GW - 17

GENERAL CORRESPONDENCE

YEAR(S):

2005 - 1988

Price, Wayne

From: Price, Wayne
Sent: Friday, May 27, 2005 1:42 PM
To: Jason Goodwin (E-mail); Jo Ann Cobb (E-mail)
Cc: Sheeley, Paul; Johnson, Larry
Subject: BJ Nowsco Yard Final Closure GW-017 5514 Carlsbad HWY Hobbs,NM

OCD is in receipt of the Final Closure report dated February 08, 2005 and hereby approves with no further action required at this time.

Please be advised that NMOCD approval of this plan does not relieve (BJ Services Company) of liability should their operations fail to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD approval does not relieve (BJ Services Company) of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Sincerely:

Wayne Price
New Mexico Oil Conservation Division
1220 S. Saint Francis Drive
Santa Fe, NM 87505
505-476-3487
fax: 505-476-3462
E-mail: WPRICE@state.nm.us

1415 Louisiana
Suite 2500
Houston, Texas 77002

Tel: (713) 759-0999
Fax: (713) 308-3886

www.brownandcaldwell.com

Certified Mail
7003168000015389

February 8, 2005

BROWN AND CALDWELL

Mr. Wayne Price
New Mexico Oil Conservation Division
1220 South Saint Francis Drive
Santa Fe, New Mexico 87505

Subject: **Final Closure Report**
BJ Services Company U.S.A.
Hobbs Nowsco Facility
5514 Carlsbad Highway, Hobbs, New Mexico

Dear Mr. Price:

In accordance with New Mexico Oil Conservation Division (NMOCD) approval of final site activities (email to Jason Goodwin, BJ Services Company, U.S.A. dated October 13, 2004), Brown and Caldwell, on behalf of BJ Services Company, U.S.A., plugged and abandoned the three monitoring wells that were installed as part of site investigation activities previously performed at the site under the direction of the NMOCD.

On November 4, 2004, the three monitoring wells (MW-1 through MW-3) were plugged and abandoned by a State of New Mexico licensed professional well driller in accordance with the current rules and regulations in effect by the New Mexico State Engineer's office and the New Mexico Environment Department. No waste was generated during the plugging activities except for concrete from the former well pads. This material was removed for offsite disposal by the drilling contractor. A letter from the Drilling contractor who performed the work is presented in Attachment 1.

Based on the information provided herein, Brown and Caldwell, on behalf of BJ Services Company, U.S.A, requests that NMOCD grant final closure status for the Hobbs Nowsco facility.

If you have any questions regarding this report, please contact me at 713-646-1112 or Jason Goodwin at 281-357-2573.

Sincerely,

BROWN AND CALDWELL

Lynn Wright

Lynn Wright, P.G.
Supervising Geologist

cc: Ms. Jo Ann Cobb, BJ Services Company, U.S.A.
Mr. Jason Goodwin, BJ Services Company, U.S.A.
Brown and Caldwell Project File

Attachments (1)

P:\Wp\BJSERV\125768\0021.doc

ATTACHMENT 1

Letter from Drilling Contractor

HARRISON & COOPER, INC.
Drilling Professionals
P.O. Box 96
Wolfforth, TX 79382-0096

PH: (806) 866-4026
FAX: (806) 866-4044

TNRCC 51569WMP
TNRCC 51990MWP
NM WD 1271
NM 054940 GS08

January 25, 2005

Brown & Caldwell
1415 Louisiana Street, Suite 2500
Houston, TX 77002

Attn: Lynn Wright Ph: (713) 759-0999 Fax: (713) 308-3886

RE: P & A Monitor Wells (Project #127242)
BJ NOWSCO, 5514 Carlsbad Hwy., Hobbs, NM
Ref.: Harrison & Cooper Inc Invoice #11041 dtd. 11/4/04

Lynn,

With regard to subject plugging & abandonment of three ground water monitoring wells, our firm performed the services in accordance with all current rules & regulations in effect by the New Mexico State Engineer office and the New Mexico Environment Department. We are currently licensed in New Mexico to perform drilling, pump, and water well abandonment services under License #WD1271. All required licensing & bonding is maintained & current.

As always, we appreciate your business. Please feel free to call if there is anything else you need.

Sincerely,

Claiborne Harrison, Geologist
President

CH/ch

Copies: File
Fax (713) 308-3886

Price, Wayne

From: Price, Wayne
Sent: Wednesday, October 13, 2004 1:22 PM
To: 'Jason_Goodwin@bjservices.com'; Price, Wayne
Subject: RE: Hobbs Nowsco BW-017

OCD hereby approves of your closure request(S) and requires no further action at this time. Please provide verification that MW's have been plugged properly.

Please be advised that NMOCD approval of this plan does not relieve (BJ) of liability should their operations fail to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD approval does not relieve (BJ) of responsibility for compliance with any other federal, state, or local laws and/or regulations.

-----Original Message-----
From: Jason_Goodwin@bjservices.com [mailto:Jason_Goodwin@bjservices.com]
Sent: Wednesday, October 13, 2004 11:51 AM
To: Price, Wayne
Subject: RE: Hobbs Nowsco

Wayne,

I apologize for bothering you again but I have determined through a file review that we had two remediation projects located on this property. The history is described below:

Sump and Ramp Unit :

April 24, 1998 - BJ submits workplan for investigation activities

May 27, 1998 - NMOCD approves of closure plan/workplan with conditions
excavate to maximum limits of available equipment'
sample confirmation from bottom and walls
borings that encounter groundwater will be installed as monitoring wells
BJ will submit a report

August 26, 1998 - Submitted Report to NMOCD for closure without further action. Conclusions stated that horizontal and vertical extent were defined well above groundwater.

Since that time we have not received any confirmation back from the NMOCD for closure.

The other project is the Pit Closure which I had confirmed earlier. BJ Services would like to request closure for both of these projects without further action. Please advise.

Thanks.

Jason Goodwin P.G.
HSE Specialist
Phone: 281-357-2573
Fax: 281-357-2585

"Pri[redacted] Wayne"
<WPrice@state.nm.us>, "Price, Wayne" <WPrice@state.nm.us>

10/13/2004 11:39 AM

To: "'Jason_Goodwin@bjservices.com'" <Jason_Goodwin@bjservices.com>
cc:
Subject: RE: Hobbs Nowsco

OK, then provide the plugging information.

-----Original Message-----
From: Jason_Goodwin@bjservices.com [mailto:Jason_Goodwin@bjservices.com]
Sent: Wednesday, October 13, 2004 10:36 AM
To: Price, Wayne
Subject: RE: Hobbs Nowsco

I was looking for a completion letter for the remediation only. We are still currently occupying this facility as a tools shop.

Thanks again.

Jason Goodwin P.G.
HSE Specialist
Phone: 281-357-2573
Fax: 281-357-2585

"Price, Wayne"
<WPrice@state.nm.us>

10/13/2004 11:33 AM

To: "'Jason_Goodwin@bjservices.com'" <Jason_Goodwin@bjservices.com>, "Price, Wayne" <WPrice@state.nm.us>
cc:
Subject: RE: Hobbs Nowsco

Please provide OCD verification that MW's are properly plugged. OCD recommends filling with grout per guidelines. Once I have received the documentation and A request to terminate the Discharge Plan GW-017 I will draft a discharge plan termination letter for the Bureau Chief to sign.

