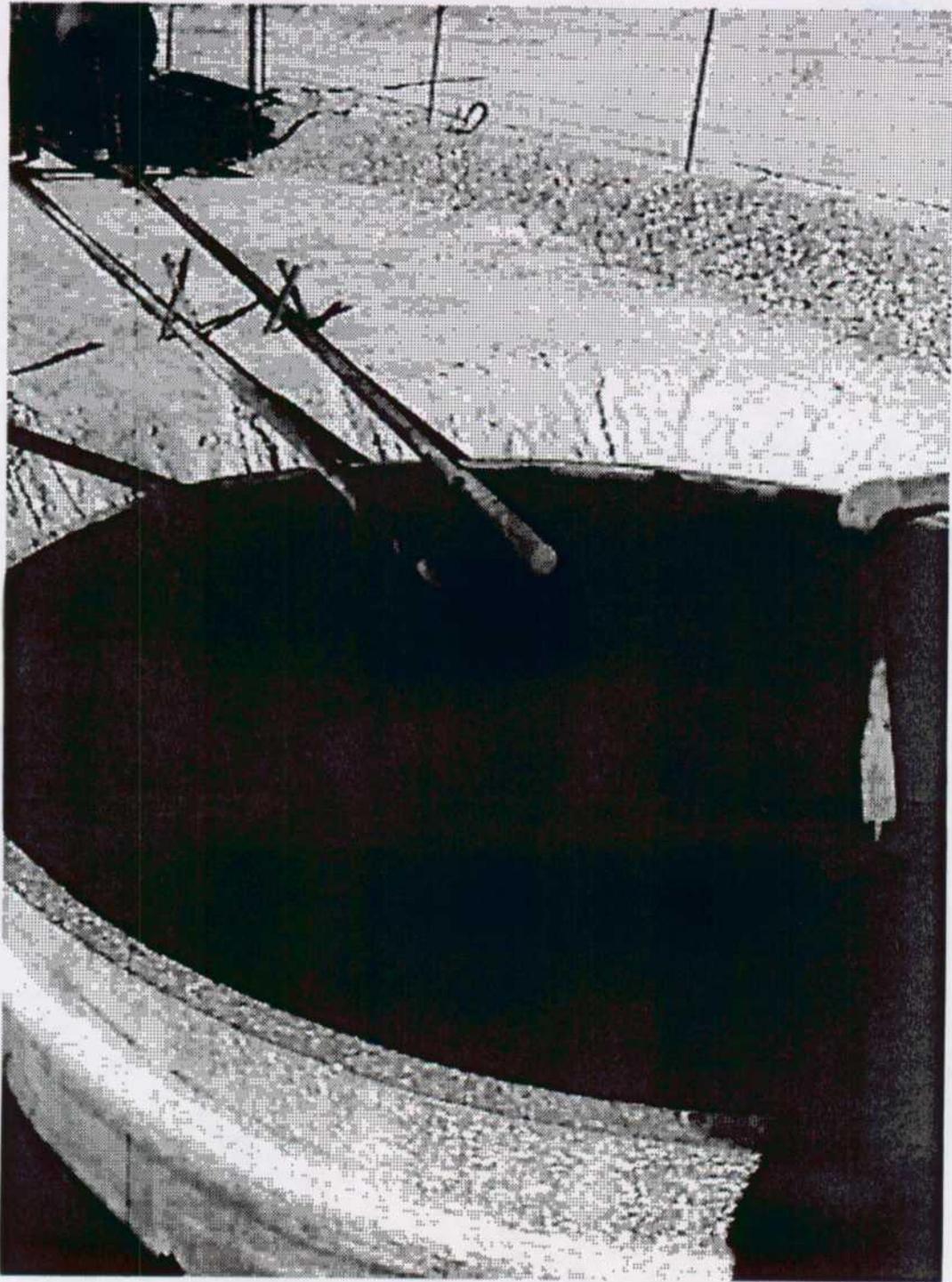
Williams' open tank at Hampton 4M (at right) – at new location on wellpad; lines are from separator before the dehy, the dehy discharge, and the dehy vent line (March 1, 1999)



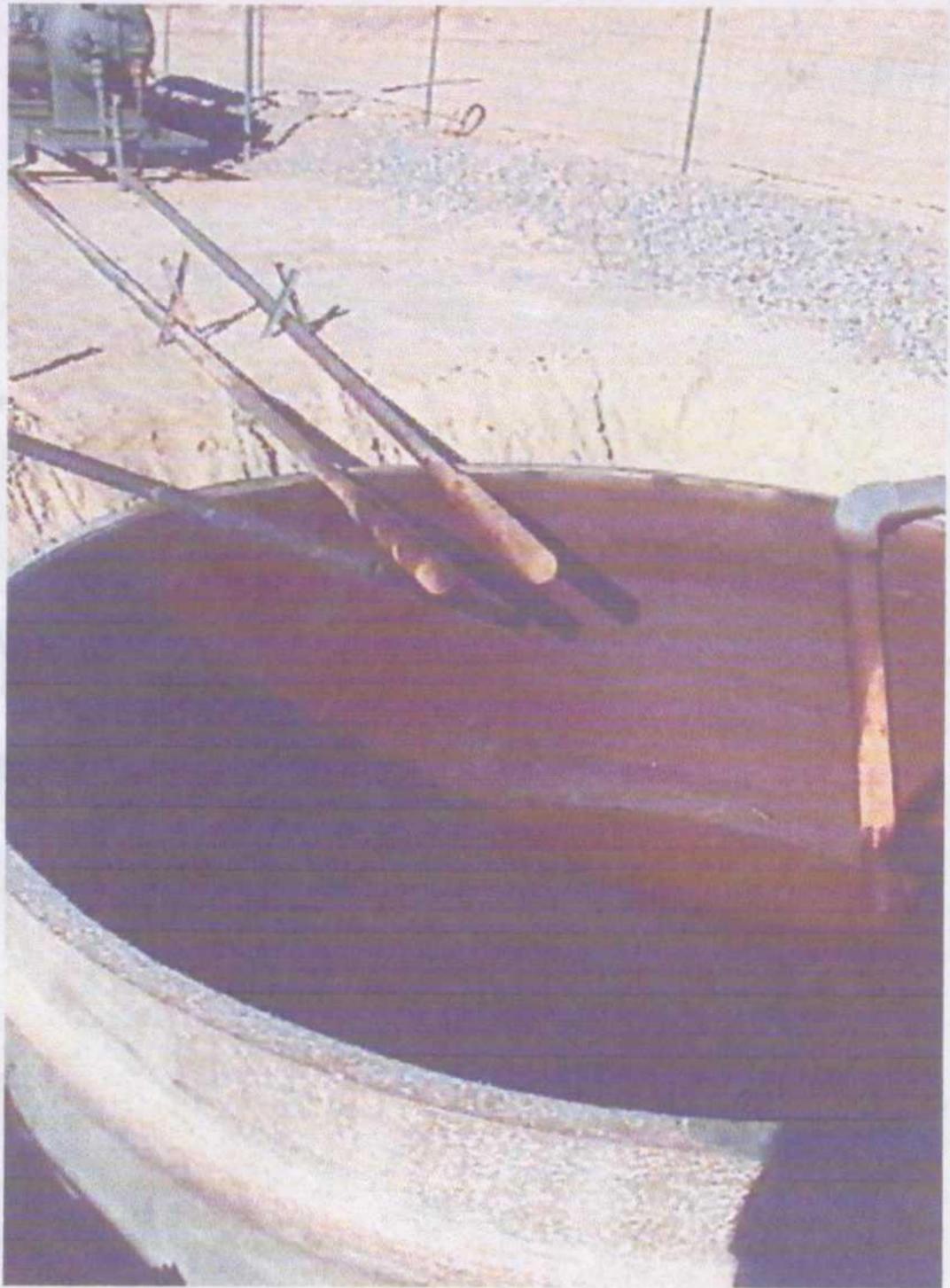


**Free product discharging from the separator into Williams' open tank at Hampton 4M; dehydrator unit was being bypassed, and carryover from Burlington's operations was discharging into the dehy wastewater tank. Williams' tank had about one foot of free product and no discernible wastewater in it as of about 3:30 pm on March 1, 1999.
(March 1, 1999)**





**Burlington open tank at Hampton 4M –
standing water w/minor amounts of product;
at the time this picture was taken, there was no discharge to Burlington's
open or closed tank, but Williams' dehydrator was being by-passed and
free product was going to Williams' tank
(March 1, 1999)**



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

**IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:**

**CASE NO. 12033
ORDER NO. R-11134**

**APPLICATION OF PUBLIC SERVICE COMPANY OF NEW MEXICO FOR
REVIEW OF OIL CONSERVATION DIVISION DIRECTIVE DATED MARCH 13,
1998, DIRECTING APPLICANT TO PERFORM ADDITIONAL REMEDIATION
FOR HYDROCARBON CONTAMINATION, SAN JUAN COUNTY, NEW MEXICO.**

BY THE DIVISION:

This case came on for hearing at 8:15 a.m. on November 19, 1998, at Santa Fe, New Mexico, before Examiner Mark W. Ashley.

NOW, on this 5th day of February, 1999, the Division Director, having considered the record and the recommendation of the Examiner,

FINDS THAT:

- (1) Due public notice has been given and the Division has jurisdiction of this case and its subject matter.
- (2) The applicant, Public Service Company of New Mexico ("PNM"), seeks an order nullifying the Division directive to PNM dated March 13, 1998 requiring it to perform additional remediation for hydrocarbon contamination in the area of the Burlington Resources Oil & Gas Company ("Burlington") Hampton No. 4 M Well ("Hampton 4M") located in Unit Letter N, Section 13, Township 30 North, Range 11 West, NMPM, San Juan County, New Mexico, and a determination by the Division that PNM is not a responsible person for purposes of further investigation and remediation of contamination at this location.
- (3) Burlington appeared at the hearing and presented testimony in opposition to the application of PNM.
- (4) The Environmental Bureau of the Oil Conservation Division ("Bureau") appeared at the hearing and presented testimony in support of the Division directive dated

March 13, 1998.

(5) In 1984 Burlington's predecessors Meridian Oil Company and/or Southland Royalty Company drilled and completed the Hampton 4M well in the Dakota and Mesaverde formations. Burlington operates well equipment located in the southern most portion of the Hampton 4M well site. At one time, this equipment discharged into an unlined pit at the site. The unlined pit has since been covered up.

(6) PNM installed and operated dehydration equipment in the northern most portion of the Hampton 4M well site until Williams Field Services purchased the equipment on June 30, 1995. The equipment included an unlined discharge pit. The purpose of the dehydration equipment is to remove liquids from the gas stream produced from the Hampton 4M well.

(7) During a site assessment of the Hampton 4M well site conducted on April 23, 1996, PNM discovered potential hydrocarbon contamination at PNM's pit. PNM began closure activities at PNM's pit in April 1996 pursuant to a Bureau-approved pit closure plan.

(8) On December 16, 1996 PNM performed soil borings at PNM's former pit which encountered ground water hydrocarbon contamination.

(9) On January 13, 1997 PNM notified the Bureau in writing of ground water hydrocarbon contamination at PNM's former pit.

(10) On January 31, 1997 PNM installed two monitor wells upgradient from PNM's former pit. One of the wells, located adjacent to Burlington equipment, encountered ground water hydrocarbon contamination.

(11) On April 14, 1997 Burlington discovered a hydrocarbon seep along the northwestern edge of the Hampton 4M well site adjacent to PNM's former pit. Burlington notified both the Bureau and PNM about the seep.

(12) On April 17, 1997 Burlington conducted excavations around the northwest perimeter of the site and constructed a collection trench.

(13) On April 30, 1997 Burlington began excavation in the area of the Burlington's former pit located in the southeastern portion of the Hampton 4M well site. Burlington drilled soil borings and monitor wells at the excavation that encountered ground water hydrocarbon contamination.

(14) Additional monitor wells were installed at the Hampton 4M well site between June 1997 and May 1998.

(15) In August 1997 the Bureau drew a line of demarcation just south of the PNM equipment for the purpose of apportioning liability for hydrocarbon contamination at the Hampton 4M well site. PNM was assigned responsibility for any hydrocarbon contamination north of that line. Burlington was assigned responsibility for any hydrocarbon contamination south of the line.

(16) PNM installed a free phase hydrocarbon recovery well system adjacent to PNM's former pit in November 1997 and initiated recovery of free phase hydrocarbons from the ground water in January 1998.

(17) On March 13, 1998 the Bureau wrote to PNM and directed PNM to remove, within 30 days, the remaining source areas with free phase hydrocarbons in the vicinity of and immediately downgradient of PNM's former pit.

(18) In April 1998 PNM appealed the March 13, 1998 directive and sought a stay of the directive pending a decision on its appeal. The Division denied PNM's request for stay on August 20, 1998.

(19) On September 1, 1998, the Bureau directed PNM and Burlington to conduct additional investigation and to determine the complete downgradient extent of hydrocarbon contamination at the Hampton 4M well site.

(20) On October 28, 1998 Burlington submitted a response to the Bureau letter dated September 1, 1998. Burlington stated that if PNM did not begin remediation of PNM's former pit by October 30, 1998, then Burlington would begin remediating the entire Hampton 4M well site, starting at PNM's former pit and working south towards Burlington's former pit.

(21) PNM continued recovery of free phase hydrocarbons until early November 1998 when Burlington's remediation activities resulted in the removal of PNM's free phase hydrocarbon recovery well system.

(22) At the time of the hearing, neither PNM nor Burlington had completed remediation activities at the Hampton 4M well site.

(23) The evidence indicates that soil and ground water contamination at the Hampton 4M well site is a result of hydrocarbon releases at the facilities of both PNM and Burlington, and not from off-site sources.

(24) The evidence also indicates that the ground water gradient is from southeast to northwest.

(25) The evidence further indicates that PNM's facilities are located downgradient from Burlington's facilities and that ground water contamination from Burlington's facilities has moved downgradient and commingled with ground water contamination from PNM's facilities.

(26) The evidence failed to indicate that PNM or Burlington had removed all soil and ground water contamination that resulted from releases from their former pits.

(27) The application of PNM should be denied.

(28) Burlington should be the responsible party for any contamination remaining south and upgradient of the previously determined Bureau line of demarcation.

(29) PNM should be the responsible party for any soil contamination remaining north and downgradient of the previously determined Bureau line of demarcation.

(30) PNM and Burlington should equally share the responsibility of remediation for any ground water contamination remaining north and downgradient of the previously determined Bureau line of demarcation.

(31) Both PNM and Burlington should submit remediation plans to the Bureau, for approval, within 60 days of the date of this order. At a minimum, the remediation plans should contain plans to determine the lateral extent of contamination, to remove remaining sources of contamination, and to remediate the remaining contaminants.

(32) PNM should have the oversight and reporting responsibilities for ground water remediation in the area north and downgradient of the previously determined Bureau line of demarcation.

(33) This order should supersede all prior directives of the Bureau.

IT IS THEREFORE ORDERED THAT:

(1) The application of the Public Service Company of New Mexico ("PNM") for an order nullifying the Division directive to PNM dated March 13, 1998 requiring it to perform additional remediation for hydrocarbon contamination in the area of the Burlington Resources Oil & Gas Company Hampton No. 4-M Well located in Unit N, Section 13, Township 30 North, Range 11 West, NMPM, San Juan County, New Mexico, and a determination by the Division that PNM is not a responsible person for purposes of further investigation and remediation of contamination at this location is hereby denied.

(2) Burlington shall be the responsible party for any contamination remaining south and upgradient of the previously determined Bureau line of demarcation.

(3) PNM shall be the responsible party for any soil contamination remaining north and downgradient of the previously determined Bureau line of demarcation.

(4) PNM and Burlington shall equally share the responsibility of remediation for any ground water contamination remaining north and downgradient of the previously determined Bureau line of demarcation.

(5) Both PNM and Burlington shall submit remediation plans to the Bureau, for approval, within 60 days of the date of this order. At a minimum, the remediation plans shall contain plans to determine the lateral extent of contamination, to remove remaining sources of contamination, and to remediate the remaining contaminants.

(6) PNM shall have the oversight and reporting responsibilities for ground water remediation in the area north and downgradient of the previously determined Bureau line of demarcation.

(7) This order shall supersede all prior directives of the Bureau.

(8) Jurisdiction is hereby retained for the entry of such further orders as the Division may deem necessary.

Case No. 12033
Order No. R-11134
Page 6

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

Lori Wrottenbery
LORI WROTENBERY
Director

S E A L

11/17/98 OCD Hearing
PNM Appeal of Hampton 4M

Rick Alvarez - PNM ~~att~~ attorney
witnesses - Toni Ristan
Maureen Gannon
Mark Scilliano
Valde Terrando
Rodney Heat

Bill Carr - B R
witnesses - Ege Haseley
Paul Rissosco

Rand Carroll - OCD
witnesses - Bill Olson
Roger Anderson

~~Open~~
Rick Alvarez - Opening Statement

appeal of 3/17/98 OCD requirements
data shows tree product not from PNM due to
- appropriate sources
- ownership of product not PNM's
- OCD reluctant to appropriate liability

Want HO - relieve PNM from responsibility
- partition responsibility if an RP

Is it possible that dehy pit contributed to
either product or dissolved phase contamination
at the site ?

~~Is it possible that dehy pit contributed to
either product or dissolved phase contamination
at the site ?~~

~~dehy~~

Exhibit 26 - shows saturated soils. ~~Open~~ Did
this mean product was contaminating the soil

Have you ever observed product in current
dehy tank ?
If so volume ?

* Soil Borings SB-2 & MW-2 in
Exhibit 51 & 52 show hydrocarbons in soil
throughout the soil column all the way to GW.
Doesn't this show hydrocarbon migration from PNM
pit to GW ?

Bill Carr opening statement

opposes PNM
 sets precedence for other product sites
 PNM owned/operated dehy pit, discharged to pit
 BR is an RP but not for dehy pit case
 PNM did not follow OGD requirements
 PNM - owner/operator def. at RP
 - caused contamination

Rand Carroll opening statement

2 parties are RP's BR & PNM
 OGD not appropriate for operations liability

PNM Testimony

Tony Ristara BS - Architecture
 MS - Envir Health
 Dr. - law

Hampton 4M only site with product out of 1000 PNM sites
 30 pits out of 1000 resulted in GW contamination
 couldn't comply with OGD 3/13/98 requirements due to
 upgradient source of product
 PNM purchases gas not free liquid product
 Product recovered at site piped to BR tanks

yes → Exhibit 1, p. 2

(3)

* Save for
another witness

✓ Was PNM owner/operator of dehy unit & pit ?

Did dehy unit discharge free product to dehy pit ?

PNM ^{dehy} pit was contaminated at base of excavation

See stated that pit soils cleaned up

* PNM not responsible for dumping liquids into pit

Look for dehy cleanups (GW) with product on GW
- Honolulu like crisp

Age of pit ?

Rodney Heath - Petro Energy Inc.

worked for Southern Union
designed sep. & dehy at Hampton
Sep takes out 99% of hydrocarbons, 1% discharge to pit
200 gals./yr product to pit if operating at 99% efficiency
⇒ 2 ~~dehy~~ dehy units

Maureen Cannon - ANM Project Manager

Site assessment 4/23/96 exhibit 26

1/97 soil boring (no PFO results thru soil boring)
product observed on GW

Will provide samples refer. on last 2 pgs exhibit 26

RC. Admits to contribution of product dissolved
phase GW contamination not product

Mark Siciliano - PNM Testimony

started on site in 12/86

Blake Terrands - PNM Testimony

started on site work when product seep issue evolved

GW contours show gradient to NW
PNMdehy pit ex-gradient to ~~SW~~ N

SD-500 ft/yr GW flow velocity
0.1 hydraulic gradient

X-section shows gradient to PNM MW-6
but gradient map shows this area is x-gradient
not down gradient

x-section to scale ?

* Exhibit 52 boring MW-2 shows strong HC to GW

* Exhibit 51 boring SB-2 shows odor (HC) all way to GW
below fill

estimate 7,700 - 13,000 gals product

**OCD
CASE SUMMARY
BURLINGTON RESOURCES
HAMPTON 4M**

(November 18, 1998)

- 8/6/97 - BR submits GW report
 - GW collection trench installed near north seep.
 - Excavated tank battery pit area, water & hydrocarbons in trench.
 - Temporary monitor wells installed btw PNM pit and BR, no free product but BTEX above stds.
 - BR concludes 2 sources of contamination.

- 8/27/97 - OCD letters to BR and PNM.
 - PNM required to address areas at and downgradient of dehy pit.
 - BR required to submit work plan addressing investigation and remediation in areas upgradient of dehy pit.

- 9/19/97 - BR submits work plan.
 - Upgradient MW.
 - Additional excavation in tank battery area.

- 11/24/97 - OCD approves work plan.
 - Add permanent MW's at TPW-7 and midway between TPW-3 & 4.

- 1/30/98 - BR submits investigation/remediation report.
 - excavated to 15 feet, hauled offsite.
 - water seeped in excavation, no product
 - 100 bbls. water pumped from excavation.
 - MW-1 (upgradient), BTEX but below stds.
 - MW-8 (midway), ppm BTEX, no product
 - BR proposes
 - leave source excavation open.
 - monitor GW.
 - install source well when BTEX levels drop.

- 2/23/98 - J. Burton Everett letter to BR requesting BR cooperate with government to remediate site.

- 3/4/98 - BR letter to J. Burton Everett stating that BR has done excavation and is cooperating with OCD to remediate site.

- 3/11/98 - OCD letter to J. Burton Everett notifying that GW contamination has migrated onto his property, BR and PNM responsible, OCD will send copies of all future correspondence.

- 4/7/98
 - OCD approves BR proposal.
 - Add MW's at TPW-1 & 2 (just upgradient of dehy pit).
 - Add sampling parameters.

- 5/28/98
 - BR submits status report.
 -
 - 0.37 ft. product now in MW-8 (midway)
 - 1.41 ft. product in MW-10 just upgradient of dehy
 - MW-9 just upgradient and east, BTEX below stds.
 - tested underground flow line & well bore, no leakage stated but no results provided.
 - BR concludes increase in product towards dehy indicates product source is dehy pit
 - BR proposes continue aeration of excavation and monitoring.

- 9/1/98
 - OCD requires BR & PNM determine downgradient GW extent.
 - BR also required to submit GW remediation and monitoring work plan.

- 10/9/98
 - BR informs OCD that downgradient extent not complete because have not been able to get landowner access.

- 10/26/98
 - BR letter to PNM demands that PNM undertake remediation of their contamination by 10/30/98, otherwise BR will remediate.

- 10/28/98
 - BR notice to OCD that BR will remediate entire site if PNM does not initiate remediation of their contamination by 10/30/98. Monitoring network will be reinstalled upon completion.

- 11/9/98
 - BR notice to PNM that BR will commence entire site remediation on 11/10/98.

**OCD
CASE SUMMARY
PNM HAMPTON 4M
(November 18, 1998)**

- 1/7/97 - PNM verbally notifies OCD of dissolved phase BTEX ground water contamination discovered during dehy pit remediation (ppm levels of BTEX, DTW=28 ft.).
- 1/13/97 - PNM provides follow up written notification of ground water contamination discovered while determining vertical extent of soil contamination. Monitor well was installed in borehole.
- 4/15/97 - PNM annual ground water report submitted.
 - DTW=28 ft.
 - 12/16/96 borehole drilled, no product found, GW contaminated.
 - 1/28/97 sampling event found 4 ft. product.
 - 1/31/97 - installed 2 upgradient MW's, sampled
 - sampled product from tanks, separator, MW
 - PNM & Burlington (BR) meet onsite to discuss.
 - MW-4 upgradient from PNM, downgradient from BR contaminated but no product and BTEX lower than at PNM source.
 - Product fingerprinting, product similar to Dakota product tank.
 - PNM concludes product from BR, but no fingerprinting of product/drip from dehy.
- 8/27/97 - OCD requires that PNM address soil and GW contamination at and downgradient of dehy pit.
- 3/11/98 - OCD letter to J. Burton Everett notifying that GW contamination has migrated onto his property, BR and PNM responsible, OCD will send copies of all future correspondence.
- 3/13/98 - OCD concern over downgradient migration, requires PNM to take additional actions to remove remaining sources at and downgradient of dehy pit.
- 3/31/98 - PNM summary of remedial activities.
 - 2 additional downgradient MW's installed, but downgradient extent still not complete.
 - 1 product recovery well MW-6 installed
 - 1/12/98 product recovery initiated.
 - 1/12/98 - 3/18/98 470 gallons product recovered, product thickness reduced to 2 ft..
 - nearby private well sampled, no contamination.
 - PNM concludes they are not responsible for contamination since they do not own product, Complains about lack of effective upgradient source removal by BR.

Bill Olson Testimony

PNM Hampton 4M Hearing

Qualifications

- education
- Case background - worked on since 1/97

Reasons for designation of each responsible party

- field inspections - ~~2-3 in. product in dehy tank~~
- distinct source areas
- evaluation of BR and PNM site data -

*base excavation,
product in MW's
Ex 51 SB-2 } show HC
52 MW-2 } to GW*

Other OCD dehy pit sites with free product

- at least 6 other dehy sites with product
- product thickness ranges from 0.1 - 3 feet
- 1 site contaminated and shut down a community water supply well
- EPFS site exactly same except no upgradient sources
(Inquest)

OUTLINE OF TESTIMONY

CASE 12033

PNM - BURLINGTON - HAMPTON 4M

- demonstrative only
- not pt of record
- substantive evidence - testimony

WITNESS: Paul Rosasco, Geohydrologist--Civil Engineer

1. State your name for the record.
2. Where do you reside?
3. By whom are you employed?
4. What is position with Engineering Management Support, Inc.?
5. What is your relationship with Burlington Resources?

6. Have you previously testified before the New Mexico Oil Conservation Division?
qualified as expert witness
ground water + soil contamination + remediation

7. Review your educational background.

8. Summarize your work experience.

Site Evaluation
Remediation
Testified as an expert

9. Are you a Registered ~~Petroleum~~ ^{Civil} Engineer?

10. When were you employed by Burlington?

11. What were you asked to do?

12. What have you reviewed?

13. Have you been to the Hampton 4M Well site?

14. Are you involved in the current efforts to remediate this site?

Soil and ground water contamination

TENDER MR. ROSASCO AS AN EXPERT WITNESS IN GEOHYDROLOGY AND WELL SITE REMEDIATION.

IS PNM PIT SOURCE OF FREE PRODUCT

Ms TERAUDS - PIT NOT SOURCE OF FREE PRODUCT (EXS2)
- OBTAINED CURRENT DATA ON THIS WATER

15. (SLIDE __) Define free product

IS CURRENT REMEDIATION OF VALUE
EX#4

16. (SLIDE __) Discuss the free product at the Hampton 4M well site.

□ COULD ORIGINATE UNDER PNM PIT

17. (SLIDE __) Review the current contamination at the Hampton 4M.

- A. PNM--excavated to 12 feet
- B. Burlington--Pit as a source--Identify and review Burlington Exhibit No. 4 (Recent data analysis from the remediation work at the Hampton 4M Site).
- C. PID readings: 800 - 1200

D. DO WE TODAY KNOW THE SOURCE(S)

DEHYDRATOR - SMALL VOLUME - 10 YRS = CONTAMINATION

Ms. TERAUDS - PIT NOT SOURCE OF FREE PRODUCT

18. Has Burlington's work at this site been responsive to the requests of the OCD?

EXS2

A. **March 5, 1997 / April 8, 1997**--OCD directs Burlington to address the cause and extent of groundwater impact related to the tank drain pit and production pit on the Hampton location

SHOW FREE PRODUCT UNTIL 241

April 15, 1997--response

April 17, 1998--Burlington constructs collection trench

Exhibit see free product on the water

B. **August 27, 1997**--OCD requires Burlington to submit a work plan areas up gradient of PNM's former dehydration pit.

September 19, 1997--response

November 24, 1997--work plan accepted

December 3-6, 1997--Burlington excavates pit

C. **September 1, 1998**--OCD directs Burlington and PNM to conduct additional investigations to determine the complete down gradient extent of ground contamination at the Hampton 4M site.

(SLIDE __) **October 28, 1998**--response

November 12, 1998--Drilled additional well then remediated the site

19. (SLIDE __) Review the Results to date of Burlington's ongoing remedial activities.

20. (SLIDE __) Review Burlington's approach to groundwater remediation.

OFFER INTO EVIDENCE BURLINGTON EXHIBIT NO. 4

Burlington approach to groundwater remediation

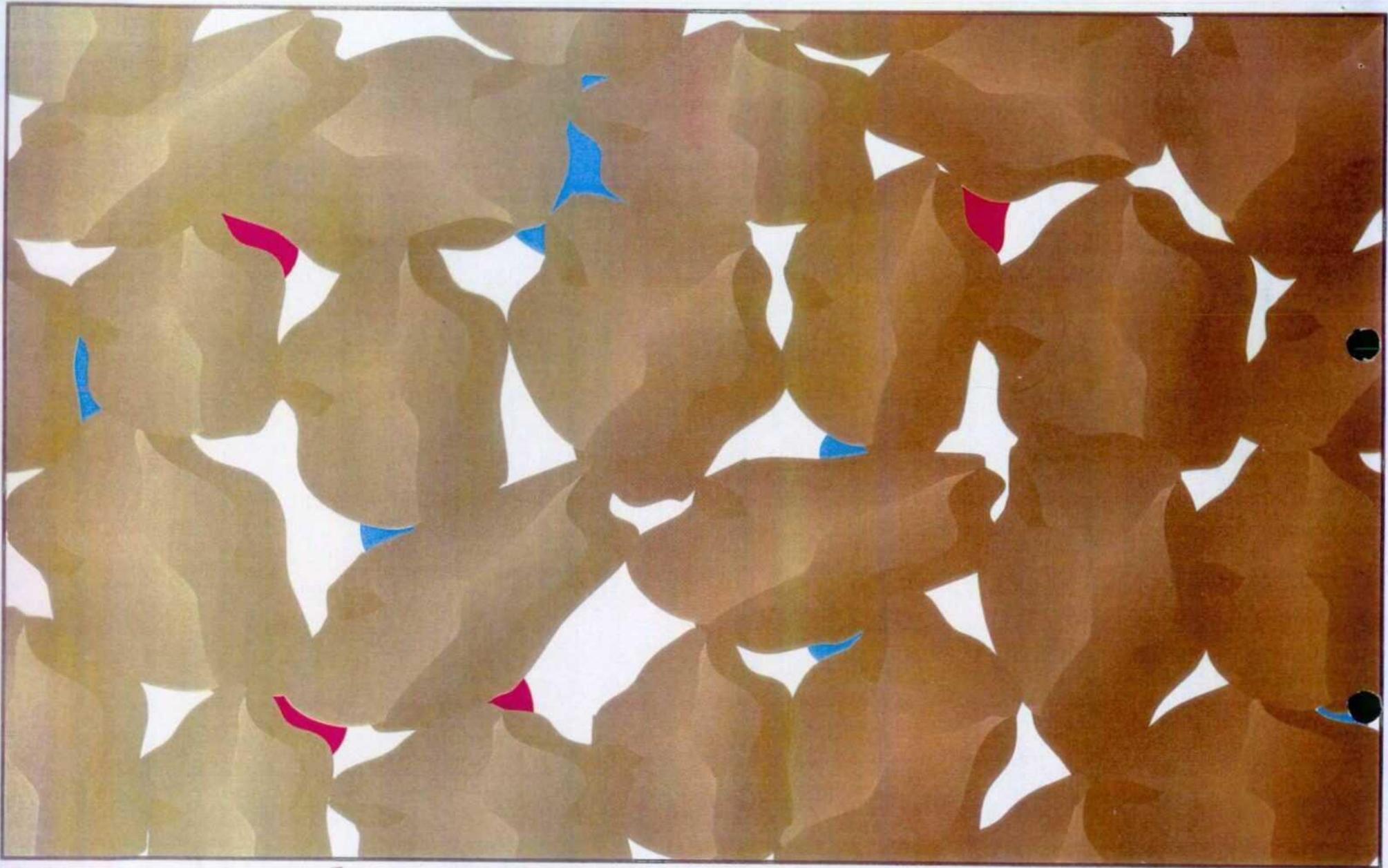
- Remove remaining source materials above the water table
 - Contaminated soil beneath the former PNM dehy pit and equipment
 - Remaining contaminated soils adjacent to BR's former tank pit
- Remove free-product and groundwater by either
 - Pumping of water/product from the excavations and resultant dewatering of the seam(s) and/or
 - Alone or in conjunction with dewatering, excavate the seam(s) as necessary beginning at the former dehydrator pit and proceeding outward

Results to date of BR's ongoing remedial activities

- Contaminated soils encountered at depths of 12 to 24 feet beneath PNM's former dehydrator pit
 - PID readings ranging from 100 to >3,000 ppm
 - Laboratory analyses
 - Approximately 2,150 yd. of contaminated soil removed as of 11-16-98
- Groundwater and free product identified in discrete sand seams of limited lateral extent at depths between 24 to 27 feet on 11-13-98
 - BR removes 80 bbls of water and product on 11-16-98

Ongoing Burlington activities

- October 28, 1998 - BR submits Work Plan for additional investigation and remediation as required by OCD
- November 10, 1998 - BR initiates additional remedial actions including
 - Removal of remaining contaminated soils beneath PNM's former dehydrator pit and dehydrators
 - Investigation of the occurrence and extent of free-phase product
 - Remediation of the free-phase product



Unsaturated



Matrix



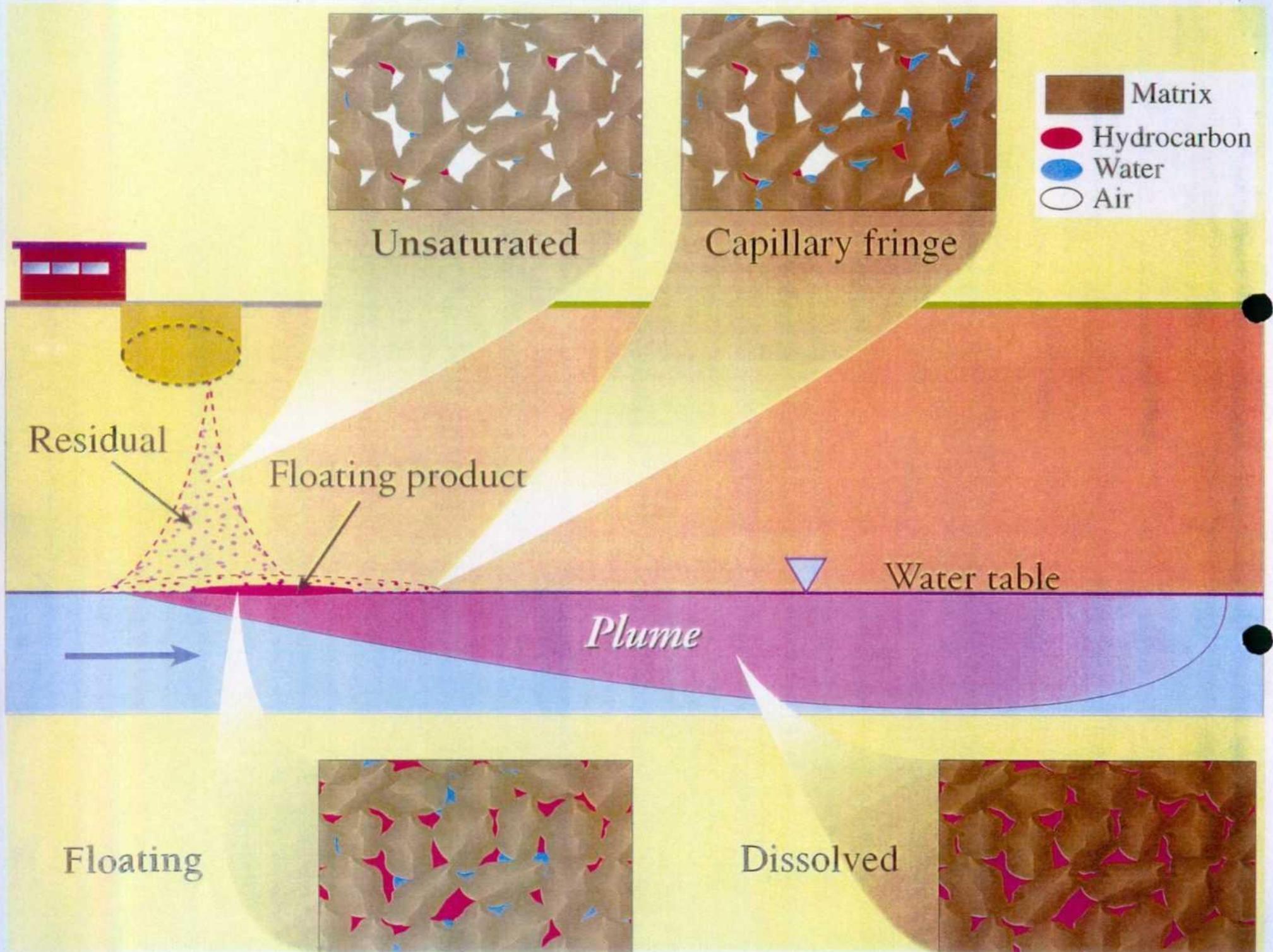
Hydrocarbon

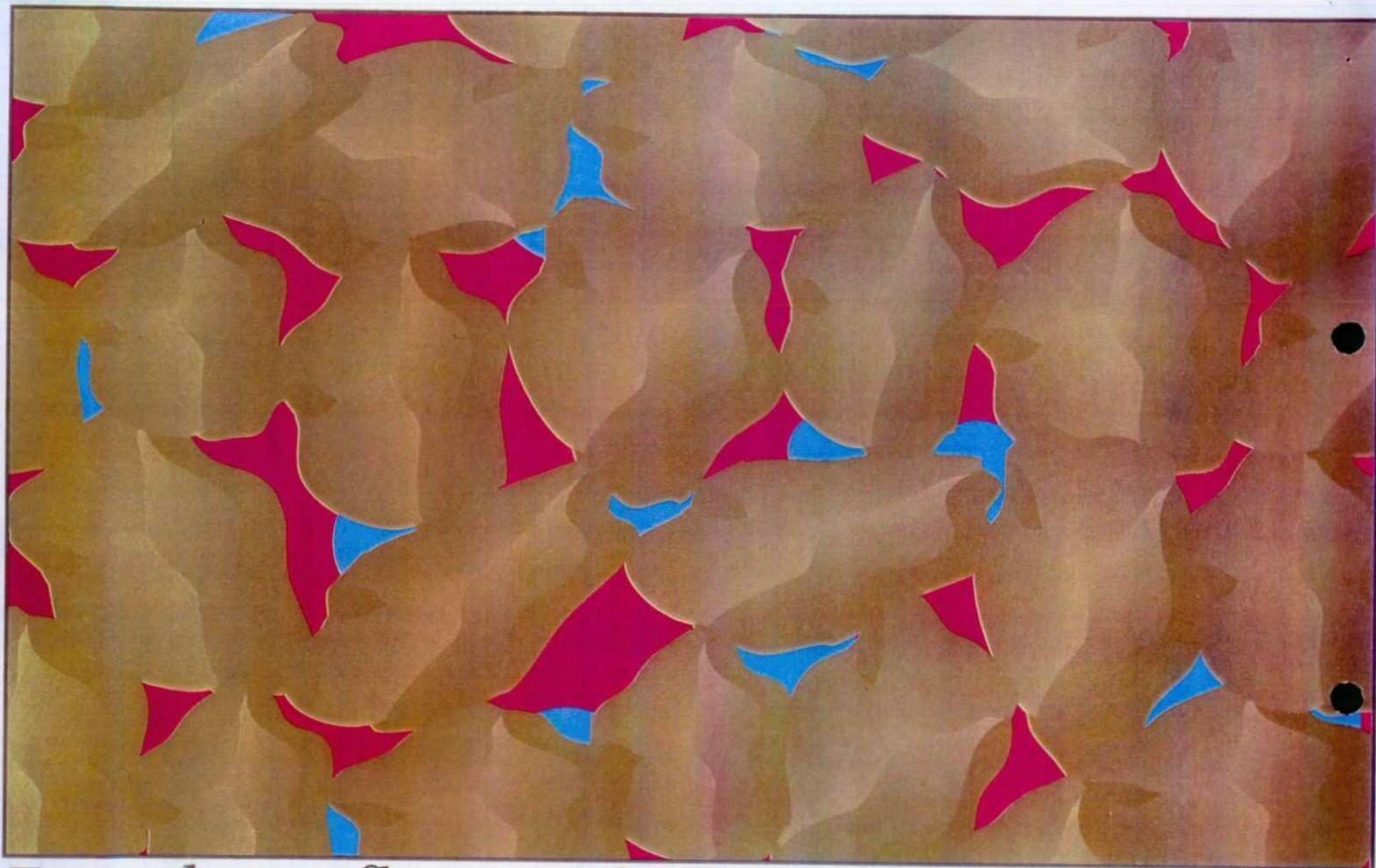


Air



Water





Free phase “floating” hydrocarbon (LNAPL)



Matrix

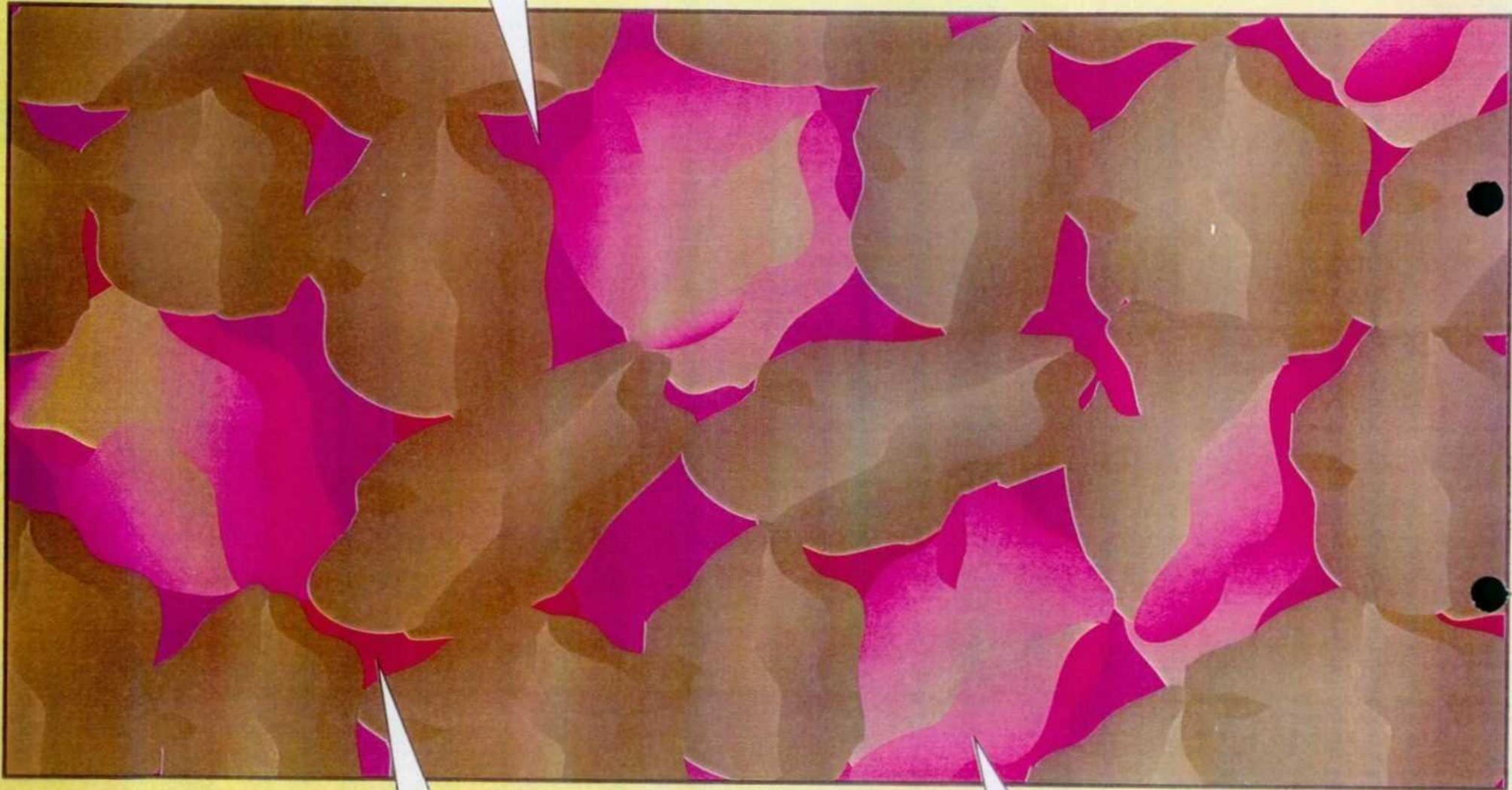


Hydrocarbon

Water

Three Possible Phases of NAPL in Groundwater

Dissolved



Residual nonaqueous liquid

Solid (absorbed or partitioned onto the aquifer material)



NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

December 22, 1998

Mark Ashley
Hearing Examiner
New Mexico Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

RE: Case No. 12033--Application of PNM for review of the cleanup actions required by OCD
letter dated March 13, 1998

Dear Mr. Ashley:

Enclosed is a draft order in the above-referenced case pursuant to your request and your
postponement of its due date to today.