-----Original Message-----
From: Jason_Goodwin@bjservices.com [mailto:Jason_Goodwin@bjservices.com]
Sent: Monday, October 11, 2004 11:41 AM
To: wprice@state.nm.us
Subject: Hobbs Nowsco

Wayne,

I sent you an email way back about our next steps regarding the Hobbs Nowsco investigation. Per your earlier direction, BJ Services conducted groundwater sampling in November 2003 to evaluate groundwater impact at the site. You had mentioned that the OCD had found an off-site source for which the chlorides reported at our site were thought to be coming from. Per your instruction, BJ Services was to sample once more and then file for closure. When we tried to sample the existing wells they were dry. BJ Services request that the OCD close this project without further action.

Thankyou.

Jason Goodwin P.G.
HSE Specialist
Phone: 281-357-2573
Fax: 281-357-2585

This email has been scanned by the MessageLabs Email Security System.
For more information please visit http://www.messagelabs.com/email

Confidentiality Notice: This e-mail,including all attachments is for the sole use of the intended recipient(s) and may contain confidential and privileged information. Any unauthorized review,use,disclosure or distribution is prohibited unless specifically provided under the New Mexico Inspection of Public Records Act. If you are not the intended recipient, please contact the sender and destroy all copies of this message. -- This email has been scanned by the MessageLabs Email Security System.

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HSE Specialist
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Fax: 281-357-2585

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Thankyou.

Jason Goodwin P.G.
HSE Specialist
Phone: 281-357-2573
Fax: 281-357-2585

NOTICE OF PUBLICATION

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

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations, the following discharge permit application(s) has been submitted to the Director of the Oil Conservation Division, 1220 S. Saint Francis Drive, Santa Fe, New Mexico 87505, Telephone (505) 476-3440:

(GW-17) - BJ Services Company, Jo Ann Cobb, (281) 351-8131, 11211 FM 2920, Tomball, Texas, 77375 has submitted a renewal application for its previously approved discharge plan for the Hobbs Facility 5514 Carlsbad Highway, located in Section 36, Township 18 South, Range 37 East, NMPM, Lea County, New Mexico. Groundwater most likely to be affected by an accidental discharge is at a depth of approximately 20-30 feet with a total dissolved solids concentration of approximately 300 mg/l. The discharge plan consists of a waste management plan, soil and groundwater remediation, sampling and monitoring program to be conducted until the groundwater meets standards as contained in 20 NMAC 6.2.3103 of the New Mexico Water Quality Control Commission (WQCC) Regulations.

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The discharge permit application and draft discharge permit may be viewed at the above address between 8:00 a.m. and 4:00 p.m., Monday through Friday. The draft discharge permit may also be viewed at OCD's web site http://www.emnrd.state.nm.us/ocd/. Prior to ruling on any proposed discharge permit or its modification, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted and a public hearing may be requested by any interested person. Requests for a public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines there is significant public interest.

If no public hearing is held, the Director will approve or disapprove the proposed permit based on information available. If a public hearing is held, the director will approve or disapprove the proposed permit based on information in the permit and information submitted at the hearing.

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 04th day of February 2004.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

S E A L

LORI WROTENBERY, Director

October 13, 2004

CERTIFIED MAIL NO. 7004 0750 0000 4035 3503
RETURN RECEIPT REQUESTED

Mr. Wayne Price
New Mexico Oil Conservation Division
Environmental Bureau
1220 South St. Francis Drive
Santa Fe, NM 87505

RE: Groundwater Remediation Projects, BJ Services Company, USA US Highway 180/U.S. Highway 62 Hobbs, NM, Permit No. GW-017.

Dear Mr. Price:

As per our discussions, BJ Services Company, U.S.A. (BJ Services) would like to notify the New Mexico Oil Conservation Division (NMOCD) of our intent to plug and abandon groundwater monitoring wells associated with remediation projects at the above referenced property in response to site closure approval dated October 13, 2004.

If you have any questions or concerns, please contact me at (281) 357-2573.

Sincerely,

Jason Goodwin P.G.
HSE Specialist

Cc: Jo Ann Cobb – Tomball
Lynn Wright – Brown and Caldwell, Houston
File – Tomball

BJ Services Company, U.S.A. • 11211 FM 2920 • Tomball, TX 77375
Office: (281) 351-8131 • Fax: (281) 357-2585

RECEIVED

APR 26 2004

OIL CONSERVATION DIVISION

April 23, 2004

FEDEX 841787726219

Mr. Wayne Price
State of New Mexico Oil Conservation Division

EEE 0000538

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OFFICIAL RECEIPT

Date: 4-23-04

EEE0000538

Received From: BJ Services Company

Dollars

Center Code	Revenue Code	Amount	Work Order No.
07440		1,000.00	

Center Code	Revenue Code	Amount	Work Order No.

State Treasurer Deposit Number _____

Total $ 1,000.00

Description: _____

Signed: _____

ASD-White Copy / Customer-Yellow Copy / Retained in Book-Pink Copy

BJ Services Company, U.S.A. • 11211 FM 2920 • Tomball, TX 77375
Office: (281) 351-8131 • Fax: (281) 357-2585

which will be modeled after... whatever they need to do."

KIMBERLY RYAN/NEWS-SUN

rios including hostage situa-
volunteer students and adults

unteers and we knew we'd have the volunteers," Rhoads said.

Other Lea County law enforcement and emergency response agencies were invited to attend the training.

Lottery numbers

Powerball
18-20-29-43-47 BB: 31 PP: 5

N.M. Pick 3
4-7-7

Roadrunner Cash
3-13-17-21-34 BB:1

Texas Lotto
4-9-12-18-25 BB: 17

Texas Pick 3
Day: 2-0-6 Night: 0-3-6

Texas Cash Five
15-17-18-20-37

The United Way of Lea County now serves 19 agencies across the county.

Agencies interested in becoming part of the United Way must first fill out an application.

Each agency is then visited by a United Way committee that looks at its books and sees it in action.

Following the visits, the committee presents a report to the United Way board of directors for consideration.

Even though we're a small congregation, it just takes a few people."

The petitions are also available at the Jal Woolworth Community Library and D&N restaurant in Jal.

NOTICE OF PUBLICATION

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

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Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The discharge permit application and draft discharge permit may be viewed at the above address between 8:00 a.m. and 4:00 p.m., Monday through Friday. The draft discharge permit may also be viewed at OCD's web site http://www.emnrd.state.nm.us/ocd/. Prior to ruling on any proposed discharge permit or its modification, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted and public hearing may be requested by any interested person. Requests for a public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines there is significant public interest.

If no public hearing is held, the Director will approve or disapprove the proposed permit based on information available. If a public hearing is held, the director will approve or disapprove the proposed permit based on information in the permit and information submitted at the hearing.

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 04th day of February 2004.

SATE OF NEW MEXICO
OIL CONSERVATION DIVISION
Lori Wrotenbery, Director

BJ Services

AFFIDAVIT OF PUBLICATION

State of New Mexico,
County of Lea.

I, KATHI BEARDEN

Publisher

of the Hobbs News-Sun, a newspaper published at Hobbs, New Mexico, do solemnly swear that the clipping attached hereto was published once a week in the regular and entire issue of said paper, and not a supplement thereof for a period.

of 1

weeks.

Beginning with the issue dated

March 25 2004

and ending with the issue dated

March 25 2004

Kathi Bearden

Publisher

Sworn and subscribed to before me this 25th day of March 2004

Sonya M. Stowers

Notary Public.

My Commission expires
November 27, 2004
(Seal)

This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937, and payment of fees for said publication has been made.

LEGAL NOTICE
March 25, 2004

NOTICE OF PUBLICATION

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

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GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on the 4th day of February 2004.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

LORI WROTENBERY, Director
#20529

49100629000 67520709

BJ Services Company
11211 FM 2920
TOMBALL, TX 77375

NOTICE OF PUBLICATION

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

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(BW-02) - P&S Brine Sales, Paul Prather, P.O. Box 7169, Eunice, New Mexico 88231, has submitted an application for the renewal of a discharge plan for the P&S Brine Sales Station, located in the SW/4 SE/4 of Section 34, Township 21 South, Range 37 East, NMPM, Lea County, New Mexico. An average of 250 barrels per day of brine water with a TDS of approximately 300,000 mg/l is produced for use in the oil industry. Groundwater most likely to be affected by a spill, leak, or accidental discharge to the surface is at a depth of approximately 45 feet with a total dissolved solids concentration of approximately 1400 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The discharge permit application and draft discharge permit may be viewed at the above address between 8:00 a.m. and 4:00 p.m., Monday through Friday. The draft discharge permit may also be viewed at OCD's web site http://www.emnrd.state.nm.us/ocd/. Prior to ruling on any proposed discharge permit or its modification, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted and a public hearing may be requested by any interested person. Requests for a public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines there is significant public interest.

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GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 28th day of January 2004.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

S E A L

LORI WROTENBERY,
Director

Legal #76064
Pub. February 3, 2004

LEGALS

NOTICE OF UBLICATION

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GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 04th day of February 2004.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

S E A L

LORI WROTENBERY,
Director

Legal #76094
Pub. February 9, 2004

NOTICE OF UBLICATION

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GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 04th day of February 2004.

STATE OF
NEW MEXICO
OIL CONSERVATION
DIVISION

S E A L

LORI WROTENBERY,
Director

Legal #76094
Pub. February 9, 2004

AFFIDAVIT OF PUBLICATION

State of New Mexico,
County of Lea.

I, KATHI BEARDEN

Publisher

of the Hobbs News-Sun, a newspaper published at Hobbs, New Mexico, do solemnly swear that the clipping attached hereto was published once a week in the regular and entire issue of said paper, and not a supplement thereof for a period.

of 1

weeks.

Beginning with the issue dated

February 8 2004

and ending with the issue dated

February 8 2004

Kathi Bearden

Publisher

Sworn and subscribed to before me this 9th day of

February 2004

Notary Public.

My Commission expires
November 27, 2004
(Seal)

This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937, and payment of fees for said publication has been made.

LEGAL NOTICE
February 8, 2004

NOTICE OF PUBLICATION

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

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations, the following discharge permit application(s) has been submitted to the Director of the Oil Conservation Division, 1220 S. Saint Francis Drive, Santa Fe, New Mexico 87505, Telephone (505) 476-3440:

(GW-17) - BJ Services Company, Jo Ann Cobb, (281) 351-8131, 11211 FM 2920, Tomball, Texas, 77375 has submitted a renewal application for its previously approved discharge plan for the Hobbs Facility 5514 Carlsbad Highway, located in Section 36, Township 18 South, Range 37 East, NMPM, Lea County, New Mexico. Groundwater most likely to be affected by an accidental discharge is at a depth of approximately 20-30 feet with a total dissolved solids concentration of approximately 300 mg/l. The discharge plan consists of a waste management plan, soil and groundwater remediation, sampling and monitoring program to be conducted until the groundwater meets standards as contained in 20 NMAC 6.2.3103 of the New Mexico Water Quality Control Commission (WQCC) Regulations.

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The discharge permit application and draft discharge permit may be viewed at the above address between 8:00 a.m. and 4:00 p.m., Monday through Friday. The draft discharge permit may also be viewed at OCD's web site http://www.emnrd.state.nm.us/ocd/. Prior to ruling on any proposed discharge permit or its modification, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted and a public hearing may be requested by any interested person. Requests for a public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines there is significant public interest.

If no public hearing is held, the Director will approve or disapprove the proposed permit based on information available. If a public hearing is held, the director will approve or disapprove the proposed permit based on information in the permit and information submitted at the hearing.

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 04th day of February 2004.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION (SEAL)

LORI WROTENBERY, Director
#20418

01100060000 02568685

State of New Mexico Oil &
1220 S. St. Francis
Santa Fe, NM 87505

December 18, 2003

CERTIFIED MAIL NO. 7002 3150 0003 8941 0089
RETURN RECEIPT REQUESTED

State of New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505

RE: Discharge Plan Application, BJ Services Company, USA 5514 Carlsbad Hwy. Hobbs, NM 88240, GW-17.

Dear Sir or Madam:

BJ Services Company, U.S.A. (BJ Services) has enclosed the necessary documentation for the above referenced discharge plan.

If you have any questions or concerns please contact me at (281) 357-2573.

Sincerely,

Jason Goodwin
HSE Specialist

c: Jo Ann Cobb – Tomball w/o enclosure
Blake Cox – Odessa Tools w/ enclosure
David Winkles – Midland w/o enclosure
Sam Daniel – Midland w/o enclosure
NMOCD Region Office – w/ enclosures
Tomball File

BJ Services Company, U.S.A. • 11211 FM 2920 • Tomball, TX 77375
Office: (281) 351-8131 • Fax: (281) 357-2585

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Revised June 10, 2003

Submit Original
Plus 1 Copy
to Santa Fe
1 Copy to Appropriate
District Office

DISCHARGE PLAN APPLICATION FOR SERVICE COMPANIES,GAS PLANTS, REFINERIES, COMPRESSOR, GEOTHERMAL FACILITES AND CRUDE OIL PUMP STATIONS

(Refer to the OCD Guidelines for assistance in completing the application)

☐ New ☒ Renewal ☐ Modification

1. Type: Oil Field Services
2. Operator: BJ Services Company, USA

   Address: 5514 Carlsbad Hwy, Hobbs NM 88240

   Contact Person: Jason Goodwin Phone: (281) 357-2573
3. Location: NA /4 NA /4 Section 36 Township 18S Range 37E

   Submit large scale topographic map showing exact location.

✓4. Attach the name. telephone number and address of the landowner of the facility site.

✓5. Attach the description of the facility with a diagram indicating location of fences, pits, dikes and tanks on the facility.