If you desire any other information or have any questions, please feel free to call me at 827-8156.

Sincerely,

Rand Carroll
Division Attorney

c w/enc: Richard L. Alvidrez, Esq.
Kelleher & McLeod, P.A.
P.O. Drawer AA
Albuquerque, NM 87103

William F. Carr, Esq.
Campbell, Carr, Berge & Sheridan, P.A.
P.O. Box 2208
Santa Fe, NM 87504-2208

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

**APPLICATION OF PUBLIC SERVICE COMPANY
OF NEW MEXICO FOR REVIEW OF OIL
CONSERVATION DIVISION DIRECTIVE DATED
MARCH 13, 1998, DIRECTING APPLICANT TO
PERFORM ADDITIONAL REMEDIATION FOR
HYDROCARBON CONTAMINATION, SAN JUAN
COUNTY, NEW MEXICO**

**CASE NO. 12033
ORDER NO. R-**

ORDER OF THE DIVISION

BY THE DIVISION:

This case came on for hearing at 8:15 a.m. on November 20, 1998, at Santa Fe, New Mexico, before Examiner Mark Ashley.

NOW, on this _____ day of December, 1998, the Division Director, having considered the record and the recommendations of the Examiner,

FINDS THAT:

- (1) Due public notice has been given and the Division has jurisdiction of this case and its subject matter.
- (2) Public Service Company of New Mexico ("PNM") owned and operated dehydration equipment and an unlined dehydrator pit located down gradient from a well site (the "Hampton 4M") operated by Burlington Resources Company located at Unit Letter N, Section 13, Township 30 North, Range 11 West, San Juan County, New Mexico, near Aztec, New Mexico.
- (3) Evidence presented by PNM, Burlington and the Division show that hydrocarbons were disposed of in PNM's unlined dehydrator pit and migrated downward to the groundwater underneath the dehydrator pit. Evidence presented by Burlington and the Division show that such hydrocarbons contaminated the ground water beneath the dehydrator pit and then migrated down gradient from the dehydrator pit.
- (4) Evidence presented by PNM, Burlington and the Division also show that another

source of hydrocarbon contamination of the ground water was from Burlington's production operations up gradient of the dehydrator pit and that such contamination contributed to the groundwater contamination and added to contamination down gradient of PNM's dehydrator pit.

(5) The evidence does not support a finding that either the PNM or Burlington source of hydrocarbon contamination was the primary source of the groundwater contamination under the dehydrator pit or of the contamination down gradient of the PNM pit.

(6) Burlington is a responsible person for soil and ground water contamination up gradient of the unlined PNM dehydrator pit.

(7) PNM is a responsible person for the contamination from the unlined dehydrator pit down to the groundwater.

(8) PNM and Burlington are both responsible persons for groundwater contamination beneath, and down gradient of, the unlined dehydrator pit.

IT IS THEREFORE ORDERED THAT:

(1) PNM is a responsible person for the hydrocarbon contamination located under the unlined dehydrator pit down to the ground water, the groundwater hydrocarbon contamination located under the dehydrator pit and for hydrocarbon contamination found down gradient of the dehydrator pit.

(2) Burlington is a responsible person for the contamination up gradient of the unlined dehydrator pit, the groundwater contamination under the dehydrator pit and for hydrocarbon contamination found down gradient of the dehydrator pit.

(3) PNM and Burlington, as responsible persons, are required to comply with Division directives regarding remediation of hydrocarbon contamination.

(4) Jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

LORI WROTENBERY
Director

SEAL

PNMGS Well Site: Hampton 4M

NOV 1 1998

Groundwater Site Summary Report

Environmental Bureau
Oil Conservation Division

Copies: WFS(1)
Operator (1)
NMOCD District Office (1)
NMOCD Santa Fe (1)

Quarter/Year: 2nd/97, 3rd/97, 4th/97, 1st/98, 2nd/98, and 3rd/98

Operator: Burlington Resources
Sec: 13 Twn: 30N Rng: 11W Unit: D
Canyon: Hampton Arroyo

Vulnerable Class: Original
OCD Ranking: 40
Lead Agency: NMOCD

Activities to Date:

PNM's last summary report on the Hampton 4M site was submitted to OCD on August 11, 1998. Since then, PNM has continued to perform groundwater monitoring and free product recovery at the site until most recently when Burlington Resources (BR) commenced site wide soil excavation (11/12/98). To prepare for soil excavation, BR directed Williams to remove PNM's product recovery system. In addition, during excavation activities, BR destroyed PNM's groundwater monitoring well network. PNM objected to BR's insistence on moving forward with site wide soil excavation in a letter to OCD dated November 4, 1998. The basis of the objection was (1) the precise release point of free product contamination has not been determined; (2) BR's proposed excavation activities will interrupt PNM's ongoing remediation and monitoring activities; (3) site wide excavation will obliterate important evidence concerning the release point or points of contamination; (4) BR's proposed strategy does not address the true continuing source of contamination at this site or the extensive free product contamination in the groundwater underlying the site; and (5) there are other cost effective means of pursuing remediation at this site without the attendant problems associated with BR's methodology. PNM regards BR's decision to proceed with massive soil excavation as Burlington's acknowledgement that Burlington is solely and completely responsible for causing and addressing any and all contamination at the site.

Future Activities:

PNM is hereby filing the final closure report of our former pit at the Hampton 4M. For the purposes of pit closure, PNM is referencing upgradient well concentrations as remediation clean-up levels for groundwater at the Hampton 4M. Therefore, PNM has successfully remediated soil and groundwater in the area of the former pit based upon BTEX concentrations in groundwater in MW-2, MW-5, MW-6, and MW-7 with reference to background BTEX concentrations (free phase floating product) in upgradient groundwater monitoring wells, MW-4, MW-8 and MW-10.

District I
P.O. Box 1980, Hobbs, NM

District II
P.O. Drawer DD, Artesia, NM 88221

District III
1000 Rio Brazos Rd, Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

SUBMIT 1 COPY TO
APPROPRIATE
DISTRICT OFFICE
AND 1 COPY TO
SANTA FE OFFICE

OIL CONSERVATION DIVISION

2040 South Pacheco Street
Santa Fe, New Mexico 87505

PIT REMEDIATION AND CLOSURE REPORT

Operator: <u>PNM Gas Services (Burlington)</u>		Telephone: <u>324-3764</u>	
Address: <u>603 W. Elm Street Farmington, NM 87401</u>			
Facility or Well Name: <u>Hampton #4M</u>			
Location:	Unit <u>N</u>	Sec <u>13</u>	T <u>30N</u> R <u>11W</u> County <u>San Juan</u>
Pit Type:	Separator <input type="checkbox"/>	Dehydrator <input checked="" type="checkbox"/>	Other _____
Land Type:	BLM <input checked="" type="checkbox"/>	State <input type="checkbox"/>	Fee <input type="checkbox"/> Other _____
Pit Location:	Pit dimensions: length <u>20</u> ' width <u>20</u> ' depth <u>3</u> '		
(Attach diagram)	Reference: wellhead <input checked="" type="checkbox"/> other _____		
	Footage from reference: <u>121</u> '		
	Direction from reference: <u>10</u> Degrees <input checked="" type="checkbox"/> East <input checked="" type="checkbox"/> North		
	of <input type="checkbox"/> West <input type="checkbox"/> South		
Depth to Ground Water:	Less than 50 feet	(20 points)	
	50 feet to 99 feet	(10 points)	
(Vertical distance from contaminants to seasonal high water elevation of ground water)	Greater than 100 feet	(0 points)	<u>20</u>
Wellhead Protection Area:	Yes	(20 points)	
(Less than 200 feet from a private domestic water source, or, less than 1,000 feet from all other water sources)	No	(0 points)	<u>0</u>
Distance to Surface Water:	Less than 200 feet	(20 points)	
	200 feet to 1,000 feet	(10 points)	
(Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)	Greater than 1,000 feet	(0 points)	<u>20</u>
RANKING SCORE (TOTAL POINTS) :			<u>40</u>

Hampton #4M

Date Remediation Started: 4/24/96

Date Completed: 4/25/96

Remediation Method: Excavation

Approx. Cubic Yard 286

(Check all appropriate sections)

Landfarmed

Amount Landfarmed (cubic yds) 286

Other _____

Remediation Location: Onsite _____

Offsite Hampton #2 13-30N-11W

(i.e., landfarmed onsite, name and location of offsite facility)

Backfill Material Location: _____

General Description of Remedial Action:

Excavated contaminated soil to pit size 21' X 32' X 11.5' and landfarmed soil onsite within a bermed area at a depth of 6" to 12". Soil was aerated by plowing/disking until soil met regulatory levels.

Ground Water Encountered: No

Yes

Depth 22'

Final Pit Closure Sampling:

Sample Location 5 pt composite-4 side walls and center of pit bottom

(if multiple samples, attach sample result and diagram of sample locations and depths.)

Sample depth 11.5'

Sample date 4/24/96

Sample time 1:25:00 PM

Sample Results

Benzene (ppm) 15.7475

Total BTEX (ppm) 621.8694

Field headspace (ppm) _____

TPH (ppm) 1300.90

Method 8015A

Vertical Extent (ft) _____

Risk Analysis form attached Yes No

Ground Water Sample: Yes

No

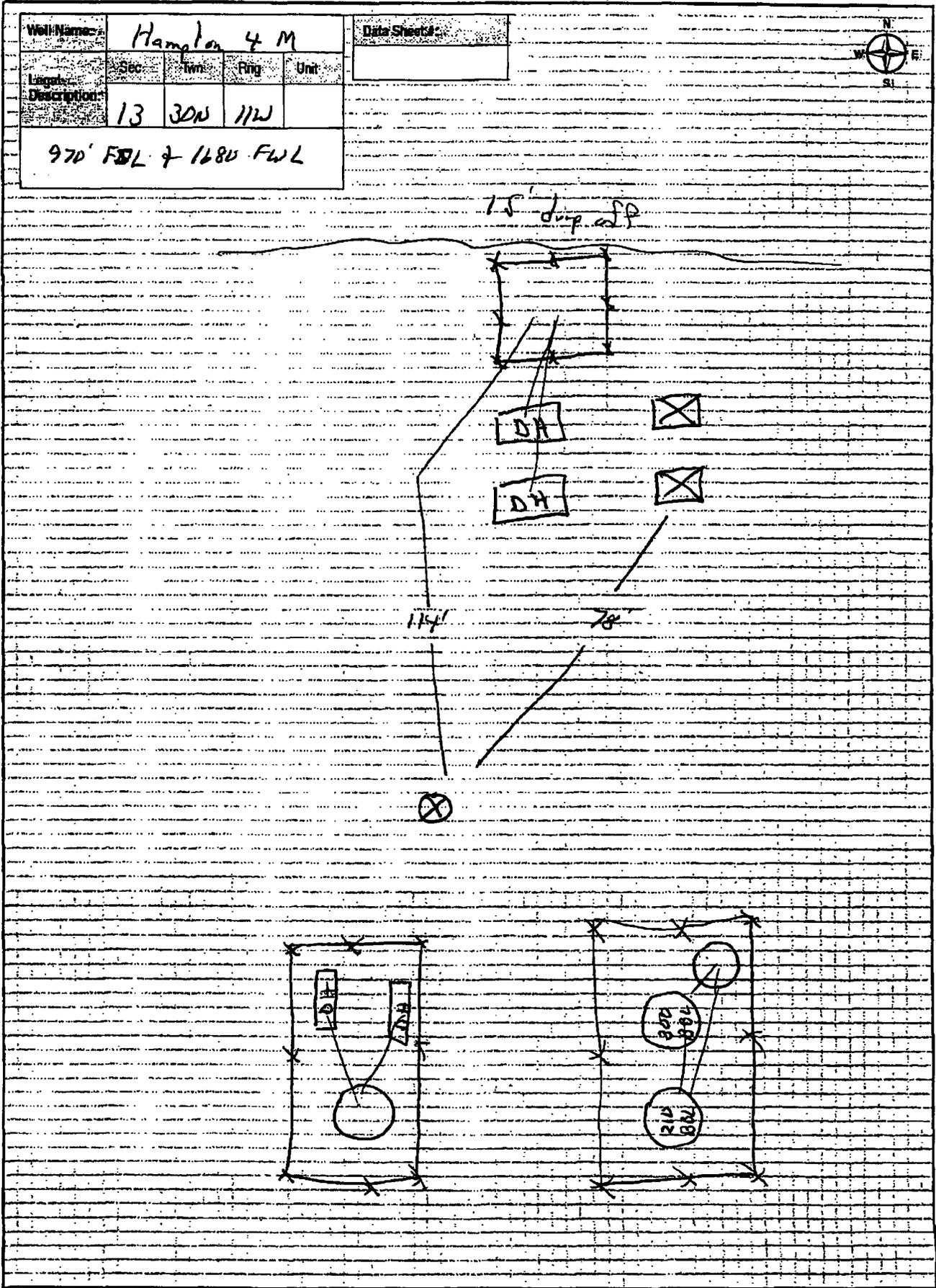
(If yes, see attached Groundwater Site Summary Report)

I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND MY BELIEF

DATE November 12, 1998

PRINTED NAME Maureen Gannon
AND TITLE Project Manager

SIGNATURE Maureen Gannon





OFF: (505) 325-8786

LAB: (505) 325-5667

Diesel Range Organics EPA 8015-Modified

Attn: *Maureen Gannon*
 Company: *PNM Gas Services*
 Address: *Alevarado Square, Mail Stop 0408*
 City, State: *Albuquerque, NM 87158*

Date: *25-Apr-96*
 COC No.: *4588*
 Sample No. *10715*
 Job No. *2-1000*

Project Name: *PNM Gas Services - Hampton 4M*
 Project Location: *9604241325; Pit Excavation Composite Sample*
 Sampled by: *RH* Date: *24-Apr-96* Time: *13:25*
 Analyzed by: *DC* Date: *25-Apr-96*
 Sample Matrix: *Soil*

Laboratory Analysis

Analyte	Result	Unit of Measure	Detection Limit	Unit of Measure
<i>Diesel Range Organics (C10 - C28)</i>	<i>1300.9</i>	<i>mg/kg</i>	<i>5.0</i>	<i>mg/kg</i>

Quality Assurance Report

DRO QC No.: *0446-STD*

Calibration Check

Analyte	Method Blank	Unit of Measure	True Value	Analyzed Value	% Diff	Limit
<i>Diesel Range (C10 - C28)</i>	<i><5.0</i>	<i>ppm</i>	<i>2,000</i>	<i>1,990</i>	<i>0.5</i>	<i>15%</i>

Matrix Spike

Analyte	1 - Percent Recovered	2 - Percent Recovered	Limit	%RSD	Limit
<i>Diesel Range (C10-C28)</i>	<i>101</i>	<i>101</i>	<i>(70-130)</i>	<i>0</i>	<i>20%</i>

Method - SW-846 EPA Method 8015A mod. - Nonhalogenated Volatile Hydrocarbons by Gas Chromatography

Approved by: *Jack*
 Date: *4/26/96*

P. O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -



OFF: (505) 325-8786

LAB: (505) 325-5667

AROMATIC VOLATILE ORGANICS

Attn: *Maureen Gannon*
 Company: *PNM Gas Services*
 Address: *Alevarado Square, Mail Stop 0408*
 City, State: *Albuquerque, NM 87158*

Date: *26-Apr-96*
 COC No.: *4588*
 Sample No. *10715*
 Job No. *2-1000*

Project Name: *PNM Gas Services - Hampton 4M*
 Project Location: *9604241325; Pit Excavation Composite Bottom*
 Sampled by: *RH* Date: *24-Apr-96* Time: *13:25*
 Analyzed by: *DC* Date: *26-Apr-96*
 Type of Sample: *Soil*

Aromatic Volatile Organics

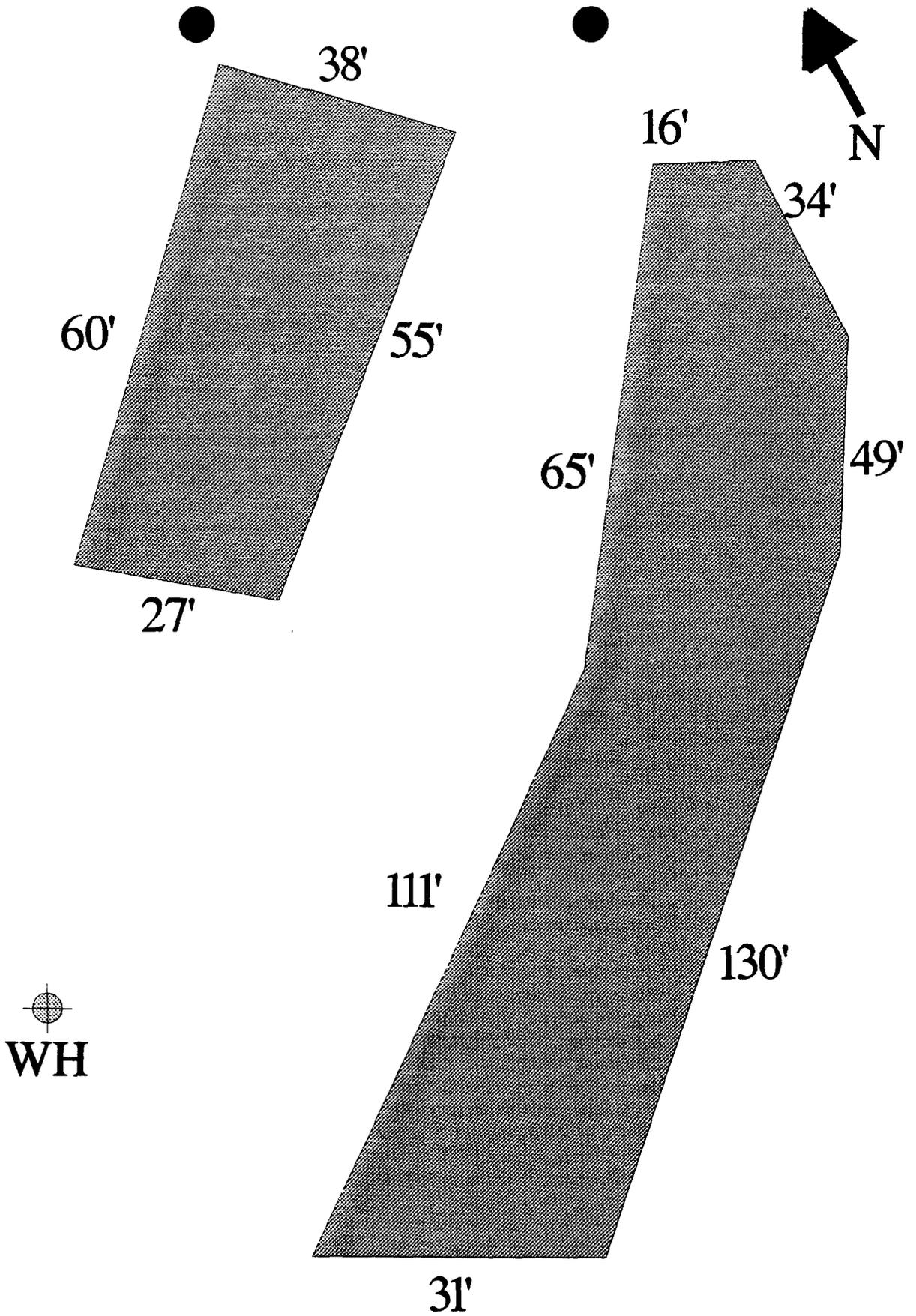
<i>Component</i>	<i>Result</i>	<i>Units of Measure</i>	<i>Detection Limit</i>	<i>Units of Measure</i>
<i>Benzene</i>	<i>15747.5</i>	<i>ug/kg</i>	<i>0.2</i>	<i>ug/kg</i>
<i>Toluene</i>	<i>210857.3</i>	<i>ug/kg</i>	<i>0.2</i>	<i>ug/kg</i>
<i>Ethylbenzene</i>	<i>27687.7</i>	<i>ug/kg</i>	<i>0.2</i>	<i>ug/kg</i>
<i>m,p-Xylene</i>	<i>310237.6</i>	<i>ug/kg</i>	<i>0.2</i>	<i>ug/kg</i>
<i>o-Xylene</i>	<i>57339.3</i>	<i>ug/kg</i>	<i>0.2</i>	<i>ug/kg</i>
	TOTAL	<i>621869.4</i>		<i>ug/kg</i>

Method - *SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography*

Approved by: *DC*
 Date: *4/26/96*

P. O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -



HAMPTON #2 N/W-S/W-13-30N-11W
 (HAMPTON #4M LANDFARM)



OFF: (505) 325-5667

LAB: (505) 325-1556

Diesel Range Organics

Attn: **Maureen Gannon**
 Company: **PNM Gas Services**
 Address: **Alevarado Square, Mail Stop 0408**
 City, State: **Albuquerque, NM 87158**

Date: **24-Jul-96**
 COC No.: **4910**
 Sample No. **11574**
 Job No. **2-1000**

Project Name: **PNM Gas Services - Hampton #4M Landfarm Hampton #2**
 Project Location: **9607231045; 8pt. Composite, 2" - 12" depth**
 Sampled by: **GC** Date: **23-Jul-96** Time: **10:45**
 Analyzed by: **HR** Date: **24-Jul-96**
 Sample Matrix: **Soil**

Laboratory Analysis

Parameter	Result	Unit of Measure	Detection Limit	Unit of Measure
Diesel Range Organics (C10 - C28)	12.3	mg/kg	5.0	mg/kg

Quality Assurance Report

DRO QC No.: **0479-QC**

Calibration Check

Parameter	Method Blank	Unit of Measure	True Value	Analyzed Value	% Diff	Limit
Diesel Range (C10 - C28)	<5.0	ppm	2,000	1,798	10.1	15%

Matrix Spike

Parameter	1- Percent Recovered	2- Percent Recovered	Limit	%RSD	Limit
Diesel Range (C10-C28)	98	100	(70-130)	2	20%

Method - SW-846 EPA Method 8015A mod. - Nonhalogenated Volatile Hydrocarbons by Gas Chromatography

Approved by: *JaG*
 Date: *7/24/96*

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

Public Service Company
of New Mexico
Alvarado Square MS 0408
Albuquerque, NM 87158

November 6, 1998

Mr. William Olson
Hydrogeologist
Oil Conservation Division
2040 So. Pacheco
Santa Fe, New Mexico 87505

The logo for Public Service Company of New Mexico (PNM) features a circular emblem with a stylized sun or starburst design inside, positioned above the letters "PNM" in a bold, sans-serif font.

RE: Burlington Hampton 4M Well

Dear Bill:

This letter serves as written notification that Public Service Company of New Mexico ("PNM") will file a soil and groundwater closure report of PNM's former pit at the Hampton 4M well site. Burlington Resources' impending soil excavation at the site, scheduled for Tuesday, November 10, 1998, will destroy PNM's groundwater monitoring well network on site and interrupt our ongoing activities related to groundwater monitoring and free product recovery. PNM learned on Thursday, November 5, 1998, that our product recovery system in MW-6 was shut off sometime earlier in the week and removed without our knowledge or permission. Given Burlington's recent activities and plans for extensive soil removal next week, PNM must conclude that Burlington has assumed total responsibility and control of this site. These actions absolutely preclude PNM from conducting any further operations under its existing groundwater management plan as approved by OCD at the Hampton 4M. It would be pointless for PNM to conduct any further investigations or install and operate another remediation system at the site, given that another entity has been allowed to come in and negate all work done at the site, ignore the data collected, and frustrate the achievement of the objectives of PNM's OCD-approved remediation program. We must further assume that, since PNM completely remediated all contamination that could conceivably have come from its prior operations months ago, and since substantial free product and other contamination have been detected by both PNM and Burlington upgradient from PNM's former pit, PNM's obligations at this site are terminated, and submittal of a closure report is now appropriate.

You may expect our closure report on Friday, November 13, 1998. If you have any questions, please call me at (505) 241-2974.

Sincerely,

A handwritten signature in cursive script that reads "Maureen Gannon".

Maureen Gannon
Project Manager

cc: Colin Adams, PNM
Richard Alvidrez, Keleher & McLeod
Denny Foust, OCD-Aztec Office
Ed Hasely, Burlington Resources
Bill VonDrehle, WFS

Public Service Company
of New Mexico
Alvarado Square MS 0408
Albuquerque, NM 87158

10/27/98

October 20, 1998 Certified Mail: P 293 938 783

Mr. William Olson
Hydrogeologist
Oil Conservation Division
2040 So. Pacheco
Santa Fe, New Mexico 87505

PNM

RE: Hampton 4M Well Site- Additional Downgradient Investigation

Dear Bill:

This letter is written as a follow-up to OCD's letter dated September 1, 1998. That letter directed Public Service Company of New Mexico ("PNM") and Burlington Resources ("BR") to undertake an investigation of groundwater impacts down gradient from the Hampton 4M well site and to complete a report by October 20, 1998.

PNM has made several attempts to contact Dr. Burton Everett, the owner of the property where this additional downgradient investigation (including the installation of another well), is planned to occur. Dr. Everett did not want PNM or BR to come on his land to site and drill a well unless he could personally be present. Dr. Everett has been out of town for the past several weeks. Therefore, PNM has been unable to fulfill the request for a down gradient investigation by the specified date of October 20, 1998. However, we are hopeful that permission from Dr. Everett for access will soon be obtained by one of the parties.

If you have any questions, please call me at (505) 241-2974.

Sincerely,
PNM Environmental Services Department



Maureen Gannon
Project Manager

cc: C. Adams, Esq., PNM
R. Alvidrez, Esq., Keleher & McLeod
I. Deklau, Williams
E. Hasely, Burlington Resources
T. Ristau, PNM
B. von Drehle, Williams



NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

September 29, 1998

Richard L. Alvidrez, Esq.
Kelleher & McLeod, P.A.
P.O. Drawer AA
Albuquerque, NM 87103

Attorneys for PNM

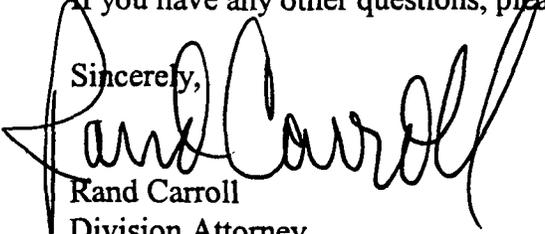
RE: Case No. 12033--Application of PNM for review of the cleanup actions required by OCD
letter dated March 13, 1998
-Letter request dated September 25, 1998

Dear Mr. Alvidrez:

Per your request by letter dated September 25, 1998, the OCD agrees that PNM, by taking certain actions pursuant to the directive contained in the OCD letter dated September 1, 1998, will not be waiving any rights under its pending appeal (referenced above) or its right to challenge the OCD determination that PNM is a responsible party for the down gradient contaminatin.

If you have any other questions, please feel free to call me at 827-8156.

Sincerely,


Rand Carroll
Division Attorney

c: Bill Olson, OCD Environmental Bureau
David Catanach, OCD Hearing Examiner



Richard L. Alvidrez
Attorney at Law
Direct Dial: 505-346-9150
E-mail: rla@keleher-law.com

September 25, 1998

Via Facsimile (505) 827-7177

Rand Carroll
NM Oil Conservation Division
2040 S. Pacheco Street
Santa Fe, NM 87505-5472

**Re: Burlington Hampton 4M Well - OCD Letter Directive
Dated September 1, 1998**

Dear Mr. Carroll:

I am writing to follow up to our telephone conversation yesterday concerning the OCD's letter dated September 1, 1998 to Public Service Company of New Mexico ("PNM") directing PNM to undertake an investigation of groundwater impacts down gradient from the Hampton 4M well site. We understand that a letter with a similar directive was sent to Burlington Resources ("Burlington") as well. As discussed, representatives from PNM and Burlington have met to discuss the OCD's directives. PNM and Burlington have tentatively agreed to cooperate with regard to the installation of a down gradient monitoring well. However, PNM is concerned that by not appealing the OCD directive in the September 1, 1998 letter, it could be somehow argued that PNM has waived its rights under its current appeal and its right to appeal the OCD's determination that PNM is responsible for the down gradient contamination.

Accordingly, PNM requests written assurance from the OCD that if it undertakes the installation of the additional monitoring well in cooperation with Burlington, that PNM will not be deemed to have in any way waived any rights with respect to the pending appeal, or waived any future right to challenge the OCD's determination that PNM is responsible for the down gradient contamination. If such written assurance is not forthcoming from the OCD, PNM is faced with the prospect of having to appeal the directive in the OCD's letter of September 1, 1998.

In order to assure that PNM preserves its rights of appeal, PNM anticipates filing an appeal to the September 1, 1998 directive on or before September 30, 1998. Therefore, we would appreciate written assurance from the OCD before that

W. A. Keleher (1886 -1972)
A.H. McLeod (1902 - 1976)

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PO Drawer AA
Albuquerque NM 87103

Main Phone
505-346-4646

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KELEHER & McLEOD, P.A.

September 25, 1998

Page Two

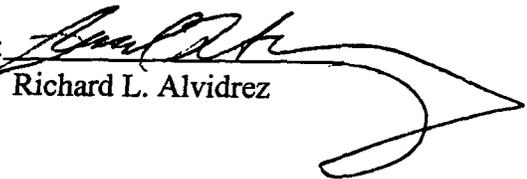
date confirming that PNM will not be waiving any rights under the pending appeal, or its right to challenge the OCD's determination that PNM is a responsible party for the down gradient contamination.

We appreciate your attention to this matter. If you have any questions concerning any of the foregoing, please do not hesitate to call.

Very truly yours,

KELEHER & McLEOD, P.A.

By:


Richard L. Alvidrez

RLA:sp
68435



STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

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

September 1, 1998

CERTIFIED MAIL
RETURN RECEIPT NO. Z-274-520-551

Ms. Maureen Gannon
PNM
Alvarado Square, MS 0408
Albuquerque, New Mexico 87158

**RE: GROUND WATER CONTAMINATION
HAMPTON 4M WELL SITE**

Dear Ms. Gannon:

The New Mexico Oil Conservation Division (OCD) has been reviewing the ground water investigation and remediation actions related to PNM's former dehy pit and Burlington Resources well site operations at the BR Hampton 4M well site near Aztec, New Mexico. PNM's remedial actions taken to date are satisfactory. However, a review of the file shows that the investigation of the extent of contamination at the site has not been completed.

Since ground water at the site has been contaminated by both PNM's and BR's operations and due to the potential for contamination of downgradient private water wells, the OCD hereby requires that both PNM and BR conduct additional investigations to determine the complete downgradient extent of ground contamination at the site. The investigations are to be conducted according to PNM and BR's prior approved plans with a report on the investigations to be submitted to the OCD by October 20, 1998. The OCD requests that PNM and BR cooperatively work together on the investigation so that the activities can be conducted in the most efficient and economical manner.

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

Sincerely,

A handwritten signature in black ink, appearing to read "William C. Olson".

William C. Olson
Hydrologist
Environmental Bureau

xc: Denny Foust, OCD Aztec District Office
Ed Hasely, Burlington, Resources
J. Burton Everett

Z 274 520 551

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PS Form 3800, April 1995



NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

August 20, 1998

Richard L. Alvidrez, Esq.
Kelleher & McLeod, P.A.
P.O. Drawer AA
Albuquerque, NM 87103

Attorneys for PNM

William F. Carr, Esq.
Campbell, Carr, Berge & Sheridan, P.A.
P.O. Box 2208
Santa Fe, NM 87504-2208

Attorneys for Burlington Resources

RE: Case No. 12033--Application of PNM for review of the cleanup actions required by OCD
letter dated March 13, 1998

Dear Messrs. Alvidrez and Carr:

The Request for Continuance filed by Burlington on August 13, 1998 was granted on August 17, 1998 with the hearing continued to October 22, 1998.

PNM's request for a stay of the actions required in the OCD letter of March 13, 1998 is denied. In addition, Bill Olson will be sending PNM a letter in the near future setting forth the investigation actions PNM is to perform (if it has not already done so) to determine the extent of the contamination as well as any needed remedial action. Please feel free to call Bill at 827-7154 if you have any questions.

If you have any other questions, please feel free to call me at 827-8156.

Sincerely,

Rand Carroll
Division Attorney

c: Bill Olson, OCD Environmental Bureau
David Catanach, OCD Hearing Examiner

Facsimile Cover Sheet

KELEHER & McLEOD, P.A.

Mailing Address: P.O. Drawer AA
Albuquerque, New Mexico 87103

Date: 8/14/98

Client/Case No. 9999-003

To:	Lori Wrotenberg, Director Oil Conservation Division	Fax:	(505) 827-8177
From:	Richard L. Alvidrez, Esq.	Fax:	(505) 767-1370

Pages including this cover page: 11

Originals will follow by mail: Yes X No

**ENCLOSURES: Prehearing Statement and Exhibit List from
PNM regarding review of final determination of the
Oil Conservation Division relating to Hampton 4M
Well Site: Case No. 12033**

COMMENTS:

CAUTION: THE INFORMATION CONTAINED IN THIS FACSIMILE MESSAGE IS CONFIDENTIAL AND INTENDED SOLELY FOR THE USE OF THE INDIVIDUAL OR ENTITY NAMED ABOVE. IF THE RECIPIENT OF THIS MESSAGE IS NOT THE INTENDED RECIPIENT, OR THE EMPLOYEE OR AGENT RESPONSIBLE FOR DELIVERING IT TO THE INTENDED RECIPIENT, YOU ARE HEREBY NOTIFIED THAT ANY DISSEMINATION, DISTRIBUTION, COPYING OR UNAUTHORIZED USE OF THIS COMMUNICATION IS STRICTLY PROHIBITED. IF YOU HAVE RECEIVED THIS FACSIMILE IN ERROR, PLEASE NOTIFY THE SENDER IMMEDIATELY BY TELEPHONE AND RETURN THE FACSIMILE TO THE SENDER AT THE ABOVE ADDRESS VIA THE U.S. POSTAL SERVICE. THANK YOU.



Richard L. Alvidrez
Attorney at Law
Direct Dial: 505-346-9150
E-mail: rla@keleher-law.com

August 14, 1998

Via Facsimile (505) 827-8177

Lori Wrotenbery, Director
Oil Conservation Division
New Mexico Department of Energy
Minerals and Natural Resources
2040 South Pacheco
Santa Fe, NM 87505

Re: Application of Public Service Company of New Mexico
for Review of Final Determination of the Oil
Conservation Division relating to the Hampton 4M
Well Site; Public Service Company of New Mexico,
Applicant; Case No. 12033

Dear Mr. Wrotenbery:

I am enclosing a copy of the Prehearing Statement submitted on behalf of Public Service Company of New Mexico ("PNM") in the above matter. Also attached is PNM's Exhibit List.

This letter is also in response to the request for continuance submitted on behalf of Burlington Resources Oil and Gas Company ("Burlington"). PNM opposes the continuance of this matter and requests that the hearing proceed on August 20, 1998 as scheduled.

Burlington's counsel correctly points out that this matter was originally set for hearing on June 25, 1998. When it became necessary to continue that hearing, PNM conferred with counsel for Burlington and the OCD about the suitability of August 20, 1998 as a new hearing date. All parties agreed to that date. Moreover, PNM has retained a number of consultants, some of whom are traveling from out of state to appear at this hearing. A continuance of the hearing would result in disruption of schedules and will delay the ultimate hearing on this matter for at least two months. PNM's counsel would not be available for hearing again until the end of October, 1998.

W. A. Kulshur (1886 - 1972)
A.H. McLeod (1902 - 1976)

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Fax: 505-346-1345

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KELEHER & McLEOD, P.A.

August 14, 1998
Page Two

During the pendency of PNM's Application, PNM has continued to recover free product from the Hampton 4M site. A determination in favor of PNM in this matter will relieve PNM of further responsibility for such recovery. Delay in the hearing and a determination on this appeal will only result in additional expense to PNM.

For the foregoing reasons, PNM requests that this matter be maintained on the August 20, 1998 docket. PNM further requests that a determination be made as soon as possible on the request for continuance so that PNM may notify its out-of-town consultants of any change in the hearing date in order to avoid charges for unnecessary travel and preparation time.

Very truly yours,

KELEHER & McLEOD, P.A.

By: 

Richard L. Alvidrez
Attorney for Public Service
Company of New Mexico

RLA:sp

cc: William F. Carr (via facsimile (505) 983-6043)
Rand Carroll (via facsimile (505) 983-6043)

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

**IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:**

**APPLICATION OF PUBLIC SERVICE
COMPANY OF NEW MEXICO FOR
REVIEW OF FINAL DETERMINATION
OF THE OIL CONSERVATION DIVISION
RELATING TO THE HAMPTON 4M WELL
SITE,**

NO. 12033

**PUBLIC SERVICE COMPANY
OF NEW MEXICO,
Applicant**

PRE-HEARING STATEMENT

This prehearing statement is submitted by Applicant, Public Service Company of New Mexico ("PNM") as required by the Oil Conservation Division.

APPEARANCES OF PARTIES

APPLICANT

Public Service Company of New Mexico

ATTORNEY

Richard L. Alvidrez, Esq.
KELEHER & McLEOD, P.A.
P.O. Drawer AA
Albuquerque, New Mexico 87103
(505) 346-9150

and

Colin L. Adams, Esq.
Corporate Counsel
Public Service Company
of New Mexico
Alvarado Square MS 806
Albuquerque, New Mexico 87158
(505) 241-4538

OPPOSITION OR OTHER PARTY

New Mexico Oil Conservation Division

Burlington Resources

ATTORNEY

Rand L. Carroll, Esq.
New Mexico Oil
Conservation Division
2040 S. Pacheco St.
Santa Fe, New Mexico 87505-5472
(505) 827-8156

William F. Carr, Esq.
CAMPBELL, CARR BERGE &
SHERIDAN, PA.
P.O Box 2208
Santa Fe, New Mexico 87504-2208
(505) 988-4421

STATEMENT OF THE CASE

APPLICANT

PNM seeks a review and reversal of the OCD's final determination in its letter of March 13, 1998 that "PNM take additional remedial actions with 30 days to remove the remaining source areas with free phase hydrocarbons in the vicinity of and immediately downgradient of the dehy pit." PNM seeks a reversal of this determination on the following grounds:

1. The hydrogeologic data establish that PNM's former pit location is not the source for the free phase hydrocarbons in the vicinity of the Hampton 4M well.
2. The data developed during the course of PNM's investigation suggest that there is a continuing source for dissolved phase hydrocarbons and a continuous or intermittent source of free phase product at the Hampton 4M well. Because of the existence of a continuing or intermittent source for contamination in the vicinity of the Hampton 4M well, efforts to conduct further remediation will be ineffective.
3. Operational practices and deficiencies relating to the production well and/or the separators, tanks and associated equipment owned and operated by Burlington Resources and its predecessors at the Hampton 4M well have resulted in releases of free phase product to the environment which has impacted the soils and groundwater in the vicinity of the Hampton 4M site.

4. The free phase product in the vicinity of the Hampton 4M well was neither owned, generated nor released by PNM. The product is and remains the property of the producers.
5. PNM is no longer the owner of the gathering system and dehydration equipment associated with the Hampton 4M well as the system and equipment was sold to Williams Gas Processing-Blanco, Inc. on June 30, 1995. To the extent that any contamination in the vicinity of the Hampton 4M well site occurred on or after June 30, 1995, such contamination is not the responsibility of PNM.

OPPOSITION OR OTHER PARTY

PROPOSED EVIDENCE

APPLICANT

WITNESS	EST. TIME	EXHIBITS
Toni K. Ristau PNM Director, Environmental Services	1.5 hours	See PNM Exhibit List
Maureen Gannon PNM Project Manager Environmental Engineering	1.0 hours	
Valda Terauds ESI Hydrologist	1.5 hours	
Mark Sikelianos PNM Field Environmental	1.0 hours	
Paul Fahrenthold Fahrenthold Consulting Fuels and Chemical Analysis	1.0 hours	
Rodney Heath PetroEnergy, Inc. Well Head and Gas Gathering Equipment	1.0 hours	

Grady Gist
PNM
Gas well completion

1.5 hours

OPPOSITION OR OTHER PARTY

WITNESS

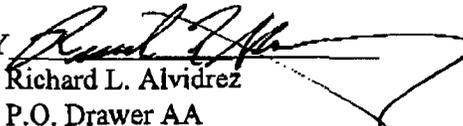
EST. TIME

EXHIBITS

PROCEDURAL MATTERS

The present matter is set for hearing beginning August 20, 1998. Counsel for Burlington has requested that the hearing date be continued.

KELEHER & McLEOD, P.A.

BY 

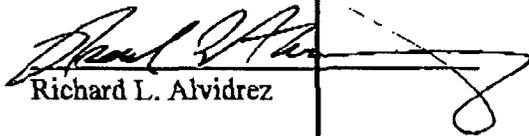
Richard L. Alvidrez
P.O. Drawer AA
Albuquerque, New Mexico 87103
(505) 346-4646

and

Colin L. Adams
Corporate Counsel
Public Service Company of New Mexico
Alvarado Square MS 0806
Albuquerque, New Mexico 87158
(505) 241-4538
Attorneys for Applicant Public Service Company
of New Mexico

64699

THIS WILL CERTIFY that a true and correct copy of the foregoing Pre-Hearing Statement was faxed and mailed to William Carr, counsel for Burlington Resources Oil & Gas and Rand Carroll, counsel for the New Mexico Oil Conservation Division this 14th day of August 1998.


Richard L. Alvidrez

64699

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

**IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:**

**APPLICATION OF PUBLIC SERVICE
COMPANY OF NEW MEXICO FOR
REVIEW OF FINAL DETERMINATION
OF THE OIL CONSERVATION DIVISION
RELATING TO THE HAMPTON 4M WELL
SITE,**

NO. 12033

**PUBLIC SERVICE COMPANY
OF NEW MEXICO,
Applicant**

PNM HEARING EXHIBIT LIST

Applicant, Public Service Company of New Mexico ("PNM") hereby submits it
list of proposed exhibits in the above matter.

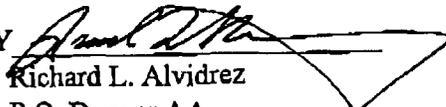
<u>EXHIBIT</u>	<u>DESCRIPTION</u>	<u>OFFERED</u>	<u>ADMITTED</u>	<u>REFUSED</u>
1	Hampton 4M contract	_____	_____	_____
2.	PNM Reports to OCD	_____	_____	_____
3.	Aerial Photograph of Hampton 4M site	_____	_____	_____
4.	Diagram of Hampton 4M Well site (present day)	_____	_____	_____
5.	Diagram of Hampton 4M Well site (ca 1997)	_____	_____	_____
6.	Gradient flow map for Hampton 4M site	_____	_____	_____

<u>EXHIBIT</u>	<u>DESCRIPTION</u>	<u>OFFERED</u>	<u>ADMITTED</u>	<u>REFUSED</u>
7.	Plume map showing free phase and dissolved phase hydrocarbon contamination	_____	_____	_____
8.	Cross-section diagram showing free phase and dissolved phase hydrocarbon thickness	_____	_____	_____
9.	Graph showing free product recovery compared to thickness of free phase product	_____	_____	_____
10.	Schematic of separator process flow	_____	_____	_____
11.	Schematic of dehydrator process flow	_____	_____	_____
12.	Diagram of well completion for Hampton 4M well	_____	_____	_____
13.	Hampton 4M Well Production History	_____	_____	_____
14.	Hampton 4M Well Oil Gas/Production Ratio Comparison	_____	_____	_____
15.	Hydrocarbon fate and transport model	_____	_____	_____
16.	Piping and Instrumentation Diagram	_____	_____	_____
17.	Photograph of Produced Water Tank/Dehydrator and Meter	_____	_____	_____

<u>EXHIBIT</u>	<u>DESCRIPTION</u>	<u>OFFERED</u>	<u>ADMITTED</u>	<u>REFUSED</u>
18.	Photograph of Water Accumulated in Excavation	_____	_____	_____
19.	Photograph of Present Separator and Footprint of Former Separator	_____	_____	_____
20.	Photograph of Separator and Burlington Excavation	_____	_____	_____
21.	Photograph of PNM Product Recovery From MW-6	_____	_____	_____
22.	Photograph of Seep and Stained Soils	_____	_____	_____
23.	Photograph of Free Product in MW-10	_____	_____	_____
24.	Videotape of Hampton 4-M Site and Surface Equipment.	_____	_____	_____

KELEHER & McLEOD, P.A.

BY



Richard L. Alvidrez
P.O. Drawer AA
Albuquerque, New Mexico 87103
(505) 346-4646

and

Colin A. Adams
Corporate Counsel
Public Service Company of New Mexico
Alvarado Square MS 0806
Albuquerque, New Mexico 87158
(505) 241-4538
Attorneys for PNM

64702

Public Service Company
of New Mexico
Alvarado Square MS 0408
Albuquerque, NM 87158

SEP 13 1998

CONSERVATION DIVISION

PNM

August 11, 1998

CERTIFIED MAIL:

Bill Olson
Hydrologist, Environmental Bureau
New Mexico Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

RE: Hampton 4M Site
July 1998 Sampling Results

Dear Bill:

In response to your request to Maureen Gannon of PNM, enclosed are the most recent groundwater and free product recovery data collected by PNM at the Hampton 4M site. As you know, PNM has concerns regarding the effectiveness of any further remedial actions taken by PNM in the face of continuing hydrocarbon sources at this site.

Summary of PNM Activities

To update our last groundwater data report submitted to you on March 31, 1998, enclosed are groundwater potentiometric surface maps for April and July 1998 including the latest survey coordinates for monitoring wells MW-9 and MW-10. As shown on the map, groundwater flow is down-canyon towards the northwest. The hydraulic gradient is fairly steep and subparallel to the topographic gradient at approximately 0.10. This is a high energy environment, where contamination will move relatively quickly downgradient from the site of release. This is corroborated by the extent to which dissolved phase contamination is detected along the wash. The furthest downgradient monitoring well installed to date, MW-7, contains 950 ppb benzene and 4610 ppb total BTEX; benzene levels in this well have been increasing with time whereas total BTEX levels have decreased slightly. As free product has now been detected in upgradient wells MW-8 and MW-10, PNM has no downgradient wells in excess of site background concentrations (free product) when comparing downgradient water quality to water quality upgradient of PNM equipment. July 1998 sampling data are summarized in Table 1.

Hydrographs and contaminant trends with time are provided for wells with no free product and are presented in Attachment A. Contaminant trend graphs were not provided for monitoring wells MW-2, MW-6, MW-8, or MW-10 due to the presence of free product. Trend graphs were also not provided for MW-3, as it remains below standards, and for MW-9, as this well has only been sampled once since installation. The privately-owned EB well is located cross-gradient (north-northeast). No hydrocarbon constituents above the 0.2 ppb detection limit were detected in this well on original sampling; PNM has not resampled this well.

PNM installed a free product recovery well, MW-6, in November 1997 and initiated free product recovery in January 1998. Initial free product thickness in MW-6 was 4.71 feet on January 12, 1998.

Approximately 820 gallons of free product were recovered from MW-6, with an accompanying 2.3-foot drop in free product thickness, between January 12 and July 31, 1998. The sheer volume of free product recovered by PNM suggests that sources other than the former PNM pit have contributed free product to the subsurface. Free product thickness in MW-2 has remained relatively stable since April 1998 while free product recovery continues at a constant rate. Again, this suggests a large volume of product and/or intermittent or continuing sources of free product. Attachment B provides a figure illustrating free product thickness over the course of free product recovery.

As free phase is now detected in several upgradient wells, MW-10 (2 foot of accumulation) and MW-8 (0.37 feet of accumulation), it is clear that continued operation of the limited PNM free product recovery system will not offer environmental benefits until additional source removal and remediation are performed by the party(ies) responsible for upgradient contamination.

The presence of significant free phase in the subsurface is also the most likely cause of dissolved phase groundwater contamination detected at this site. Burlington, PNM, and NMOCD are aware of continuing hydrocarbon surface discharges in the area of the hydrocarbon seep along the northwestern area of the well pad. While dissolved hydrocarbon concentrations at the seep are below NMWQCC standards, this seep continues to visibly impact soils along the wash. As PNM did not discharge free product at this site, PNM maintains it is not the responsible party for dissolved phase groundwater contamination associated with ongoing free phase hydrocarbon discharges.

In addition to sampling groundwater monitoring wells, PNM also obtained samples from the temporary well TMP-1, soil and water samples from the Burlington excavation, and water samples from the hydrocarbon seep. Results of these analyses are provided in Table 1; analytical laboratory data are provided in Attachment C. Surface water samples showed relatively low levels of BTEX constituents (below NMWQCC standards); however, soil samples collected at the water table within the Burlington excavation showed over 2,000 ppm BTEX constituents remaining.

PNM is continuing to collect data and prepare for the NMOCC hearing on this site scheduled for August 20 and 21, 1998. If you have any questions related to the data summary provided for the Hampton 4M site or other project-related activities, please contact me at 505.241.2974.

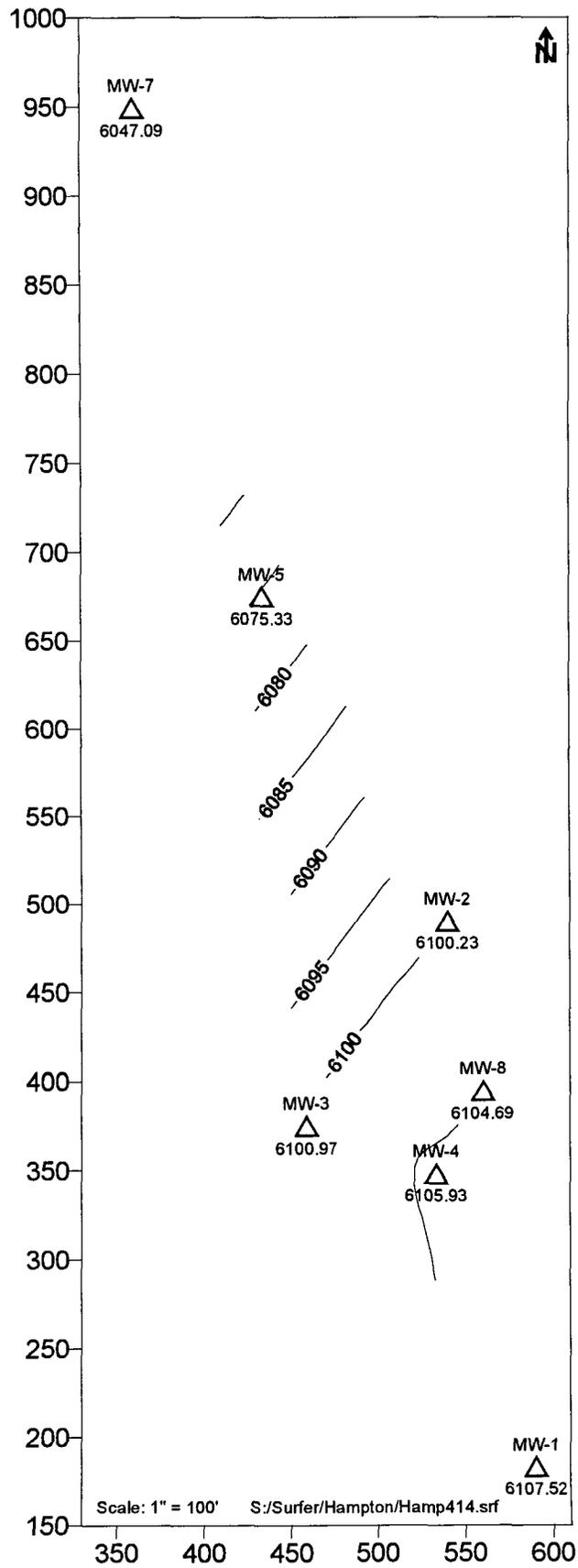
Sincerely,



Maureen Gannon
Project Manager

cc: Roger Anderson, NMOCD
Ed Haseley, Burlington Resources
Ingrid Deklau, Williams Field Services
Bill Von Drehle, Williams Field Services
Colin Adams, PNM
Denny Foust, NMOCD - Aztec

Hampton 4M Groundwater Contour Map (April, 1998)



Hampton 4M Groundwater Contour Map (July, 1998)

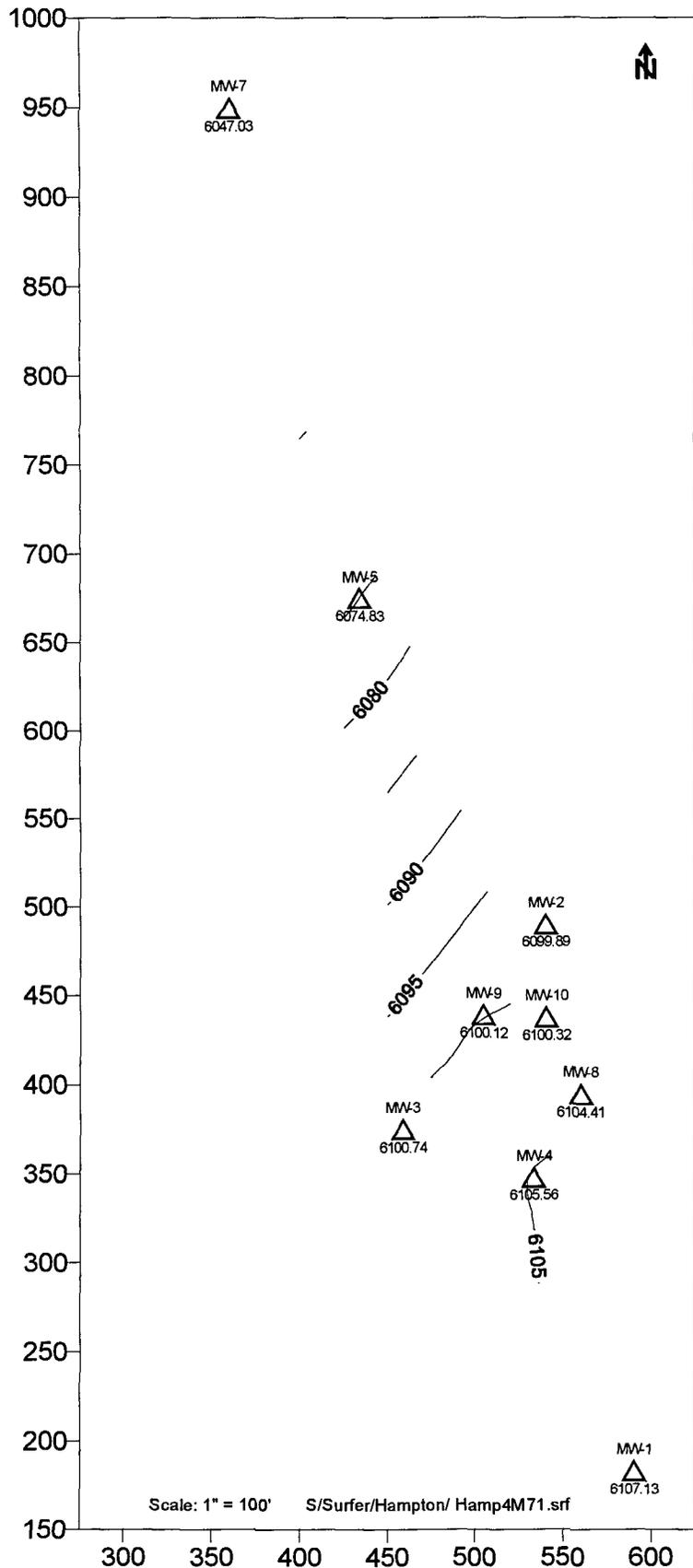


Table 1: SUMMARY OF ANALYTICAL RESULTS

GROUNDWATER MONITORING DATA - collected by PNM, except as noted

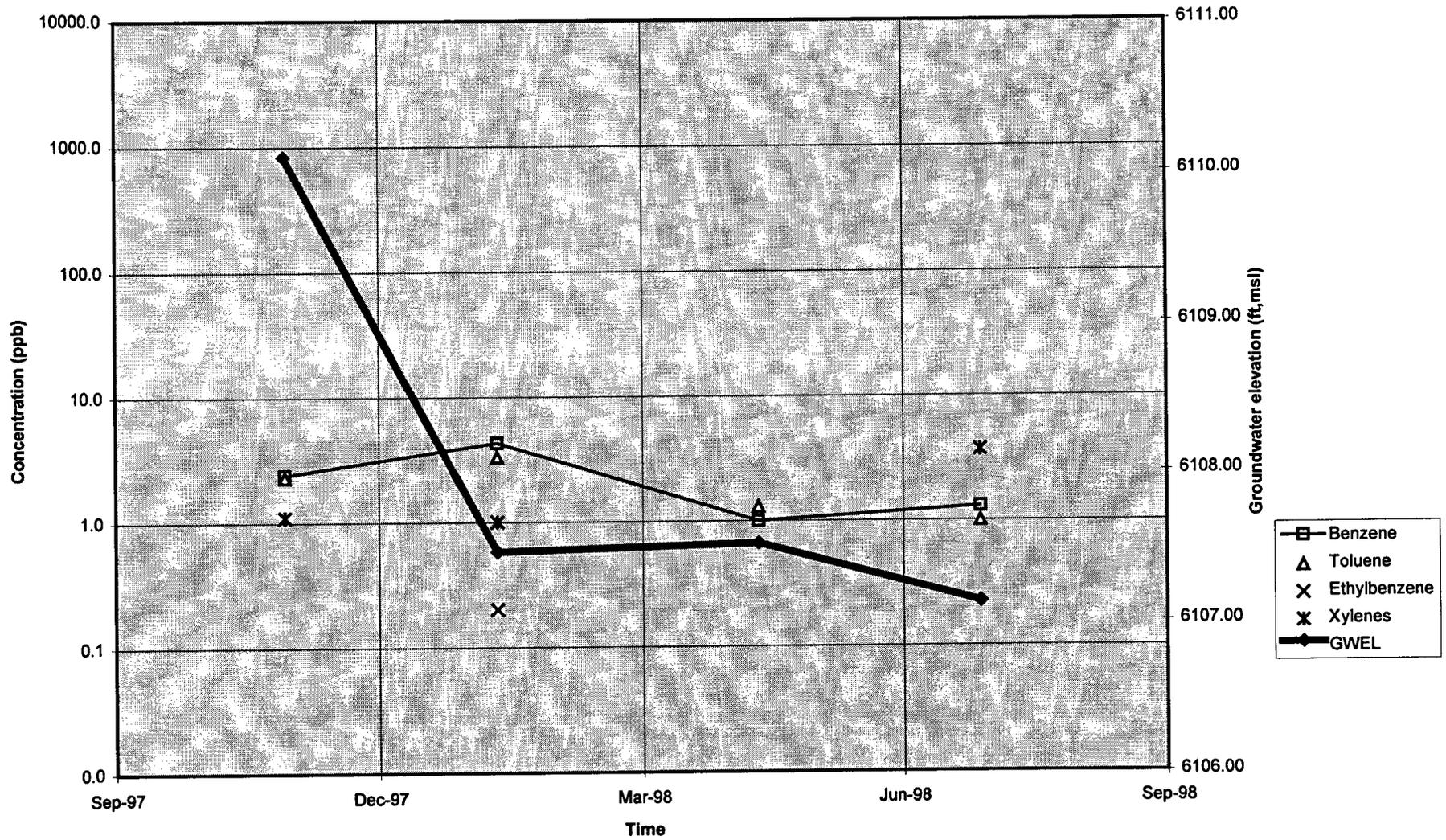
Well		Date Sampled	GWEL (ft,msl)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	Total BTEX (ug/L)	Product Thickness (ft)	2-MethylPentane (ug/L)
MW-1 Upgradient well		10/30/97	6110.10	2.4	2.3	<0.2	1.1	5.8	--	NA
		01/12/98	6107.47	4.3	3.3	0.2	1.0	8.8	--	NA
		04/14/98	6107.52	1.0	1.3	<0.5	<0.5	2.3	--	NA
		07/01/98	6107.13	1.3	1.0	<0.5	3.7	6.0	--	42.0
MW-2 PNM drip pit well		01/04/96	6097.88	NA	NA	NA	NA	NA	4.40	NA
		12/16/96	NM	3840.0	7960.0	896.0	7920.0	20616.0	NM	NA
		08/27/97	6097.87	NA	NA	NA	NA	NA	4.75	NA
		10/29/97	6098.08	NA	NA	NA	NA	NA	4.58	NA
		01/12/98	6098.10	NA	NA	NA	NA	NA	4.41	NA
		04/14/98	6100.88	NA	NA	NA	NA	NA	2.59	NA
	07/01/98	6102.14	NA	NA	NA	NA	NA	2.25	NA	
MW-3 Up & cross-gradient to PNM (Burlington)		1/4/96	6101.06	NA	NA	NA	NA	NA	--	NA
		1/31/97	NM	<0.2	<0.2	<0.2	<0.2	<0.2	--	NA
		5/5/97	NM	NA	NA	NA	NA	NA	--	NA
		10/29/97	6101.19	<0.2	<0.2	<0.2	<0.2	<0.2	--	NA
		1/12/98	6101.11	<0.2	<0.2	<0.2	<0.2	<0.2	--	NA
		4/14/98	6100.97	<0.5	<0.5	<0.5	<0.5	<0.5	--	NA
	7/1/98	6101.14	0.03 JB	0.05 JB	<0.5	<0.5	0.08 JB	--	<30.0	
MW-4 Upgradient PNM; downgradient Burlington (Burlington)		1/3/96	6106.16	NA	NA	NA	NA	NA	--	NA
		1/31/97	NM	811.7	1420.5	31.0	388.1	2651.3	--	NA
		5/1/97	NM	1162.0	1797.0	41.0	486.0	3486.0	--	NA
		8/27/97	6106.87	NA	NA	NA	NA	NA	--	NA
		10/29/97	6106.73	NA	NA	NA	NA	NA	--	NA
		1/12/98	6105.88	1251.0	6.0	82.0	24.0	1363.0	--	NA
		4/14/98	6105.93	1100.0	7.2	28.0	12.0	1147.2	--	NA
	7/1/98	6106.14	1400.0	50.0	120.0	124.0	1694.0	--	10.0 J	
MW-5 Downgradient along wash		10/29/97	6075.23	5934.0	10024.0	709.0	8188.0	24855.0	--	NA
		1/12/98	6075.09	7521.0	11213.0	779.0	8436.0	27949.0	--	NA
		4/14/98	6075.33	7000.0	11000.0	720.0	7800.0	26520.0	--	NA
		7/1/98	6075.43	6500.0	10000.0	780.0	7500.0	24780.0	--	800.0
MW-6 PNM drip pit/product recovery		11/12/97	6098.08	NA	NA	NA	NA	NA	4.80	NA
		1/12/98	6097.43	NA	NA	NA	NA	NA	4.71	NA
		4/14/98	NM	NA	NA	NA	NA	NA	pumping	NA
		7/1/98	NM	NA	NA	NA	NA	NA	pumping	NA
MW-7 Downgradient along wash; adj pipeline		1/12/98	6047.12	780.0	246.0	258.0	3942.0	5226.0	--	NA
		04/14/98	6047.09	820.0	340.0	190.0	2450.0	3800.0	--	NA
		07/01/98	6047.03	950.0	440.0	200.0	3020.0	4610.0	--	200.0
MW-8 Upgradient PNM; downgradient Burlington		1/12/98	6104.71	6410.0	17301.0	693.0	9397.0	33801.0	Sheen	NA
		4/14/98	6104.41	NA	NA	NA	NA	NA	0.37	NA
		7/1/98	6105.14	NA	NA	NA	NA	NA	0.37	NA
MW-9 Upgradient PNM, crossgradient Burlington		7/1/98	6100.51	12.0	0.2	0.6	1.3	14.1	--	<30.0
MW-10 Upgradient PNM, downgradient Burlington		7/1/98	NM	NA	NA	NA	NA	NA	2.00	NA
TMP-1 Temporary well; wash midway MW-5, MW-7		11/11/97	NM	2171.0	4185.0	190.0	2856.0	9402.0	--	NA
		7/1/98	6057.61	2000.0	4300.0	180.0	2700.0	9180.0	--	80.0
EB WELL Downgradient private well		11/25/97	5959.74	<0.2	<0.2	<0.2	<0.2	<0.2	--	NA
Burlington Excavation	Soil - @ water	7/1/98	NM	36000.0	560000.0	100000.0	1430000.0	2126000.0	--	NA
	Surface Water	7/1/98	6106.26	10.0	0.4	0.1	1.5	12.0	rainbow	<30.0
Hydrocarbon Seep	Surface Water	7/1/98	6098.72	1.6	0.7	0.6	0.36	3.26	rainbow	6.0 J

Notes: J = Analyte detected below Practical Quantitation Limit
 B = Analyte detected in the associated Method Blank
 NM = Not measured
 NA = Not analyzed

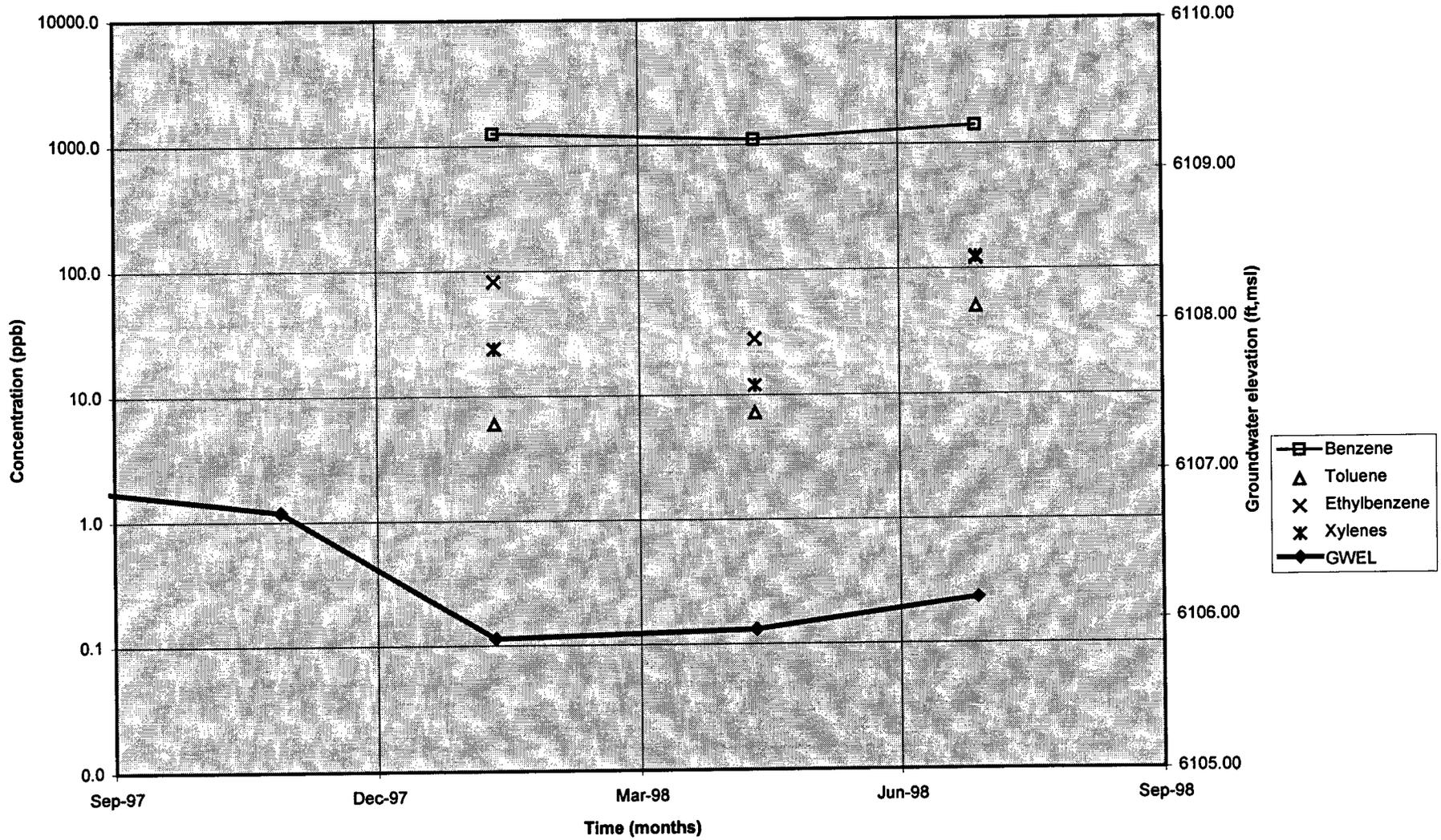
Attachment A

Hydrographs and Concentrations versus Time

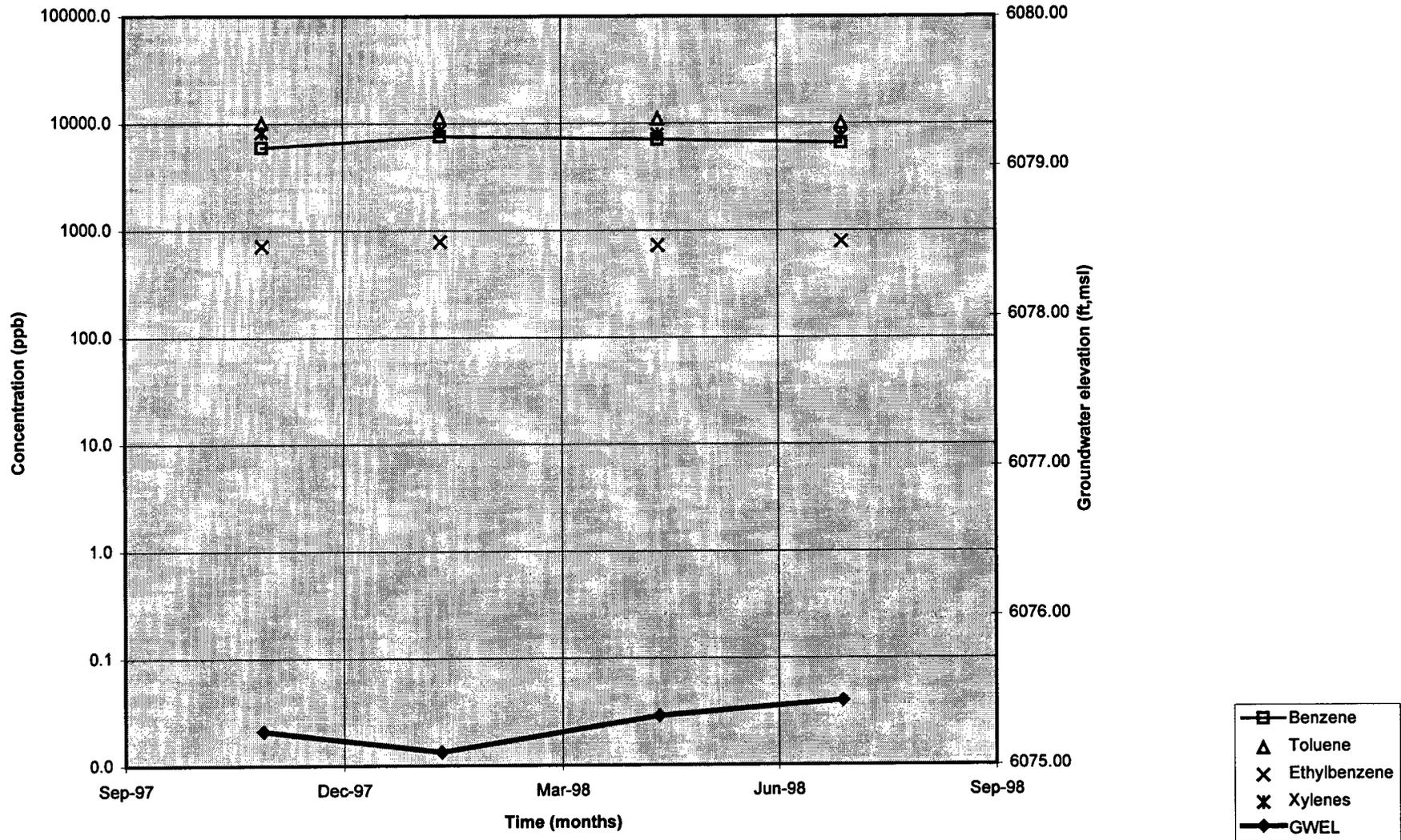
MW-1: Concentration vs. Time



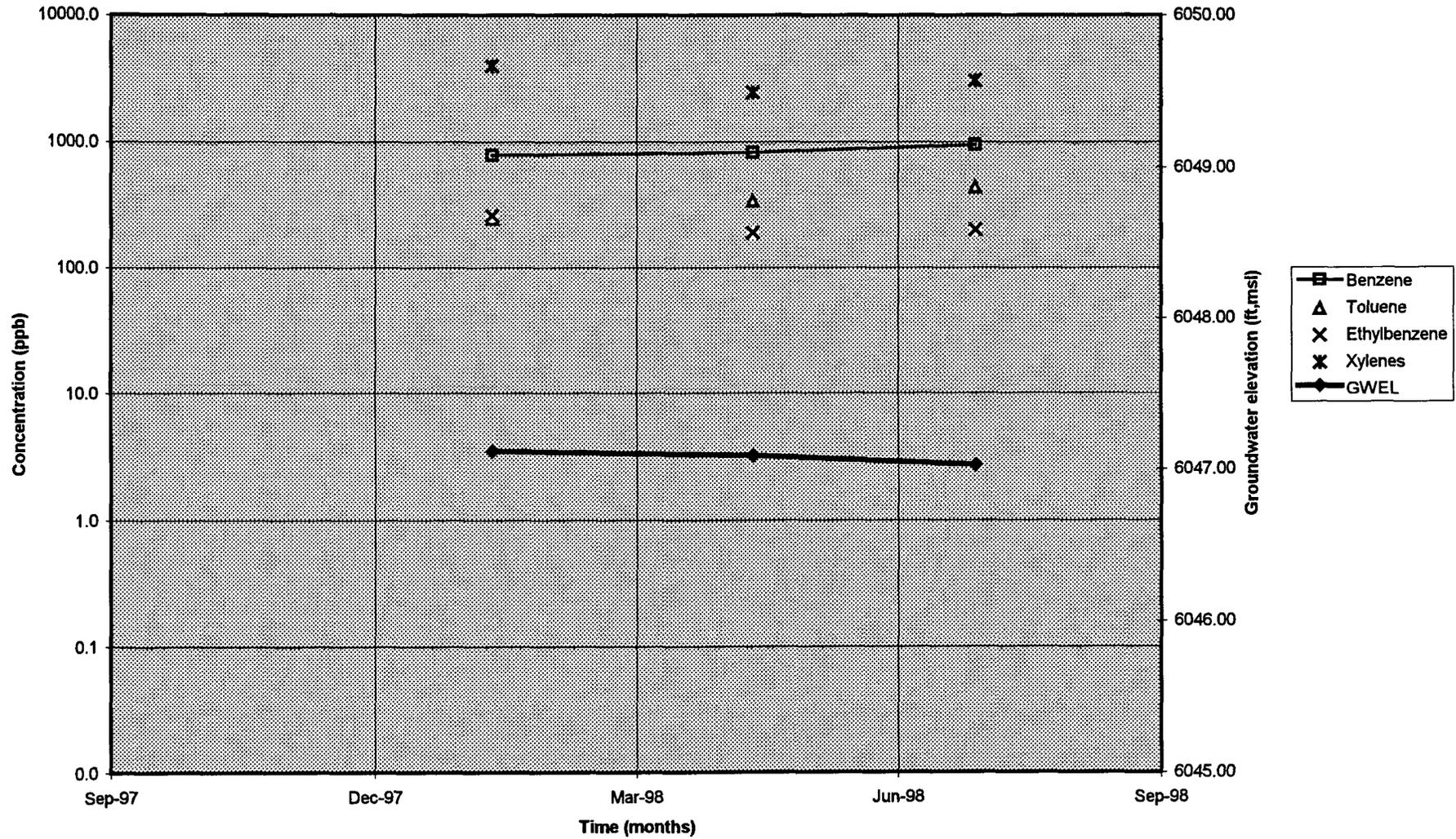
MW-4: Trends with Time



MW-5: Trends with Time



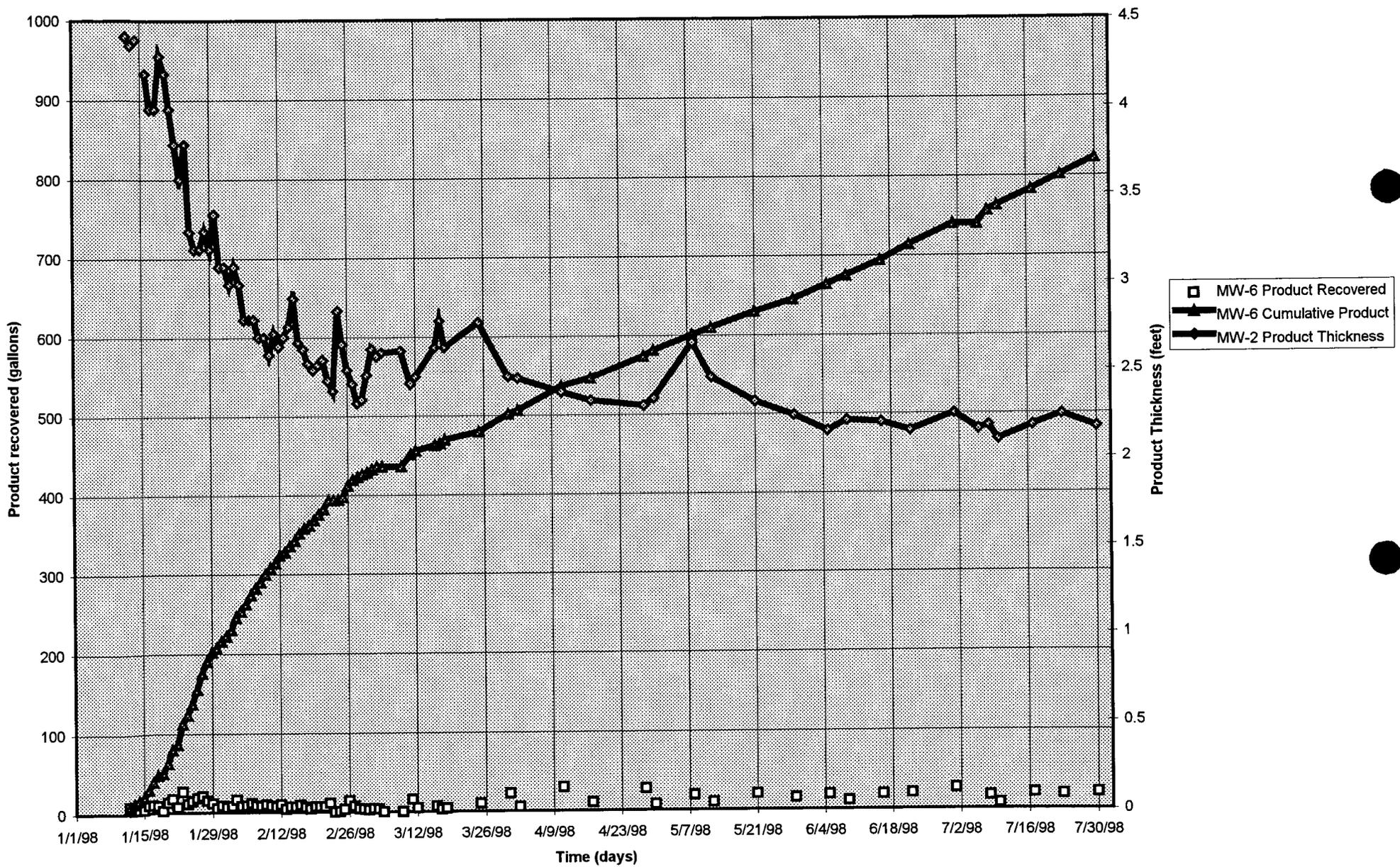
MW-7: Trends with Time



Attachment B

Free Product Recovery Response

Hampton 4M Free Product Recovery



Attachment C

Analytical Laboratory Data

OFF: (505) 325-5667



LAB: (505) 325-1556

July 21, 1998

Maureen Gannon
PNM - Public Service Company of NM
Alvarado Square Mail Stop 0408
Albuquerque, NM 87158
TEL: (505) 241-2974
FAX (505) 241-2340

RE: Hampton 4M

Order No.: 9807024

Dear Maureen Gannon,

On Site Technologies, LTD. received 2 samples on 7/9/98 for the analyses presented in the following report.

The Samples were analyzed for the following tests:

BTEX (SW8020A)
Gasoline Range Organics (SW8015)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in black ink, appearing to read "David Cox".

David Cox

OFF: (505) 325-5667



LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 21-Jul-98

CLIENT: PNM - Public Service Company of NM
Project: Hampton 4M
Lab Order: 9807024

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 21-Jul-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Hampton 4M
Work Order:	9807024	Client Sample ID:	9807091045; TMP-1
Lab ID:	9807024-01A	Matrix:	AQUEOUS
Project:	Hampton 4M	Collection Date:	7/9/98 10:45:00 AM
		COC Record:	7278

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
GASOLINE RANGE ORGANICS		SW8015				Analyst: DC
2-Methylpentane	80	300	J	µg/L	10	7/13/98
BTEX		SW8020A				Analyst: DC
Benzene	2000	25		µg/L	50	7/20/98
Toluene	4300	25		µg/L	50	7/20/98
Ethylbenzene	180	5		µg/L	10	7/17/98
m,p-Xylene	2100	50		µg/L	50	7/20/98
o-Xylene	600	5		µg/L	10	7/17/98

Qualifiers:

PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
B - Analyte detected in the associated Method Blank	Surr: - Surrogate

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 21-Jul-98

Client: PNM - Public Service Company of NM	Client Sample Info: Hampton 4M
Work Order: 9807024	Client Sample ID: 9807091100; Seep
Lab ID: 9807024-02A Matrix: AQUEOUS	Collection Date: 7/9/98 11:00:00 AM
Project: Hampton 4M	COC Record: 7278

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
GASOLINE RANGE ORGANICS		SW8015				Analyst: DC
2-Methylpentane	6	30	J	µg/L	1	7/13/98
BTEX		SW8020A				Analyst: DC
Benzene	1.6	0.5		µg/L	1	7/17/98
Toluene	0.7	0.5		µg/L	1	7/17/98
Ethylbenzene	0.6	0.5		µg/L	1	7/17/98
m,p-Xylene	0.3	1	JB	µg/L	1	7/17/98
o-Xylene	0.06	0.5	JB	µg/L	1	7/17/98

Qualifiers:	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

On Site Technologies, LTD.

Date: 21-Jul-98

CLIENT: PNM - Public Service Company of NM
Work Order: 9807024
Project: Hampton 4M

QC SUMMARY REPORT
Method Blank

Sample ID: MB1	Batch ID: GC-1_980713	Test Code: SW8015	Units: µg/L	Analysis Date: 7/13/98	Prep Date:						
Client ID:	9807024	Run ID: GC-1_980713B	SeqNo: 4530								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Methylpentane	ND	30									

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 21-Jul-98

CLIENT: PNM - Public Service Company of NM
Work Order: 9807024
Project: Hampton 4M

QC SUMMARY REPORT
Sample Matrix Spike

Sample ID: 9807010-10AMS	Batch ID: GC-1_980713	Test Code: SW8015	Units: µg/L	Analysis Date 7/13/98	Prep Date:						
Client ID:	9807024	Run ID: GC-1_980713B		SeqNo: 4536							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Methylpentane	14450	1500	15000	952.6	90.0%	70	130				
Sample ID: 9807010-10AMSD	Batch ID: GC-1_980713	Test Code: SW8015	Units: µg/L	Analysis Date 7/13/98	Prep Date:						
Client ID:	9807024	Run ID: GC-1_980713B		SeqNo: 4537							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Methylpentane	13990	1500	15000	952.6	86.9%	70	130	14450	3.3%	20	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 21-Jul-98

CLIENT: PNM - Public Service Company of NM
Work Order: 9807024
Project: Hampton 4M

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID: LCS Water	Batch ID: GC-1_980713	Test Code: SW8015	Units: µg/L	Analysis Date 7/13/98	Prep Date:						
Client ID:	9807024	Run ID: GC-1_980713B	SeqNo: 4532								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Methylpentane	281.8	30	300	0	93.9%	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 21-Jul-98

CLIENT: PNM - Public Service Company of NM
Work Order: 9807024
Project: Hampton 4M

QC SUMMARY REPORT
Continuing Calibration Verification Standard

Sample ID: CCV1 QC0593	Batch ID: GC-1_980713	Test Code: SW8015	Units: µg/L	Analysis Date 7/13/98	Prep Date:						
Client ID:	9807024	Run ID: GC-1_980713B	SeqNo: 4531								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Methylpentane	296.2	30	300	0	98.7%	85	115				
Trifluorotoluene	97.59	0	100	0	97.6%	70	130				
Sample ID: CCV2 QC0593	Batch ID: GC-1_980713	Test Code: SW8015	Units: µg/L	Analysis Date 7/13/98	Prep Date:						
Client ID:	9807024	Run ID: GC-1_980713B	SeqNo: 4538								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Methylpentane	274.1	30	300	0	91.4%	85	115				
Trifluorotoluene	98.82	0	100	0	98.8%	70	130				
Sample ID: CCV3 QC0593	Batch ID: GC-1_980713	Test Code: SW8015	Units: µg/L	Analysis Date 7/13/98	Prep Date:						
Client ID:	9807024	Run ID: GC-1_980713B	SeqNo: 4539								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Methylpentane	266.2	30	300	0	88.7%	85	115				
Trifluorotoluene	97.09	0	100	0	97.1%	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 21-Jul-98

CLIENT: PNM - Public Service Company of NM
 Work Order: 9807024
 Project: Hampton 4M

QC SUMMARY REPORT
 Method Blank

Sample ID: MB1	Batch ID: GC-1_980717	Test Code: SW8020A	Units: µg/L	Analysis Date 7/17/98	Prep Date:						
Client ID:	9807024	Run ID: GC-1_980717A		SeqNo: 4649							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	.0436	0.5									J
Ethylbenzene	.0759	0.5									J
m,p-Xylene	.1652	1									J
Methyl tert-Butyl Ether	ND	1									
o-Xylene	.1832	0.5									J
Toluene	.1127	0.5									J

Sample ID: MB1	Batch ID: GC-1_980720	Test Code: SW8020A	Units: µg/L	Analysis Date 7/20/98	Prep Date:						
Client ID:	9807024	Run ID: GC-1_980720A		SeqNo: 4731							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	.0649	0.5									J
Ethylbenzene	ND	0.5									
m,p-Xylene	ND	1									
Methyl tert-Butyl Ether	ND	1									
o-Xylene	ND	0.5									
Toluene	.0787	0.5									J

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

On Site Technologies, LTD.