✓6. Attach a description of all materials stored or used at the facility.

✓7. Attach a description of present sources of effluent and waste solids. Average quality and daily volume of waste water must be included.

✓8. Attach a description of current liquid and solid waste collection/treatment/disposal procedures.

✓9. Attach a description of proposed modifications to existing collection/treatment/disposal systems.

✓10. Attach a routine inspection and maintenance plan to ensure permit compliance.

✓11. Attach a contingency plan for reporting and clean-up of spills or releases.

✓12. Attach geological/hydrological information for the facility. Depth to and quality of ground water must be included.

✓13. Attach a facility closure plan, and other information as is necessary to demonstrate compliance with any other OCD rules, regulations and/or orders.

14. CERTIFICATIONI hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: Jo Ann Cobb Title: Mgr Env. Services

Signature: Jo Ann Cobb Date: 12-15-03

E-mail Address: jcobb6@bjservices.com

BJ Services Company, U.S.A.

Discharge Plan – Hobbs, New Mexico

August 2003

I. Type of Operation

BJ Services Company, U.S.A. provides oilfield services, including cementing, acidizing, and fracturing services at oil and gas well sites.

II. Operator

BJ Services Company, USA (Tools)
5514 Carlsbad Hwy
Hobbs, NM 88240
Contact: Blake Cox 432-381-2301

BJ Services Company, USA (Unichem)
707 N. Leech
Hobbs, NM 88240
Contact: Shane Stroh 505-393-7751

III. Location

(See attachment 1, Figure 1)

IV. Landowner of Facility Site

BJ Services Company, U.S.A.
5500 Northwest Central Drive
Houston, TX 77092
281-357-2572
Contact: Jo Ann Cobb, R.E.M.

V. Facility Description

See attachment 1, Figure 2, Site Plan

VI. Materials Stored or Used at the Facility

Material	General Makeup (includes additives)	Form	Type of Container	Estimated Volume Stored	Location
Degreaser	various	Liquid	Drum	55 gallons	Shop
Spray Paint	various	Liquid	Cans	5 gallons	Shop
TH-302	Aromatic Corrosion Inhibitor	Liquid	Storage Tank	750 gallons	Containment (54" x 87")
TH-315	Aromatic Corrosion Inhibitor	Liquid	Storage Tank	750 gallons	Containment (54" x 87")
TH-324	Aromatic Corrosion Inhibitor	Liquid	Storage Tank	400 gallons	Containment (42" x 72")
TH 369W	Water/Alcohol Based Corrosion Inhibitor	Liquid	Storage Tanks	1500 gallons	Containment (54" x 87")
TH-3036	Aromatic Corrosion Inhibitor	Liquid	Storage Tank	750 gallons	Containment (54" x 87")
TH-3113	Aromatic Corrosion Inhibitor	Liquid	Storage Tank	400 gallons	Containment (42" x 72")
TH-5324	Aromatic Corrosion Inhibitor	Liquid	Storage Tank	400 gallons	Containment (42" x 72")
TCX-3740	Alcohol Based Corrosion Inhibitor	Liquid	Storage Tank	180 gallons	Containment (30" x 64")
TCX-3125	Aromatic/Aliphatic Corrosion Inhibitor	Liquid	Storage Tank	750 gallons	Containment (54" x 87")
RPD-02211	Aromatic/Aliphatic Paraffin Solvent	Liquid	Storage Tank	750 gallons	Containment (54" x 87")
TS-161	Aromatic/Aliphatic Paraffin Solvent	Liquid	Storage Tank	400 gallons	Containment (42" x 72")
TS-164	Aromatic Paraffin Solvent	Liquid	Storage Tank	750 gallons	Containment (54" x 87")
TW-447	Water Based Cleaning Agent	Liquid	Storage Tank	750 gallons	Containment (54" x 87")
TW-467	Water Based Cleaning Agent	Liquid	Storage Tank	180 gallons	Containment (30" x 64")
TW-4273	Water Based Cleaning Agent	Liquid	Storage Tank	80 gallons	Containment (24" x 49")
AL-160	Biocide	Liquid	Storage Tank	220 gallons	Containment (38" x 49")
KTL-22W	Water Based Scale Inhibitor	Liquid	Storage Tank	180 gallons	Containment (30" x 64")

TC-410	Water Based Cleaning Agent	Liquid	Storage Tank	220 Gallons	Containment (38" x 49")
AL-133	Biocide	Liquid	Storage Tank	80 gallons	Containment (24" x 49")

VII. Sources of Effluent and Waste Solids

Waste Type	Source and Composition	Volume per Month	Major Additives
Tank Residual from Clean-outs	Storage Tank	100 gallons	Varies by product
Off-Spec Chemical	Storage Tank	100 gallons	Varies by product
Gloves, Absorbent socks, and rags	Operations	50-lbs	Varies by product

VIII. Current Liquid and Solid Waste Collection/Treatment/Disposal Procedures

Waste Type	On Site Handling	Disposal	Disposal Facilities
Tank Residual from Clean-outs	Stored in drums	Offsite Disposal	Univar 311 Lark Ave Odessa, TX 79760
Off-Spec Chemical	Stored in drums	Offsite Disposal	Univar 311 Lark Ave Odessa, TX 79760
Gloves, Absorbent socks, and rags	Stored in drums	Offsite Disposal	Univar 311 Lark Ave Odessa, TX 79760

IX. Proposed Modifications

No proposed modifications are scheduled.

X. Inspection and Maintenance

See Attachment 2, Base/District HSE Inspection Report

XI. Contingency Plan

See Attachment 3, Facility Emergency Response Contingency Plan

XII. Site Characteristics

Bodies of Water: None

Arroyos: None

Groundwater Characteristics: Depth to Groundwater (bgs): 20 feet (see attachment 4 for boring log.)

Flooding Potential: None

XIII. Closure Plans

BJ Services submitted a letter to the OCD on July 11, 1997 outlining the closure activities that had been performed to date and planned closure activities. As a result of some of the items in the letter, BJ Services retained Brown and Caldwell to perform some closure and assessment activities. Brown and Caldwell has submitted two closure plans related to these activities to the OCD. Additional closure plans will be submitted throughout the closure procedure.