Date: 21-Jul-98

CLIENT: PNM - Public Service Company of NM
 Work Order: 9807024
 Project: Hampton 4M

QC SUMMARY REPORT
 Sample Matrix Spike

Sample ID: 9807025-01AMS		Batch ID: GC-1_980717		Test Code: SW8020A		Units: µg/L		Analysis Date 7/17/98		Prep Date:	
Client ID: 9807024		Run ID: GC-1_980717A		SeqNo: 4650							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1764	25	2000	21.02	87.2%	56	128				
Ethylbenzene	1933	25	2000	75.09	92.9%	78	107				
m,p-Xylene	3626	50	4000	127.2	87.5%	67	118				
o-Xylene	1817	25	2000	30.73	89.3%	78	107				
Toluene	1860	25	2000	67.96	89.6%	74	116				

Sample ID: 9807025-01AMSD		Batch ID: GC-1_980717		Test Code: SW8020A		Units: µg/L		Analysis Date 7/17/98		Prep Date:	
Client ID: 9807024		Run ID: GC-1_980717A		SeqNo: 4651							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1699	25	2000	21.02	83.9%	56	128	1764	3.8%	12	
Ethylbenzene	1865	25	2000	75.09	89.5%	78	107	1933	3.6%	11	
m,p-Xylene	3501	50	4000	127.2	84.4%	67	118	3626	3.5%	10	
o-Xylene	1775	25	2000	30.73	87.2%	78	107	1817	2.3%	14	
Toluene	1791	25	2000	67.96	86.1%	74	116	1860	3.8%	14	

Sample ID: 9807032-01AMS		Batch ID: GC-1_980720		Test Code: SW8020A		Units: µg/L		Analysis Date 7/20/98		Prep Date:	
Client ID: 9807024		Run ID: GC-1_980720A		SeqNo: 4732							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	7611	50	4000	3831	94.5%	56	128				
Ethylbenzene	5361	50	4000	1595	94.1%	78	107				
m,p-Xylene	15130	100	8000	7290	98.0%	67	118				
Methyl tert-Butyl Ether	3598	100	4000	392.2	80.2%	70	130				
o-Xylene	6591	50	4000	2774	95.4%	78	107				
Toluene	21850	50	4000	17660	104.6%	74	116				E

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

CLIENT: PNM - Public Service Company of NM
Work Order: 9807024
Project: Hampton 4M

QC SUMMARY REPORT
 Sample Matrix Spike Duplicate

Sample ID: 9807032-01AMSD		Batch ID: GC-1_980720		Test Code: SW8020A		Units: µg/L		Analysis Date 7/20/98		Prep Date:	
Client ID: 9807024		Run ID: GC-1_980720A		SeqNo: 4733							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	7448	50	4000	3831	90.4%	56	128	7611	2.2%	12	
Ethylbenzene	5241	50	4000	1595	91.1%	78	107	5361	2.3%	11	
m,p-Xylene	14760	100	8000	7290	93.4%	67	118	15130	2.5%	10	
Methyl tert-Butyl Ether	3818	100	4000	392.2	85.6%	70	130	3598	5.9%	15	
o-Xylene	6504	50	4000	2774	93.2%	78	107	6591	1.3%	14	
Toluene	21400	50	4000	17660	93.4%	74	116	21850	2.1%	14	E

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 21-Jul-98

CLIENT: PNM - Public Service Company of NM
 Work Order: 9807024
 Project: Hampton 4M

QC SUMMARY REPORT
 Laboratory Control Spike - generic

Sample ID: LCS WATER	Batch ID: GC-1_980717	Test Code: SW8020A	Units: µg/L	Analysis Date 7/17/98	Prep Date:						
Client ID: 9807024	Run ID: GC-1_980717A	SeqNo: 4648									
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	37.81	0.5	40	0.0436	94.4%	56	128				
Ethylbenzene	38.38	0.5	40	0.0759	95.8%	78	107				
m,p-Xylene	73.54	1	80	0.1652	91.7%	67	118				
Methyl tert-Butyl Ether	46.48	1	40	0	116.2%	70	130				
o-Xylene	38.42	0.5	40	0.1832	95.6%	78	107				
Toluene	37.72	0.5	40	0.1127	94.0%	74	116				

Sample ID: LCS WATER	Batch ID: GC-1_980720	Test Code: SW8020A	Units: µg/L	Analysis Date 7/20/98	Prep Date:						
Client ID: 9807024	Run ID: GC-1_980720A	SeqNo: 4730									
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	36.97	0.5	40	0.0649	92.3%	56	128				
Ethylbenzene	38.46	0.5	40	0	96.1%	78	107				
m,p-Xylene	75.83	1	80	0	94.8%	67	118				
Methyl tert-Butyl Ether	35.6	1	40	0	89.0%	70	130				
o-Xylene	38.64	0.5	40	0	96.6%	78	107				
Toluene	38.03	0.5	40	0.0787	94.9%	74	116				

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

On Site Technologies, LTD.

Date: 21-Jul-98

CLIENT: PNM - Public Service Company of NM
Work Order: 9807024
Project: Hampton 4M

QC SUMMARY REPORT
Continuing Calibration Verification Standard

Sample ID: CCV1 QC0606/07	Batch ID: GC-1_980717	Test Code: SW8020A	Units: µg/L	Analysis Date 7/17/98	Prep Date:						
Client ID:	9807024	Run ID: GC-1_980717A		SeqNo: 4645							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.67	0.5	20	0	98.4%	85	115				
Ethylbenzene	19.86	0.5	20	0	99.3%	85	115				
m,p-Xylene	37.75	1	40	0	94.4%	85	115				
o-Xylene	19.83	0.5	20	0	99.2%	85	115				
Toluene	19.63	0.5	20	0	98.2%	85	115				
1,4-Difluorobenzene	86.73	0	100	0	86.7%	70	130				
4-Bromochlorobenzene	96.42	0	100	0	96.4%	70	130				
Fluorobenzene	83.42	0	100	0	83.4%	70	130				

Sample ID: CCV2 QC0606/07	Batch ID: GC-1_980717	Test Code: SW8020A	Units: µg/L	Analysis Date 7/17/98	Prep Date:						
Client ID:	9807024	Run ID: GC-1_980717A		SeqNo: 4646							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	18.82	0.5	20	0	94.1%	85	115				
Ethylbenzene	19.37	0.5	20	0	96.8%	85	115				
m,p-Xylene	36.78	1	40	0	91.9%	85	115				
o-Xylene	19.36	0.5	20	0	96.8%	85	115				
Toluene	19.05	0.5	20	0	95.3%	85	115				
1,4-Difluorobenzene	86.52	0	100	0	86.5%	70	130				
4-Bromochlorobenzene	90.57	0	100	0	90.6%	70	130				
Fluorobenzene	82.78	0	100	0	82.8%	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

CLIENT: PNM - Public Service Company of NM
Work Order: 9807024
Project: Hampton 4M

QC SUMMARY REPORT
 Continuing Calibration Verification Standard

Sample ID: CCV3 QC0606/07		Batch ID: GC-1_980717		Test Code: SW8020A		Units: µg/L		Analysis Date 7/17/98		Prep Date:	
Client ID: 9807024		Run ID: GC-1_980717A		SeqNo: 4647							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	35.5	0.5	40	0	88.7%	85	115				
Ethylbenzene	37.28	0.5	40	0	93.2%	85	115				
m,p-Xylene	71.23	1	80	0	89.0%	85	115				
o-Xylene	36.68	0.5	40	0	91.7%	85	115				
Toluene	37.03	0.5	40	0	92.6%	85	115				
1,4-Difluorobenzene	85.63	0	100	0	85.6%	70	130				
4-Bromochlorobenzene	74.02	0	100	0	74.0%	70	130				
Fluorobenzene	81.58	0	100	0	81.6%	70	130				

Sample ID: CCV1 QC0606/07		Batch ID: GC-1_980720		Test Code: SW8020A		Units: µg/L		Analysis Date 7/20/98		Prep Date:	
Client ID: 9807024		Run ID: GC-1_980720A		SeqNo: 4728							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	18.53	0.5	20	0	92.6%	85	115				
Ethylbenzene	19.44	0.5	20	0	97.2%	85	115				
m,p-Xylene	37.86	1	40	0	94.7%	85	115				
Methyl tert-Butyl Ether	17.75	1	20	0	88.8%	85	115				
o-Xylene	19.5	0.5	20	0	97.5%	85	115				
Toluene	19.16	0.5	20	0	95.8%	85	115				
1,4-Difluorobenzene	86.54	0	100	0	86.5%	70	130				
4-Bromochlorobenzene	80.3	0	100	0	80.3%	70	130				
Fluorobenzene	81.99	0	100	0	82.0%	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

CLIENT: PNM - Public Service Company of NM
Work Order: 9807024
Project: Hampton 4M

QC SUMMARY REPORT
 Continuing Calibration Verification Standard

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	18.45	0.5	20	0	92.3%	85	115				
Ethylbenzene	19.33	0.5	20	0	96.7%	85	115				
m,p-Xylene	37.72	1	40	0	94.3%	85	115				
Methyl tert-Butyl Ether	18.7	1	20	0	93.5%	85	115				
o-Xylene	19.46	0.5	20	0	97.3%	85	115				
Toluene	19.09	0.5	20	0	95.5%	85	115				
1,4-Difluorobenzene	86.44	0	100	0	86.4%	70	130				
4-Bromochlorobenzene	80.25	0	100	0	80.2%	70	130				
Fluorobenzene	81.78	0	100	0	81.8%	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 21-Jul-98

CLIENT: PNM - Public Service Company of NM
 Work Order: 9807024
 Project: Hampton 4M
 Test No: SW8020A

**QC SUMMARY REPORT
 SURROGATE RECOVERIES**

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ					
9807024-01A	83.1	68.1 *	79.6					
9807024-02A	87.7	99.1	84.4					
9807025-01A	80.9	77.7	77.1					
9807025-01AMS	85	66.3 *	80.7					
9807025-01AMSD	84.8	68 *	81.1					
9807025-02A	80.6	70.2	76.3					
9807026-01A	83.1	92.3	80					
9807026-02A	83.1	90.7	79.8					
9807032-01A	85.2	71.4	81.4					
9807032-01AMS	85.2	75.3	81.4					
9807032-01AMSD	85.5	78.5	81.4					
9807033-01A	86.8	96	82.8					
9807033-02A	86.9	96.7	82.8					
9807033-03A	86.6	92.2	83.7					
9807033-04A	90.3	94.2	81.3					
9807033-05A	86.5	90.8	83					
9807033-06A	90.2	81.1	80.1					
9807033-07A	86.9	83.2	82.2					
9807034-01A	86.8	91.7	81.8					
CCV1 QC0606/07	86.5	80.3	82					
CCV2 QC0606/07	86.4	80.2	81.8					
CCV3 QC0606/07	85.6	74	81.6					
LCS WATER	85.4	82.1	81.9					
MB1	86.5	75.6	82.6					

Acronym	Surrogate	QC Limits
14FBZ	= 1,4-Difluorobenzene	70-130
4BCBZ	= 4-Bromochlorobenzene	70-130
FLBZ	= Fluorobenzene	70-130

* Surrogate recovery outside acceptance limits

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July 20, 1998

Maureen Gannon
PNM - Public Service Company of NM
Alvarado Square Mail Stop 0408
Albuquerque, NM 87158
TEL: (505) 241-2974
FAX (505) 241-2340

RE: PNM Pit Remediation *Hampton 4m*

Order No.: 9807004

Dear Maureen Gannon,

On Site Technologies, LTD. received 9 samples on 7/2/98 for the analyses presented in the following report.

The Samples were analyzed for the following tests:

- BTEX (SW8020A)
- Diesel Range Organics (SW8015)
- Gasoline Range Organics (SW8015)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in black ink, appearing to read "David Cox", is written over a horizontal line.

David Cox

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LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 20-Jul-98

CLIENT: PNM - Public Service Company of NM

Project: PNM Pit Remediation

Lab Order: 9807004

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

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ANALYTICAL REPORT

Date: 20-Jul-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Hampton 4M
Work Order:	9807004	Client Sample ID:	9807011350; MW-1
Lab ID:	9807004-01A	Matrix:	AQUEOUS
Project:	PNM Pit Remediation	Collection Date:	7/1/98 1:50:00 PM
		COC Record:	7275

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
GASOLINE RANGE ORGANICS		SW8015				Analyst: DC
2-Methylpentane	42	30		µg/L	1	7/12/98
BTEX		SW8020A				Analyst: DC
Benzene	1.3	0.5		µg/L	1	7/8/98
Toluene	1	0.5		µg/L	1	7/8/98
Ethylbenzene	ND	0.5		µg/L	1	7/8/98
m,p-Xylene	0.1	1	JB	µg/L	1	7/8/98
o-Xylene	3.6	0.5		µg/L	1	7/8/98

Qualifiers:	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

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ANALYTICAL REPORT

Date: 20-Jul-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Hampton 4M
Work Order:	9807004	Client Sample ID:	9807011420; MW-3
Lab ID:	9807004-02A	Matrix:	AQUEOUS
Project:	PNM Pit Remediation	Collection Date:	7/1/98 2:20:00 PM
		COC Record:	7275

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
GASOLINE RANGE ORGANICS		SW8015				Analyst: DC
2-Methylpentane	ND	30		µg/L	1	7/12/98
BTEX		SW8020A				Analyst: DC
Benzene	0.03	0.5	JB	µg/L	1	7/8/98
Toluene	0.05	0.5	JB	µg/L	1	7/8/98
Ethylbenzene	ND	0.5		µg/L	1	7/8/98
m,p-Xylene	ND	1		µg/L	1	7/8/98
o-Xylene	ND	0.5		µg/L	1	7/8/98

Qualifiers:	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

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ANALYTICAL REPORT

Date: 20-Jul-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Hampton 4M
Work Order:	9807004	Client Sample ID:	9807011445; MW-4
Lab ID:	9807004-03A	Matrix:	AQUEOUS
Project:	PNM Pit Remediation	Collection Date:	7/1/98 2:45:00 PM
		COC Record:	7275

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
GASOLINE RANGE ORGANICS						
		SW8015				Analyst: DC
2-Methylpentane	10	30	J	µg/L	1	7/12/98
BTEX		SW8020A				Analyst: DC
Benzene	1400	5		µg/L	10	7/8/98
Toluene	50	5		µg/L	10	7/8/98
Ethylbenzene	120	5		µg/L	10	7/8/98
m,p-Xylene	67	10		µg/L	10	7/8/98
o-Xylene	57	5		µg/L	10	7/8/98

Qualifiers:	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

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ANALYTICAL REPORT

Date: 20-Jul-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Hampton 4M
Work Order:	9807004	Client Sample ID:	9807011500; Burlington Exc.
Lab ID:	9807004-04A	Matrix:	AQUEOUS
Project:	PNM Pit Remediation	Collection Date:	7/1/98 3:00:00 PM
		COC Record:	7275

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
GASOLINE RANGE ORGANICS		SW8015				Analyst: DC
2-Methylpentane	ND	30		µg/L	1	7/12/98
BTEX		SW8020A				Analyst: DC
Benzene	10	0.5		µg/L	1	7/8/98
Toluene	0.4	0.5	JB	µg/L	1	7/8/98
Ethylbenzene	0.1	0.5	JB	µg/L	1	7/8/98
m,p-Xylene	1.3	1		µg/L	1	7/8/98
o-Xylene	0.2	0.5	JB	µg/L	1	7/8/98

Qualifiers:	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

1 of 1

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LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 20-Jul-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Hampton 4M
Work Order:	9807004	Client Sample ID:	9807011505; Burlington Exc.
Lab ID:	9807004-05A	Matrix:	SOIL
Project:	PNM Pit Remediation	Collection Date:	7/1/98 3:05:00 PM
		COC Record:	7275

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		SW8015				Analyst: DC
T/R Hydrocarbons: C10-C28	4800	25		mg/Kg	1	7/9/98
BTEX		SW8020A				Analyst: DC
Benzene	36000	10000		µg/Kg	10000	7/10/98
Toluene	560000	20000		µg/Kg	10000	7/10/98
Ethylbenzene	100000	10000		µg/Kg	10000	7/10/98
m,p-Xylene	1200000	20000		µg/Kg	10000	7/10/98
o-Xylene	230000	10000		µg/Kg	10000	7/10/98

Qualifiers:	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

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ANALYTICAL REPORT

Date: 20-Jul-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Hampton 4M
Work Order:	9807004	Client Sample ID:	9807011545; MW-9
Lab ID:	9807004-06A	Matrix:	AQUEOUS
Project:	PNM Pit Remediation	Collection Date:	7/1/98 3:45:00 PM
		COC Record:	7275

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
GASOLINE RANGE ORGANICS		SW8015				Analyst: DC
2-Methylpentane	ND	30		µg/L	1	7/12/98
BTEX		SW8020A				Analyst: DC
Benzene	12	0.5		µg/L	1	7/11/98
Toluene	0.2	0.5	JB	µg/L	1	7/11/98
Ethylbenzene	0.6	0.5		µg/L	1	7/11/98
m,p-Xylene	1.2	1		µg/L	1	7/11/98
o-Xylene	0.1	0.5	JB	µg/L	1	7/11/98

Qualifiers:	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

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ANALYTICAL REPORT

Date: 20-Jul-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Hampton 4M
Work Order:	9807004	Client Sample ID:	9807011625; MW-5
Lab ID:	9807004-07A	Matrix:	AQUEOUS
Project:	PNM Pit Remediation	Collection Date:	7/1/98 4:25:00 PM
		COC Record:	7275

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
GASOLINE RANGE ORGANICS		SW8015				Analyst: DC
2-Methylpentane	800	600		µg/L	20	7/12/98
BTEX		SW8020A				Analyst: DC
Benzene	6500	50		µg/L	100	7/8/98
Toluene	10000	50		µg/L	100	7/8/98
Ethylbenzene	780	50		µg/L	100	7/8/98
m,p-Xylene	6000	100		µg/L	100	7/8/98
o-Xylene	1500	50		µg/L	100	7/8/98

Qualifiers:	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

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ANALYTICAL REPORT

Date: 20-Jul-98

Client: PNM - Public Service Company of NM	Client Sample Info: Hampton 4M
Work Order: 9807004	Client Sample ID: 9807011650; MW-7
Lab ID: 9807004-08A Matrix: AQUEOUS	Collection Date: 7/1/98 4:50:00 PM
Project: PNM Pit Remediation	COC Record: 7275

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
GASOLINE RANGE ORGANICS		SW8015				Analyst: DC
2-Methylpentane	200	300	J	µg/L	10	7/12/98
BTEX		SW8020A				Analyst: DC
Benzene	950	5		µg/L	10	7/8/98
Toluene	440	5		µg/L	10	7/8/98
Ethylbenzene	200	5		µg/L	10	7/8/98
m,p-Xylene	2300	20		µg/L	20	7/11/98
o-Xylene	720	5		µg/L	10	7/8/98

Qualifiers:

PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
B - Analyte detected in the associated Method Blank	Surr: - Surrogate

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ANALYTICAL REPORT

Date: 20-Jul-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Hampton 4M
Work Order:	9807004	Client Sample ID:	9807011700; MW-11
Lab ID:	9807004-09A	Matrix:	AQUEOUS
Project:	PNM Pit Remediation	Collection Date:	7/1/98 5:00:00 PM
		COC Record:	7275

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
GASOLINE RANGE ORGANICS		SW8015				Analyst: DC
2-Methylpentane	100	300	J	µg/L	10	7/12/98
BTEX		SW8020A				Analyst: DC
Benzene	930	5		µg/L	10	7/8/98
Toluene	470	5		µg/L	10	7/8/98
Ethylbenzene	180	5		µg/L	10	7/8/98
m,p-Xylene	1900	20		µg/L	20	7/11/98
o-Xylene	620	5		µg/L	10	7/8/98

Qualifiers:	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

On Site Technologies, LTD.

Date: 20-Jul-98

CLIENT: PNM - Public Service Company of NM

Work Order: 9807004

Project: PNM Pit Remediation

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_980712	Test Code: SW8015	Units: µg/L	Analysis Date 7/12/98	Prep Date:						
Client ID:	9807004	Run ID: GC-1_980712B	SeqNo: 4484								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Methylpentane	ND	30									

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 20-Jul-98

CLIENT: PNM - Public Service Company of NM
Work Order: 9807004
Project: PNM Pit Remediation

QC SUMMARY REPORT
 Sample Matrix Spike

Sample ID: 9807010-16AMS	Batch ID: GC-1_980712	Test Code: SW8015	Units: µg/L	Analysis Date 7/12/98	Prep Date:						
Client ID:	9807004	Run ID: GC-1_980712B		SeqNo: 4511							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Methylpentane	6397	600	6000	775.4	93.7%	70	130				

Sample ID: 9807010-16AMS	Batch ID: GC-1_980712	Test Code: SW8015	Units: µg/L	Analysis Date 7/12/98	Prep Date:						
Client ID:	9807004	Run ID: GC-1_980712B		SeqNo: 4512							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Methylpentane	6268	600	6000	775.4	91.5%	70	130	6397	2.0%	20	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

On Site Technologies, LTD.

Date: 20-Jul-98

CLIENT: PNM - Public Service Company of NM
Work Order: 9807004
Project: PNM Pit Remediation

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID: LCS Water	Batch ID: GC-1_980712	Test Code: SW8015	Units: µg/L	Analysis Date 7/12/98	Prep Date:						
Client ID:	9807004	Run ID: GC-1_980712B	SeqNo: 4486								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Methylpentane	294.7	30	300	0	98.2%	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 20-Jul-98

CLIENT: PNM - Public Service Company of NM
Work Order: 9807004
Project: PNM Pit Remediation

QC SUMMARY REPORT
 Continuing Calibration Verification Standard

Sample ID: CCV1 QC0593	Batch ID: GC-1_980712	Test Code: SW8015	Units: µg/L	Analysis Date: 7/12/98	Prep Date:						
Client ID:	9807004	Run ID: GC-1_980712B	SeqNo: 4485								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Methylpentane	312.5	30	300	0	104.2%	85	115				
Trifluorotoluene	100	0	100	0	100.0%	70	130				

Sample ID: CCV2 QC0593	Batch ID: GC-1_980712	Test Code: SW8015	Units: µg/L	Analysis Date: 7/12/98	Prep Date:						
Client ID:	9807004	Run ID: GC-1_980712B	SeqNo: 4513								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Methylpentane	281.1	30	300	0	93.7%	85	115				
Trifluorotoluene	100.6	0	100	0	100.6%	70	130				

Sample ID: CCV3 QC0593	Batch ID: GC-1_980712	Test Code: SW8015	Units: µg/L	Analysis Date: 7/12/98	Prep Date:						
Client ID:	9807004	Run ID: GC-1_980712B	SeqNo: 4514								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Methylpentane	272.3	30	300	0	90.8%	85	115				
Trifluorotoluene	98	0	100	0	98.0%	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 20-Jul-98

CLIENT: PNM - Public Service Company of NM

Work Order: 9807004

Project: PNM Pit Remediation

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-2_980709	Test Code: SW8015	Units: mg/Kg	Analysis Date 7/9/98	Prep Date: 7/9/98						
Client ID:	9807004	Run ID: GC-2_980709A		SeqNo: 4327							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	ND	25									

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 20-Jul-98

CLIENT: PNM - Public Service Company of NM

Work Order: 9807004

Project: PNM Pit Remediation

QC SUMMARY REPORT

Sample Duplicate

Sample ID: 9807004-05AD	Batch ID: GC-2_980709	Test Code: SW8015	Units: mg/Kg	Analysis Date 7/9/98	Prep Date: 7/9/98						
Client ID: 9807011505; Burli	9807004	Run ID: GC-2_980709A		SeqNo: 4331							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	5367	25	0	0	0.0%	0	0	4766	11.8%	15	

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 20-Jul-98

CLIENT: PNM - Public Service Company of NM

Work Order: 9807004

Project: PNM Pit Remediation

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9807018-04AMS	Batch ID: GC-2_980709	Test Code: SW8015	Units: mg/Kg	Analysis Date 7/14/98	Prep Date: 7/14/98						
Client ID:	9807004	Run ID: GC-2_980709A	SeqNo: 4356								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	543.4	25	502	28.36	102.6%	70	130				

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 20-Jul-98

CLIENT: PNM - Public Service Company of NM
Work Order: 9807004
Project: PNM Pit Remediation

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID: LCS Soil	Batch ID: GC-2_980709	Test Code: SW8015	Units: mg/Kg	Analysis Date 7/9/98	Prep Date: 7/9/98						
Client ID:	9807004	Run ID: GC-2_980709A	SeqNo: 4329								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	490.8	25	502	0	97.8%	70	130				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 20-Jul-98

CLIENT: PNM - Public Service Company of NM
Work Order: 9807004
Project: PNM Pit Remediation

QC SUMMARY REPORT
 Continuing Calibration Verification Standard

Sample ID:	Batch ID:	Test Code:	Units:	Analysis Date	Prep Date:						
CCV1 QC0602	GC-2_980709	SW8015	mg/Kg	7/9/98							
Client ID:	9807004	Run ID:	GC-2_980709A	SeqNo:	4328						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	458.6	25	502	0	91.4%	85	115				
CCV2 QC0602	GC-2_980709	SW8015	mg/Kg	7/10/98							
Client ID:	9807004	Run ID:	GC-2_980709A	SeqNo:	4352						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	490	25	502	0	97.6%	85	115				
CCV3 QC0602	GC-2_980709	SW8015	mg/Kg	7/14/98							
Client ID:	9807004	Run ID:	GC-2_980709A	SeqNo:	4353						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	569.6	25	502	0	113.5%	85	115				
CCV4 QC0602	GC-2_980709	SW8015	mg/Kg	7/14/98							
Client ID:	9807004	Run ID:	GC-2_980709A	SeqNo:	4354						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	566.4	25	502	0	112.8%	85	115				
CCV5 QC0602	GC-2_980709	SW8015	mg/Kg	7/14/98							
Client ID:	9807004	Run ID:	GC-2_980709A	SeqNo:	4355						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	568.7	25	502	0	113.3%	85	115				

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

On Site Technologies, LTD.

Date: 20-Jul-98

CLIENT: PNM - Public Service Company of NM
Work Order: 9807004
Project: PNM Pit Remediation

QC SUMMARY REPORT
Method Blank

Sample ID: MB1	Batch ID: GC-1_980710	Test Code: SW8020A	Units: µg/Kg	Analysis Date: 7/10/98	Prep Date:						
Client ID:	9807004	Run ID: GC-1_980710A	SeqNo: 4324								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	1									
Ethylbenzene	ND	1									
m,p-Xylene	ND	2									
Methyl tert-Butyl Ether	.8227	10									J
o-Xylene	.6462	1									J
Toluene	ND	2									

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 20-Jul-98

CLIENT: PNM - Public Service Company of NM
 Work Order: 9807004
 Project: PNM Pit Remediation

QC SUMMARY REPORT
 Sample Matrix Spike

Sample ID: 9806110-02AMS	Batch ID: GC-1_980710	Test Code: SW8020A	Units: µg/Kg	Analysis Date 7/10/98	Prep Date:						
Client ID: 9807004	Run ID: GC-1_980710A	SeqNo: 4325									
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	2924	50	3000	174.3	91.7%	71	116				
Ethylbenzene	4275	50	3000	1389	96.2%	68	120				
m,p-Xylene	22800	100	6000	16340	107.6%	60	121				E
o-Xylene	6169	50	3000	3308	95.4%	69	124				
Toluene	9771	100	3000	6715	101.9%	62	128				

Sample ID: 9806110-02AMSD	Batch ID: GC-1_980710	Test Code: SW8020A	Units: µg/Kg	Analysis Date 7/10/98	Prep Date:						
Client ID: 9807004	Run ID: GC-1_980710A	SeqNo: 4326									
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	2748	50	3000	174.3	85.8%	71	116	2924	6.2%	15	
Ethylbenzene	4073	50	3000	1389	89.5%	68	120	4275	4.9%	15	
m,p-Xylene	21880	100	6000	16340	92.4%	60	121	22800	4.1%	15	E
o-Xylene	5986	50	3000	3308	89.3%	69	124	6169	3.0%	15	
Toluene	9425	100	3000	6715	90.3%	62	128	9771	3.6%	15	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

On Site Technologies, LTD.

Date: 20-Jul-98

CLIENT: PNM - Public Service Company of NM
Work Order: 9807004
Project: PNM Pit Remediation

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID: LCS SOIL	Batch ID: GC-1_980710	Test Code: SW8020A	Units: µg/Kg	Analysis Date 7/10/98	Prep Date:						
Client ID:	9807004	Run ID: GC-1_980710A	SeqNo: 4323								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	61.1	1	60	0	101.8%	71	116				
Ethylbenzene	64.41	1	60	0	107.3%	68	120				
m,p-Xylene	128.4	2	120	0	107.0%	60	121				
o-Xylene	61.85	1	60	0.6462	102.0%	69	124				
Toluene	63.06	2	60	0	105.1%	62	128				

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 20-Jul-98

CLIENT: PNM - Public Service Company of NM
 Work Order: 9807004
 Project: PNM Pit Remediation

QC SUMMARY REPORT
 Continuing Calibration Verification Standard

Sample ID: CCV1 QC0529/30		Batch ID: GC-1_980710		Test Code: SW8020A		Units: µg/Kg		Analysis Date 7/10/98		Prep Date:		
Client ID: 9807004		Run ID: GC-1_980710A						SeqNo: 4320				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Benzene	60.09	1	60	0	100.2%	85	115					
Ethylbenzene	61.48	1	60	0	102.5%	85	115					
m,p-Xylene	122.9	2	120	0	102.4%	85	115					
o-Xylene	60.43	1	60	0	100.7%	85	115					
Toluene	61.34	2	60	0	102.2%	85	115					
1,4-Difluorobenzene	79.79	0	80	0	99.7%	70	130					
4-Bromochlorobenzene	64.01	0	80	0	80.0%	68	131					
Fluorobenzene	80	0	80	0	100.0%	70	130					

Sample ID: CCV2 QC0529/30		Batch ID: GC-1_980710		Test Code: SW8020A		Units: µg/Kg		Analysis Date 7/10/98		Prep Date:		
Client ID: 9807004		Run ID: GC-1_980710A						SeqNo: 4321				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Benzene	60.08	1	60	0	100.1%	85	115					
Ethylbenzene	63.73	1	60	0	106.2%	85	115					
m,p-Xylene	125.5	2	120	0	104.6%	85	115					
o-Xylene	61.86	1	60	0	103.1%	85	115					
Toluene	62.39	2	60	0	104.0%	85	115					
1,4-Difluorobenzene	79.66	0	80	0	99.6%	70	130					
4-Bromochlorobenzene	68.19	0	80	0	85.2%	68	131					
Fluorobenzene	78.9	0	80	0	98.6%	70	130					

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

CLIENT: PNM - Public Service Company of NM
Work Order: 9807004
Project: PNM Pit Remediation

QC SUMMARY REPORT
 Continuing Calibration Verification Standard

Sample ID: CCV3 QC0529/30		Batch ID: GC-1_980710		Test Code: SW8020A		Units: µg/Kg		Analysis Date 7/10/98		Prep Date:	
Client ID: 9807004		Run ID: GC-1_980710A		SeqNo: 4322							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	57.96	1	60	0	96.6%	85	115				
Ethylbenzene	61.33	1	60	0	102.2%	85	115				
m,p-Xylene	118.8	2	120	0	99.0%	85	115				
o-Xylene	58.93	1	60	0	98.2%	85	115				
Toluene	60.88	2	60	0	101.5%	85	115				
1,4-Difluorobenzene	79.09	0	80	0	98.9%	70	130				
4-Bromochlorobenzene	65.25	0	80	0	81.6%	68	131				
Fluorobenzene	78.05	0	80	0	97.6%	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: PNM - Public Service Company of NM
 Work Order: 9807004
 Project: PNM Pit Remediation
 Test No: SW8020A

**QC SUMMARY REPORT
 SURROGATE RECOVERIES**

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ				
9806110-02A	101	90	100				
9806110-02AMS	101	90.4	100				
9806110-02AMSD	101	92.5	99.7				
9807004-05A	94.4	85.4	100				
9807017-01A	104	97.5	102				
9807017-02A	88.1	82.2	103				
CCV1 QC0529/30	99.7	80	100				
CCV2 QC0529/30	99.6	85.2	98.6				
CCV3 QC0529/30	98.8	81.6	97.6				
LCS SOIL	98.8	83.5	98.6				
MB1	131 *	147 *	125				

Acronym	Surrogate	QC Limits
14FBZ	= 1,4-Difluorobenzene	70-130
4BCBZ	= 4-Bromochlorobenzene	68-131
FLBZ	= Fluorobenzene	70-130

* Surrogate recovery outside acceptance limits

On Site Technologies, LTD.

Date: 20-Jul-98

CLIENT: PNM - Public Service Company of NM
 Work Order: 9807004
 Project: PNM Pit Remediation

QC SUMMARY REPORT
 Method Blank

Sample ID: MB1	Batch ID: GC-1_980708	Test Code: SW8020A	Units: µg/L	Analysis Date 7/8/98	Prep Date:						
Client ID:	9807004	Run ID: GC-1_980708A	SeqNo: 4280								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	.078	0.5									J
Ethylbenzene	.0704	0.5									J
m,p-Xylene	.1465	1									J
Methyl tert-Butyl Ether	.0657	1									J
o-Xylene	.1008	0.5									J
Toluene	.101	0.5									J

Sample ID: MB1	Batch ID: GC-1_980711	Test Code: SW8020A	Units: µg/L	Analysis Date 7/11/98	Prep Date:						
Client ID:	9807004	Run ID: GC-1_980711A	SeqNo: 4307								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	.0361	0.5									J
Ethylbenzene	.0634	0.5									J
m,p-Xylene	.3793	1									J
Methyl tert-Butyl Ether	ND	1									J
o-Xylene	.1305	0.5									J
Toluene	.1265	0.5									J

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

On Site Technologies, LTD.

Date: 20-Jul-98

CLIENT: PNM - Public Service Company of NM
 Work Order: 9807004
 Project: PNM Pit Remediation

QC SUMMARY REPORT
 Sample Matrix Spike

Sample ID: 9807004-03AMS		Batch ID: GC-1_980708		Test Code: SW8020A		Units: µg/L		Analysis Date 7/8/98		Prep Date:	
Client ID: 9807011445; MW-		9807004		Run ID: GC-1_980708A		SeqNo: 4281					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1798	5	400	1408	97.6%	56	128				E
Ethylbenzene	482	5	400	116.7	91.3%	78	107				
m,p-Xylene	847.5	10	800	67.21	97.5%	67	118				
Methyl tert-Butyl Ether	319.8	10	400	0	80.0%	70	130				
o-Xylene	425.7	5	400	56.82	92.2%	78	107				
Toluene	426.9	5	400	50.1	94.2%	74	116				

Sample ID: 9807004-03AMSD		Batch ID: GC-1_980708		Test Code: SW8020A		Units: µg/L		Analysis Date 7/8/98		Prep Date:	
Client ID: 9807011445; MW-		9807004		Run ID: GC-1_980708A		SeqNo: 4282					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1761	5	400	1408	88.3%	56	128	1798	2.1%	12	E
Ethylbenzene	458.7	5	400	116.7	85.5%	78	107	482	5.0%	11	
m,p-Xylene	814.3	10	800	67.21	93.4%	67	118	847.5	4.0%	10	
Methyl tert-Butyl Ether	332.4	10	400	0	83.1%	70	130	319.8	3.8%	15	
o-Xylene	409.3	5	400	56.82	88.1%	78	107	425.7	3.9%	14	
Toluene	408.5	5	400	50.1	89.6%	74	116	426.9	4.4%	14	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: PNM - Public Service Company of NM
Work Order: 9807004
Project: PNM Pit Remediation

QC SUMMARY REPORT
 Sample Matrix Spike

Sample ID: 9806110-01AMS	Batch ID: GC-1_980711	Test Code: SW8020A	Units: µg/L	Analysis Date 7/11/98	Prep Date:						
Client ID: 9807004	Run ID: GC-1_980711A	SeqNo: 4308									
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	428.9	5	400	22.1	101.7%	56	128				
Ethylbenzene	1574	5	400	1116	114.3%	78	107				S
m,p-Xylene	1396	10	800	552.8	105.4%	67	118				
Methyl tert-Butyl Ether	390.1	10	400	0	97.5%	70	130				
o-Xylene	999.5	5	400	562.4	109.3%	78	107				S
Toluene	1830	5	400	1362	117.1%	74	116				S

Sample ID: 9806110-01AMSD	Batch ID: GC-1_980711	Test Code: SW8020A	Units: µg/L	Analysis Date 7/11/98	Prep Date:						
Client ID: 9807004	Run ID: GC-1_980711A	SeqNo: 4309									
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	402.5	5	400	22.1	95.1%	56	128	428.9	6.4%	12	
Ethylbenzene	1478	5	400	1116	90.5%	78	107	1574	6.3%	11	
m,p-Xylene	1313	10	800	552.8	95.1%	67	118	1396	6.1%	10	
Methyl tert-Butyl Ether	372.7	10	400	0	93.2%	70	130	390.1	4.6%	15	
o-Xylene	943.3	5	400	562.4	95.2%	78	107	999.5	5.8%	14	
Toluene	1710	5	400	1362	87.1%	74	116	1830	6.8%	14	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

On Site Technologies, LTD.

Date: 20-Jul-98

CLIENT: PNM - Public Service Company of NM
 Work Order: 9807004
 Project: PNM Pit Remediation

QC SUMMARY REPORT
 Laboratory Control Spike - generic

Sample ID: LCS WATER	Batch ID: GC-1_980708	Test Code: SW8020A	Units: µg/L	Analysis Date 7/8/98	Prep Date:						
Client ID:	9807004	Run ID: GC-1_980708A	SeqNo: 4279								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	39.12	0.5	40	0.078	97.6%	56	128				
Ethylbenzene	40.03	0.5	40	0.0704	99.9%	78	107				
m,p-Xylene	78.3	1	80	0.1465	97.7%	67	118				
Methyl tert-Butyl Ether	40.04	1	40	0.0657	99.9%	70	130				
o-Xylene	39.71	0.5	40	0.1008	99.0%	78	107				
Toluene	39.3	0.5	40	0.101	98.0%	74	116				

Sample ID: LCS WATER	Batch ID: GC-1_980711	Test Code: SW8020A	Units: µg/L	Analysis Date 7/11/98	Prep Date:						
Client ID:	9807004	Run ID: GC-1_980711A	SeqNo: 4306								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	36.54	0.5	40	0.0361	91.3%	56	128				
Ethylbenzene	39.51	0.5	40	0.0634	98.6%	78	107				
m,p-Xylene	75.72	1	80	0.3793	94.2%	67	118				
Methyl tert-Butyl Ether	36	1	40	0	90.0%	70	130				
o-Xylene	38.74	0.5	40	0.1305	96.5%	78	107				
Toluene	37.79	0.5	40	0.1265	94.2%	74	116				

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

On Site Technologies, LTD.

Date: 20-Jul-98

CLIENT: PNM - Public Service Company of NM
 Work Order: 9807004
 Project: PNM Pit Remediation

QC SUMMARY REPORT
 Continuing Calibration Verification Standard

Sample ID: CCV1 QC0529/30	Batch ID: GC-1_980708	Test Code: SW8020A	Units: µg/L	Analysis Date 7/8/98	Prep Date:						
Client ID: 9807004	Run ID: GC-1_980708A	SeqNo: 4276									
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.76	0.5	20	0	98.8%	85	115				
Ethylbenzene	20.22	0.5	20	0	101.1%	85	115				
m,p-Xylene	38.96	1	40	0	97.4%	85	115				
Methyl tert-Butyl Ether	20.01	1	20	0	100.1%	85	115				
o-Xylene	19.9	0.5	20	0	99.5%	85	115				
Toluene	19.74	0.5	20	0	98.7%	85	115				
1,4-Difluorobenzene	92.76	0	100	0	92.8%	70	130				
4-Bromochlorobenzene	91.74	0	100	0	91.7%	70	130				
Fluorobenzene	90.72	0	100	0	90.7%	70	130				

Sample ID: CCV2 QC0529/30	Batch ID: GC-1_980708	Test Code: SW8020A	Units: µg/L	Analysis Date 7/8/98	Prep Date:						
Client ID: 9807004	Run ID: GC-1_980708A	SeqNo: 4277									
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.66	0.5	20	0	103.3%	85	115				
Ethylbenzene	20.93	0.5	20	0	104.7%	85	115				
m,p-Xylene	40.19	1	40	0	100.5%	85	115				
Methyl tert-Butyl Ether	22.08	1	20	0	110.4%	85	115				
o-Xylene	20.72	0.5	20	0	103.6%	85	115				
Toluene	20.54	0.5	20	0	102.7%	85	115				
1,4-Difluorobenzene	93.01	0	100	0	93.0%	70	130				
4-Bromochlorobenzene	93.72	0	100	0	93.7%	70	130				
Fluorobenzene	90.72	0	100	0	90.7%	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

CLIENT: PNM - Public Service Company of NM
Work Order: 9807004
Project: PNM Pit Remediation

QC SUMMARY REPORT
 Continuing Calibration Verification Standard

Sample ID: CCV3 QC0529/30		Batch ID: GC-1_980708		Test Code: SW8020A		Units: µg/L		Analysis Date 7/8/98		Prep Date:	
Client ID: 9807004		Run ID: GC-1_980708A		SeqNo: 4278							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	40.99	0.5	40	0	102.5%	85	115				
Ethylbenzene	42.13	0.5	40	0	105.3%	85	115				
m,p-Xylene	82.1	1	80	0	102.6%	85	115				
Methyl tert-Butyl Ether	37.21	1	40	0	93.0%	85	115				
o-Xylene	41.89	0.5	40	0	104.7%	85	115				
Toluene	41.32	0.5	40	0	103.3%	85	115				
1,4-Difluorobenzene	92.93	0	100	0	92.9%	70	130				
4-Bromochlorobenzene	91.03	0	100	0	91.0%	70	130				
Fluorobenzene	89.72	0	100	0	89.7%	70	130				

Sample ID: CCV1 QC0529/30		Batch ID: GC-1_980711		Test Code: SW8020A		Units: µg/L		Analysis Date 7/11/98		Prep Date:	
Client ID: 9807004		Run ID: GC-1_980711A		SeqNo: 4303							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.83	0.5	20	0	99.2%	85	115				
Ethylbenzene	20.43	0.5	20	0	102.1%	85	115				
m,p-Xylene	38.84	1	40	0	97.1%	85	115				
Methyl tert-Butyl Ether	18.82	1	20	0	94.1%	85	115				
o-Xylene	20.92	0.5	20	0	104.6%	85	115				
Toluene	20.51	0.5	20	0	102.6%	85	115				
1,4-Difluorobenzene	93.84	0	100	0	93.8%	70	130				
4-Bromochlorobenzene	86.54	0	100	0	86.5%	70	130				
Fluorobenzene	90.95	0	100	0	90.9%	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

CLIENT: PNM - Public Service Company of NM
Work Order: 9807004
Project: PNM Pit Remediation

QC SUMMARY REPORT
 Continuing Calibration Verification Standard

Sample ID: CCV2 QC0529/30		Batch ID: GC-1_980711		Test Code: SW8020A		Units: µg/L		Analysis Date 7/11/98		Prep Date:	
Client ID: 9807004		Run ID: GC-1_980711A		SeqNo: 4304							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	18.58	0.5	20	0	92.9%	85	115				
Ethylbenzene	20.91	0.5	20	0	104.6%	85	115				
m,p-Xylene	39.03	1	40	0	97.6%	85	115				
Methyl tert-Butyl Ether	10.57	1	20	0	52.9%	85	115				
o-Xylene	18.98	0.5	20	0	94.9%	85	115				
Toluene	19.63	0.5	20	0	98.2%	85	115				
1,4-Difluorobenzene	91.13	0	100	0	91.1%	70	130				
4-Bromochlorobenzene	55.28	0	100	0	55.3%	70	130				S
Fluorobenzene	87.89	0	100	0	87.9%	70	130				

8- (20)
 7/20/98
 HK
 7/21/98

Sample ID: CCV3 QC0529/30		Batch ID: GC-1_980711		Test Code: SW8020A		Units: µg/L		Analysis Date 7/11/98		Prep Date:	
Client ID: 9807004		Run ID: GC-1_980711A		SeqNo: 4305							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	40.32	0.5	40	0	100.8%	85	115				
Ethylbenzene	43.01	0.5	40	0	107.5%	85	115				
m,p-Xylene	81.19	1	80	0	101.5%	85	115				
Methyl tert-Butyl Ether	32.06	1	40	0	80.1%	85	115				
o-Xylene	42.05	0.5	40	0	105.1%	85	115				
Toluene	41.78	0.5	40	0	104.5%	85	115				
1,4-Difluorobenzene	93.37	0	100	0	93.4%	70	130				
4-Bromochlorobenzene	81.59	0	100	0	81.6%	70	130				
Fluorobenzene	90.71	0	100	0	90.7%	70	130				

8- (20)
 7/21/98
 HK
 7/21/98

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

CLIENT: PNM - Public Service Company of NM
 Work Order: 9807004
 Project: PNM Pit Remediation
 Test No: SW8020A

**QC SUMMARY REPORT
 SURROGATE RECOVERIES**

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ				
9806110-01A	93.9	93.3	91.5				
9806110-01AMS	94.1	91.1	91.2				
9806110-01AMSD	93.3	92.1	91.1				
9807004-01A	92.4	91.3	90.8				
9807004-02A	93.1	88.6	90.9				
9807004-03A	92.1	83.9	90.2				
9807004-03AMS	92.8	83.7	90.2				
9807004-03AMSD	92	84.2	90				
9807004-04A	92.7	86.5	89.8				
9807004-06A	94.3	91.4	91.1				
9807004-07A	92.2	92.1	89.8				
9807004-08A	88.3	55.6 *	85.9				
9807004-09A	90.2	62.2 *	87.6				
9807010-01A	93.8	95.1	91.3				
9807010-02A	93.5	95.8	91.1				
9807010-03A	93.4	96.3	91.4				
9807010-04A	93.9	96.2	91.4				
9807010-05A	93.3	98.7	91.2				
9807010-06A	93.9	98.1	91.2				
9807010-07A	93.8	99.6	91.2				
9807010-09A	94.3	59.8 *	90.6				
9807010-10A	95.3	69.2 *	91.4				
9807010-11A	92.6	98.9	91.2				
9807010-12A	93.7	98.4	91.5				
9807010-13A	93.7	95	91.5				
9807010-14A	102	77	92.5				
9807010-15A	93.8	96.7	92.2				

Acronym	Surrogate	QC Limits
14FBZ	= 1,4-Difluorobenzene	70-130
4BCBZ	= 4-Bromochlorobenzene	70-130
FLBZ	= Fluorobenzene	70-130

* Surrogate recovery outside acceptance limits

CLIENT: PNM - Public Service Company of NM
Work Order: 9807004
Project: PNM Pit Remediation
Test No: SW8020A

QC SUMMARY REPORT SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ				
9807010-16A	122	58.4 *	92.4				
9807010-18A	97.5	62.4 *	89.8				
9807010-19A	93.2	83.5	91				
9807010-20A	96.9	66.4 *	92.1				
9807010-21A	93.7	75.4	91.7				
9807010-22A	88.7	50 *	85.4				
9807010-23A	85.4	41.5 *	82.1				
9807010-24A	90.5	52.6 *	87.4				
9807010-25A	90.3	53.8 *	87.5				
9807010-26A	72	25.2 *	69.1 *				
9807010-27A	75.1	27.5 *	72.2				
9807016-01A	93.9	92.4	91.4				
CCV1 QC0529/30	93.8	86.5	90.9				
CCV2 QC0529/30	91.1	55.3 *	87.9				
CCV3 QC0529/30	93.4	81.6	90.7				
LCS WATER	93.9	89.1	87.1				
MB1	94	86.4	90.9				

Acronym	Surrogate	QC Limits
14FBZ	= 1,4-Difluorobenzene	70-130
4BCBZ	= 4-Bromochlorobenzene	70-130
FLBZ	= Fluorobenzene	70-130

* Surrogate recovery outside acceptance limits



CHAIN OF CUSTODY RECORD

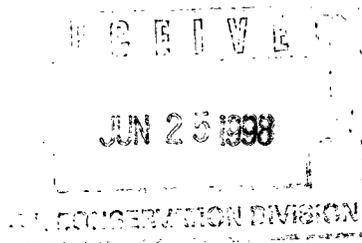
Date: 7/1/78

Page: 1 of 1 7275

612 E. Murphy Dr. • P.O. Box 2606 • Farmington, NM 87499
 LAB: (505) 325-5667 • FAX: (505) 325-6256

Purchase Order No.:		Job No.:		REPORT RESULTS TO	Name Maureen Gannon		Title					
SEND INVOICE TO	Name Denver Bearden				Company PNM Gas Services							
	Company PNM Gas Services		Dept. 324-3763		Mailing Address Alverado Square, Mail Stop 0408							
	Address 603 W. Elm Street				City, State, Zip Albuquerque, NM 87158							
	City, State, Zip Farmington, NM 87401				Telephone No. 505-848-2974		Telefax No.					
Sampling Location: <u>Hampden 4M</u>				Number of Containers	ANALYSIS REQUESTED							
Sampler: <u>Mark J. Thomas</u> <u>Ron Dedrick</u>					<div style="display: flex; justify-content: space-around;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">WTL</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">SOL</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">METAL</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">THER</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">BIOLOGICAL</div> </div>							
SAMPLE IDENTIFICATION			SAMPLE		MATRIX		PRES.		LAB ID			
		DATE	TIME									
<u>9707011500</u>		<u>7/1/78</u>			<u>WTL</u>		<u>WTL</u>					
<u>9707011501</u>					<u>WTL</u>		<u>WTL</u>					
<u>9707011502</u>					<u>WTL</u>		<u>WTL</u>					
<u>9707011503</u>					<u>WTL</u>		<u>WTL</u>					
<u>9707011504</u>					<u>WTL</u>		<u>WTL</u>					
<u>9707011505</u>					<u>WTL</u>		<u>WTL</u>					
<u>9707011506</u>				<u>WTL</u>		<u>WTL</u>						
<u>9707011507</u>				<u>WTL</u>		<u>WTL</u>						
<u>9707011508</u>				<u>WTL</u>		<u>WTL</u>						
<u>9707011509</u>				<u>WTL</u>		<u>WTL</u>						
<u>9707011510</u>				<u>WTL</u>		<u>WTL</u>						
Relinquished by: <u>[Signature]</u>		Date/Time <u>7/1/78</u>		Received by: <u>[Signature]</u>		Date/Time <u>7/1/78</u>						
Relinquished by:		Date/Time		Received by:		Date/Time						
Relinquished by:		Date/Time		Received by:		Date/Time						
Method of Shipment: <u>Hand Delivered</u>				Rush		24-48 Hours		10 Working Days		Special Instructions:		
Authorized by: <u>[Signature]</u> Date <u>7/2/78</u>										Results to be sent to both parties.		
(Client Signature Must Accompany Request)												

Public Service Company
of New Mexico
Alvarado Square MS 0408
Albuquerque, NM 87158

The logo for Public Service Company of New Mexico (PNM), consisting of the letters "PNM" in a bold, sans-serif font.

June 25, 1998

Certified Mail:

Bill Olson
Hydrologist, Environmental Bureau
New Mexico Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

RE: Hampton 4M Site - Proposed Activities and
Response to Burlington Report of May 28, 1998

Dear Bill:

PNM has reviewed the Burlington report for the Hampton 4M site dated May 28, 1998. This report raises additional questions that PNM would like to resolve through further sampling and site surveying. For example, the theoretical cross-section proposed by Burlington in Attachment #5 may not accurately depict the distribution of free phase hydrocarbons in the subsurface. In order to gain a better understanding of site conditions, PNM proposes the following activities for our July 1998 third quarter sampling event.

1. Survey the locations of Burlington wells MW-9 and MW-10 and the hydrocarbon seep at the northwest corner of the well pad such that accurate site cross-sections and groundwater contour maps can be developed.
2. Measure free product and groundwater elevations for all wells in July 1998.
3. Obtain groundwater quality and/or free product samples for all wells in July 1998.

In order to complete the proposed activities, PNM will require access from Burlington for those monitoring wells installed by Burlington - we are requesting such access from Burlington via separate correspondence. Representatives from NMOCD and Burlington are welcome to collect split samples and/or observe the proposed sampling activities. If you have any questions related to the proposed activities for the Hampton 4M site or other project-related activities, please contact me at 505.241.2974.

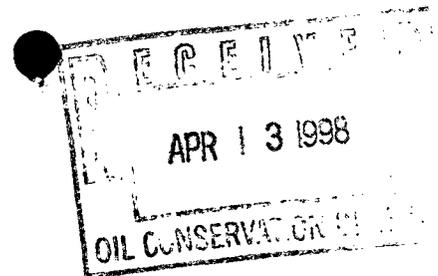
Sincerely,

A handwritten signature in cursive script that reads "Maureen Gannon".

Maureen Gannon
Project Manager

cc: Roger Anderson, NMOCD
Ed Haseley, Burlington Resources
Ingrid Deklau, Williams Field Services
Colin Adams, PNM
Denny Foust, NMOCD - Aztec

Public Service Company
of New Mexico
Alvarado Square MS 0408
Albuquerque, NM 87158



April 10, 1998

Mr. William Olson
Hydrogeologist
Oil Conservation Division
2040 So. Pacheco
Santa Fe, New Mexico 87505

PNM

RE: RESPONSE TO MARCH 13, 1998 LETTER ON GROUNDWATER CONTAMINATION AT THE HAMPTON 4M WELL SITE

Dear Bill:

PNM has reviewed the March 13, 1998 letter from OCD regarding groundwater contamination at the Hampton 4M well site. In the letter, OCD directs PNM to conduct additional remedial actions within 30 days to remove the remaining source areas with free phase hydrocarbons in the vicinity of and immediately downgradient of PNM's former dehydration pit. While we recognize OCD's concerns about migration of contaminated groundwater onto private lands, we are preparing under separate cover a formal appeal to your request for additional remediation by PNM at this site. This appeal is based upon the documented presence of sources or activities on site other than PNM's that have or are contributing to free phase and dissolved phase contamination in groundwater.

While our appeal is reviewed, PNM will continue to conduct quarterly groundwater sampling and water level measurements at the site. We will also continue to operate the free product recovery pump in MW-6. These activities shall not be deemed a waiver or admission of liability of any kind. Please be assured that if we detect any significant changes in the depth of free phase product in MW-2 or MW-6 or detect free phase in any wells downgradient from our former pit, we will notify you immediately. If you have any questions regarding this letter or our ongoing activities at the site, please call me at (505) 241-2974.

Sincerely,

Maureen Gannon
Project Manager

cc: Colin Adams, PNM
Richard Alvidrez, Keleher & McLeod
Denny Foust, OCD-Aztec Office
Ed Hasely, Burlington Resources
Bill VonDrehle, WFS

OCD/PNM Hampton 4M Meeting 4/3/98 7:30 am

Attendees - Bill Olson - Environmental Bureau
Roger Anderson - "
Mark Sicillanos - PNM
Maureen Gannon - "
Valde Terpedis - "
Toni Ristan - "

Problem with sites resulting from free product which came from operator's malfunctioning equipment

500 gallons total recovered to date

approx. 2-3 gals/day

Burlington pit still not back filled

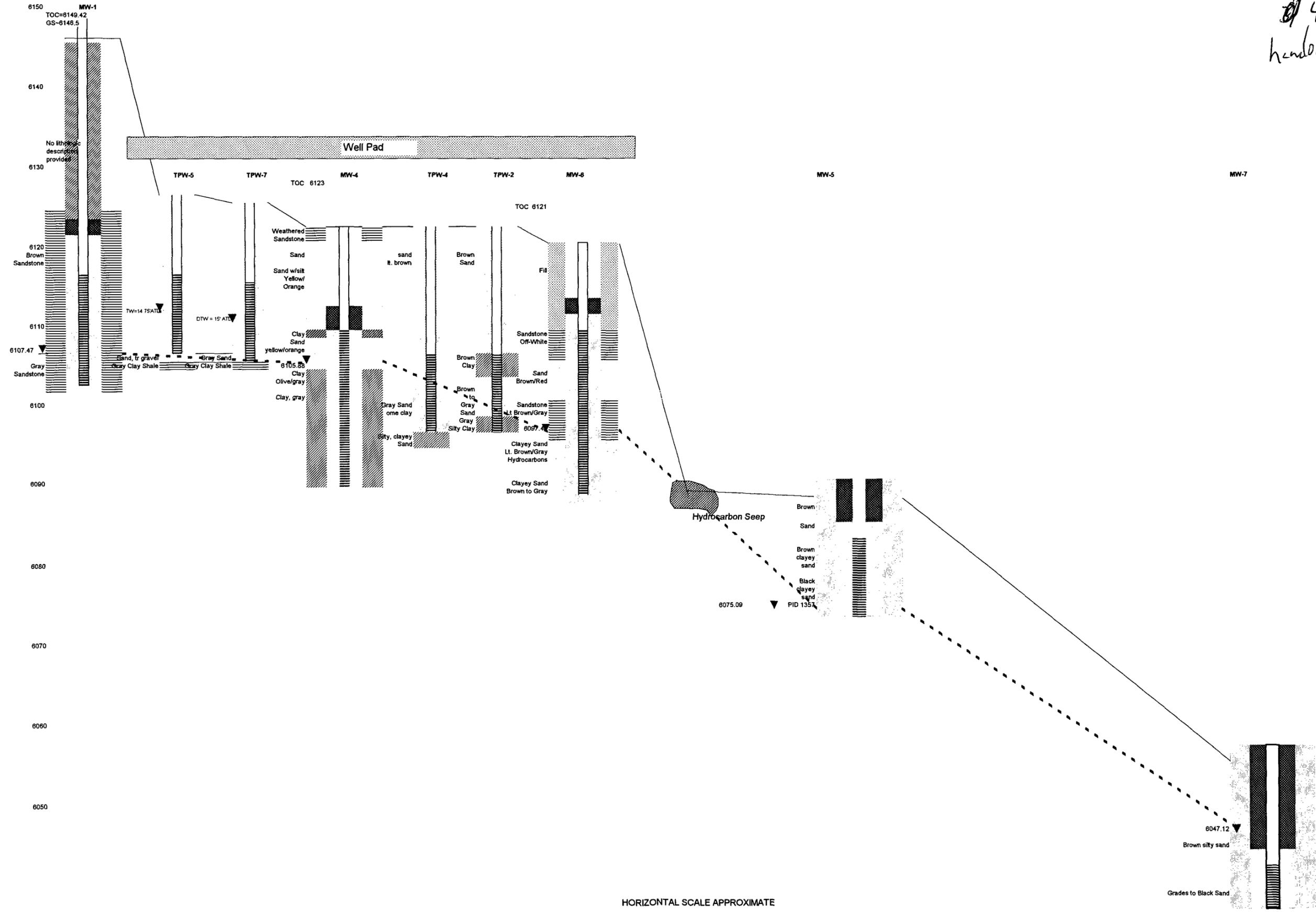
* Need to send Burlington letter to be more aggressive on remedial actions

PNM believes free product not a result of PNM activities

PNM incident at site x-section

PNM/OCD Meeting
4/3/98
hendert

Hampton Cross-Section (SE-NW)



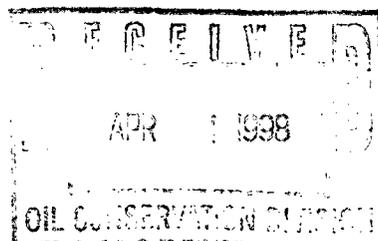
HORIZONTAL SCALE APPROXIMATE

Grades to Black Sand



March 31, 1998

Bill Olson
Hydrologist, Environmental Bureau
New Mexico Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505



RE: Hampton 4M Site
Free Product and Groundwater Contamination

Dear Bill:

In response to your letter of March 13, 1998, PNM has concerns regarding the effectiveness of any further remedial actions taken by PNM in the face of continuing hydrocarbon sources at this site. We provide a summary of PNM activities, a review of Burlington's reports concerning effectiveness of source removal actions performed by Burlington, and our position regarding free phase hydrocarbons.

I. Summary of PNM Activities

PNM removed soils associated with the former PNM drip pit shown on Figure 1 in April 1996. Approximately 300 cubic yards of soil were excavated, with a total excavation dimension of approximately 32' x 21' x 12'. Soils remaining at the bottom of the excavation exceeded 1000 ppm as measured by a photoionization detector. Excavation was stopped due to safety concerns related to excessive side-wall sloughing and proximity to the edges of the well pad and onsite equipment. The excavation was backfilled with clean soil; approximately 286 cubic yards of soil excavated from Hampton 4M were landfarmed at the Hampton #2 site.

In December 1996, PNM assessed the vertical extent of contamination remaining beneath the former PNM drip pit. Groundwater was encountered at 28 feet, with approximately 2 inches of free phase hydrocarbons observed in the bailer upon sampling. The initial groundwater sample from this boring (completed as MW-2) contained 3,840 ppb benzene and 20,620 ppb total BTEX. Free product thickness in MW-2 accumulated to 4.41 feet in January 1998 (see Table 1).

PNM has continued to monitor groundwater and recover free product at the Hampton 4M site in accordance with your letter of August 27, 1997. Analytical results for groundwater sampling are reported in Table 1. PNM and Burlington have installed a total of eight monitoring wells and one temporary well at this site. PNM also performed extensive test augering along the wash in November 1997 to determine the downgradient extent of groundwater contamination.

A groundwater potentiometric surface map is provided for January 1998. As shown on the map, groundwater flow is down-canyon towards the northwest. The hydraulic gradient is fairly steep and subparallel to the topographic gradient at approximately 0.10. This is a high energy environment, where contamination will move relatively quickly downgradient from the site of release. This is corroborated by

the extent to which dissolved phase contamination is detected along the wash. The furthest downgradient monitoring well installed to date, MW-7, contains 780 ppb benzene and 5226 ppb total BTEX. Only MW-5 exceeds proposed remediation reference concentrations when comparing downgradient water quality to water quality (e.g., TPW-2 and MW-8) upgradient of PNM equipment.

Hydrographs and contaminant trends with time are provided for each well in Attachment A. The graphs provided for monitoring wells MW-2 and MW-6 do not reflect the presence of free product.

The privately-owned EB well is located cross-gradient (north-northeast). No hydrocarbon constituents above the 0.2 ppb detection limit have been detected in this well.

PNM installed a free product recovery well, MW-6, in November 1997 and initiated free product recovery in January 1998. Initial free product thickness in MW-6 was 4.71 feet on January 12, 1998. Approximately 470 gallons of free product were recovered from MW-6, with an accompanying 2 foot drop in free product thickness, between January 12 and March 18, 1998. Attachment B provides a figure demonstrating free product thickness decrease over the course of free product recovery.

II. Burlington Document Review

PNM reviewed the documents listed below concerning contamination at the Hampton 4M site, submitted to NMOCD by Burlington.

- Burlington Resources, 1998, Hampton 4M - Groundwater Contamination (Status Report); Unit Letter N, Section 13, Township 30N, Range 11W
- Burlington Resources, 1997, Data Summary: Hampton 4M Production Location

Following our review of these documents and our field records for site investigation and remediation data, we are concerned that upgradient source removal is not complete and continuing sources of hydrocarbons will continue to affect downgradient areas, including not only the well pad, but a significant volume of offsite groundwater. Relevant soil and groundwater data collected by both PNM and Burlington is compiled in Table 1. Figure 1 provides a site map of the well pad, equipment, and general vicinity surrounding the site.

- Burlington states they have removed contaminated soils to a depth of 15 feet in the deepest areas of their source area excavation. Sampling of temporary well borings TPW-05 and -07 by Burlington detected significant contamination in the 15 to 16-foot interval. Thus, excavating the source area only to 15 feet at the deepest location leaves documented contamination in place to act as a continuing source to areas downgradient.
- While total BTEX concentrations in MW-4 did decrease as stated by Burlington, concentrations of the most mobile and most toxic constituent, benzene, increased following remediation activities conducted by Burlington. PNM does not agree with the statement that the decrease in total BTEX concentrations in the quarter immediately following excavation points to the success of source removal activities; additional monitoring is needed.
- Monitoring well MW-8 was installed by PNM as an additional well downgradient of the Burlington source area, and upgradient of the former PNM pit. This well detected soil contamination at depths of 14 to 20 feet below grade; groundwater was visibly contaminated by sheen and high dissolved phase contamination.
- Temporary well TPW-02 was installed by Burlington at a location upgradient of the former PNM pit. This temporary monitoring well encountered free product on installation and significant soil contamination at a depth of 25 to 26 feet. Free product is not likely to migrate upgradient in an

environment where both the topographic and groundwater flow gradients are as steep as 0.10. Thus, the contamination at TPW-02 likely originated from upgradient sources.

- If NMOCD considers MW-8 and TPW-02 as upgradient wells for the purposes of establishing remediation reference concentrations for PNM, the upgradient reference concentrations related to contamination caused by PNM are as follows:

Free phase as indicated by TPW-02 (accumulation) and MW-8 (sheen)

Benzene	=	6,410 ppb
Toluene	=	17,301 ppb
Ethylbenzene	=	693 ppb
Xylenes (total)	=	9,397 ppb
BTEX	=	33,801 ppb

Our conclusions relative to the effectiveness of remedial actions undertaken by Burlington are as follows:

- Continuing sources of free phase, sorbed, and dissolved hydrocarbons remain in Burlington source areas and areas immediately downgradient of their facilities.
- These continuing sources will continue to migrate downgradient in the absence of significant containment and/or remediation, beyond the activities documented by Burlington to date.

III. Free Phase Hydrocarbon Discharge

With regard to the presence and remediation of free product beneath the well pad, this site has had numerous problems associated with equipment operations, including separators throwing fluids and inadequate tankage to handle fluids discharged. Even if PNM has in the past provided dehydration, PNM, by contract with producers, is not responsible for free product. Further, PNM has not provided dehydration at this site since June 30, 1995, when the sale of the gathering system to Williams Field Services (WFS) was concluded. Free product belongs to the producers, even when it is discharged under conditions of system upset. Therefore, free product contamination, regardless of where it occurs, is not the responsibility of PNM, but of the producer.

PNM detected over 4.5 feet of free product in MW-2 and MW-6 in January 1998. In response to NMOCD concerns, PNM installed and continues to operate a single free product recovery well, MW-6. Approximately 450 gallons of free phase were recovered from January 12, 1998 through March 17, 1998. Free product thicknesses as measured in monitoring wells MW-2 and -6 have declined approximately 2 feet since the inception of free product recovery. As the product is not the result of PNM operations prior to June 30, 1995, PNM has placed Burlington and Williams Field Services on notice that PNM will be seeking cost recovery from the responsible party for actions concerning free product and groundwater investigation and remediation activities performed to date at this site.

The presence of significant free phase in the subsurface is also the most likely cause of dissolved phase groundwater contamination detected at this site. Burlington, PNM, and NMOCD are aware of continuing hydrocarbon surface discharges in the area of the hydrocarbon seep along the northwestern area of the well pad. This seep continues to visibly impact soils and dissolved phase groundwater from monitoring wells sampled along the wash. As PNM did not discharge free product at this site, PNM maintains it is not the responsible party for groundwater contamination associated with this ongoing hydrocarbon seep.

If you have any questions related to the proposed activities for the Hampton 4M site or other project-related activities, please contact me at 505.241.2974.

Sincerely,

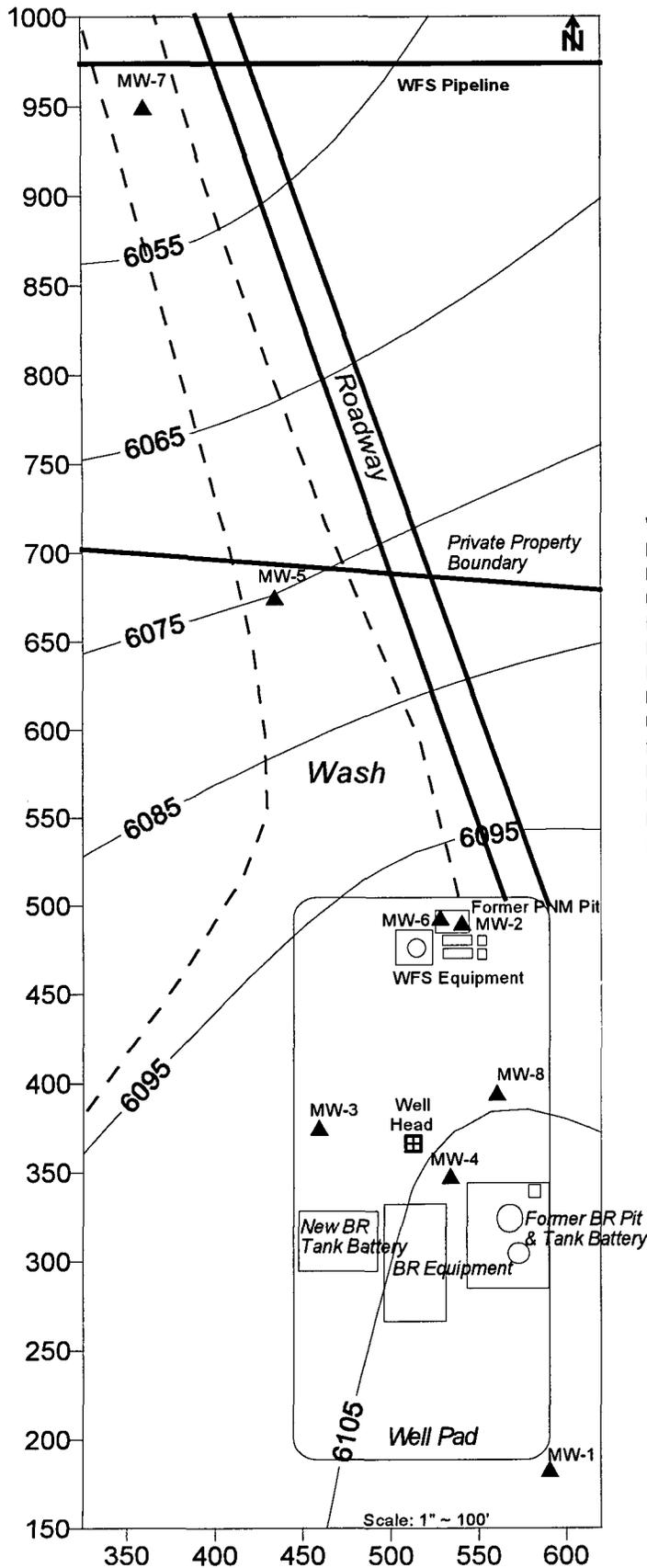


Maureen Gannon
Project Manager

cc: Roger Anderson, NMOCD
Ed Haseley, Burlington Resources
Ingrid Deklau, Williams Field Services
Colin Adams, PNM
Denny Foust, NMOCD - Aztec

Figure 1
Hampton 4M site map & analytical results (ppb)
(January, 1998)

●
 △
 EB - Private Well
 (Not to Scale)



Well #	Date	B	T	E	X
MW-1	10/30/97	2.4	2.3	<0.2	1.1
MW-1	1/12/98	4.3	3.3	0.2	1
MW-2	1/12/98	4.41 feet of product			
MW-3	1/31/97	<0.2	<0.2	<0.2	<0.2
MW-3	1/12/98	<0.2	<0.2	<0.2	<0.2
MW-4	1/31/97	811.7	1420.5	31.0	388.1
MW-4	1/12/98	1251	6	81	24
MW-5	10/29/97	5934	10024	709	8188
MW-5	1/12/98	7521	11213	779	8436
MW-6	1/12/98	4.71 feet of product			
MW-7	1/12/98	780	246	258	3942
MW-8	1/12/98	6410	17301	693	9397
EB-Well	11/25/97	<0.2	<0.2	<0.2	<0.2

Table 1: SUMMARY OF ANALYTICAL RESULTS

GROUNDWATER MONITORING DATA - collected by PNM, except as noted

Well	Date Sampled	GWEL (ft,msl)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	Total BTEX (ug/L)	Product Thickness (ft)
MW-1 Upgradient well	10/30/97	6110.10	2.4	2.3	<0.2	1.1	5.8	--
	01/12/98	6107.47	4.3	3.3	0.2	1.0	8.8	--
MW-2 PNM drip pit well	01/04/96	6097.88	NA	NA	NA	NA	NA	4.40
	12/16/96	NM	3840.0	7960.0	896.0	7920.0	20616.0	NM
	08/27/97	6097.87	NA	NA	NA	NA	NA	4.75
	10/29/97	6098.08	NA	NA	NA	NA	NA	4.58
	01/12/98	6098.10	NA	NA	NA	NA	NA	4.41
MW-3 Up & cross-gradient to PNM Burlington	1/4/96	6101.06	NA	NA	NA	NA	NA	--
	1/31/97	NM	<0.2	<0.2	<0.2	<0.2	<0.2	--
	5/5/97	NM	NA	NA	NA	NA	NA	--
	10/29/97	6101.19	<0.2	<0.2	<0.2	<0.2	<0.2	--
	1/12/98	6101.11	<0.2	<0.2	<0.2	<0.2	<0.2	--
MW-4 Upgradient PNM; downgradient Burlington Burlington	1/4/96	6106.16	NA	NA	NA	NA	NA	--
	1/31/97		811.7	1420.5	31.0	388.1	2651.3	--
	5/1/97		1162.0	1797.0	41.0	486.0	3486.0	--
	8/27/97	6106.87	NA	NA	NA	NA	NA	--
	10/29/97	6106.73	NA	NA	NA	NA	NA	--
	1/12/98	6105.88	1251.0	6.0	82.0	24.0	1363.0	--
MW-5 Downgradient along wash	10/29/97		5934.0	10024.0	709.0	8188.0	24855.0	--
	1/12/98	6075.09	7521.0	11213.0	779.0	8436.0	27949.0	--
MW-6 PNM drip pit/product recovery	11/12/97	6098.08	NA	NA	NA	NA	NA	4.80
	1/12/98	6097.43	NA	NA	NA	NA	NA	4.71
MW-7 Downgradient along wash; adj pipeline	1/12/98	6047.12	780.0	246.0	258.0	3942.0	5226.0	--
MW-8 Upgradient PNM; downgradient Burlington	1/12/98	6104.71	6410.0	17301.0	693.0	9397.0	33801.0	Sheen
EB WELL Downgradient private well	11/25/97	DTW=68.	<0.2	<0.2	<0.2	<0.2	<0.2	--

Sample	Matrix	Date Sampled	Depth (ft)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)	Total BTEX (ppb)	TPH (mg/Kg)
Burlington Temporary Monitoring Well Sampling									
TPW-01	Water	6/5/97	25-26'	20.0	<1	<1	<1	20.0	NA
	Soil			<1	<1	<1	<1	<1	
TPW-02	Water	6/5/97	Product 25-26'	NA	NA	NA	NA	NA	NA
	Soil			2000.0	4600.0	14000.0	39000.0	59600.0	600.0
TPW-03	Water	6/5/97	Dry 25-26'	NA	NA	NA	NA	NA	NA
	Soil			<1	<1	<1	<1	<1	25
TPW-04	Water	6/6/97	20-21.5'	2000.0	3100.0	57.0	810.0	5967.0	NA
	Soil			28.0	3.4	76.0	40.0	147.4	52
TPW-05	Water	6/6/97	15-16'	5800.0	460.0	16000.0	7000.0	29260.0	NA
	Soil			4000.0	10000.0	4500.0	28000.0	46500.0	61
TPW-06	Water	6/6/97	16-16.5'	1600.0	3400.0	48.0	690.0	5738.0	NA
	Soil			<1	<1	2.8	4.8	7.6	11
TPW-07	Water	6/6/97	15-16'	5300.0	18000.0	620.0	9300.0	33220.0	NA
	Soil			7000.0	74000.0	20000.0	170000.0	271000.0	250

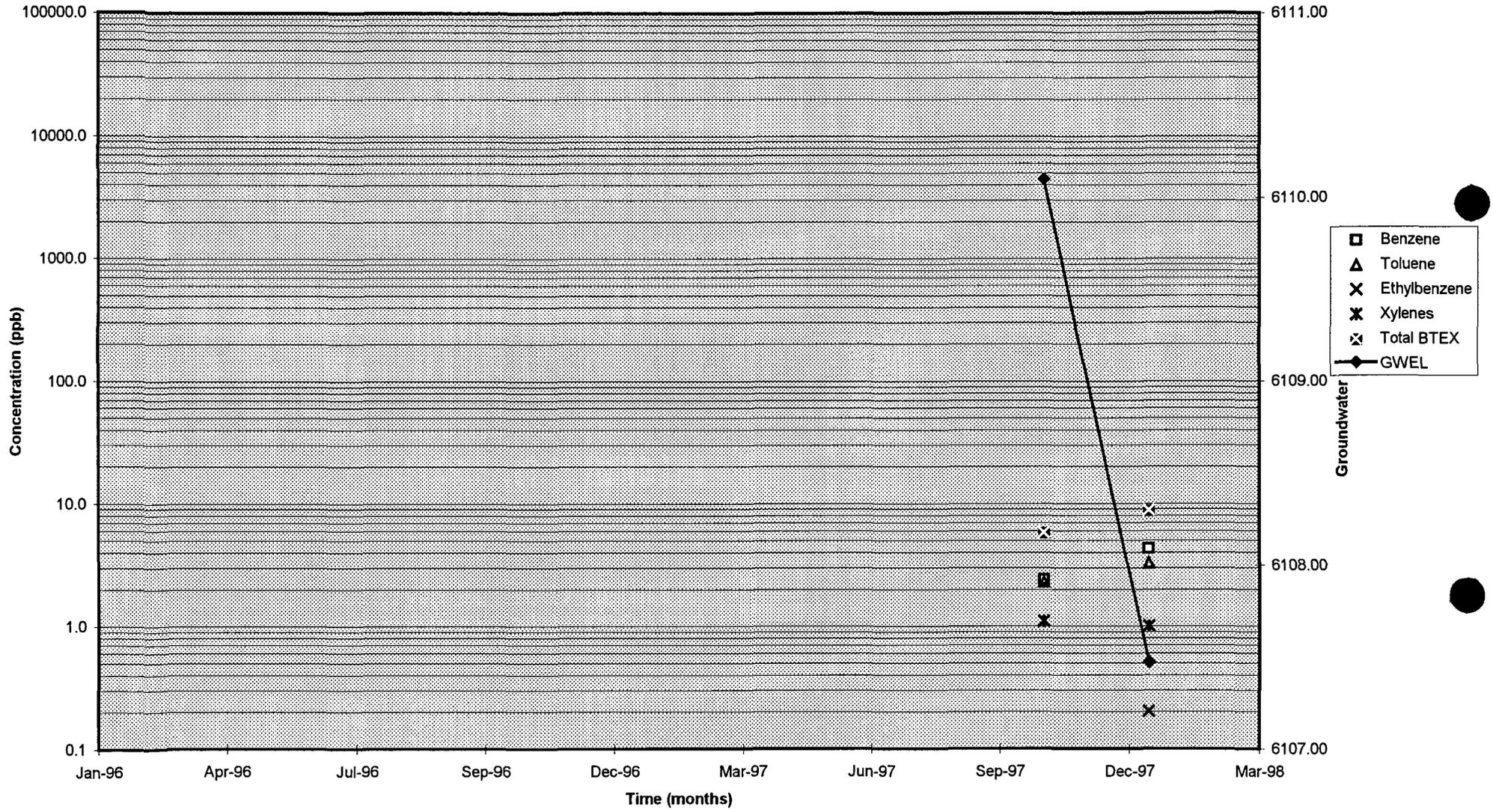
PNM Test Holes along Wash	Matrix	Date Sampled	Depth (ft)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)	Total BTEX (ppb)	TPH (mg/Kg)	PID (ppm)
TH-1	Soil	11/11/97	12.7'	NA	NA	NA	NA	NA	NA	1412
TH-2	Soil	11/11/97	14.4'	NA	NA	NA	NA	NA	NA	1357
TH-3	Soil	11/11/97	16.5'	NA	NA	NA	NA	NA	NA	0
TH-4	Soil	11/11/97	15'	NA	NA	NA	NA	NA	NA	279
TH-5	Soil	11/11/97	14.5'	NA	NA	NA	NA	NA	NA	1211
TH-6	Soil	11/11/97	16'	NA	NA	NA	NA	NA	NA	0
TH-7 (temporary well)	Water	11/11/97	NA	2171.0	4185.0	190.0	2856.0	170000.0	279	0
TH-8	Soil	11/12/97	14'	NA	NA	NA	NA	NA	NA	0

Sample from Burlington Excavation Groundwater	Water	2/11/98	15'	1800	1700	<25	1420	4920	NA
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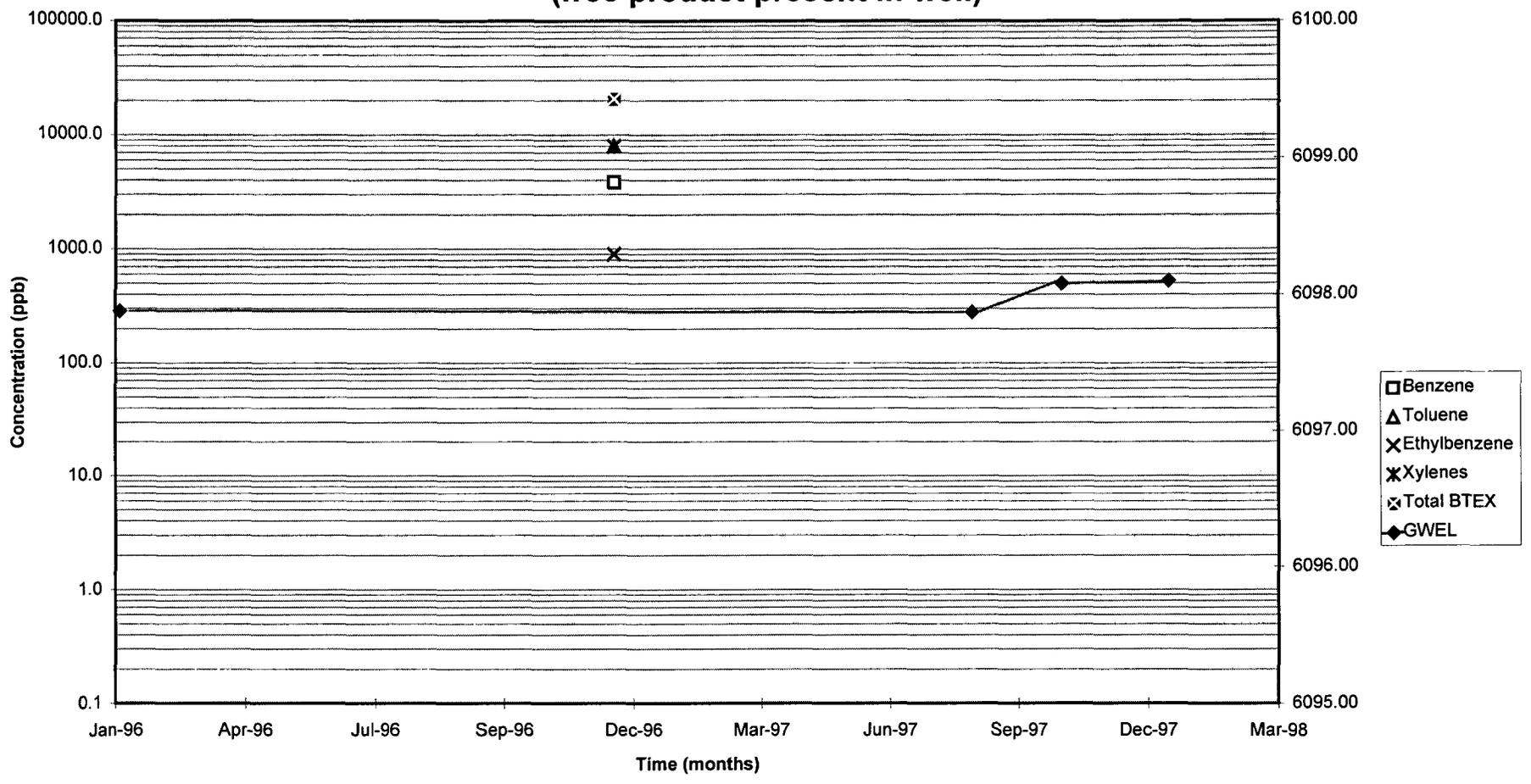
Attachment A