ATTACHMENT 1

SITE PLANS

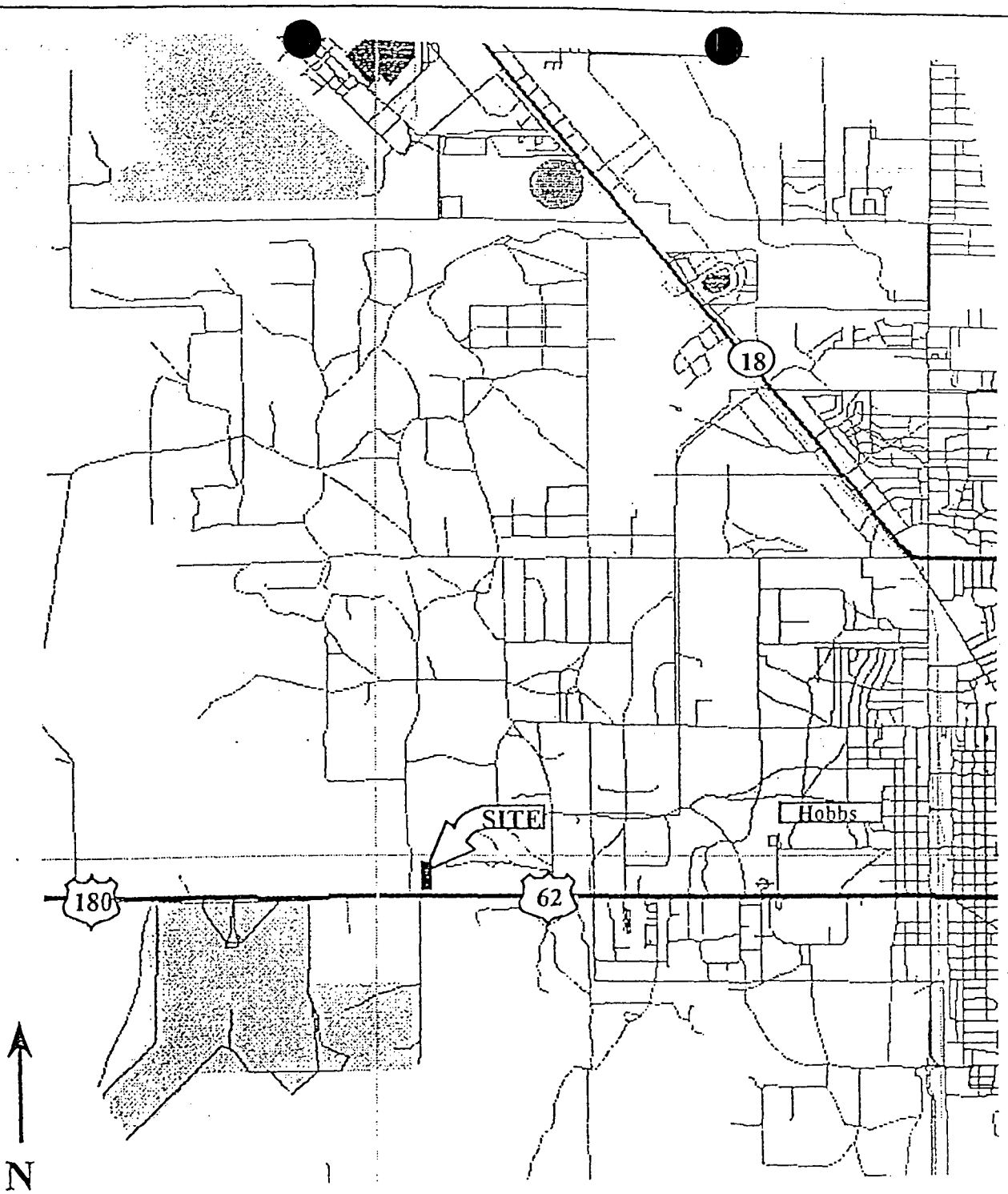
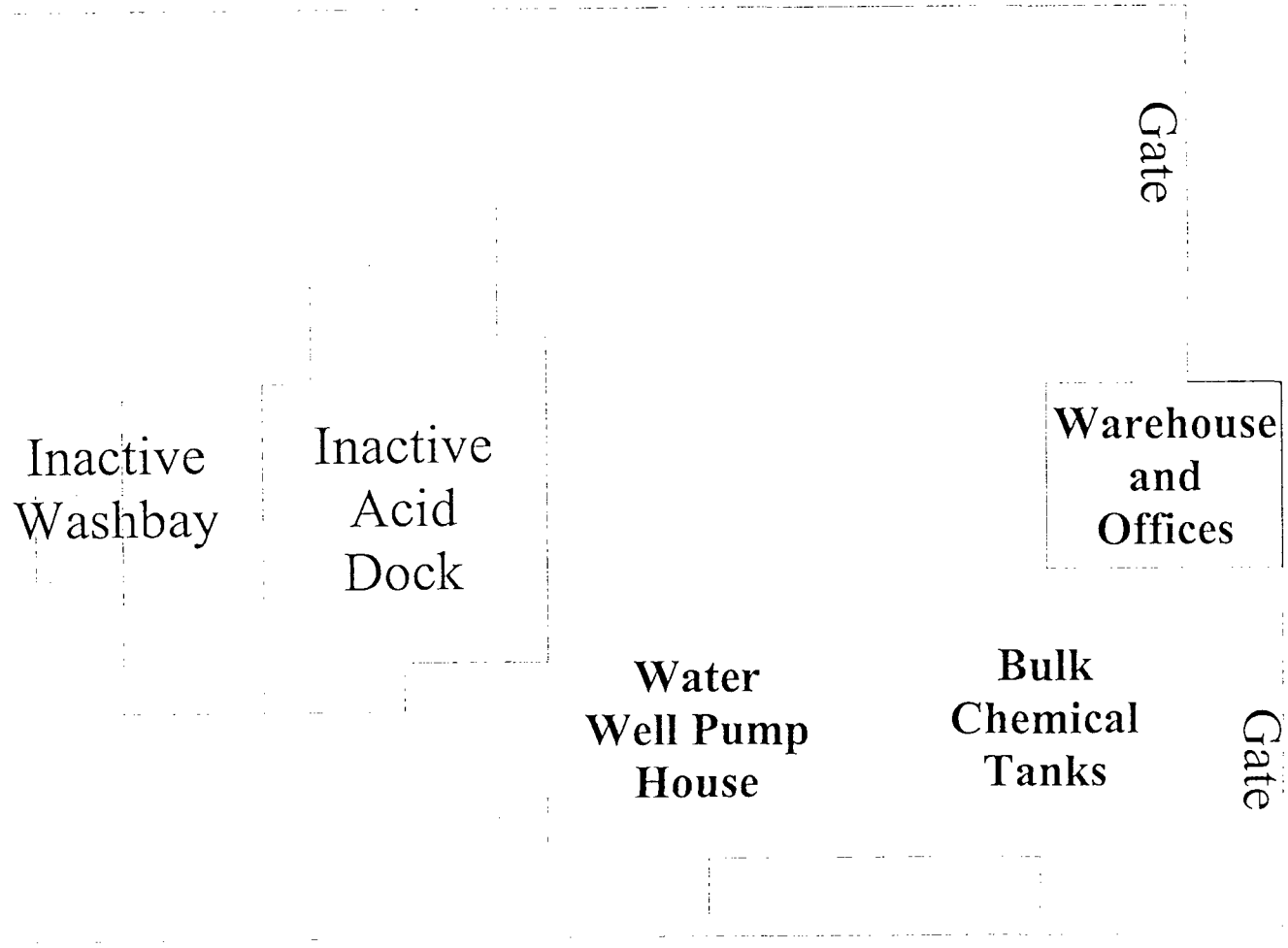


	Figure 1: Site Location Map Last Revised: 3/12/98
BJ Services Company, U.S.A. 8701 New Trails Drive The Woodlands, TX 77381	Facility Name: BJ Services Company, U.S.A. Facility Address: 5514 Carlsbad Highway Hobbs, NM 88240