Hydrographs and Concentrations versus Time

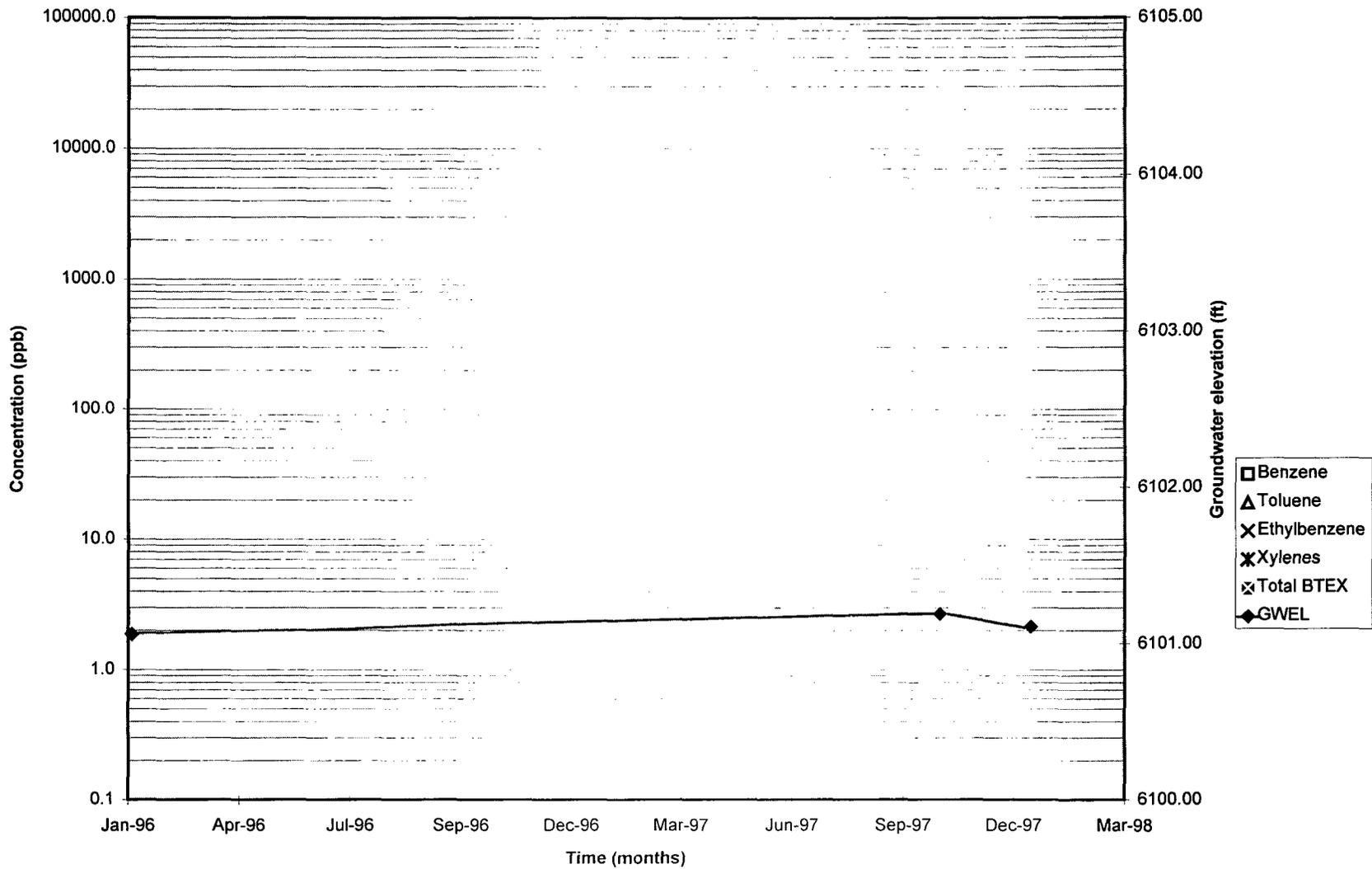
MW-1: Trends with Time



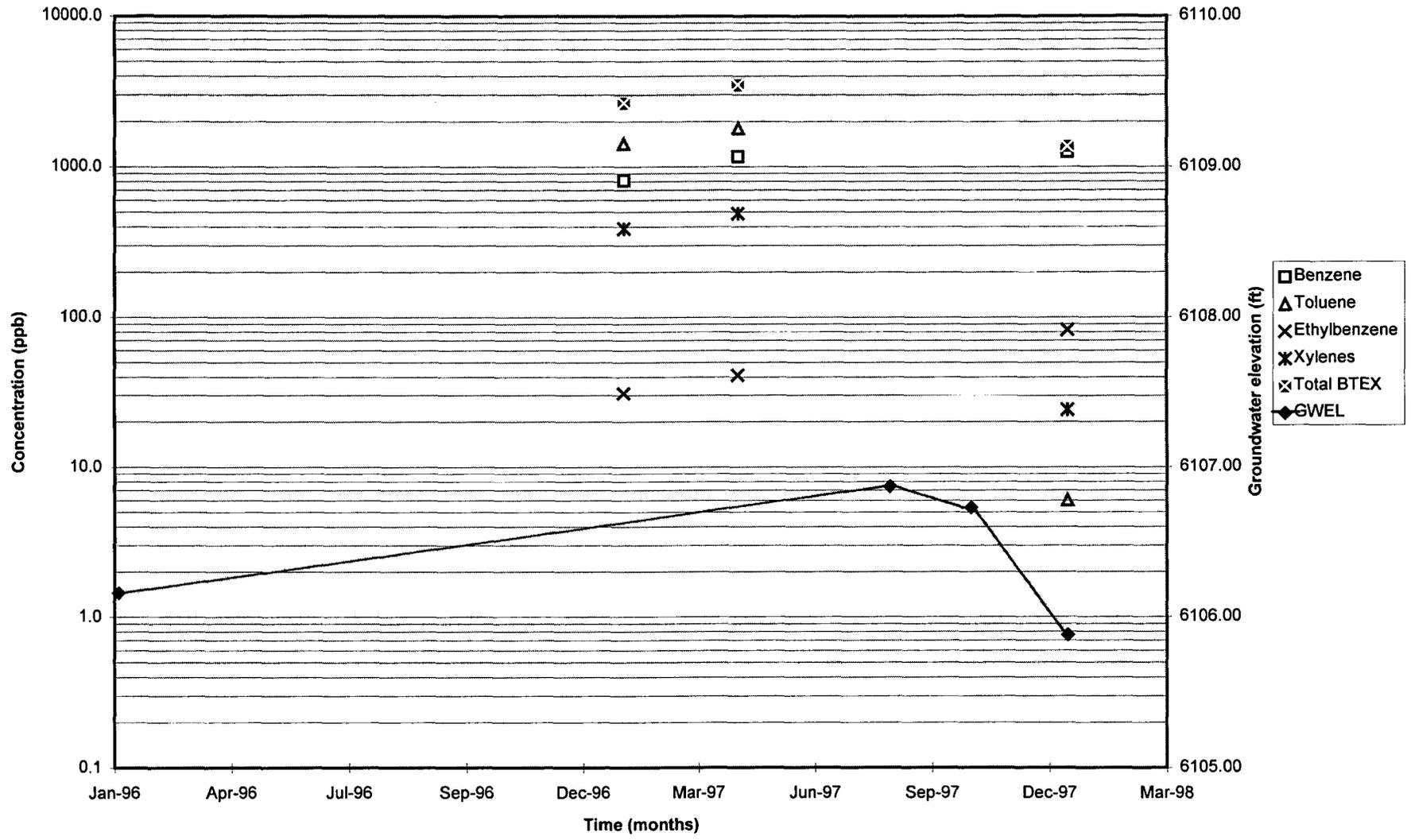
MW-2: Trends with Time (free product present in well)



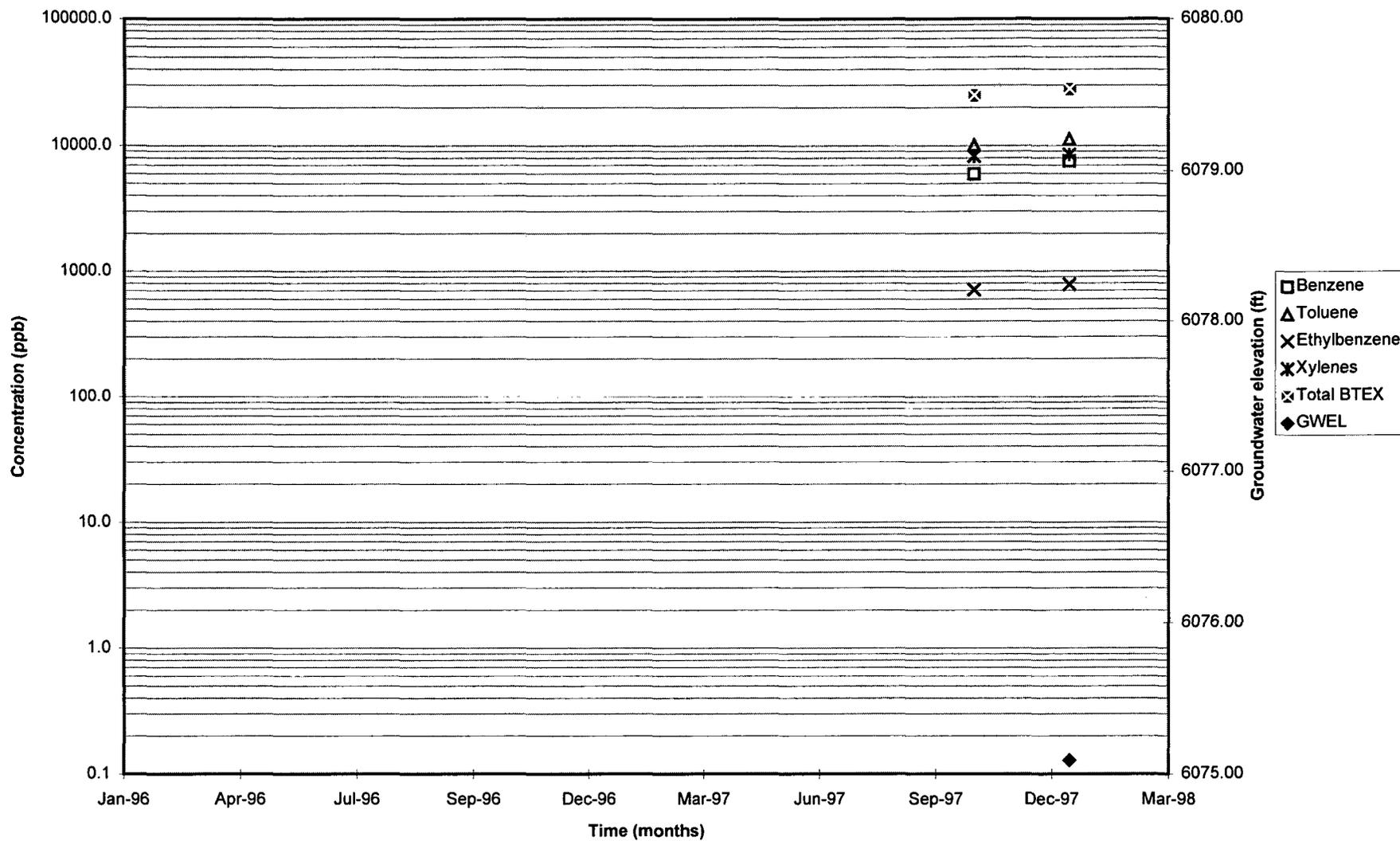
MW-3: Trends with Time



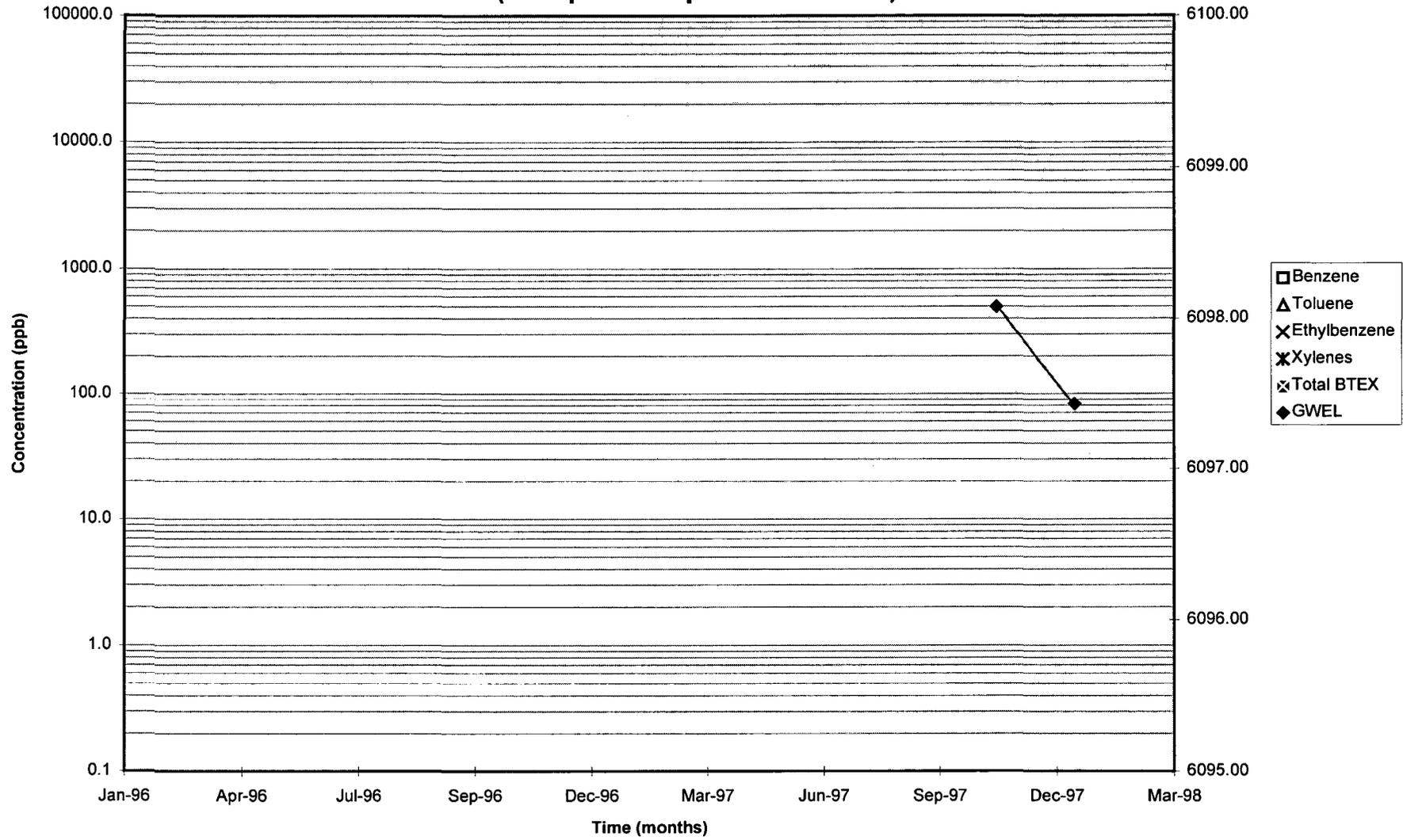
MW-4: Trends with Time



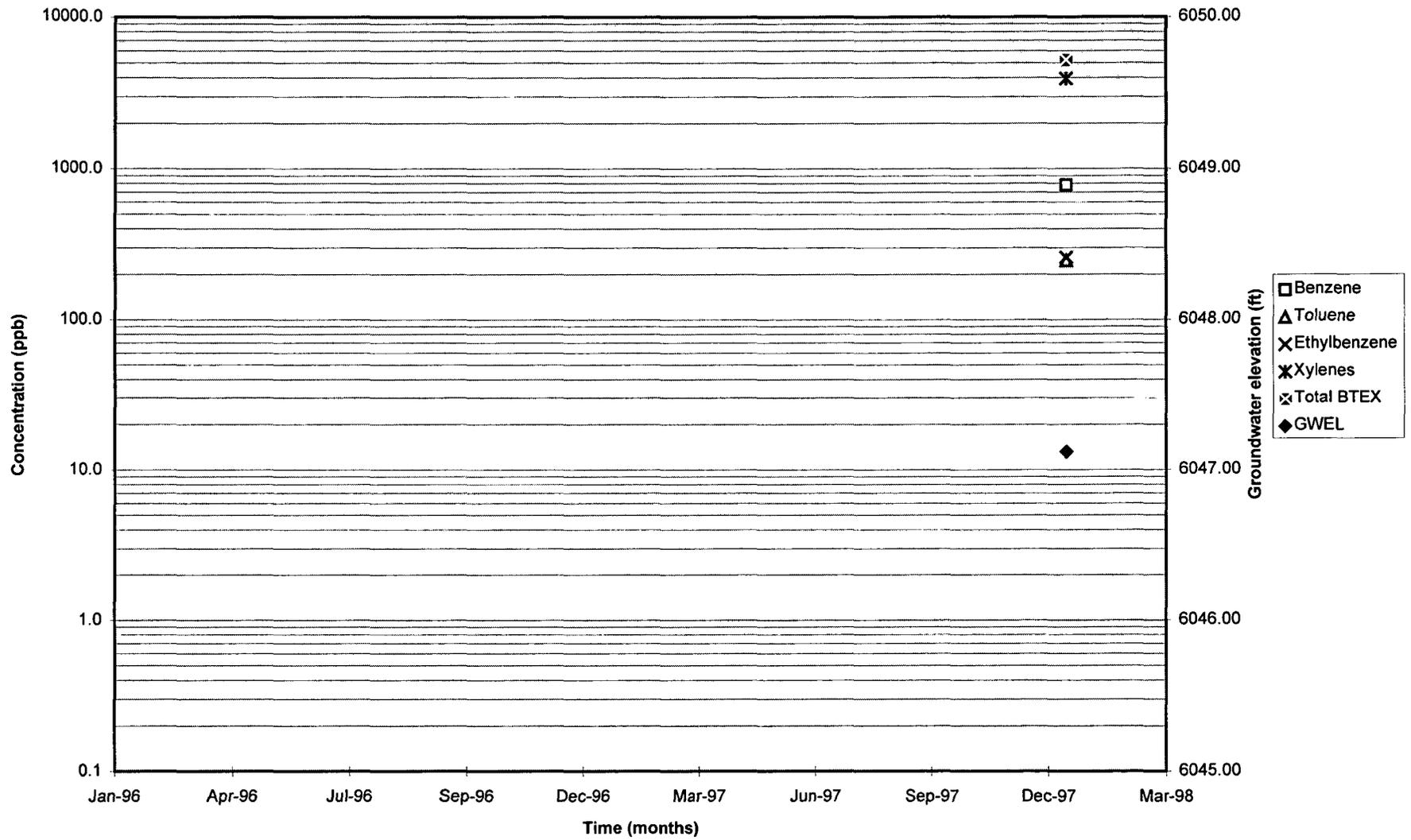
MW-5: Trends with Time



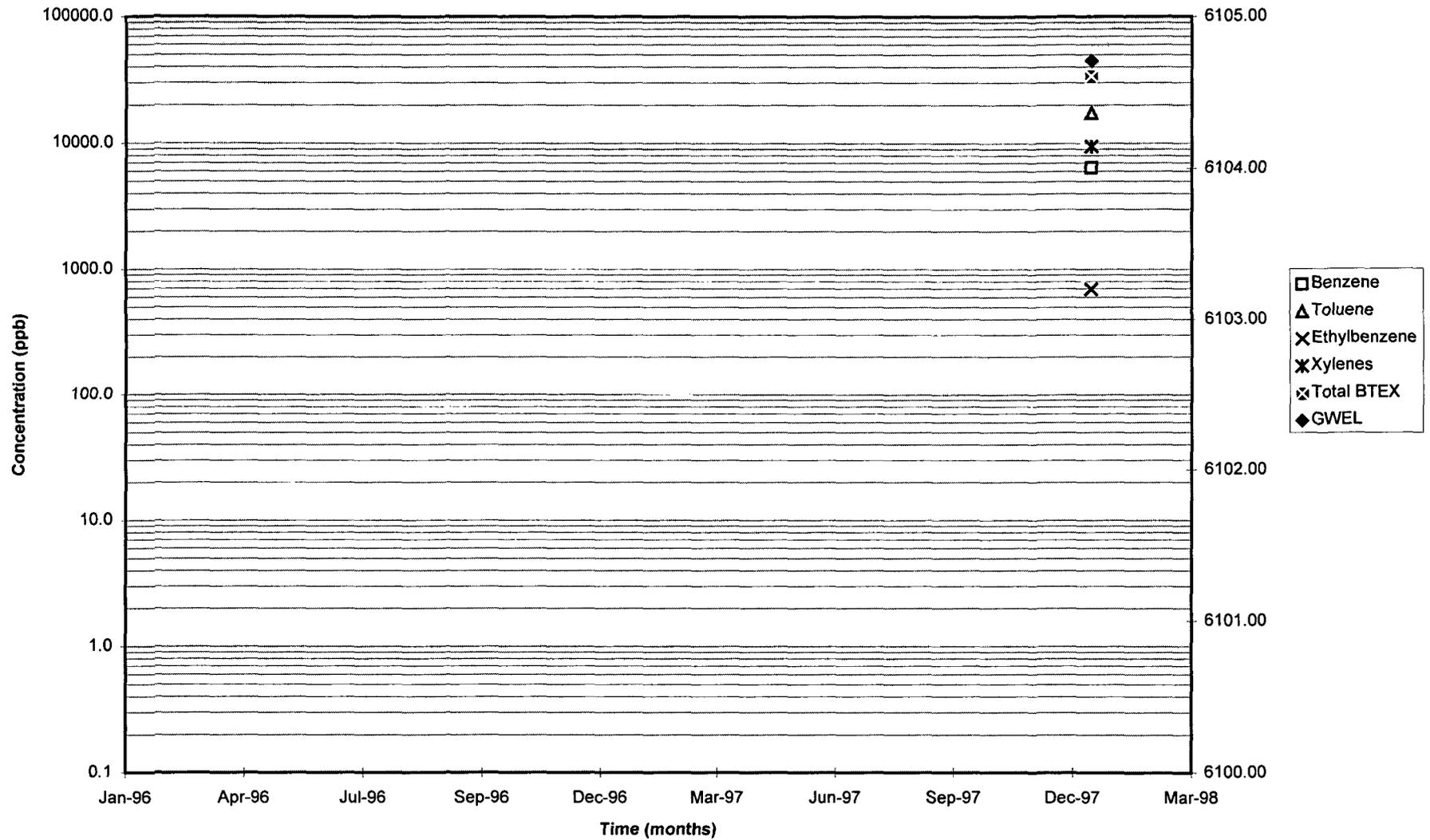
MW-6: Trends with Time (free product present in well)



MW-7: Trends with Time



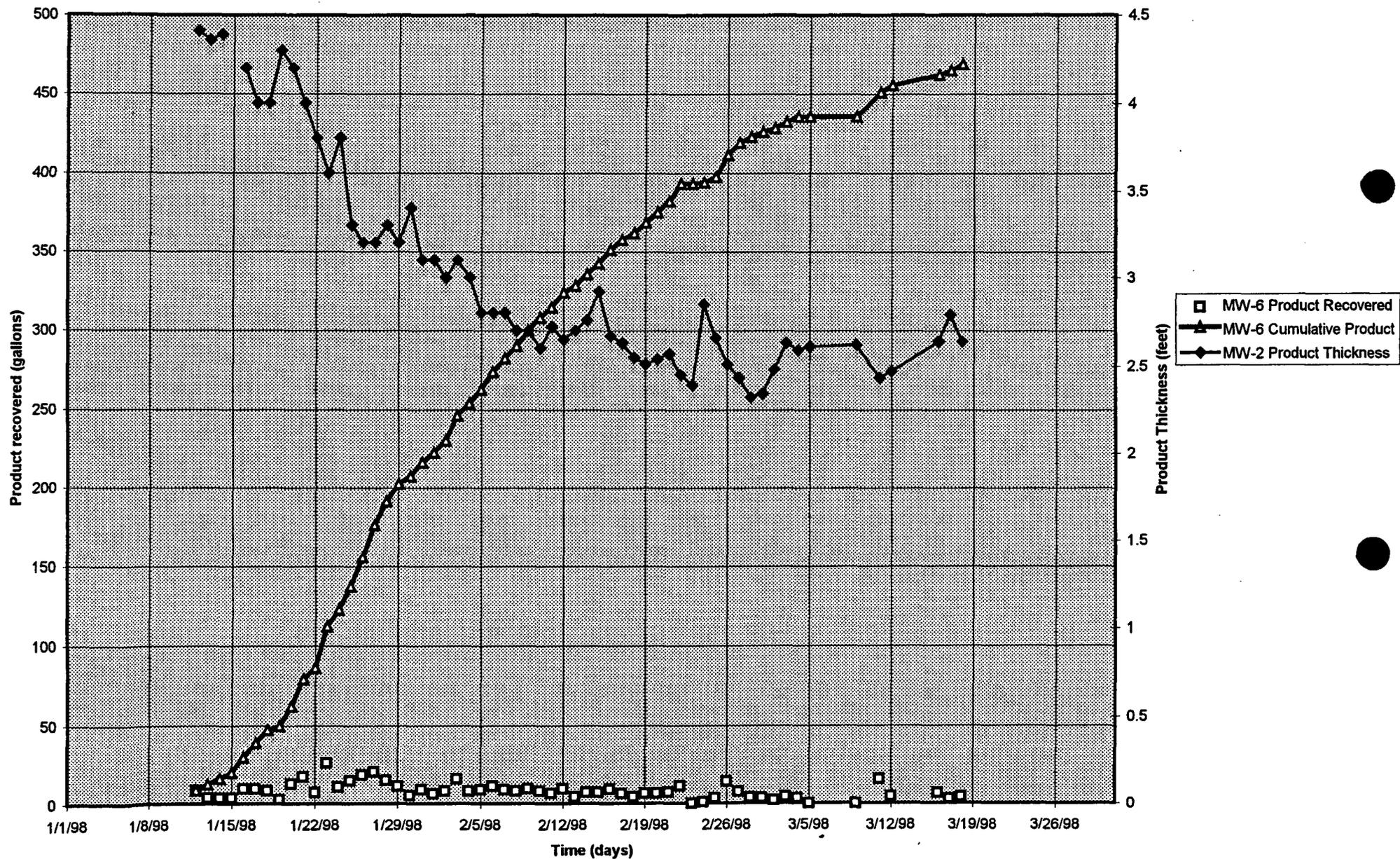
MW-8: Trends with Time



Attachment B

Free Product Recovery Response

Hampton 4M Free Product Recovery



HAMPTON 4M

DATE	TIME	PUMP TIME SET	CYCLES / DAY	PUMPING TIME TOTAL	NITROGEN PRESSURE	NITROGEN TANK LEVEL	DRUM LEVEL	MW #2 PRODUCT LEVEL	MW #2 WATER LEVEL	
1/16/98	1323	5 min.	3	2 Hr. 10 min	58	675	5	20.78	25.04	4.26
1/17/98	1619	5 min.	3	2 Hr. 32 min	58	775	5 3/4"	20.98	25.04	4.06
1/18/98	1527	5 min.	3	2 Hr. 53 min	58	275	11 1/2"	20.96	24.96	4.00
1/19/98	1323	5 min.	3	3 Hr. 3 min.	58	58	15 1/2"	20.69	25.04	4.35
1/20/98	1454	5 min.	3	3 Hr. 30 min	50	750	17"	20.83	25.06	4.23
1/21/98	0534	Cont.	1	4 Hr. 23 min	50	550	24 1/2"	20.93	24.97	4.04
1/22/98	1344	10 min.	3	5 Hr. 17 min	50	400	5 1/4"	21.00	24.88	3.88
1/23/98	1418	10 min.	6	1 Hr. 33 min	50	50	14"	21.11	24.74	3.62
1/24/98	1316	20 min	6	6 Hr. 50 min	50	2175	16 1/2"	20.97	24.78	3.81
1/25/98	1153	10 min.	6	9 Hr. 03 min	50	1875	25 1/4"	21.18	24.50	3.32
1/26/98	1330	10 min.	6	9 Hr. 54 min	50	1625	11 1/4"	21.20	24.43	3.23
1/27/98	1431	10 min.	6	10 Hr. 07 min	50	1375	23 1/2"	21.16	24.39	3.22
1/28/98	1320	10 min.	6	10 Hr. 48 min	50	600	6"	20.09	24.40	3.3
1/29/98	1321	10 min.	6	11 Hr. 08 min	50	325	12 3/4"	21.11	24.31	3.2
1/30/98	1525	10 min.	6	19 Hr. 02 min.	50	150	12 3/4"	21.05	24.48	3.4
1/31/98	1150	10 min.	6	19 Hr. 06 min	60	2275	18"	21.17	24.27	3.11
2/1/98	1143	10 min.	12	22 Hr. 12 min	60	1875	21 3/4"	21.19	24.29	3.1
2/2/98	1517	10 min.	6	23 Hr. 13 min	60	1600	26 1/2"	21.25	24.25	3.0
2/3/98	1516	10 min.	6	24 Hr. 15 min	60	1410	9 1/2"	21.10	24.20	3.2
2/4/98	1315	10 min.	6	25 Hr. 18 min	68	1120	14 1/4"	21.09	24.23	3.1
2/5/98	1303	10 min.	6	26 Hr. 14 min	60	875	19 1/2"	21.27	24.13	2.8
2/6/98	1518	5 min.	12	27 Hr. 27 min	60	600	26 1/4"	21.25	24.10	2.8
2/7/98	1121	5 min.	12	28 Hr. 21 min	60	375	5 1/4"	21.26	24.10	2.8
2/8/98	1522	5 min.	12	30 Hr. 07 min	0	0	10"	21.24	23.98	2.7
2/9/98	1615	5 min.	12	31 Hr. 17 min	55	2325	15 3/4"	21.21	24.00	2.7
2/10/98	1611	5 min.	12	32 Hr. 21 min	55	2110	20 1/2"	21.36	24.00	2.6
2/11/98	1350	5 min.	12	33 Hr. 21 min	55	1875	24 1/2"	21.23	23.95	2.7
2/12/98	1718	5 min.	12	34 Hr. 30 min	55	1625	5 3/4"	21.30	23.95	2.7
2/13/98	1603	5 min.	6	34 Hr. 56 min	55	1500	8 1/4"	21.22	23.92	2.7
2/14/98	1623	5 min.	6	35 Hr. 59 min	55	1225	12 1/2"	21.19	23.95	2.7

HAMPTON 4M

DATE	TIME	PUMP TIME SET	CYCLES / DAY	PUMPING TIME TOTAL	NITROGEN PRESSURE	NITROGEN TANK LEVEL	DRUM LEVEL	MW #2 PRODUCT LEVEL	MW #2 WATER LEVEL
2/15/98	1529	5 min	12	37 Hrs 23 min	55	990	16 3/4"	21.08	24.00
2/16/98	1413	5 min	12	38 Hrs 19 min	55	675	22 1/2"	21.26	23.93
2/17/98	1740	5 min	12	39 Hrs 22 min	55	450	26 1/2"	21.26	23.89
2/18/98	1344	5 min	12	40 Hrs 14 min	55	2475	2 1/2"	21.32	23.87
2/19/98	1717	5 min	12	41 Hrs 27 min	55	2075	6 1/2"	21.34	23.85
2/20/98	1418	5 min	12	42 Hrs 25 min	55	1775	10 1/2"	21.26	23.82
2/21/98	1631	5 min	12	43 Hrs 33 min	55	1500	14 3/4"	21.30	23.87
2/22/98	1645	Change 5 min 5 min	6	43 Hrs 34 min 44 Hrs 20 min	55	1275	21 1/2"	21.35	23.80
2/23/98	1602	5	6	44 Hrs 38 min	55	1175	19 1/2"	21.36	23.75
2/24/98	1601	5	6	50 Hrs 25 min	5	5	22.0	21.10	23.95
2/25/98	1429	5	12	50 Hrs 5 min	60	2150	24.0	21.24	23.90
2/26/98	1512	5	12	51 Hrs 5 min	58	1650	32 1/2"	21.29	23.80
2/27/98	1543	5	12	52 Hrs 5 min	50	1100	4 1/2"	21.35	23.78
2/28/98	1604	5	12	53 Hrs 57 min	50	480	6 3/4"	21.41	23.73
3/1/98	1105	5	12	54 Hrs 17 min	50	5	8 3/4"	21.41	23.75
3/1/98	1131	5	12	55 Hrs 38 min	50	2525 1300	10"	21.32	23.80
3/2/98	1711	Change 5	12	55 Hrs 5 min	50	1150	12 1/2"	21.25	23.88
3/4/98							14 1/2"	21.29	23.88
3/5/98								21.29	23.90
3/9/98	1707	5	12	56 Hrs 56 min	50	900		21.38	24.00
3/11/98	1730	5	12	59 Hrs 00 min	50	200	23 3/4"	21.38	23.81
3/12/98	1604	5	12	59 Hrs.	50	2700	26 1/2"	21.34	23.81
3/16/98	1610 1620	5	12	62 Hrs 36 min	50	0	4"	21.31	23.95
3/17/98	160732	5	12/6	63 Hrs 40 min	50	1850	7 1/2"	21.26	24.05
3/18/98	1623	-	-	67 Hrs 14 min	50	1600	10"	21.36	24.02

20 60
14 42
15,400

26.53
24.06
2.47
1.25

24.10
21.38
2.72

DEPARTMENT	
FILE	SHEET OF
BY	DATE
CHECKED	DATE

PROJECT Hampton 4M
COMPONENT Product removed (gallons) from MW-6

Jan			
12	- 8.50 gal.	5.0 gal. in November	Feb. 16 - 9.13
13	- 3.75 gal.		17 - 6.23
14	- 3.75 gal.		18 - 4.15
15	- 3.80 gal.		19 - 6.64 - 353.63
16	- 9.55 gal.		20 - 6.64
17	- 9.55 gal.		21 - 7.06
18	- 8.30 gal.		22 - 11.21 - 378.54
19	- 2.49 gal.		23 - 0
20	- 12.45 gal.		24 - 0.83
21	- 17.72 gal.		25 - 3.32
22	- 7.00 gal.	Total 86.86 gal. + 5	26 - 14.11 - 396.80
23	- 20.25 gal.	" 112.14 gal.	27 - 7.47
24	- 10.65 gal.		28 - 3.74
25	- 14.53 gal.		March - 3.32 - 411.33 gal.
26	- 18.68 gal.		2 - 2.08
27	- 20.34 gal.	Total 176.34 gal.	3 - 3.325
28	- 14.96 gal.		4 - 4.15
29	- 11.21 gal.	Total 187.55 gal.	11 - 15.36
30	- 5.00 gal.		12 - 4.57
31	- 8.72 gal.	Total 201.27 gal.	14 - 6.64
Feb	1 - 6.23 gal.		17 - 5.81 - 453.26 gal.
	2 - 7.89 gal.		18 - 4.15
	3 - 15.77 gal.	Total 231.16 gal.	
	4 - 7.89 gal.		
	5 - 8.72 gal.		
	6 - 11.21 gal.	Total 258.98 gal.	
	7 - 8.72 gal.		
	8 - 7.89 gal.		
	9 - 9.55 gal.		
	10 - 7.89 gal.	Total 293.02 gal.	
	11 - 6.64 gal.	299.66	
	12 - 9.55 gal.		
	13 - 4.15 gal.		
	14 - 7.06 gal.		
	15 - 7.06 gal.		

Attachment C

Analytical Laboratory Data

OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

February 24, 1998

Maureen Gannon
PNM Gas Services
Alevardo Square, Mail Stop 0408
Albuquerque, NM 87401
TEL: (505) 241-2974
FAX (505) 241-2340

RE: Hampton 4M Burlington Excavation

Order No.: 9802007

Dear Maureen Gannon,

On Site Technologies, LTD. received 1 sample on 2/11/98 for the analyses presented in the following report.

The Samples were analyzed for the following tests:
Aromatic Volatiles by GC-PID (SW8021A)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,



David Cox



ANALYTICAL REPORT

Date: 24-Feb-98

Client: PNM Gas Services	Client Sample Info: Hampton 4M
Work Order: 9802007	Client Sample ID: 9802111400; Burlington Excava
Lab ID: 9802007-01A Matrix: AQUEOUS	Collection Date: 2/11/98 2:00:00 PM
Project: Hampton 4M Burlington Excavation	COC#: 7174

Parameter	Result	Limit	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC-PID		SW8021A				Analyst: DC
Benzene	1800	25		µg/L	50	2/17/98
Toluene	1700	25		µg/L	50	2/17/98
Ethylbenzene	ND	25		µg/L	50	2/17/98
m,p-Xylene	1200	50		µg/L	50	2/17/98
o-Xylene	220	25		µg/L	50	2/17/98
Surr: Fluorobenzene	99.6	70-130		%REC	50	2/17/98
Surr: 1,4-Difluorobenzene	101.2	70-130		%REC	50	2/17/98
Surr: 4-Bromochlorobenzene	100.6	70-130		%REC	50	2/17/98

Qualifiers:

ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits
J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank	E - Value above quantitation range
* - Value exceeds Maximum Contaminant Level	

On Site Technologies, LTD.

Date: 24-Feb-98

CLIENT: PNM Gas Services
Work Order: 9802007
Project: Hampton 4M Burlington Excavation

QC SUMMARY REPORT
Method Blank

Sample ID: MB1 W	Batch ID: GC-1_980217	Test Code: SW8021A	Units: µg/L	Analysis Date: 2/17/98	Prep Date:						
Client ID:	9802007	Run ID: GC-1_980217A	SeqNo: 71								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	.1481	0.5									J
Ethylbenzene	ND	0.5									
m,p-Xylene	ND	1									
o-Xylene	ND	0.5									
Toluene	.0621	0.5									J

Qualifiers:

ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limits

B - Analyte detected in the associated Method Blank

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

On Site Technologies, LTD.

Date: 24-Feb-98

CLIENT: PNM Gas Services
Work Order: 9802007
Project: Hampton 4M Burlington Excavation

QC SUMMARY REPORT
Sample Matrix Spike

Sample ID: 9802002-06A MS	Batch ID: GC-1_980217	Test Code: SW8021A	Units: µg/L	Analysis Date: 2/17/98	Prep Date:						
Client ID: 9802007	Run ID: GC-1_980217A	SeqNo: 91									
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	18890	50	4000	15090	95.0%	57	128				
Ethylbenzene	4625	50	4000	489.6	103.4%	78	107				
m,p-Xylene	12080	100	8000	4068	100.2%	67	118				
o-Xylene	5186	50	4000	1043	103.6%	78	107				
Toluene	5121	50	4000	1055	101.7%	74	116				

Sample ID: 9802002-06A MSD	Batch ID: GC-1_980217	Test Code: SW8021A	Units: µg/L	Analysis Date: 2/17/98	Prep Date:						
Client ID: 9802007	Run ID: GC-1_980217A	SeqNo: 92									
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19120	50	4000	15090	100.9%	57	128	18890	1.2%	12	
Ethylbenzene	4687	50	4000	489.6	104.9%	78	107	4625	1.3%	11	
m,p-Xylene	12240	100	8000	4068	102.1%	67	118	12080	1.3%	10	
o-Xylene	5283	50	4000	1043	106.0%	78	107	5186	1.9%	14	
Toluene	5195	50	4000	1055	103.5%	74	116	5121	1.4%	14	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 24-Feb-98

CLIENT: PNM Gas Services
Work Order: 9802007
Project: Hampton 4M Burlington Excavation

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID: LCS WATER	Batch ID: GC-1_980217	Test Code: SW8021A	Units: µg/L	Analysis Date: 2/17/98	Prep Date:						
Client ID:	9802007	Run ID: GC-1_980217A		SeqNo: 73							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	43.06	0.5	40	0.1481	107.3%	84	114				
Ethylbenzene	45.72	0.5	40	0	114.3%	86	118				
m,p-Xylene	87.09	1	80	0	108.9%	50	150				
o-Xylene	44.73	0.5	40	0	111.8%	49	147				
Toluene	44.06	0.5	40	0.0621	110.0%	87	120				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 24-Feb-98

CLIENT: PNM Gas Services
Work Order: 9802007
Project: Hampton 4M Burlington Excavation

QC SUMMARY REPORT
Continuing Calibration Verification Standard

Sample ID: **CCV2 QC0529/30** Batch ID: **GC-1_980217** Test Code: **SW8021A** Units: **µg/L** Analysis Date: **2/17/98** Prep Date:

Client ID: **9802007** Run ID: **GC-1_980217A** SeqNo: **81**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.26	0.5	20	0	106.3%	85	115				
Ethylbenzene	21.77	0.5	20	0	108.8%	85	115				
m,p-Xylene	42.35	1	40	0	105.9%	85	115				
o-Xylene	22.08	0.5	20	0	110.4%	85	115				
Toluene	21.94	0.5	20	0	109.7%	85	115				
1,4-Difluorobenzene	100.6	0	100	0	100.7%	70	130				
4-Bromochlorobenzene	96.82	0	100	0	96.8%	70	130				
Fluorobenzene	99.99	0	100	0	100.0%	70	130				

Sample ID: **CCV2 QC0529/30** Batch ID: **GC-1_980217** Test Code: **SW8021A** Units: **µg/L** Analysis Date: **2/17/98** Prep Date:

Client ID: **9802007** Run ID: **GC-1_980217A** SeqNo: **72**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.01	0.5	20	0	100.0%	85	115				
Ethylbenzene	21.19	0.5	20	0	105.9%	85	115				
m,p-Xylene	39.98	1	40	0	99.9%	85	115				
o-Xylene	20.82	0.5	20	0	104.1%	85	115				
Toluene	20.3	0.5	20	0	101.5%	85	115				
1,4-Difluorobenzene	101.8	0	100	0	101.8%	70	130				
4-Bromochlorobenzene	99.27	0	100	0	99.3%	70	130				
Fluorobenzene	99.75	0	100	0	99.8%	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: PNM Gas Services
Work Order: 9802007
Project: Hampton 4M Burlington Excavation

QC SUMMARY REPORT
 Continuing Calibration Verification Standard

Sample ID: **CCV3 QC0529/30** Batch ID: **GC-1_980217** Test Code: **SW8021A** Units: **µg/L** Analysis Date: **2/17/98** Prep Date:
 Client ID: **9802007** Run ID: **GC-1_980217A** SeqNo: **94**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.56	0.5	20	0	102.8%	85	115				
Ethylbenzene	21.76	0.5	20	0	108.8%	85	115				
m,p-Xylene	40.95	1	40	0	102.4%	85	115				
o-Xylene	21.29	0.5	20	0	106.4%	85	115				
Toluene	20.93	0.5	20	0	104.6%	85	115				
1,4-Difluorobenzene	101.2	0	100	0	101.2%	70	130				
4-Bromochlorobenzene	95.23	0	100	0	95.2%	70	130				
Fluorobenzene	99.96	0	100	0	100.0%	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Denver Bearden*
 Company: *PNM Gas Services*
 Address: *603 W. Elm*
 City, State: *Farmington, NM 87401*

Date: *23-Jan-98*
 COC No.: *7086*
 Sample No.: *17304*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Hampton 4M*
 Project Location: *9801121030; MW-1*
 Sampled by: *MS/MG/RD/RB* Date: *12-Jan-98* Time: *10:30*
 Analyzed by: *DC* Date: *21-Jan-98*
 Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	<i>4.3</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Toluene</i>	<i>3.3</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>0.7</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>0.3</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>8.8</i>	<i>ug/L</i>		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By: *[Signature]*
 Date: *1/23/98*

P.O. BOX 2606 • FARMINGTON, NM 87499



ANALYTICAL REPORT

Attn: *Denver Bearden*
 Company: *PNM Gas Services*
 Address: *603 W. Elm*
 City, State: *Farmington, NM 87401*

Date: *26-Jan-98*
 COC No.: *7086*
 Sample ID.: *17304*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Hampton 4M*
 Project Location: *9801121030; MW-1*

Sampled by: *MS/MG/RD/RB* Date: *12-Jan-98* Time: *10:30*
 Analyzed by: *HR* Date: *26-Jan-98*

Laboratory Analysis

Parameter	Results as Received	Unit of Measure	Results as Received	Unit of Measure
<i>Cations</i>				
<i>Sodium Na</i>	<i>112</i>	<i>mg/L</i>	<i>4.87</i>	<i>me/L</i>
<i>Calcium Ca</i>	<i>444</i>	<i>mg/L</i>	<i>22.16</i>	<i>me/L</i>
<i>Magnesium Mg</i>	<i>210</i>	<i>mg/L</i>	<i>17.28</i>	<i>me/L</i>
<i>Potassium K</i>	<i>8.3</i>	<i>mg/L</i>	<i>0.21</i>	<i>me/L</i>
<i>Anions</i>				
<i>Chloride Cl</i>	<i>9</i>	<i>mg/L</i>	<i>0.26</i>	<i>me/L</i>
<i>Sulfate SO4</i>	<i>2202</i>	<i>mg/L</i>	<i>45.84</i>	<i>me/L</i>
<i>Carbonate CO3 as CaCO3</i>	<i>< 1</i>	<i>mg/L</i>	<i>< 0.01</i>	<i>me/L</i>
<i>Bicarbonate HCO3 as CaCO3</i>	<i>2</i>	<i>mg/L</i>	<i>0.03</i>	<i>me/L</i>
<i>Hydroxide OH as CaCO3</i>	<i>< 1</i>	<i>mg/L</i>	<i>< 0.01</i>	<i>me/L</i>
<i>Total Dissolved Solids Calculated, Sum of Cation/Anion</i>	<i>2987</i>	<i>mg/L</i>	<i>Cation-Anion Balance</i> <hr/> <i>1.61 Difference Cation-Anion, me/L</i> <hr/> <i>90.65 Total Cation-Anion, me/L</i> <hr/> <i>1.8 % Difference Cation-Anion</i> <hr/> <i>Comments</i>	
<i>Total Dissolved Solids Dried @ 180 C</i>	<i>3242</i>	<i>mg/L</i>		
<i>pH</i>	<i>4.62</i>			
<i>Conductivity @ 25 C</i>	<i>2960</i>	<i>uS/cm</i>		
<i>Total Hardness as CaCO3</i>	<i>1973</i>	<i>mg/L</i>		

Approved by: *[Signature]*
 Date: *1/30/98*

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Denver Bearden*
 Company: *PNM Gas Services*
 Address: *603 W. Elm*
 City, State: *Farmington, NM 87401*

Date: *23-Jan-98*
 COC No.: *7086*
 Sample No.: *17305*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Hampton 4M*
 Project Location: *9801121100; MW-3*
 Sampled by: *MS/MG/RD/RB* Date: *12-Jan-98* Time: *11:00*
 Analyzed by: *DC* Date: *21-Jan-98*
 Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	ND	ug/L		

ND - Not Detected at Limit of Quantitation

Method - SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography

Approved By: *[Signature]*
 Date: *1/23/98*

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Denver Bearden*
 Company: *PNM Gas Services*
 Address: *603 W. Elm*
 City, State: *Farmington, NM 87401*

Date: *23-Jan-98*
 COC No.: *7086*
 Sample No.: *17306*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Hampton 4M*
 Project Location: *9801121130; MW-4*
 Sampled by: *MS/MG/RD/RB* Date: *12-Jan-98* Time: *11:30*
 Analyzed by: *DC* Date: *21-Jan-98*
 Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	1251	ug/L	2	ug/L
<i>Toluene</i>	6	ug/L	2	ug/L
<i>Ethylbenzene</i>	81	ug/L	2	ug/L
<i>m,p-Xylene</i>	24	ug/L	2	ug/L
<i>o-Xylene</i>	ND	ug/L	2	ug/L
<i>TOTAL</i>	1361	ug/L		

ND - Not Detected at Limit of Quantitation

Method - SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography

Approved By: *[Signature]*
 Date: *1/23/98*

P.O. BOX 2606 • FARMINGTON, NM 87499

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Denver Bearden*
 Company: *PNM Gas Services*
 Address: *603 W. Elm*
 City, State: *Farmington, NM 87401*

Date: *23-Jan-98*
 COC No.: *7086*
 Sample No.: *17307*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Hampton 4M*
 Project Location: *9801121200; MW-5*
 Sampled by: *MS/MG/RD/RB* Date: *12-Jan-98* Time: *12:00*
 Analyzed by: *DC* Date: *21-Jan-98*
 Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	<i>7521</i>	<i>ug/L</i>	<i>20</i>	<i>ug/L</i>
<i>Toluene</i>	<i>11213</i>	<i>ug/L</i>	<i>20</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>779</i>	<i>ug/L</i>	<i>20</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>6762</i>	<i>ug/L</i>	<i>20</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>1674</i>	<i>ug/L</i>	<i>20</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>27950</i>	<i>ug/L</i>		

ND - Not Detected at Limit of Quantitation

Method - SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography

Approved By: *[Signature]*
 Date: *1/23/98*

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Denver Bearden*
 Company: *PNM Gas Services*
 Address: *603 W. Elm*
 City, State: *Farmington, NM 87401*

Date: *23-Jan-98*
 COC No.: *7086*
 Sample No.: *17308*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Hampton 4M*
 Project Location: *9801121230; MW-7*
 Sampled by: *MS/MG/RD/RB* Date: *12-Jan-98* Time: *12:30*
 Analyzed by: *DC* Date: *21-Jan-98*
 Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	780	ug/L	20	ug/L
<i>Toluene</i>	246	ug/L	20	ug/L
<i>Ethylbenzene</i>	258	ug/L	20	ug/L
<i>m,p-Xylene</i>	3204	ug/L	20	ug/L
<i>o-Xylene</i>	738	ug/L	20	ug/L
<i>TOTAL</i>	5227	ug/L		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By: *[Signature]*
 Date: *1/23/98*

P.O. BOX 2606 • FARMINGTON, NM 87499

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Denver Bearden*
 Company: *PNM Gas Services*
 Address: *603 W. Elm*
 City, State: *Farmington, NM 87401*

Date: *23-Jan-98*
 COC No.: *7086*
 Sample No.: *17309*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Hampton 4M*
 Project Location: *9801121300; MW-8*
 Sampled by: *MS/MG/RD/RB* Date: *12-Jan-98* Time: *13:00*
 Analyzed by: *DC* Date: *21-Jan-98*
 Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	<i>6410</i>	<i>ug/L</i>	<i>20</i>	<i>ug/L</i>
<i>Toluene</i>	<i>17301</i>	<i>ug/L</i>	<i>20</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>693</i>	<i>ug/L</i>	<i>20</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>7612</i>	<i>ug/L</i>	<i>20</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>1785</i>	<i>ug/L</i>	<i>20</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>33801</i>	<i>ug/L</i>		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By: *JAG*
 Date: *1/23/98*

P.O. BOX 2606 • FARMINGTON, NM 87499



ANALYTICAL REPORT

Attn: *Denver Bearden*
 Company: *PNM Gas Services*
 Address: *603 W. Elm*
 City, State: *Farmington, NM 87401*

Date: *26-Jan-98*
 COC No.: *7086*
 Sample ID.: *17309*
 Job No.: *2-1000*

Project Name: **PNM Gas Services - Hampton 4M**
 Project Location: **9801121300; MW-8**

Sampled by: **MS/MG/RD/RB** Date: **12-Jan-98** Time: **13:00**
 Analyzed by: **HR** Date: **26-Jan-98**

Laboratory Analysis

Parameter	Results as Received	Unit of Measure	Results as Received	Unit of Measure
<u>Cations</u>				
Sodium <i>Na</i>	108	mg/L	4.70	me/L
Calcium <i>Ca</i>	456	mg/L	22.76	me/L
Magnesium <i>Mg</i>	236	mg/L	19.42	me/L
Potassium <i>K</i>	20.9	mg/L	0.53	me/L
<u>Anions</u>				
Chloride <i>Cl</i>	30	mg/L	0.83	me/L
Sulfate <i>SO4</i>	2215	mg/L	46.12	me/L
Carbonate <i>CO3 as CaCO3</i>	<1	mg/L	<0.01	me/L
Bicarbonate <i>HCO3 as CaCO3</i>	73	mg/L	1.20	me/L
Hydroxide <i>OH as CaCO3</i>	<1	mg/L	<0.01	me/L
Total Dissolved Solids <i>Calculated, Sum of Cation/Anion</i>	3139	mg/L	<u>Cation-Anion Balance</u> 0.74 <i>Difference Cation-Anion, me/L</i> 95.55 <i>Total Cation-Anion, me/L</i> 0.8 <i>% Difference Cation-Anion</i> <u>Comments</u>	
Total Dissolved Solids <i>Dried @ 180 C</i>	3424	mg/L		
pH	6.21			
Conductivity @ 25 C	2950	uS/cm		
Total Hardness as CaCO3	2110	mg/L		

Approved by: *J.F.*
 Date: *1/30/98*

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Denver Bearden*
 Company: *PNM Gas Services*
 Address: *603 W. Elm*
 City, State: *Farmington, NM 87401*

Date: *23-Jan-98*
 COC No.: *7086*
 Sample No.: *17310*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Hampton 4M*
 Project Location: *9801121330; MW-9*
 Sampled by: *MS/MG/RD/RB* Date: *12-Jan-98* Time: *13:30*
 Analyzed by: *DC* Date: *21-Jan-98*
 Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	1252	ug/L	2	ug/L
<i>Toluene</i>	7	ug/L	2	ug/L
<i>Ethylbenzene</i>	80	ug/L	2	ug/L
<i>m,p-Xylene</i>	23	ug/L	2	ug/L
<i>o-Xylene</i>	ND	ug/L	2	ug/L
<i>TOTAL</i>	1362	ug/L		

ND - Not Detected at Limit of Quantitation

Method - SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography

Approved By: *[Signature]*
 Date: *1/23/98*



QUALITY ASSURANCE REPORT
for EPA Method 8020

Date Analyzed: 21-Jan-98

Internal QC No.: 0559-STD

Surrogate QC No.: 0567-STD

Reference Standard QC No.: 0529/30-QC

Method Blank

Parameter	Result	Unit of Measure
Average Amount of All Analytes In Blank	<0.2	ppb

Calibration Check

Parameter	Unit of Measure	True Value	Analyzed Value	RPD	Limit
Benzene	ppb	30.0	30.6	2	15%
Toluene	ppb	30.0	30.8	3	15%
Ethylbenzene	ppb	30.0	31.4	5	15%
m,p-Xylene	ppb	60.0	59.7	0	15%
o-Xylene	ppb	30.0	31.1	4	15%

Matrix Spike

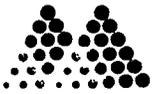
Parameter	1 - Percent Recovered	2 - Percent Recovered	Limit	RPD	Limit
Benzene	102	92	(39-150)	2	20%
Toluene	108	105	(46-148)	2	20%
Ethylbenzene	108	105	(32-160)	3	20%
m,p-Xylene	104	102	(35-145)	3	20%
o-Xylene	110	107	(35-145)	2	20%

Surrogate Recoveries

Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered	Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered
Limit Percent Recovered	(70-130)		Limit Percent Recovered	(70-130)	
17304-7086	101		17310-7086	100	
17305-7086	102				
17306-7086	100				
17307-7086	100				
17308-7086	101			JHR	(102)
17309-7086	101			1/26/98	1/23/98

S1: Fluorobenzene

RECEIVED FEB 12 1998



Mountain States Analytical, Inc.

The Quality Solution

February 6, 1998

Mr. David Cox
On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Reference:

Project: Hampton 4M
MSAI Group: 19520

Dear Mr. Cox:

Enclosed are the analytical results for your project referenced above. The following samples are included in the report.

9801121030 MW-1 (Diss)

9801121300 MW-8 (Diss)

All holding times were met for the tests performed on these samples.

If the report is acceptable, please approve the enclosed invoice and forward it for payment.

Thank you for selecting Mountain States Analytical, Inc. to serve as your analytical laboratory on this project. If you have any questions concerning these results, please feel free to contact me at any time.

We look forward to working with you on future projects.

With Regards,

Rolf E. Larsen
Project Manager

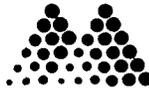
Corporate Office

1645 West 2200 South, Salt Lake City, Utah 84119
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e-mail: service@msai.com

Southwest States Region

6223 Balconne, Spring, Texas 77165
281-220-2810 • FAX 281-220-2811
e-mail: prewer@msai.com

MSAI
LABORATORY



Mountain States Analytical, Inc.

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Hampton 4M

Sample ID: 9801121030 MW-1 (Diss)
Matrix: Waste Water

MSAI Sample: 74841
MSAI Group: 19520
Date Reported: 02/06/98
Discard Date: 03/08/98
Date Submitted: 01/30/98
Date Sampled: 01/12/98
Collected by: MG
Purchase Order: 7086
Project No.:

Test	Analysis	Results as Received	Units	Method Detection Limit
----	-----	-----	-----	-----
0001M	**Special Instructions, Metals Method: SPECIAL INST MSAI	Batch. w59		
0259B	Mercury by CVAA, w/ww, 7470 Method: SW-846 7470	ND	mg/l	0.0001
0392I	Flame/ICP Prep, w/ww, 3005A Method: SW-846 3005A	Batch. w059		
0392M	Mercury Prep CVAA, w/ww, 7470 Method: SW-846 7470	Batch. w001		
0401	Prep for HAA, w/ww, 7062/7742 Method: SW-846 7062/7742	Batch. w60		
1451	Selenium by HAA, w/ww, 7742 Method: SW-846 7742	ND	mg/l	0.002
7245	Arsenic by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.04
7246	Barium by ICP, w/ww, 6010A Method: SW-846 6010A	0.008	mg/l	0.003
7249	Cadmium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.004
7251	Chromium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.010
7255	Lead by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.050

10
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Quality
Service

Corporate Office
1645 West 2200 South, Salt Lake City, Utah 84119
801-973-0050 • 1-800-973-6724(MSAI) • FAX 801-972-6278
e-mail: service@msailabs.com

Southwest States Region
6223 Bayonne, Spring, Texas 77389
281-320-2842 • FAX 281-320-0989
e-mail: gbrewer@msailabs.com





Mountain States Analytical, Inc.
On Site Technologies, Ltd. The Quality Solution

Sample ID: 9801121030 MW-1 (Diss)

MSAI Sample: 74841
MSAI Group: 19520

Test	Analysis	Results as Received	Units	Method Detection Limit
7266	Silver by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.005
0939	Sample Filtering, ww, MSAI Method: IN HOUSE MSAI	Complete		

This report consists of the following items: A cover letter, a signed analytical report for each sample specified on the cover letter, and if applicable, an inorganic quality control summary. Organic sample reports contain footnotes which describe any quality control anomalies which may have occurred.

Respectfully Submitted,
Reviewed and Approved by:

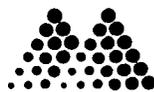
Rolf E. Larsen
Project Manager

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Mountain States Analytical, Inc.

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Hampton 4M

Sample ID: 9801121300 MW-8 (Diss)
Matrix: Waste Water

MSAI Sample: 74842
MSAI Group: 19520
Date Reported: 02/06/98
Discard Date: 03/08/98
Date Submitted: 01/30/98
Date Sampled: 01/12/98
Collected by: MG
Purchase Order: 7086
Project No.:

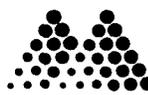
Test Analysis	Results as Received	Units	Method Detection Limit
0259B Mercury by CVAA, w/ww, 7470 Method: SW-846 7470	ND	mg/l	0.0001
0392I Flame/ICP Prep, w/ww, 3005A Method: SW-846 3005A	Batch. w059		
0392M Mercury Prep CVAA, w/ww, 7470 Method: SW-846 7470	Batch. W001		
0401 Prep for HAA, w/ww, 7062/7742 Method: SW-846 7062/7742	Batch. w60		
1451 Selenium by HAA, w/ww, 7742 Method: SW-846 7742	ND	mg/l	0.002
7245 Arsenic by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.04
7246 Barium by ICP, w/ww, 6010A Method: SW-846 6010A	0.014	mg/l	0.003
7249 Cadmium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.004
7251 Chromium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.010
7255 Lead by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.050
7266 Silver by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.005

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e-mail: service@msailabs.com

Southwest States Region
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e-mail: gbrewer@msailabs.com





Mountain States Analytical, Inc.

On Site Technologies, Ltd.

The Quality Solution

MSAI Sample: 74842
MSAI Group: 19520

Sample ID: 9801121300 MW-8 (Diss)

Test	Analysis	Results as Received	Units	Method Detection Limit
-----	-----	-----	-----	-----
0939	Sample Filtering, ww, MSAI Method: IN HOUSE MSAI	Complete		

This report consists of the following items: A cover letter, a signed analytical report for each sample specified on the cover letter, and if applicable, an inorganic quality control summary. Organic sample reports contain footnotes which describe any quality control anomalies which may have occurred.

Respectfully Submitted,
Reviewed and Approved by:



Rolf E. Larsen
Project Manager

10
Years of
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e-mail: gbrewer@msailabs.com



Mountain States Analytical, Inc.
 Daily QC Batching Data
 Data Released for Reporting

02/06/98
 15:55:12
 Group: 19520

Analysis Batch Number: 0259B-02/03/98-114 -1
 Test Identification : 0259B-Mercury by CVAA, w/w, 7470 Sequence : 8259 -1
 Number of Samples : 4
 Batch Data-Date/Time : 02/04/98 / 11:19:01

BLANK#	ANALYTE	CONC FOUND #	CONC LIMIT
19477-74729	Mercury	-0.0900	0.1000
PBW1-001-2	Mercury	-0.0900	0.1000
19477-74729-3	Mercury	-0.0900	0.1000

							QC LIMITS	
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	% REC #	LOWER	UPPER	
19527-74856	Mercury	2.0000	-0.1800	1.8900	103.5	80.0	120.0	

										QC LIMITS	
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	%REC2 #	LOWER	UPPER	RPD #	LIMIT		
19527-74856	Mercury	2.0000	-0.1800	1.9000	104.0	80.0	120.0	0.5	20.0		

DUPLICATE						
SAMPLE#	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT	DILUTION
19527-74856	Mercury	-0.1800	-0.1800	0.0	20.0	1.00

						QC LIMITS	
SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	LOWER	UPPER	
19477-74730	Mercury	2.5000	2.5000	100.0	80.0	120.0	
LCSW-001-2	Mercury	2.5000	2.5000	100.0	80.0	120.0	
19477-74730-3	Mercury	2.5000	2.5000	100.0	80.0	120.0	

							QC LIMITS	
CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	LOWER	UPPER		
CCV-	Mercury	3.0000	2.8800	96.0	90.0	110.0		
CCV--2	Mercury	5.0000	4.8900	97.8	80.0	120.0		
CCV--3	Mercury	5.0000	4.7800	95.6	80.0	120.0		
CCV--4	Mercury	5.0000	4.7700	95.4	80.0	120.0		

CCB#	ANALYTE	CONC FOUND #	CONC LIMIT
CCB-	Mercury	-0.0300	0.1000
CCB-	Mercury	-0.0100	0.1000
CCB-	Mercury	0.0800	0.1000
CCB-	Mercury	0.0700	0.1000

Groups & Samples

 19477-74728 19477-74729 19477-74730 19520-74841 19520-74842 19523-74848 19527-74856

Analysis Batch Number: 1451 -02/02/98-061 -1

Test Identification : 1451 -Selenium by HAA, w/ww, 7742

Sequence : DAAA033

Number of Samples : 2

Batch Data-Date/Time : 02/02/98 / 20:38:44

BLANK#	ANALYTE	CONC FOUND #	CONC LIMIT
PBW-060	Selenium	ND	0.0050

							QC LIMITS	
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	% REC #	LOWER	UPPER	
19520-74841	Selenium	0.0400	0.0010	0.0436	106.5	75.0	125.0	

							QC LIMITS			
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	%REC2 #	LOWER	UPPER	RPD #	LIMIT	
19520-74841	Selenium	0.0400	0.0010	0.0393	95.8	75.0	125.0	10.4	20.0	

DUPLICATE						
SAMPLE#	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT	DILUTION
19520-74841	Selenium	0.0010	0.0007	35.3(11)	20.0	2.00

					QC LIMITS	
SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	LOWER	UPPER
LCSW-060	Selenium	0.0384	0.0400	96.0	75.0	125.0

QC LIMITS						
CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	LOWER	UPPER
ICV-	Selenium	0.0500	0.0533	106.6	80.0	120.0
CCV1--2	Selenium	0.0500	0.0534	106.8	80.0	120.0

CCB#	ANALYTE	CONC FOUND #	CONC LIMIT
ICB-	Selenium	0.0001	0.0050
CCB1-	Selenium	0.0003	0.0050

----- Result Footnotes -----
 (11) - The duplicate results cannot be evaluated because both results are <MDL.

Groups & Samples

 19520-74841 19520-74842

Mountain States Analytical, Inc.
Daily QC Batching Data
Data Released for Reporting

02/06/98
15:55:21
Group: 19520

Analysis Batch Number: ICPWA-02/03/98-001 -4
Test Identification : ICPWA-*Metals by ICP
Number of Samples : 4
Batch Data-Date/Time : 02/04/98 / 07:42:35

Sequence : DATC034

BLANK#	ANALYTE	CONC FOUND #	CONC LIMIT
PBW1-059	Silver	0.0010	0.0060
	Arsenic	0.0019	0.0300
	Barium	ND	0.0030
	Cadmium	ND	0.0040
	Chromium	0.0017	0.0100
	Iron	ND	0.2000
	Molybdenum	ND	0.0300
	Nickel	ND	0.0300
	Lead	0.0119	0.0400
	Selenium	0.0069	0.0700

SPIKE						QC LIMITS	
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	% REC #	LOWER	UPPER
19523-74848	Silver	0.0500	0.0000	0.0479	95.8	80.0	120.0
	Arsenic	2.0000	0.0017	1.9432	97.1	80.0	120.0
	Barium	2.0000	0.2139	2.1351	96.1	80.0	120.0
	Cadmium	0.0500	0.0002	0.0516	102.8	80.0	120.0
	Chromium	0.2000	0.0017	0.2019	100.1	80.0	120.0
	Iron	1.0000	0.2537	1.2570	100.3	80.0	120.0
	Molybdenum	0.5000	0.0037	0.5063	100.5	80.0	120.0
	Nickel	0.5000	-0.0015	0.4943	99.2	80.0	120.0
	Lead	0.5000	-0.0106	0.5096	104.0	80.0	120.0
	Selenium	2.0000	0.0102	1.9405	96.5	80.0	120.0

MSD						QC LIMITS			
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	%REC2 #	LOWER	UPPER	RPD #	LIMIT
19523-74848	Silver	0.0500	0.0000	0.0495	99.0	80.0	120.0	3.3	20.0
	Arsenic	2.0000	0.0017	1.9992	99.9	80.0	120.0	2.8	20.0
	Barium	2.0000	0.2139	2.1773	98.2	80.0	120.0	2.0	20.0
	Cadmium	0.0500	0.0002	0.0506	100.8	80.0	120.0	2.0	20.0
	Chromium	0.2000	0.0017	0.2042	101.3	80.0	120.0	1.1	20.0
	Iron	1.0000	0.2537	1.2820	102.8	80.0	120.0	2.0	20.0
	Molybdenum	0.5000	0.0037	0.5201	103.3	80.0	120.0	2.7	20.0
	Nickel	0.5000	-0.0015	0.4993	100.2	80.0	120.0	1.0	20.0
	Lead	0.5000	-0.0106	0.5027	102.7	80.0	120.0	1.4	20.0
	Selenium	2.0000	0.0102	2.0087	99.9	80.0	120.0	3.5	20.0

DUPLICATE						
SAMPLE#	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT	DILUTION
19523-74848	Silver	0.0000	0.0000	0.0	20.0	1.00
	Arsenic	0.0017	0.0121	150.7(11)	20.0	1.00
	Barium	0.2139	0.2118	1.0	20.0	1.00
	Cadmium	0.0002	0.0001	66.7(11)	20.0	1.00
	Chromium	0.0017	0.0000	200.0(11)	20.0	1.00
	Iron	0.2537	0.2477	2.4	20.0	1.00
	Molybdenum	0.0037	0.0000	200.0(11)	20.0	1.00
	Nickel	-0.0015	0.0000	200.0(11)	20.0	1.00
	Lead	-0.0106	0.0074	1125.0(11)	20.0	1.00
	Selenium	0.0102	0.0136	28.6(11)	20.0	1.00

Analysis Batch Number: ICPWA-02/03/98-001 -4
 Test Identification : ICPWA-*Metals by ICP
 Number of Samples : 4
 Batch Data-Date/Time : 02/04/98 / 07:42:35

Sequence : DATC034

CONTROL					QC LIMITS	
SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	LOWER	UPPER
LCSW-059	Silver	0.0521	0.0500	104.2	80.0	120.0
	Arsenic	2.0127	2.0000	100.6	80.0	120.0
	Barium	1.9239	2.0000	96.2	80.0	120.0
	Cadmium	0.0557	0.0500	111.4	80.0	120.0
	Chromium	0.2081	0.2000	104.1	80.0	120.0
	Iron	1.0343	1.0000	103.4	80.0	120.0
	Molybdenum	0.5225	0.5000	104.5	80.0	120.0
	Nickel	0.5137	0.5000	102.7	80.0	120.0
	Lead	0.5514	0.5000	110.3	80.0	120.0
	Selenium	2.0482	2.0000	102.4	80.0	120.0

					QC LIMITS	
CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	LOWER	UPPER
ICV-	Silver	0.4000	0.3789	94.7	90.0	110.0
	Arsenic	1.6000	1.5838	99.0	90.0	110.0
	Barium	4.0000	3.8169	95.4	90.0	110.0
	Cadmium	4.0000	3.9563	98.9	90.0	110.0
	Chromium	4.0000	4.0024	100.1	90.0	110.0
	Iron	4.0000	4.0909	102.3	90.0	110.0
	Molybdenum	20.0000	19.4749	97.4	90.0	110.0
	Nickel	8.0000	7.9267	99.1	90.0	110.0
	Lead	20.0000	19.2317	96.2	90.0	110.0
	Selenium	1.6000	1.5514	97.0	90.0	110.0
CCV1--2	Silver	0.4000	0.3724	93.1	90.0	110.0
	Arsenic	1.6000	1.5616	97.6	90.0	110.0
	Barium	4.0000	3.7455	93.6	90.0	110.0
	Cadmium	4.0000	3.9347	98.4	90.0	110.0
	Chromium	4.0000	3.9560	98.9	90.0	110.0
	Iron	4.0000	4.1056	102.6	90.0	110.0
	Molybdenum	20.0000	19.2108	96.1	90.0	110.0
	Nickel	8.0000	7.8528	98.2	90.0	110.0
	Lead	20.0000	19.0628	95.3	90.0	110.0
	Selenium	1.6000	1.5385	96.2	90.0	110.0
CCV2--3	Silver	0.4000	0.3825	95.6	90.0	110.0
	Arsenic	1.6000	1.5837	99.0	90.0	110.0
	Barium	4.0000	3.7675	94.2	90.0	110.0
	Cadmium	4.0000	3.9612	99.0	90.0	110.0
	Chromium	4.0000	3.9819	99.5	90.0	110.0
	Iron	4.0000	4.1693	104.2	90.0	110.0
	Molybdenum	20.0000	19.3837	96.9	90.0	110.0
	Nickel	8.0000	7.8818	98.5	90.0	110.0
	Lead	20.0000	19.4674	97.3	90.0	110.0
	Selenium	1.6000	1.5373	96.1	90.0	110.0
CCV3--4	Silver	0.4000	0.3834	95.9	90.0	110.0
	Arsenic	1.6000	1.5810	98.8	90.0	110.0
	Barium	4.0000	3.7692	94.2	90.0	110.0
	Cadmium	4.0000	3.9638	99.1	90.0	110.0
	Chromium	4.0000	3.9899	99.7	90.0	110.0
	Iron	4.0000	4.1877	104.7	90.0	110.0

Analysis Batch Number: ICPWA-02/03/98-001 -4
 Test Identification : ICPWA-*Metals by ICP
 Number of Samples : 4
 Batch Data-Date/Time : 02/04/98 / 07:42:35

Sequence : DATC034

CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	QC LIMITS	
					LOWER	UPPER
CCV3--4	Molybdenum	20.0000	19.3755	96.9	90.0	110.0
	Nickel	8.0000	7.9553	99.4	90.0	110.0
	Lead	20.0000	19.4548	97.3	90.0	110.0
	Selenium	1.6000	1.4923	93.3	90.0	110.0

CCB#	ANALYTE	CONC FOUND #	CONC LIMIT
ICB-	Silver	ND	0.0060
	Arsenic	ND	0.0300
	Barium	ND	0.0030
	Cadmium	0.0027	0.0040
	Chromium	0.0034	0.0100
	Iron	ND	0.2000
	Molybdenum	0.0182	0.0300
	Nickel	0.0067	0.0300
	Lead	0.0279	0.0400
	Selenium	0.0466	0.0700
CCB1-	Silver	0.0015	0.0060
	Arsenic	ND	0.0300
	Barium	ND	0.0030
	Cadmium	0.0026	0.0040
	Chromium	0.0015	0.0100
	Iron	ND	0.2000
	Molybdenum	0.0164	0.0300
	Nickel	ND	0.0300
	Lead	0.0017	0.0400
	Selenium	0.0310	0.0700
CCB2-	Silver	0.0038	0.0060
	Arsenic	0.0042	0.0300
	Barium	ND	0.0030
	Cadmium	0.0026	0.0040
	Chromium	0.0020	0.0100
	Iron	0.0081	0.2000
	Molybdenum	0.0111	0.0300
	Nickel	0.0016	0.0300
	Lead	ND	0.0400
	Selenium	0.0200	0.0700
CCB3-	Silver	ND	0.0060
	Arsenic	0.0031	0.0300
	Barium	ND	0.0030
	Cadmium	ND	0.0040
	Chromium	0.0010	0.0100
	Iron	ND	0.2000
	Molybdenum	0.0119	0.0300
	Nickel	ND	0.0300
	Lead	0.0060	0.0400
	Selenium	0.0111	0.0700

Analysis Batch Number: ICPWA-02/03/98-001 -4

Test Identification : ICPWA-*Metals by ICP

Sequence : DATC034

Number of Samples : 4

Batch Data-Date/Time : 02/04/98 / 07:42:35

----- Result Footnotes -----

(11) - The duplicate results cannot be evaluated because both results are <MDL.

Groups & Samples

19494-74776 19520-74841 19520-74842 19523-74848

14-c3

CHAIN OF CUSTODY RECORD

6837



657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Date: 1/29/98

Page 1 of 1

Purchase Order No.: <u>7086</u>		Job No.		REPORT RESULTS TO	Name <u>DAVID COX</u>		Title								
SEND INVOICE TO	Name <u>ACCOUNTS REC.</u>				Company <u>ON SITE TECH</u>										
	Company <u>ON SITE</u>		Dept.		Mailing Address										
	Address				City, State, Zip										
	City, State, Zip				Telephone No. <u>505 325-2432</u>		Telefax No. <u>325-6256</u>								
Sampling Location: <u>HAMPTON 4M</u>				Number of Containers	ANALYSIS REQUESTED										
Sampler: <u>MS/MS</u>					W/PC METALS DISSOLVED										
SAMPLE IDENTIFICATION			SAMPLE		DATE	TIME	MATRIX	PRES.	Number of Containers	LAB ID					
<u>9801121030 ; MW-1</u>			<u>1/2/98</u>	<u>1030</u>	<u>1/2/98</u>	<u>1030</u>	<u>WW</u>	<u>COOL</u>	<u>1</u>	<input checked="" type="checkbox"/>	<u>17304-7086</u>				
<u>9801121300 ; MW-8</u>			<u>1/2/98</u>	<u>1300</u>	<u>1/2/98</u>	<u>1300</u>	<u>WW</u>	<u>COOL</u>	<u>1</u>	<input checked="" type="checkbox"/>	<u>17309-7086</u>				
Relinquished by: <u>[Signature]</u>				Date/Time <u>1/29/98 1600</u>		Received by: <u>W. Sanger</u>				Date/Time <u>01/30/98 1045</u>					
Relinquished by:				Date/Time		Received by:				Date/Time					
Relinquished by:				Date/Time		Received by:				Date/Time					
Method of Shipment:				Rush <input checked="" type="checkbox"/>		24-48 Hours		10 Working Days		Special Instructions: <u>NOT FILTERED YET</u>					
Authorized by: <u>[Signature]</u>				Date <u>1/29/98</u>		FIVE DAY <u>1/29/98</u>									



CHAIN OF CUSTODY RECORD

7086

Date: 1/12/97

Page: 1 of 1

612 E. Murphy Dr. • P.O. Box 2606 • Farmington, NM 87499
 LAB: (505) 325-5667 • FAX: (505) 325-6256

Purchase Order No.:		Job No.:		REPORT RESULTS TO	Name	Maureen Gannon	Title	
SEND INVOICE TO	Name	Denver Bearden			Company	PNM Gas Services		
	Company	PNM Gas Services	Dept. 324-3763		Mailing Address	Alverado Square, Mail Stop 0408		
	Address	603 W. Elm Street			City, State, Zip	Albuquerque, NM 87158		
	City, State, Zip	Farmington, NM 87401			Telephone No.	505-848-2974	Telefax No.	
Sampling Location:				Number of Containers	ANALYSIS REQUESTED			
Hampton 4M					<i>BTEX 8610</i> <i>Metals - Cadmium</i> <i>Anion/Bellevue</i> <i>Metals WSCC</i>			
Sampler:				LAB ID				
MS. MG. RDRB.								
SAMPLE IDENTIFICATION		SAMPLE		MATRIX	PRES.			
		DATE	TIME					
9801121030	MW-1	1/12/98	1030	H ₂ O	HCL	X	X	
9801121100	MW-3					X	X	
9801121130	MW-4					X	X	
9801121200	MW-5					X	X	
9801121230	MW-7					X	X	
9801121300	MW-8					X	X	
9801121330	MW-9					X	X	
Relinquished by: <i>Mark Sike</i>				Date/Time	1/13/98 1430	Received by: <i>[Signature]</i>		
Relinquished by:				Date/Time		Received by:		
Relinquished by:				Date/Time		Received by:		
Method of Shipment:				Rush	24-48 Hours	10 Working Days	Special Instructions:	
Authorized by: <i>Mark Sike</i>				Date	1/13/97	Results to be sent to both parties.		
				(Client Signature Must Accompany Request)				

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Denver Bearden*
 Company: *PNM Gas Services*
 Address: *603 W. Elm*
 City, State: *Farmington, NM 87401*

Date: *17-Nov-97*
 COC No.: *7083*
 Sample No.: *16818*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Hampton 4M*
 Project Location: *9711111330; TH-7*
 Sampled by: *MS* Date: *11-Nov-97* Time: *13:30*
 Analyzed by: *DC* Date: *13-Nov-97*
 Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	<i>2171</i>	<i>ug/L</i>	<i>10</i>	<i>ug/L</i>
<i>Toluene</i>	<i>4185</i>	<i>ug/L</i>	<i>10</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>190</i>	<i>ug/L</i>	<i>10</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>2225</i>	<i>ug/L</i>	<i>10</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>631</i>	<i>ug/L</i>	<i>10</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>9402</i>	<i>ug/L</i>		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By: *[Signature]*
 Date: *11/17/97*

American Environmental Network, Inc.

AEN I.D. 711365

December 18, 1997

PUBLIC SERVICE COMPANY
ALVARADO SQUARE-MS0408
ALBUQUERQUE, NM 87158

Project Name HAMPTON 4M
Project Number (none)

Attention: GANNON MAUREEN

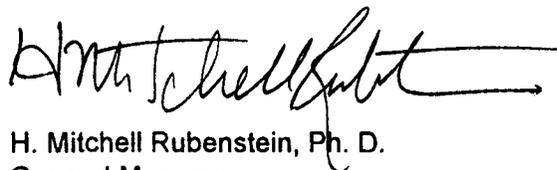
On 11/26/97 American Environmental Network (NM), Inc. (ADHS License No. AZ0015), received a request to analyze aqueous samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

On December 3, 1997, the client notified the laboratory which cations and which anions should be analyzed. The list is attached to the COC.

EPA Method 8020 was performed by AEN(NM), Inc., Albuquerque, NM.

All other analyses were performed by AEN(FL), Pensacola, FL.

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



H. Mitchell Rubenstein, Ph. D.
General Manager

MR: mt

Enclosure

American Environmental Network, Inc.

CLIENT	: PUBLIC SERVICE COMPANY	AEN I.D.	: 711365
PROJECT #	: (none)	DATE RECEIVED	: 11/26/97
PROJECT NAME	: HAMPTON 4M	REPORT DATE	: 12/18/97
AEN			DATE
ID. #	CLIENT DESCRIPTION	MATRIX	COLLECTED
01	9711251200	AQ	11/25/97

GAS CHROMATOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : PUBLIC SERVICE COMPANY AEN I.D.: 711365
PROJECT # : (none)
PROJECT NAME : HAMPTON 4M

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	9711251200	AQUEOUS	11/15/97	NA	11/25/97	1

PARAMETER	DET. LIMIT	UNITS	01
BENZENE	0.5	UG/L	< 0.5
TOLUENE	0.5	UG/L	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5
TOTAL XYLENES	0.5	UG/L	< 0.5

SURROGATE:
BROMOFLUOROBENZENE (%) 105
SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:
N/A

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: BTEX (EPA 8020)	AEN I.D.	: 711365
BLANK I. D.	: 112597	DATE EXTRACTED	: NA
CLIENT	: PUBLIC SERVICE COMPANY	DATE ANALYZED	: 11/25/97
PROJECT #	: (none)	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: HAMPTON 4M		

PARAMETER	UNITS	
BENZENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
ETHYLBENZENE	UG/L	<0.5
TOTAL XYLENES	UG/L	<0.5

SURROGATE:
BROMOFLUOROBENZENE (%) 101
SURROGATE LIMITS: (80 - 120)
CHEMIST NOTES:
N/A

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: BTEX (EPA 8020)	AEN I.D.	: 711365
BLANK I. D.	: 112697	DATE EXTRACTED	: NA
CLIENT	: PUBLIC SERVICE COMPANY	DATE ANALYZED	: 11/26/97
PROJECT #	: (none)	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: HAMPTON 4M		

PARAMETER	UNITS	
BENZENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
ETHYLBENZENE	UG/L	<0.5
TOTAL XYLENES	UG/L	<0.5

SURROGATE:
BROMOFLUOROBENZENE (%) 104
SURROGATE LIMITS: (80 - 120)
CHEMIST NOTES:
N/A

GAS CHROMATOGRAPHY QUALITY CONTROL
MSMSD

TEST	: BTEX (EPA 8020)	AEN I.D.	: 711365
MSMSD #	: 711361-03	DATE EXTRACTED	: NA
CLIENT	: PUBLIC SERVICE COMPANY	DATE ANALYZED	: 11/25/97
PROJECT #	: (none)	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: HAMPTON 4M	UNITS	: UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<0.5	10.0	9.7	97	10.1	101	4	(80 - 120)	20
TOLUENE	<0.5	10.0	9.6	96	10.0	100	4	(80 - 120)	20
ETHYLBENZENE	<0.5	10.0	10.2	102	10.6	106	4	(80 - 120)	20
TOTAL XYLENES	<0.5	30.0	31.1	104	32.4	108	4	(80 - 120)	20

CHEMIST NOTES:
N/A

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

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

MARK CALLED AT 9:20 AM 12-3-97 AND REQUESTED CATIONS/ANIONS TO INCLUDE :

CATIONS: Na, Ca, Mg, K

ANIONS: Cl, SO₄, CARBONATE/BICARBONATE, HYDROXIDE, TDS,
pH, CONDUCTIVITY, TOTAL HARDNESS

& CAT./ANION % DIFFERENCE.

"FINAL REPORT FORMAT - SINGLE"

Accession: 711653
 Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
 Project Number: 711365
 Project Name: PNM
 Project Location: HAMPTON 4N
 Test: TOTAL ALKALINITY
 Matrix: WATER
 QC Level: II

Lab ID: 001 Sample Date/Time: 25-NOV-97 1200
 Client Sample Id: 711365-01 Received Date: 04-DEC-97

Parameters:	Units:	Results:	Rpt Lmts:	Q:	Batch:	Analyst:
ALKALINITY, TOTAL (2320B)	MG/L	160	1		ASW046	JL
PH (150.1)	UNITS	7.3	NA	R4	PHW251	JL
BICARBONATE, CaCO3 (2330B)	MG/L	160	1		NONE	DPH
CARBONATE, CaCO3 (2330B)	MG/L	ND	1		NONE	DPH
CARBON DIOXIDE, FREE AS CaCO3	MG/L	16	1		NONE	DPH
HYDROXIDE (2330B) AS CaCO3	MG/L	ND	1		NONE	DPH

Comments:

"Method Report Summary"

Accession Number: 711653
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 711365
Project Name: PNM
Project Location: HAMPTON 4N
Test: TOTAL ALKALINITY

Client Sample Id:	Parameter:	Unit:	Result:
711365-01	ALKALINITY, TOTAL (2320B)	MG/L	160
	PH (150.1)	UNITS	7.3
	BICARBONATE, CACO3 (2330B)	MG/L	160
	CARBON DIOXIDE, FREE AS CACO3	MG/L	16

Analysis Report

Analysis: Group of Single Wetchem

Accession:	711653
Client:	AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number:	711365
Project Name:	PNM
Project Location:	HAMPTON 4N
Department:	WET CHEM

"Method Report Summary"

Accession Number: 711653
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 711365
Project Name: PNM
Project Location: HAMPTON 4N
Test: Group of Single Wetchem

Client Sample Id:	Parameter:	Unit:	Result:
711365-01	CHLORIDE (325.3)	MG/L	29
	CONDUCTIVITY (120.1/2510 B)	UMH/CM	5000
	SULFATE (375.4)	MG/L	3000
	TOTAL DISSOLVED SOLIDS (160.1)	MG/L	4100

Analysis Report

Analysis: Group of Single Metals

Accession: 711653
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 711365
Project Name: PNM
Project Location: HAMPTON 4N
Department: METALS

"FINAL REPORT FORMAT - SINGLE"

Accession: 711653
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 711365
Project Name: PNM
Project Location: HAMPTON 4N
Test: Group of Single Metals
Matrix: WATER
QC Level: II

Lab Id: 001 Sample Date/Time: 25-NOV-97 1200
Client Sample Id: 711365-01 Received Date: 04-DEC-97

Parameters:	Units:	Results:	Rpt Lmts:	Q:	Batch:	Analyst:
CALCIUM (200.7)	MG/L	400	1		I0W291	JR
POTASSIUM (200.7)	MG/L	6	2		X0W291	JR
MAGNESIUM (200.7)	MG/L	19	0.2		J0W291	JR
SODIUM (200.7)	MG/L	880	1	+	10W291	JR

Comments:

"Method Report Summary"

Accession Number: 711653
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 711365
Project Name: PNM
Project Location: HAMPTON 4N
Test: Group of Single Metals

Client Sample Id:	Parameter:	Unit:	Result:
711365-01	CALCIUM (200.7)	MG/L	400
	POTASSIUM (200.7)	MG/L	6
	MAGNESIUM (200.7)	MG/L	19
	SODIUM (200.7)	MG/L	880

Analysis Report

Analysis: HARDNESS

Accession:	711653
Client:	AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number:	711365
Project Name:	PNM
Project Location:	HAMPTON 4N
Department:	METALS

"FINAL REPORT FORMAT - SINGLE"

Accession: 711653
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 711365
Project Name: PNM
Project Location: HAMPTON 4N
Test: HARDNESS
Matrix: WATER
QC Level: II

Lab Id: 001
Client Sample Id: 711365-01
Sample Date/Time: 25-NOV-97 1200
Received Date: 04-DEC-97

Parameters:	Units:	Results:	Rpt Lmts:	Q:	Batch:	Analyst:
CALCIUM, HARDNESS (200.7)	MG/L	990	2		I0W291	JR
MAGNESIUM, HARDNESS (200.7)	MG/L	78	0.8		J0W291	JR
TOTAL HARDNESS	MG/L	1100	NA		NONE	JR

Comments:

"Method Report Summary"

Accession Number: 711653
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 711365
Project Name: PNM
Project Location: HAMPTON 4N
Test: HARDNESS

Client Sample Id:	Parameter:	Unit:	Result:
711365-01	CALCIUM, HARDNESS (200.7)	MG/L	990
	MAGNESIUM, HARDNESS (200.7)	MG/L	78
	TOTAL HARDNESS	MG/L	1100

Data Qualifiers for Final Report

AEN-Pensacola Inorganic/Organic

@	Adjusted reporting limit due to sample matrix (dilution prior to digestion and/or analysis)
+	Elevated reporting limit due to dilution into calibration range
*	Elevated reporting limit due to matrix interference (dilution prior to digestion and/or analysis)
#	Elevated reporting limit due to insufficient sample size
D	Diluted out
J5	The reported value is quantitated as a TIC; therefore, it is estimated
ND = Not Detected	N/S = Not Submitted N/A = Not Applicable

Florida Projects Inorganic/Organic

Y1	Improper preservation, no preservative present in sample upon receipt
Y2	Improper preservation, incorrect preservative present in sample upon receipt
Y3	Improper preservation, sample temperature exceeded EPA temperature limits of 2-6°C upon receipt
Y (FL description)	The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
Q	Sample held beyond the accepted holding time
I	The reported value is < Laboratory RL and > laboratory MDL
U1	The reported value is ≤ Laboratory MDL (value for sample result is reported as the MDL)
U (FL description)	Indicates the compound was analyzed for but not detected.
T	The reported value is < Laboratory MDL (value shall not be used for statistical analysis)
V	The analyte was detected in both the sample and the associated method blank.
J1	Surrogate recovery limits have been exceeded
J2	The sample matrix interfered with the ability to make any accurate determinations
J3	The reported value failed to meet the established quality control criteria for either precision or accuracy
J (FL description)	Estimated value; not accurate.