BJ Services Company, USA
11211 FM 2920
Tomball, Texas 77375

Figure 1: Hobbs Tools Facility Layout

Not To Scale

REVISION DATE: 09/09/03

DRAWN BY: JSG

ATTACHMENT 2

BASE/DISTRICT HSE INSPECTION REPORT

US Inspection - 2004
Base/District Facility Inspection Report

Region: Permian Basin
District/Base: Hobbs Tools
Inspector: _____

Job Title of Inspector(s): _____

Date of Inspection: _____

Product Line : Service Tools

Facility Score = / X 100 = %

Key
N/A - Not Applicable (Default Value)
0 - Needs Immediate Attention
1 - Needs Attention
2 - Meets Standards

Housekeeping Key
N/A - Note Applicable (Default Value)
0 - Needs Immediate Attention
1 - Poor
2 - Needs some attention
4 - Good - Meets Standards

SUMMARY - AREAS

General Facility Conditions
Shop(s)
Locker Room(s) - Washroom(s) - Break Area(s)
Yard / External Equipment Storage Area
Forklift

QUESTIONS

General Facility Conditions

1	Current mandatory safety legislation posters
2	Local legislative accident log (e.g. OSHA 200 or equivalent)
3	Emergency evacuation assembly point (posted, visible, unobstructed)
4	Emergency plans for fire, injury or chemical spill (posted, current)
5	Emergency phone numbers posted (fire, ambulance, police, doctor, chemical spills, injuries)
6	Fire alarm call point (in working order/visible)
7	Fire extinguishers - (operable, inspected, proper location, proper type)
8	Personal protective equipment (used as required)
9	PPE available for visitors or vendors
10	First aid kit (adequate nunber of, adequately stocked, highly visible)
11	Trained first aiders at facility (sufficient number, identified, posted)
12	Safety signs and notices (sufficient number, all hazards, current)
13	Safety bulletin board (current)
14	Employer liability insurance certificate (current, displayed) UK only
15	Entryway/gateway (signed, unobstructed)

16	Parking (sufficient, unobstructed, signed)
17	Road surfaces (safe, maintained)
18	Lighting (sufficient, working, assess both internal and external)
19	Heating and cooling system (radiators free/clear, system checked annually, adequate records)
20	Electrical panels and wiring (labeled, secure, maintained)
21	Landscape (presentable, maintained)
22	BJ Services company signs (visible, maintained)
23	Prohibited articles/substances sign (visible, maintained)
24	Safety signs for LTI free days (up to date, visible)
25	Notice to visitors and vendors (where to go, posted)
26	Speed limit signs (posted, visible, adhered to)
27	Security fence (sufficient, maintained)
28	Fixed stairs, ladders, walkways, handrails, gates and doors (maintained, clear, safe)
29	Emergency exits/routes (signed, unobstructed, site plan of)
30	Hazardous chemicals inventory (held locally, current)
31	Material safety data sheets (accessible locally, current) Dispatch?
32	Spills or leaks visible
33	Spill control material (available, appropriate, utilized)
34	Knowledge of environmental and safety (HSE) manuals
35	Knowledge of emergency response plans (fire, injury, spillage)
36	Surface-water/storm-water drains & discharge points free of oil, debris, etc
37	Site isolation valves marked/signed, access to, maintained (electricity, gas, water, drains)
38	Drains (surface/foul) emergency cut-off valves - where installed (work properly)
39	No open containers outside collecting water
40	Environmental Records present and in order
HK	Housekeeping (Rating 0,1,2,4)

Shop(s)	
1	Hand tools (condition, noise, sufficient number, proper storage)
2	Grinding equipment (signs/visibility, tool rests, wheels inspected/maintained)
3	Welding and cutting equipment (stored properly, flash back arrestors, welding screens)

4	Cranes, hoists and jacks (capacity signed, periodic inspection, tested, records)
5	Lubrication area (clean, labeled, spill controls)
6	Parts storage (secure, labeled, clean, records)
7	Overhead storage area (posted for capacity, heavy items below, undamaged, secured to hazard points on floor)
8	Material safety data sheets (accessible locally, current) - Shop materials involved
9	Battery charging and storage area (separate, clean, ventilated)
10	Shop sumps clean & routinely maintained
11	Painting and paint storage area (contained, labeled, appropriate)
12	Cleaning agents and solvents area (storage, ventilated or enclosed, hazard signage, MSDS available)
13	Work benches (clean, tidy, vice condition)
14	Oily rag containers (enclosed, metal, labeled)
15	Lockout/tagout procedures (adhered, monitored, effective, understood)
16	Ladders (checked periodically and tagged, not painted)
17	Machine tools (pillar drill, lathe, etc.) (maintained, guarded, PPE available, signage, tested)
18	Used oil and filters being properly handled
19	Used anti-freeze being properly handled
20	Air compressors (belts guarded, auto start signage, PRV's checked annually/tagged)
21	Overhead doors (height marked, good working order)
HK	Housekeeping (Rating 0,1,2,4)

Locker Room(s) - Washroom(s) - Break Area(s)

1	Ventilation (adequate)
2	Showers and sinks (adequate, clean, maintained)
3	Toilets (adequate, clean, maintained)
4	Lockers (sufficient size/number, accessible, lockable)
5	Drinking water (available)
6	Sufficient personal storage and changing space (clean, maintained, adequate)
7	Any required regulations/posters
HK	Housekeeping (Rating 0,1,2,4)

Yard / External Equipment Storage Area	
1	Containers (appropriate, stacked, labeled)
2	Safe storage of waste (correctly segregated, labeled)
3	Pallets (adequate, maintained, safe)
4	Noise levels (signage, measured)
5	Flammable gas (caged, signed, segregated)
6	Road traffic signage (speed limits posted, warning signage for pedestrians), inspections, records, properly utilized)
7	Segregation of pedestrians/vehicles (walkways marked, railings)
8	PPE (signage, appropriate to risk assessed)
9	Racking (capacity signed, inspections, records, properly utilized)
10	Washbay sump(s) clean (routinely maintained and emptied)
HK	Housekeeping (Rating 0,1,2,4)

Forklift	
1	Forks (condition, maintained, appropriate)
2	Pre-use check sheets (available, utilized)
3	Area FLT warning signage (visible)
4	Rated capacity shown on FLT
5	Backup alarm and/or flashing light (audible, working)
6	FLT Operators (trained, licensed, nominated)
7	Controls (operate properly, maintained)
8	Brakes (operate properly, maintained)
9	Horn (operates properly, maintained)
10	Seat condition (maintained, comfortable)
11	Headlights (sufficient, working)
12	Rollover protection fitted

CORRECTIVE ACTION RESPONSIBILITY

Corrective Actions Assigned to: _____

Due Date for Completion: _____

Corrective Action Status: _____

SIGNATURE SECTION

If you are the relevant District/Facility Manager, Region/Country/Area Manager, District/ HSE Officer or Other Relevant Manager you should sign the report when you have read it. To add your signature to the appropriate section, click the **Edit** button (to enter Edit mode), then click on the **Review and Sign Off** button. This will add your name and the current date to the Accident Report in the relevant section below.

Reviewed and Signed Off by the Following:-

District Safety/Training Supervisor _____

District Manager _____

Region Safety/Training Manager _____

Region Manager _____

Service Supervisor _____

Other Relevant Personnel _____

ATTACHMENT 3

FACILITY EMERGENCY REPSONSE CONTINGENCY PLAN

BJ SERVICES COMPANY, U.S.A.
HOBBS TOOLS EMERGENCY RESPONSE PLAN

IN THE CASE OF ANY OIL OR CHEMICAL SPILLS

The Facility Supervisor will immediately notify the District Tools Manager. The District Tools Manager will follow procedures in the US Environmental Standards when reporting spills.

Facility Supervisor	Jimmy (Lance) Davis	505-513-0825 cell
		505-391-1475 office
District Tools Mgr.	Blake Cox	432-381-2301 office
RSTM	David Winkles	432-683-2781 office

CHEMICAL SPILLS OCCURING OFFSITE OR LARGE ONSITE SPILLS

Call CURA National Emergency Response Service at (800) 579-2872

Contact the Environmental Department during work hours at (281) 351-8131 (Main Tomball Number). All agency reporting and reports will be taken care by CURA.

After hours Dispatch Personnel are to obtain the following information from the caller:

Incident Location (address, mile marker, nearest city, etc.)
Person Reporting the Spill (name, title) and phone number
On scene contact (name, title) and phone number
Description of the incident (type and volume of release, substance released, etc.)
Surfaces affected (soil/grass, asphalt, concrete, other)
Water affected (surface, groundwater, coastal)
Sensitive receptors (parks, storm sewer, drainage ditch, residential or populated areas)
Note any initial actions taken to control release.

The Facility Supervisor will call the following people, starting at the top of the list until someone on the list is contacted:

Jo Ann Cobb	(281) 357-2572	Office
	(713) 898-6635	Cellular/Pager
	(281) 353-4481	Home
Charles Smith	(281) 357-2582	Office
	(713) 594-0876	Cellular/Pager
	(281) 870-8997	Home
Jason Goodwin	(281) 357-2573	Office
	(713) 805-0284	Cellular/Pager
	(281) 292-0809	Home

Tomball Research & Technology Center	Address: 11211 FM 2920, Tomball, TX 77375	
	Main Number:	(281) 351-8131
	QHSE Fax	(281) 357-2585

NATIONAL RESPONSE CENTER (Oil Spills)..... (800) 424-8802

ATTACHMENT 4

BORING LOG

Project Name: BJ Services Company U.S.A. (Hobbs, New Mexico) Project Number: 6240.01 Sheet 1 of 2

Project Location: Northeast Corner of Claiche Pit		Logged By: T. Jenkins	Approved: T. Jenkins
Drilling Contractor: West Texas Water Well		Date Started: 11/19/97	Date Finished: 11/19/97
Drilling Equipment: Badger 1250	Driller: Bernie Brockman	Total Boring Depth: (feet) 60.0	Depth to Static Water: (feet) 47.0
Drilling Method: Air Rotary	Borehole Diameter: 4.875"	TOC Elevation:	Ground Elevation: NA
Sampling Method: Core/Split Spoon		Diameter and Type of Well Casing: 2" Sch. 40 - PVC	
Comments: Monitor Well MW-2 was installed in Soil Boring SB-3		Slot Size: 0.010	Filter Material: Silica Sand
		Development Method: Surge and Bail	

Depth (feet)	Depth to Water	USC Soil Type	Lithology	Description	PID Readings	Sampled Interval	Recovery (feet)	Sample ID	Monitoring Well Remarks
2		SM		GRAVEL/MEDIUM with sand					
4									
6				Light tan colored, caliche/sand mixture	5		1		
8				Dense Caliche, Tan, mixed with small gravel					
10				Tan colored, Caliche	6		1		
12				Caliche, becoming darker with depth					
14									
16				Reddish, Tan colored caliche	5		1		
18									Cement grout with 5% bentonite.
20		SM		Tan caliche mixed with coarse sand and gravel	6		1	SB-3-20	
22									
24									
26				No recovery first attempt			0		
				No recovery second attempt			0		
28				Limestone	8		1		
		SM		reddish Brown Sand					
30				Reddish brown sand	8		1		
32									

Project Name: BJ Services Company U.S.A. (Hobbs, New Mexico) Project Number: 6240.01 Sheet 2 of 2

Depth (feet)	Depth to Water	USC Soil Type	Lithology	Description	PID Readings	Sampled Interval	Recovery (feet)	Sample ID
34								
36				Reddish brown sand	15		1	
38								
40				Reddish Brown sand	18		1	SB-3-40
42								
44				Attempt split spoon sample obtained about 3" sample -Reddish-brown sand 6" recovery	>244		0.75	SB-3-45
46	▼							
48								
50				Saturated reddish-brown sand	11		2	
52								
54								
56				No sample obtained			0	
58								
60				No sample obtained			0	
				Total depth = 60 feet				

Monitoring Well Remarks

35.0 Top of bentonite seal at 35.0 feet.

38.0 Top of sand filter pack at 38.0 feet.

41.0 Top of screen at 41.0 feet.

56.0 Bottom of screen at 56.0 feet.

58.5

59.0 Bottom of well at 59.0 feet.

Price, Wayne

From: Anderson, Roger
Sent: Friday, November 21, 2003 8:04 AM
To: Olson, William; Price, Wayne
Subject: FW: NMGSAU Battery Site #63

??????????????????????????????????????
-----Original Message-----
From: Small, Sam [mailto:SSmall@Hess.com]
Sent: Thursday, November 20, 2003 8:16 AM
To: psheeley@state.nm.us; cwilliams@state.nm.us; rcanderson@state.nm.us
Cc: Baker, Jay; Kriter, Kurt
Subject: NMGSAU Battery Site #63

Amerada Hess Corporation (AHC) has been in negotiations with Mr. Red Byrd, the land owner at the subject remediation site, to develop a mutually acceptable closure plan for the excavation currently located at the site. Mr. Byrd has tentatively agreed to a plan which calls for removing contaminated material from the east side of the excavation, installing a clay liner in the bottom and backfilling with remediated material. AHC submitted the results of a groundwater assessment and a closure plan for the site to the OCD on August 11, 2003. AHC has not received a response from the OCD regarding the assessment or the closure plan. Work is scheduled to start on the closure plan negotiated with Mr. Byrd the week of December 1, 2003. If no correspondence is received from the OCD prior to work commencing, AHC will assume that the plan submitted to the OCD, which is compatible with the plan negotiated with Mr. Byrd, is acceptable. AHC is also planning to plug the monitor wells at the site.

Sam Small

915-758-6741

DEC 2 3 2003

December 18, 2003

CERTIFIED MAIL NO. 7002 3150 0003 8941 0089
RETURN RECEIPT REQUESTED

State of New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505

RE: Discharge Plan Application, BJ Services Company, USA 5514 Carlsbad Hwy. Hobbs, NM 88240, GW-17.