AFCEE Projects (under QAPP) and All Other (AEN-PN) Projects/Sites for Inorganic/Organic Parameters

J4	(For positive results) Temperature limits exceeded ($\leq 2^{\circ}\text{C}$ or $\geq 6^{\circ}\text{C}$)
J (AFCEE description)	The analyte was positively identified, the quantitation is an estimation
R1	(For nondetects) Temperature limits exceeded ($\leq 2^{\circ}\text{C}$ or $\geq 6^{\circ}\text{C}$)
R2	Improper preservation, no preservative present in sample upon receipt
R3	Improper preservation, incorrect preservative present in sample upon receipt
R4	Holding time exceeded
R5	Collection requirements not met, improper container used for sample
R (AFCEE description)	The data are unusable due to deficiencies in the ability to analyze the sample and meet QC criteria
F	< RL and > laboratory MDL
F (AFCEE description)	The analyte was positively identified but the associated numerical value is below the AFCEE or lab RL
U2	≤ Laboratory MDL (value for result will be the MDL, never below the MDL)
U (AFCEE description)	The analyte was analyzed for but not detected. The associated numerical value is at or below the MDL
B (AFCEE description)	The analyte was found in the associated blank, as well as in the sample

ICR Projects Inorganic/Organic

A	Acceptable
R6	Rejected

Examples: ICR Flags

R6 = Laboratory extracted the sample but the refrigerator malfunctioned so the extract became warm and client was notified
R6 = Sample arrived in laboratory in good condition; however, the laboratory did not analyze it within EPA's established holding time limit.

CLP and CLP-like Projects

Refer to referenced CLP Statement of Work (SOW) for explanation of data qualifiers

IDL = Laboratory Instrument Detection Limit

MDL = Laboratory Method Detection Limit

RL = Reporting Limit (AFCEE RLs are listed in the AFCEE QAPP)

CLP CRDL = CLP Contract Required Detection Limit (these limits are listed in the EPA CLP Statement of Work or SOW)

CLP CRQL = CLP Contract Required Quantitation Limit (these limits are listed in the EPA CLP Statement of Work or SOW)

Any time a sample arrives at the laboratory improperly preserved (at improper pH or temperature) or after holding time has expired or prepared or analyzed after holding time, client must be notified in writing (i.e. case narrative).

AEN-Pensacola uses the most current promulgated methods contained in the reference manuals.

Quality Control Report

Analysis: TOTAL ALKALINITY

Accession:	711653
Client:	AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number:	711365
Project Name:	PNM
Project Location:	HAMPTON 4N
Department:	WET CHEM

"WetChem Quality Control Report"

Parameter:	ALKALINITY	PH
Batch Id:	ASW046	PHW251
Blank Result:	<1	N/A
Anal. Method:	2320B	150.1
Prep. Method:	N/A	N/A
Analysis Date:	04-DEC-97	04-DEC-97
Prep. Date:	04-DEC-97	04-DEC-97

Sample Duplication

Sample Dup:	711550-2	711654-1
Rept Limit:	<1	N/A

Sample Result:	99.6	5.92
Dup Result:	99.9	5.92
Sample RPD:	0	0
Max RPD:	4	0.12
Dry Weight%	N/A	N/A

Matrix Spike

Sample Spiked:	711550-2	N/A
Rept Limit:	<1	N/A

Sample Result:	99.6	
Spiked Result:	127.0	
Spike Added:	25.0	
% Recovery:	110	
% Rec Limits:	77-122	
Dry Weight%	N/A	

ICV

ICV Result:	244	10.09
True Result:	250	10.00
% Recovery:	98	101
% Rec Limits:	90-110	90-110

LCS

LCS Result:		6.87
True Result:		6.87
% Recovery:		100
% Rec Limits:		96-104

----- Common Footnotes WetChem -----

- N/A = NOT APPLICABLE.
 - N/S = NOT SUBMITTED.
 - N/C = SAMPLE AND DUPLICATE RESULTS ARE AT OR BELOW AEN REPORTING LIMIT; THEREFORE, THE RPD IS "NOT CALCULABLE" AND NO CONTROL LIMITS APPLY.
 - N/D = NOT DETECTED.
 - R = REACTIVE
 - T = TOTAL
 - G = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X AEN REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE RESULT IS AT OR BELOW AEN REPORTING LIMIT; THEREFORE, THE RESULTS ARE "IN CONTROL".
 - Q = THE ANALYTICAL (POST-DISTILLATION) SPIKE IS REPORTED DUE TO PERCENT RECOVERY BEING OUTSIDE ACCEPTANCE LIMITS ON THE MATRIX (PRE-DISTILLATION) SPIKE.
 - # = ELEVATED REPORTING LIMIT DUE TO INSUFFICIENT SAMPLE.
 - + = ELEVATED REPORTING LIMIT DUE TO DILUTION INTO CALIBRATION RANGE.
 - * = ELEVATED REPORTING LIMIT DUE TO MATRIX INTERFERENCE (DILUTION PRIOR DIGESTION AND/OR ANALYSIS).
 - @ = ADJUSTED REPORTING LIMIT DUE TO SAMPLE MATRIX (DILUTION PRIOR TO DIGESTION AND/OR ANALYSIS).
 - P = ANALYTICAL (POST DIGESTION) SPIKE.
 - I = DUPLICATE INJECTION.
 - & = AUTOMATED
 - F = SAMPLE SPIKED > 4 X SPIKE CONCENTRATION.
 - N/C+ = NOT CALCULABLE
 - H = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X AEN REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE RESULTS EXCEEDS THE AEN REPORTING LIMIT; THEREFORE, THE RESULTS ARE "OUT OF CONTROL".
 - A = SAMPLE AND DUPLICATE RESULTS ARE "OUT OF CONTROL".
 - Z = THE SAMPLE RESULT FOR THE SPIKE IS BELOW THE REPORTING LIMIT. HOWEVER, THIS RESULT IS REPORTED FOR ACCURATE QC CALCULATIONS.
 - NH= SAMPLE AND / OR DUPLICATE RESULT IS BELOW 5 X AEN REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE RESULTS EXCEEDS THE AEN REPORTING LIMIT; THEREFORE, THE RESULTS ARE "OUT OF CONTROL".
SAMPLE IS NON-HOMOGENEOUS.
 - (*) = REPORTING LIMITS RAISED DUE TO CLP METHOD NOT REQUIRING A CONCENTRATION STEP FOR CN.
 - (CA) = SEE CORRECTIVE ACTIONS FORM.
 - **= MATRIX INTERFERENCE
 - SW-846, 3rd Edition, latest EPA-approved edition.
 - EPA 600/4-79-020, Revised March 1983.
 - STANDARD METHODS, For the Examination of Water and Wastewater, latest EPA-approved edition.
 - NIOSH Manual of Analytical Methods, 4th Edition.
 - ANNUAL BOOK OF ASTM STANDARDS, VOLUMES 11.01 and 11.02, latest EPA-approved edition.
 - METHODS FOR THE DETERMINATION OF INORGANIC SUBSTANCES IN ENVIRONMENTAL SAMPLES, EPA600/R-93/100, AUGUST 1993
 - METHODS FOR SOIL ANALYSIS, PART 2, CHEMICAL AND MICROBIOLOGICAL PROPERTIES, 2ND EDITION.
 - AEN-PN USES THE MOST CURRENT PROMULGATED METHODS FROM THE REFERENCES LISTED ABOVE.
1. COLIFORM. COLIFORM PRECISION IS MEASURED BY THE ABSOLUTE DIFFERENCE BETWEEN THE LOGARITHM OF COLONIES PER 100 MLS OF SAMPLE ON DUPLICATE PLATES.
 2. PH. PH PRECISION IS MEASURED BY THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE ANALYSIS.
 3. FLASHPOINT. FLASHPOINT PRECISION IS MEASURED BY THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE ANALYSIS.
- RPD = RELATIVE PERCENT DIFFERENCE (OR DEVIATION).
RPT LMITS = REPORTING LIMITS BASED ON METHOD DETECTION LIMIT STUDIES.
- | | | |
|------------------------|--------------------------|------------------------------|
| DPH = DOLLY P. HWANG | RB = REBECCA BROWN | JL = JANET LECLEAR |
| MM = MIKE MCKENZIE | ED = ESTHER DANTIN | CR = CYNTHIA ROBERTS |
| PLD = PAULA L. DOUGHTY | LV = LASSANDRA VON APPEN | JTZ = JONATHAN T. ZIENTARSKI |
| RH = RICKY HAGENDORFER | MG = MARY GUTIERREZ | AB = AMY BRADLEY |
| NK = NIKKI KILBURN | | |

Quality Control Report

Analysis: Group of Single Wetchem

Accession:	711653
Client:	AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number:	711365
Project Name:	PNM
Project Location:	HAMPTON 4N
Department:	WET CHEM

"WetChem Quality Control Report"

Parameter:	CHLORIDE	CONDUCT'Y	SULFATE	TDS
Batch Id:	CIW116	CDW026	SEW094	TDW069
Blank Result:	<1	<1	<10	<5
Anal. Method:	325.3	120.1	375.4	160.1
Prep. Method:	N/A	N/A	N/A	N/A
Analysis Date:	03-DEC-97	12-DEC-97	08-DEC-97	09-DEC-97
Prep. Date:	03-DEC-97	12-DEC-97	08-DEC-97	08-DEC-97

Sample Duplication

Sample Dup:	711631-2	711653-1	711603-1	711653-1
Rept Limit:	<1	<1	<10	<5
Sample Result:	12.8	4990	<10	4120
Dup Result:	12.6	4980	<10	4068
Sample RPD:	2	0	N/C	1
Max RPD:	6	2	10	15
Dry Weight%	N/A	N/A	N/A	N/A

Matrix Spike

Sample Spiked:	711631-2	N/A	711603-1	N/A
Rept Limit:	<1	N/A	<10	N/A
Sample Result:	12.8		<10	
Spiked Result:	70.2		21.1	
Spike Added:	55.0		20.0	
% Recovery:	104		106	
% Rec Limits:	88-113		64-150	
Dry Weight%	N/A		N/A	

ICV

ICV Result:	98.1		20.1	
True Result:	100		20.0	
% Recovery:	98		101	
% Rec Limits:	90-110		90-110	

LCS

LCS Result:		1426		310
True Result:		1412		293
% Recovery:		101		106
% Rec Limits:		98-102		77-122

"Quality Control Comments"

Batch Id: Comments:

CIW116	711654-1; 711653-1	WAS ADDED TO BATCH ON 4-DEC-97
TDW069	712058-1,2,3,4,5,6;	712059-1,2,3,4,5,6,7,8,9,10 WERE ADDED TO BATCH
TDW069	ON 10-DEC-97	

----- Common Footnotes WetChem -----

- N/A = NOT APPLICABLE.
 - N/S = NOT SUBMITTED.
 - N/C = SAMPLE AND DUPLICATE RESULTS ARE AT OR BELOW AEN REPORTING LIMIT; THEREFORE, THE RPD IS "NOT CALCULABLE" AND NO CONTROL LIMITS APPLY.
 - N/D = NOT DETECTED.
 - R = REACTIVE
 - T = TOTAL
 - G = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X AEN REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE RESULT IS AT OR BELOW AEN REPORTING LIMIT; THEREFORE, THE RESULTS ARE "IN CONTROL".
 - Q = THE ANALYTICAL (POST-DISTILLATION) SPIKE IS REPORTED DUE TO PERCENT RECOVERY BEING OUTSIDE ACCEPTANCE LIMITS ON THE MATRIX (PRE-DISTILLATION) SPIKE.
 - # = ELEVATED REPORTING LIMIT DUE TO INSUFFICIENT SAMPLE.
 - + = ELEVATED REPORTING LIMIT DUE TO DILUTION INTO CALIBRATION RANGE.
 - * = ELEVATED REPORTING LIMIT DUE TO MATRIX INTERFERENCE (DILUTION PRIOR DIGESTION AND/OR ANALYSIS).
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 - I = DUPLICATE INJECTION.
 - & = AUTOMATED
 - F = SAMPLE SPIKED > 4 X SPIKE CONCENTRATION.
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 - STANDARD METHODS, For the Examination of Water and Wastewater, latest EPA-approved edition.
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 - ANNUAL BOOK OF ASTM STANDARDS, VOLUMES 11.01 and 11.02, latest EPA-approved edition.
 - METHODS FOR THE DETERMINATION OF INORGANIC SUBSTANCES IN ENVIRONMENTAL SAMPLES, EPA600/R-93/100, AUGUST 1993
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- RPD = RELATIVE PERCENT DIFFERENCE (OR DEVIATION).
RPT LMTS = REPORTING LIMITS BASED ON METHOD DETECTION LIMIT STUDIES.
- | | | |
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| MM = MIKE MCKENZIE | ED = ESTHER DANTIN | CR = CYNTHIA ROBERTS |
| PLD = PAULA L. DOUGHTY | LV = LASSANDRA VON APPEN | JTZ = JONATHAN T. ZIENTARSKI |
| RH = RICKY HAGENDORFER | MG = MARY GUTIERREZ | AB = AMY BRADLEY |
| NK = NIKKI KILBURN | | |

Quality Control Report

Analysis: Group of Single Metals

Accession:	711653
Client:	AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number:	711365
Project Name:	PNM
Project Location:	HAMPTON 4N
Department:	METALS

"Metals Quality Control Report"

Parameter:	CALCIUM	POTASSIUM	MAGNESIUM	SODIUM
Batch Id:	IOW291	XOW291	JOW291	10W291
Blank Result:	<1	<2	<0.2	<0.2
Anal. Method:	200.7	200.7	200.7	200.7
Prep. Method:	200.7	200.7	200.7	200.7
Analysis Date:	09-DEC-97	11-DEC-97	11-DEC-97	11-DEC-97
Prep. Date:	08-DEC-97	08-DEC-97	08-DEC-97	08-DEC-97

Sample Duplication

Sample Dup:	711410-2	711410-2	711410-2	711410-2
Rept Limit:	<1	<2	<0.2	<0.2
Sample Result:	23	22	21	23
Dup Result:	23	22	21	23
Sample RPD:	0	0	0	0
Max RPD:	20	20	20	20
Dry Weight%	N/A	N/A	N/A	N/A

Matrix Spike

Sample Spiked:	711410-2	711410-2	711410-2	711410-2
Rept Limit:	<1	<2	<0.2	<0.2
Sample Result:	3	<2	0.8	3.0
Spiked Result:	23	22	21	23
Spike Added:	20	20	20	20
% Recovery:	100	110	101	100
% Rec Limits:	75-125	75-125	75-125	75-125
Dry Weight%	N/A	N/A	N/A	N/A

ICV

ICV Result:	24	26	25	24
True Result:	25	25	25	25
% Recovery:	96	104	100	96
% Rec Limits:	95-105	95-105	95-105	95-105

LCS

LCS Result:	20	21	20	20
True Result:	20	20	20	20
% Recovery:	100	105	100	100
% Rec Limits:	80-120	80-120	80-120	80-120

"Quality Control Comments"

Batch Id: Comments:

I0W291	ANALYST: JR
I0W291	The results reported under 'Sample Duplication' are the MS/MSD.
X0W291	ANALYST: JR
X0W291	The results reported under 'Sample Duplication' are the MS/MSD.
J0W291	ANALYST: JR
J0W291	The results reported under 'Sample Duplication' are the MS/MSD.
10W291	ANALYST: JR
10W291	The results reported under 'Sample Duplication' are the MS/MSD.

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

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

FROM QUALITY CONTROL REPORT:

RPD= RELATIVE PERCENT DEVIATION.

REPT LIMIT= REPORTING LIMIT BASED ON METHOD DETECTION LIMIT STUDIES.

NOTE: THE UNITS REPORTED ON THE QUALITY CONTROL REPORT ARE REPORTED ON AN AS
RUN BASIS. (NOT ADJUSTED FOR DRY WEIGHT).

SW-846, 3rd Edition, latest revision.

EPA 600/4-79-020, Revised March 1983.

NIOSH Manual of Analytical Methods, 4th Edition.

Standard Methods For the Examination of Water and Wastewater, 18th Edition, 1992.

Methods For the Determination of Metals in Environmental Samples - Supplement I,
EPA 600/R-94-111, May 1994.

GJ = GARY JACOBS
JLH = JAMES L. HERED

JR = JOHN REED
LV = LASSANDRA VON APPEN

Quality Control Report

Analysis: HARDNESS

Accession:	711653
Client:	AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number:	711365
Project Name:	PNM
Project Location:	HAMPTON 4N
Department:	METALS

"Metals Quality Control Report"

Parameter:	CALCIUM	MAGNESIUM
Batch Id:	I0W291	J0W291
Blank Result:	<1	<0.2
Anal. Method:	200.7	200.7
Prep. Method:	200.7	200.7
Analysis Date:	09-DEC-97	11-DEC-97
Prep. Date:	08-DEC-97	08-DEC-97

Sample Duplication

Sample Dup:	711410-2	711410-2
Rept Limit:	<1	<0.2

Sample Result:	23	21
Dup Result:	23	21
Sample RPD:	0	0
Max RPD:	20	20
Dry Weight%	N/A	N/A

Matrix Spike

Sample Spiked:	711410-2	711410-2
Rept Limit:	<1	<0.2

Sample Result:	3	0.8
Spiked Result:	23	21
Spike Added:	20	20
% Recovery:	100	101
% Rec Limits:	75-125	75-125
Dry Weight%	N/A	N/A

ICV

ICV Result:	24	25
True Result:	25	25
% Recovery:	96	100
% Rec Limits:	95-105	95-105

LCS

LCS Result:	20	20
True Result:	20	20
% Recovery:	100	100
% Rec Limits:	80-120	80-120

[0] Page 2
Date 16-Dec-97

"Quality Control Comments"

Batch Id: Comments:

IOW291	ANALYST: JR
IOW291	The results reported under 'Sample Duplication' are the MS/MSD.
JOW291	ANALYST: JR
JOW291	The results reported under 'Sample Duplication' are the MS/MSD.

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

N/A = NOT APPLICABLE.
N/S = NOT SUBMITTED.
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DISS. OR D = DISSOLVED
T & D = TOTAL AND DISSOLVED
R = REACTIVE
T = TOTAL
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P = ANALYTICAL (POST DIGESTION) SPIKE.
I = DUPLICATE INJECTION.
& = AUTOMATED
F = SAMPLE SPIKED > 4 X SPIKE CONCENTRATION.
N/C+ = NOT CALCULABLE
N/C* = NOT CALCULABLE; SAMPLE SPIKED > 4 X SPIKE CONCENTRATION.
H = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X AEN REPORTING LIMIT AND THE
ABSOLUTE DIFFERENCE BETWEEN THE RESULTS EXCEEDS THE AEN REPORTING
LIMIT; THEREFORE, THE RESULTS ARE "OUT OF CONTROL".
A = SAMPLE AND DUPLICATE RESULTS ARE "OUT OF CONTROL".
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THIS RESULT IS REPORTED FOR ACCURATE QC CALCULATIONS.
NH= THE RELATIVE PERCENT DIFFERENCE (RPD) EXCEEDS THE AEN CONTROL LIMIT
AND IS "OUT OF CONTROL"; DUE TO A NON-HOMOGENEOUS SAMPLE MATRIX.
J = (FLORIDA DEP 'J' FLAG) - MATRIX SPIKE AND POST SPIKE RECOVERY IS OUT OF
THE ACCEPTABLE RANGE. SEE OUT OF CONTROL EVENTS FORM.
U = (FLORIDA DEP 'U' FLAG) - THE COMPOUND WAS ANALYZED FOR, BUT NOT DETECTED.
S = METHOD OF STANDARD ADDITIONS (MSA) WAS PERFORMED ON THIS SAMPLE.

FROM QUALITY CONTROL REPORT:

RPD= RELATIVE PERCENT DEVIATION.

REPT LIMIT= REPORTING LIMIT BASED ON METHOD DETECTION LIMIT STUDIES.

NOTE: THE UNITS REPORTED ON THE QUALITY CONTROL REPORT ARE REPORTED ON AN AS
RUN BASIS. (NOT ADJUSTED FOR DRY WEIGHT).

SW-846, 3rd Edition, latest revision.

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NIOSH Manual of Analytical Methods, 4th Edition.

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Methods For the Determination of Metals in Environmental Samples - Supplement I,

EPA 600/R-94-111, May 1994.

GJ = GARY JACOBS
JLH = JAMES L. HERED

JR = JOHN REED
LV = LASSANDRA VON APPEN

American Environmental Network of Florida

PROJECT SAMPLE INSPECTION FORM

Lab Accession #: 711 653

Date Received: 12-4-97

1. Was there a Chain of Custody? Yes No*
2. Was Chain of Custody properly filled out and relinquished? Yes No*
3. Were samples received cold? Yes No* N/A
(Criteria: 2° - 6°C: AEN-SOP 1055)
4. Were all samples properly labeled and identified? Yes No*
5. Did samples require splitting? Yes* No
Req By: PM Client Other*
6. Were samples received in proper containers for analysis requested? Yes No*
7. Were all sample containers received intact? Yes No*

8. Were samples checked for preservative? (Check pH of all H₂O requiring preservative except VOA vials that require zero headspace)* Yes No* N/A
9. Is there sufficient volume for analysis requested? Yes No* PK 12/4/97
10. Were samples received within Holding Time? (REFER TO AEN-SOP 1040) Yes No*
11. Is Headspace visible > ¼" in diameter in VOA vials?* If any headspace is evident, comment in out-of-control section. Yes* No N/A
12. If sent, were matrix spike bottles returned? Yes No* N/A
13. Was Project Manager notified of problems? (initials: _____) Yes No* N/A

Airbill Number(s): 329 4596 986

Shipped By: FEDEX

Cooler Number(s): N/A

Shipping Charges: N/A

Client Cooler

Cooler Weight(s): N/A

Cooler Temp(s) (°C): 50

CK 6

(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

10. PH, Conductivity and TDS were received out of hold time. PK 12/4/97.

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: J. Webb Date: 12-4-97 Logged By: PK Date: 12/4/97

- * Note all Out-of-Control and/or questionable events on Comment Section of this form.
- * Note who requested the splitting of samples on the Comment Section of this form.
- + All preservatives for the State of North Carolina, the State of New York, and other requested samples are to be recorded on the sheet provided to record pH results (AEN-SOP 938, section 2.2.9).
- * According to EPA, ¼" of headspace is allowed in 40 ml vials requiring volatile analysis, however, AEN makes it policy to record any headspace as out-of-control (AEN-SOP 938, section 2.2.12).



American Environmental Network
Albuquerque, New Mexico

Interlab Chain of Custody

711653

DATE: _____ PAGE: _____ OF _____

NETWORK PROJECT MANAGER: KIMBERLY D. McNEILL COMPANY: American Environmental Network ADDRESS: 2709-D Pan American Freeway, NE Albuquerque, NM 87107					ANALYSIS REQUEST																			
CLIENT PROJECT MANAGER: Kim McNeill					Metals - TAL	Metals - PP List	Metals - RCRA	RCRA Metals by TCLP (1311)	TOX	TOC	Gen Chemistry	Oil and Grease	BOD	COD	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	Polynuclear Aromatics (610/8310)	8240 (TCLP 1311) ZHE	8270 (TCLP 1311)	TO-14	Gross Alpha/Beta	NUMBER OF CONTAINERS
SAMPLE ID	DATE	TIME	MATRIX	LAB ID																				
711365-01	11-25	12:00	AQ	1																				

PROJECT INFORMATION PROJECT NUMBER: PNM 711365 PROJECT NAME: PNM (X) LEVEL: STD. IV (X) REQUIRED: MS MSD BLANK IAI STANDARD RUSH#		SAMPLE RECEIPT TOTAL NUMBER OF CONTAINERS CHAIN OF CUSTODY SEALS INTACT? RECEIVED GOOD COND/COLD LAB NUMBER		SAMPLES SENT TO: SAN DIEGO N.C. RENTON PENSACOLA PORTLAND PHOENIX ILL.		RELINQUISHED BY: 1. Signature: [Signature] Time: 1700 Printed Name: Brian Rice Date: 12-3-97 Albuquerque NM		RELINQUISHED BY: 2. Signature: [Signature] Time: 12/4/97 Printed Name: [Signature] Date: 12/4/97 Company:	
DUE DATE: _____ RUSH SURCHARGE: _____ CLIENT DISCOUNT: _____ SPECIAL CERTIFICATION REQUIRED: <input type="checkbox"/> YES <input type="checkbox"/> NO		See Also Attachment Cat/Anion % Difference				RECEIVED BY: 1. Signature: [Signature] Time: 0807 Printed Name: R. ELSPERMAN Date: 12/4/97 Company: AENFL		RECEIVED BY: (LAB) 2. Signature: [Signature] Time: 0807 Printed Name: R. ELSPERMAN Date: 12/4/97 Company: AENFL	

RECHECKED BY: _____

OFF: (505) 325-5667



LAB: (505) 325-1536

ANALYTICAL REPORT

Attn: *Denver Bearden*
 Company: *PNM Gas Services*
 Address: *603 W. Elm*
 City, State: *Farmington, NM 87401*

Date: *5-Dec-97*
 COC No.: *7087*
 Sample No.: *16982*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - EB Well*
 Project Location: *9711251200*
 Sampled by: *MG/MS* Date: *25-Nov-97*
 Analyzed by: *DC* Date: *4-Dec-97*
 Sample Matrix: *Liquid*

Time: *12:00*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	ND	ug/L		

ND - Not Detected at Limit of Quantitation

Method - SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography

Approved By: *[Signature]*
 Date: *12/5/97*

P.O. BOX 2606 • FARMINGTON, NM 87499

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Denver Bearden*
 Company: *PNM Gas Services*
 Address: *603 W. Elm*
 City, State: *Farmington, NM 87401*

Date: *17-Nov-97*
 COC No.: *7083*
 Sample No.: *16818*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Hampton 4M*
 Project Location: *9711111330; TH-7*
 Sampled by: *MS* Date: *11-Nov-97* Time: *13:30*
 Analyzed by: *DC* Date: *13-Nov-97*
 Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	<i>2171</i>	<i>ug/L</i>	<i>10</i>	<i>ug/L</i>
<i>Toluene</i>	<i>4185</i>	<i>ug/L</i>	<i>10</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>190</i>	<i>ug/L</i>	<i>10</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>2225</i>	<i>ug/L</i>	<i>10</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>631</i>	<i>ug/L</i>	<i>10</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>9402</i>	<i>ug/L</i>		

ND - Not Detected at Limit of Quantitation

Method - SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography

Approved By: *[Signature]*
 Date: *11/17/97*

P.O. BOX 2606 • FARMINGTON, NM 87499

- SPECIALIZING IN SERVING INDUSTRY WITH THE BEST PEOPLE

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Denver Bearden*
 Company: *PNM Gas Services*
 Address: *603 W. Elm*
 City, State: *Farmington, NM 87401*

Date: *5-Dec-97*
 COC No.: *7087*
 Sample No.: *16982*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - EB Well*
 Project Location: *9711251200*
 Sampled by: *MG/MS* Date: *25-Nov-97* Time: *12:00*
 Analyzed by: *DC* Date: *4-Dec-97*
 Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	ND	ug/L		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By: *[Signature]*
 Date: *12/5/97*

OFF: (505) 325-5667



LAB: (505) 325-1556

QUALITY ASSURANCE REPORT
for EPA Method 8020

Date Analyzed: 4-Dec-97

Internal QC No.: 0559-STD
Surrogate QC No.: 0556-STD
Reference Standard QC No.: 0629/30-QC

Method Blank

Parameter	Result	Unit of Measure
Average Amount of All Analytes In Blank	<0.2	ppb

Calibration Check

Parameter	Unit of Measure	True Value	Analyzed Value	RPD	Limit
Benzene	ppb	20.0	20.4	2	15%
Toluene	ppb	20.0	21.1	5	15%
Ethylbenzene	ppb	20.0	21.2	6	15%
m,p-Xylene	ppb	40.0	41.1	3	15%
o-Xylene	ppb	20.0	21.0	5	15%

Matrix Spike

Parameter	1- Percent Recovered	2- Percent Recovered	Limit	RPD	Limit
Benzene	94	87	(39-150)	4	20%
Toluene	99	95	(46-148)	4	20%
Ethylbenzene	99	92	(32-160)	4	20%
m,p-Xylene	100	93	(35-145)	4	20%
o-Xylene	100	95	(35-145)	4	20%

Surrogate Recoveries

Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered	Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered
Limit Percent Recovered	(70-130)		Limit Percent Recovered	(70-130)	
16982-7087	94				

S1: Fluorobenzene

(M)
12/5/97

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Denver Bearden*
Company: *PNM Gas Services*
Address: *603 W. Elm*
City, State: *Farmington, NM 87401*

Date: *5-Nov-97*
COC No.: *7080*
Sample No.: *16700*
Job No.: *2-1000*

Project Name: *PNM Gas Services - Hampton 4M*

Project Location: *9710301030; MW-1*

Sampled by: *MS* Date: *30-Oct-97* Time: *10:30*

Analyzed by: *HR* Date: *4-Nov-97*

Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	<i>2.4</i>	<i>ug/l</i>	<i>0.2</i>	<i>ug/l</i>
<i>Toluene</i>	<i>2.3</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/l</i>
<i>Ethylbenzene</i>	<i>ND</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>1.1</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>ND</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>5.8</i>	<i>ug/L</i>		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By: *[Signature]*
Date: *11/5/97*

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -



QUALITY ASSURANCE REPORT
for EPA Method 8020

Date Analyzed: 4-Nov-97

Internal QC No.: 0559-STD
Surrogate QC No.: 0556-STD
Reference Standard QC No.: 0529/30-QC

Method Blank

Parameter	Result	Unit of Measure
Average Amount of All Analytes In Blank	<0.2	ppb

Calibration Check

Parameter	Unit of Measure	True Value	Analyzed Value	RPD	Limit
Benzene	ppb	20.0	20.7	4	15%
Toluene	ppb	20.0	21.3	6	15%
Ethylbenzene	ppb	20.0	21.2	6	15%
m,p-Xylene	ppb	40.0	40.3	1	15%
o-Xylene	ppb	20.0	21.1	5	15%

Matrix Spike

Parameter	1 - Percent Recovered	2 - Percent Recovered	Limit	RPD	Limit
Benzene	92	86	(39-150)	3	20%
Toluene	96	87	(46-148)	3	20%
Ethylbenzene	97	92	(32-160)	4	20%
m,p-Xylene	94	88	(35-145)	4	20%
o-Xylene	95	92	(35-145)	2	20%

Surrogate Recoveries

Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered	Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered
Limit Percent Recovered	(70-130)		Limit Percent Recovered	(70-130)	
16699-7080	95				
16700-7080	95				
					(nc)
					11/5/97

S1: Fluorobenzene

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Denver Bearden*
 Company: *PNM Gas Services*
 Address: *603 W. Elm*
 City, State: *Farmington, NM 87401*

Date: *5-Nov-97*
 COC No.: *7080*
 Sample No.: *16700*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Hamptom 4M*
 Project Location: *9710301030; MW-1*
 Sampled by: *MS* Date: *30-Oct-97* Time: *10:30*
 Analyzed by: *HR* Date: *4-Nov-97*
 Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	<i>2.4</i>	<i>ug/l.</i>	<i>0.2</i>	<i>ug/L.</i>
<i>Toluene</i>	<i>2.3</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L.</i>
<i>Ethylbenzene</i>	<i>ND</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>1.1</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>ND</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>5.8</i>	<i>ug/L</i>		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By: *[Signature]*
 Date: *11/5/97*

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Denver Bearden*
 Company: *PNM Gas Services*
 Address: *603 W. Elm*
 City, State: *Farmington, NM 87401*

Date: *5-Nov-97*
 COC No.: *7080*
 Sample No.: *16699*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Hampton 4M*
 Project Location: *9710291400; MW-5*
 Sampled by: *MS* Date: *29-Oct-97* Time: *14:00*
 Analyzed by: *HR* Date: *4-Nov-97*
 Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	<i>5934</i>	<i>ug/L</i>	<i>20</i>	<i>ug/L</i>
<i>Toluene</i>	<i>10024</i>	<i>ug/L</i>	<i>20</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>709</i>	<i>ug/L</i>	<i>20</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>6451</i>	<i>ug/L</i>	<i>20</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>1737</i>	<i>ug/L</i>	<i>20</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>24855</i>	<i>ug/L</i>		

ND - Not Detected at Limit of Quantitation

Method - SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography

Approved By: *[Signature]*
 Date: *11/5/97*

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

QUALITY ASSURANCE REPORT
for EPA Method 8020

Date Analyzed: 4-Nov-97

Internal QC No.: 0559-STD
Surrogate QC No.: 0556-STD
Reference Standard QC No.: 0529/30-QC

Method Blank

Parameter	Result	Unit of Measure
Average Amount of All Analytes In Blank	<0.2	ppb

Calibration Check

Parameter	Unit of Measure	True Value	Analyzed Value	RPD	Limit
Benzene	ppb	20.0	20.7	4	15%
Toluene	ppb	20.0	21.3	6	15%
Ethylbenzene	ppb	20.0	21.2	6	15%
m,p-Xylene	ppb	40.0	40.3	1	15%
o-Xylene	ppb	20.0	21.1	5	15%

Matrix Spike

Parameter	1 - Percent Recovered	2 - Percent Recovered	Limit	RPD	Limit
Benzene	92	86	(39-150)	3	20%
Toluene	96	87	(46-148)	3	20%
Ethylbenzene	97	92	(32-160)	4	20%
m,p-Xylene	94	88	(35-145)	4	20%
o-Xylene	95	92	(35-145)	2	20%

Surrogate Recoveries

Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered	Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered
Limit Percent Recovered	(70-130)		Limit Percent Recovered	(70-130)	
16699-7080	95				
16700-7080	95				
					(nc)
					11/5/97

S1: Fluorobenzene

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Denver Bearden*
 Company: *PNM Gas Services*
 Address: *603 W. Elm*
 City, State: *Farmington, NM 87401*

Date: *5-Nov-97*
 COC No.: *7080*
 Sample No.: *16699*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Hampton 4M*
 Project Location: *9710291400; MW-5*
 Sampled by: *MS* Date: *29-Oct-97* Time: *14:00*
 Analyzed by: *HR* Date: *4-Nov-97*
 Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	<i>5934</i>	<i>ug/L</i>	<i>20</i>	<i>ug/L</i>
<i>Toluene</i>	<i>10024</i>	<i>ug/L</i>	<i>20</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>709</i>	<i>ug/L</i>	<i>20</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>6451</i>	<i>ug/L</i>	<i>20</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>1737</i>	<i>ug/L</i>	<i>20</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>24855</i>	<i>ug/L</i>		

ND - Not Detected at Limit of Quantitation

Method - SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography

Approved By: *[Signature]*
 Date: *11/5/97*

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -



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 13, 1998

CERTIFIED MAIL
RETURN RECEIPT NO. Z-235-437-244

Ms. Maureen Gannon
PNM
Alvarado Square, MS 0408
Albuquerque, New Mexico 87158

**RE: GROUND WATER CONTAMINATION
HAMPTON 4M WELL SITE**

Dear Ms. Gannon:

The New Mexico Oil Conservation Division (OCD) has been reviewing the investigation and remedial actions related to PNM's former dehy pit at Burlington Resources Hampton 4M well site near Aztec, New Mexico.

The investigation and remedial actions taken to date are satisfactory. However, the OCD is concerned about the migration of contaminated ground water onto downgradient private lands and the presence of private water wells downgradient of the site. Therefore, the OCD requires that PNM take additional remedial actions within 30 days to remove the remaining source areas with free phase hydrocarbons in the vicinity of and immediately downgradient of the dehy pit.

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

Sincerely,

William C. Olson
Hydrogeologist
Environmental Bureau

xc: Denny Foust, OCD Aztec District O
Ed Hasely, Burlington, Resources
J. Burton Everett

PS Form 3800, April 1995

Z 235 437 244

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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

March 11, 1998

Mr. J. Burton Everett
Everett Investment
P.O. Box 476
Aztec, New Mexico 87410

**RE: GROUND WATER CONTAMINATION
HAMPTON 4M WELL SITE**

Dear Mr. Everett:

The New Mexico Oil Conservation Division (OCD) has reviewed your February 23, 1998 correspondence notifying the OCD that contaminated ground water has migrated onto your property from Burlington Resources Hampton 4M well site near Aztec, New Mexico.

The OCD has been working with the Public Service Company of New Mexico (PNM) and Burlington Resources to remediate contaminated soils and ground water at the site. Because you are directly impacted by the contamination the OCD will copy you on all correspondence related to the site. If you are interested in reviewing the actions taken to date, all of the information related to the remedial actions are on file at the OCD Aztec Office.

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

Sincerely,

A handwritten signature in black ink, appearing to read "Will Olson".

William C. Olson
Hydrologist
Environmental Bureau

xc: Denny Foust, OCD Aztec District Office
Maureen Gannon, PNM
Ed Hasely, Burlington, Resources

To Bill Olson

February 23, 1998
PO Box 476
Aztec, New Mexico 87410

RECEIVED
FEB 23 1998
NEW MEXICO
AZTEC

To Whom It May Concern:

Re: Hydrocarbon pollutants affecting private property

Location: Downstream (north) from Hampton 4 M gas well in
San Juan County, New Mexico
South of State Rd. #173 approximately 2 miles east of
Aztec.

Mr. Denver Bearden brought me test results that show a
serious problem exists as to various hydrocarbon components
that are very high. The problem has existed for several years
and warrants immediate attention.

Please cooperate with any and all agencies, companies and
personnel necessary to effect necessary results.

Your very truly,

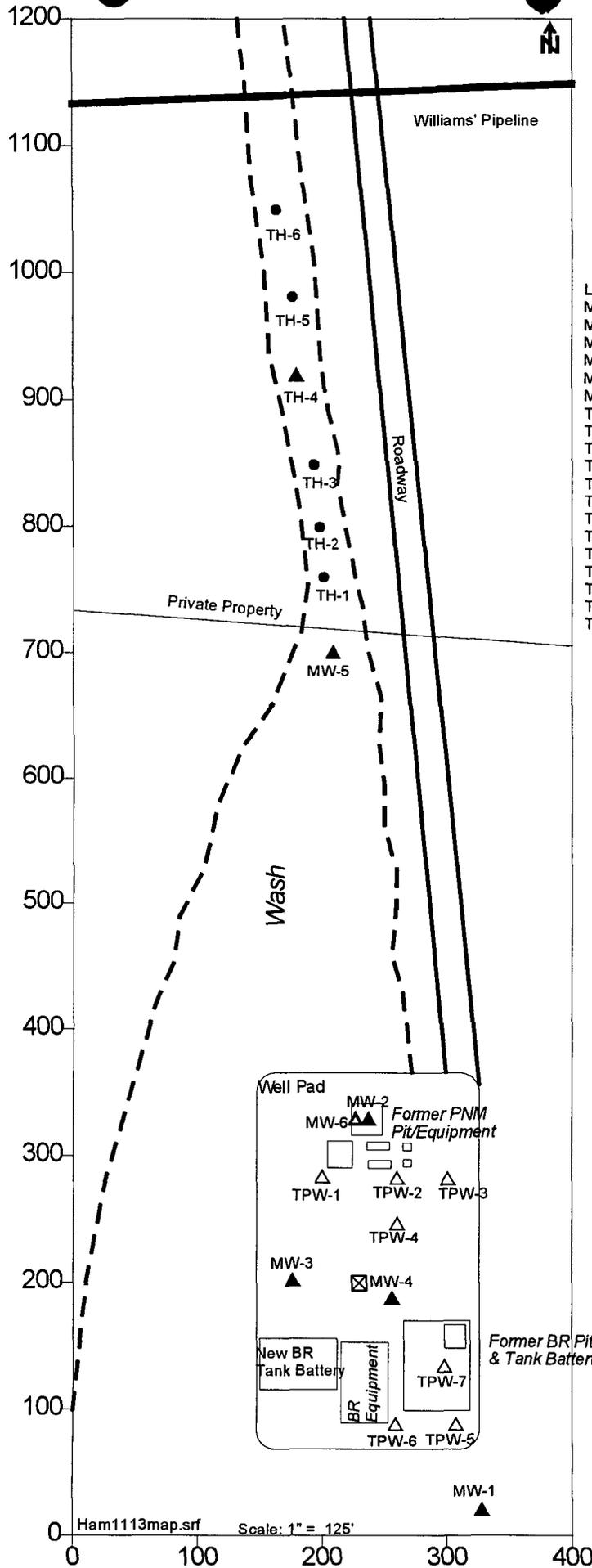
J. Burton Everett General Partner
Everett Investment
A New Mexico limited partnership

cc: Mr. Ed Hasely
c/o Burlington Resources

Diana Luck
c/o P.N.M.

Denny Foust
New Mexico Oil Conservation div.

⊕ Private Owners' Well



Location	Date	BTEX (ug/L)	PID	Depth
MW-1	10/29/97	5.8		
MW-2	1/31/97	Free product		
MW-3	1/31/97	<0.2		
MW-4	1/31/97	2,651		
MW-5	10/29/97	24,854		
MW-6	10/29/97	Free product		
TPW-1	6/5/97	20		
TPW-2	6/5/97	Free product		
TPW-3	6/5/97	Dry Hole		
TPW-4	6/5/97	5,967		
TPW-5	6/5/97	29,260		
TPW-6	6/5/97	5,738		
TPW-7	6/5/97	33,220		
TH-1	11/11/97		1412	12.7
TH-2	11/11/97		1357	14.3
TH-3	11/11/97		0	16.5
TH-4	11/11/97	~2000	279	15
TH-5	11/11/97		1211	14.5
TH-6	11/11/97		0	16

Ham1113map.srf Scale: 1" = 125'



STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

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

August 27, 1997

CERTIFIED MAIL
RETURN RECEIPT NO. P-410-431-214

Ms. Maureen Gannon
PNM
Alvarado Square, MS 0408
Albuquerque, New Mexico 87158

**RE: GROUND WATER CONTAMINATION
HAMPTON 4M WELL SITE**

Dear Ms. Gannon:

The New Mexico Oil Conservation Division (OCD) has recently reviewed Burlington Resources' (BR) August 1997 "BURLINGTON RESOURCES OIL & GAS CO. DATA SUMMARY, HAMPTON 4M PRODUCTION LOCATION". This document contains a summary of BR's recent investigation of soil and ground water contamination at BR's Hampton 4M well site near Aztec, New Mexico.

A review of the above referenced document shows that soil and ground water contamination upgradient of PNM's former dehydration pit appears to be a result of production activities related to BR's Hampton 4M well site. However, free phase product contamination of ground water in the vicinity of the dehy unit appears to be the result of disposal practices at PNM's former unlined dehy pit. Therefore, the OCD requires that PNM address soil and ground water contamination at PNM's former dehy pit and downgradient of the pit under PNM's "GROUNDWATER MANAGEMENT PROGRAM FOR UNLINED SURFACE IMPOUNDMENT CLOSURES".

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

Sincerely,

William C. Olson
Hydrogeologist
Environmental Bureau

xc: Denny Foust, OCD Aztec District Office
Craig A. Bock, Burlington, Resources

P 410 431 214

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PS Form 3800, April 1995