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Sincerely,

Jason Goodwin
HSE Specialist

c: Jo Ann Cobb – Tomball w/o enclosure
Blake Cox – Odessa Tools w/ enclosure
David Winkles – Midland w/o enclosure
Sam Daniel – Midland w/o enclosure
NMOCD Region Office – w/ enclosures
Tomball File

BJ Services Company, U.S.A. • 11211 FM 2920 • Tomball, TX 77375
Office: (281) 351-8131 • Fax: (281) 357-2585

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Revised June 10, 2003

Submit Original
Plus 1 Copy
to Santa Fe
1 Copy to Appropriate
District Office

DISCHARGE PLAN APPLICATION FOR SERVICE COMPANIES,GAS PLANTS, REFINERIES, COMPRESSOR, GEOTHERMAL FACILITES AND CRUDE OIL PUMP STATIONS

(Refer to the OCD Guidelines for assistance in completing the application)

☐ New ☒ Renewal ☐ Modification

1. Type: Oil Field Services
2. Operator: BJ Services Company, USA

   Address: 5514 Carlsbad Hwy, Hobbs NM 88240

   Contact Person: Jason Goodwin Phone: (281) 357-2573
3. Location: NA /4 NA /4 Section 36 Township 18S Range 37E

   Submit large scale topographic map showing exact location.

✓4. Attach the name, telephone number and address of the landowner of the facility site.

✓5. Attach the description of the facility with a diagram indicating location of fences, pits, dikes and tanks on the facility.

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✓8. Attach a description of current liquid and solid waste collection/treatment/disposal procedures.

✓9. Attach a description of proposed modifications to existing collection/treatment/disposal systems.

✓10. Attach a routine inspection and maintenance plan to ensure permit compliance.

✓11. Attach a contingency plan for reporting and clean-up of spills or releases.

✓12. Attach geological/hydrological information for the facility. Depth to and quality of ground water must be included.

✓13. Attach a facility closure plan, and other information as is necessary to demonstrate compliance with any other OCD rules, regulations and/or orders.

14. CERTIFICATIONI hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: Jo Ann Cobb Title: Mgr. Env. Services

Signature: Jo Ann Cobb Date: 12-18-03

E-mail Address: jcobb@bjservices.com

BJ Services Company, U.S.A.

Discharge Plan – Hobbs, New Mexico

August 2003

I. Type of Operation

BJ Services Company, U.S.A. provides oilfield services, including cementing, acidizing, and fracturing services at oil and gas well sites.

II. Operator

BJ Services Company, USA (Tools)
5514 Carlsbad Hwy
Hobbs, NM 88240
Contact: Blake Cox 432-381-2301

BJ Services Company, USA (Unichem)
707 N. Leech
Hobbs, NM 88240
Contact: Shane Stroh 505-393-7751

III. Location

(See attachment 1, Figure 1)

IV. Landowner of Facility Site

BJ Services Company, U.S.A.
5500 Northwest Central Drive
Houston, TX 77092
281-357-2572
Contact: Jo Ann Cobb, R.E.M.

V. Facility Description

See attachment 1, Figure 2, Site Plan

VI. Materials Stored or Used at the Facility

Material	General Makeup (includes additives)	Form	Type of Container	Estimated Volume Stored	Location
Degreaser	various	Liquid	Drum	55 gallons	Shop
Spray Paint	various	Liquid	Cans	5 gallons	Shop
TH-302	Aromatic Corrosion Inhibitor	Liquid	Storage Tank	750 gallons	Containment (54" x 87")
TH-315	Aromatic Corrosion Inhibitor	Liquid	Storage Tank	750 gallons	Containment (54" x 87")
TH-324	Aromatic Corrosion Inhibitor	Liquid	Storage Tank	400 gallons	Containment (42" x 72")
TH 369W	Water/Alcohol Based Corrosion Inhibitor	Liquid	Storage Tanks	1500 gallons	Containment (54" x 87")
TH-3036	Aromatic Corrosion Inhibitor	Liquid	Storage Tank	750 gallons	Containment (54" x 87")
TH-3113	Aromatic Corrosion Inhibitor	Liquid	Storage Tank	400 gallons	Containment (42" x 72")
TH-5324	Aromatic Corrosion Inhibitor	Liquid	Storage Tank	400 gallons	Containment (42" x 72")
TCX-3740	Alcohol Based Corrosion Inhibitor	Liquid	Storage Tank	180 gallons	Containment (30" x 64")
TCX-3125	Aromatic/Aliphatic Corrosion Inhibitor	Liquid	Storage Tank	750 gallons	Containment (54" x 87")
RPD-02211	Aromatic/Aliphatic Paraffin Solvent	Liquid	Storage Tank	750 gallons	Containment (54" x 87")
TS-161	Aromatic/Aliphatic Paraffin Solvent	Liquid	Storage Tank	400 gallons	Containment (42" x 72")
TS-164	Aromatic Paraffin Solvent	Liquid	Storage Tank	750 gallons	Containment (54" x 87")
TW-447	Water Based Cleaning Agent	Liquid	Storage Tank	750 gallons	Containment (54" x 87")
TW-467	Water Based Cleaning Agent	Liquid	Storage Tank	180 gallons	Containment (30" x 64")
TW-4273	Water Based Cleaning Agent	Liquid	Storage Tank	80 gallons	Containment (24" x 49")
AL-160	Biocide	Liquid	Storage Tank	220 gallons	Containment (38" x 49")
KTL-22W	Water Based Scale Inhibitor	Liquid	Storage Tank	180 gallons	Containment (30" x 64")

TC-410	Water Based Cleaning Agent	Liquid	Storage Tank	220 Gallons	Containment (38" x 49")
AL-133	Biocide	Liquid	Storage Tank	80 gallons	Containment (24" x 49")

VII. Sources of Effluent and Waste Solids

Waste Type	Source and Composition	Volume per Month	Major Additives
Tank Residual from Clean-outs	Storage Tank	100 gallons	Varies by product
Off-Spec Chemical	Storage Tank	100 gallons	Varies by product
Gloves, Absorbent socks, and rags	Operations	50-lbs	Varies by product

VIII. Current Liquid and Solid Waste Collection/Treatment/Disposal Procedures

Waste Type	On Site Handling	Disposal	Disposal Facilities
Tank Residual from Clean-outs	Stored in drums	Offsite Disposal	Univar 311 Lark Ave Odessa, TX 79760
Off-Spec Chemical	Stored in drums	Offsite Disposal	Univar 311 Lark Ave Odessa, TX 79760
Gloves, Absorbent socks, and rags	Stored in drums	Offsite Disposal	Univar 311 Lark Ave Odessa, TX 79760

IX. Proposed Modifications

No proposed modifications are scheduled.

X. Inspection and Maintenance

See Attachment 2, Base/District HSE Inspection Report

XI. Contingency Plan

See Attachment 3, Facility Emergency Response Contingency Plan

XII. Site Characteristics

Bodies of Water: None

Arroyos: None

Groundwater Characteristics: Depth to Groundwater (bgs): 20 feet (see attachment 4 for boring log.)

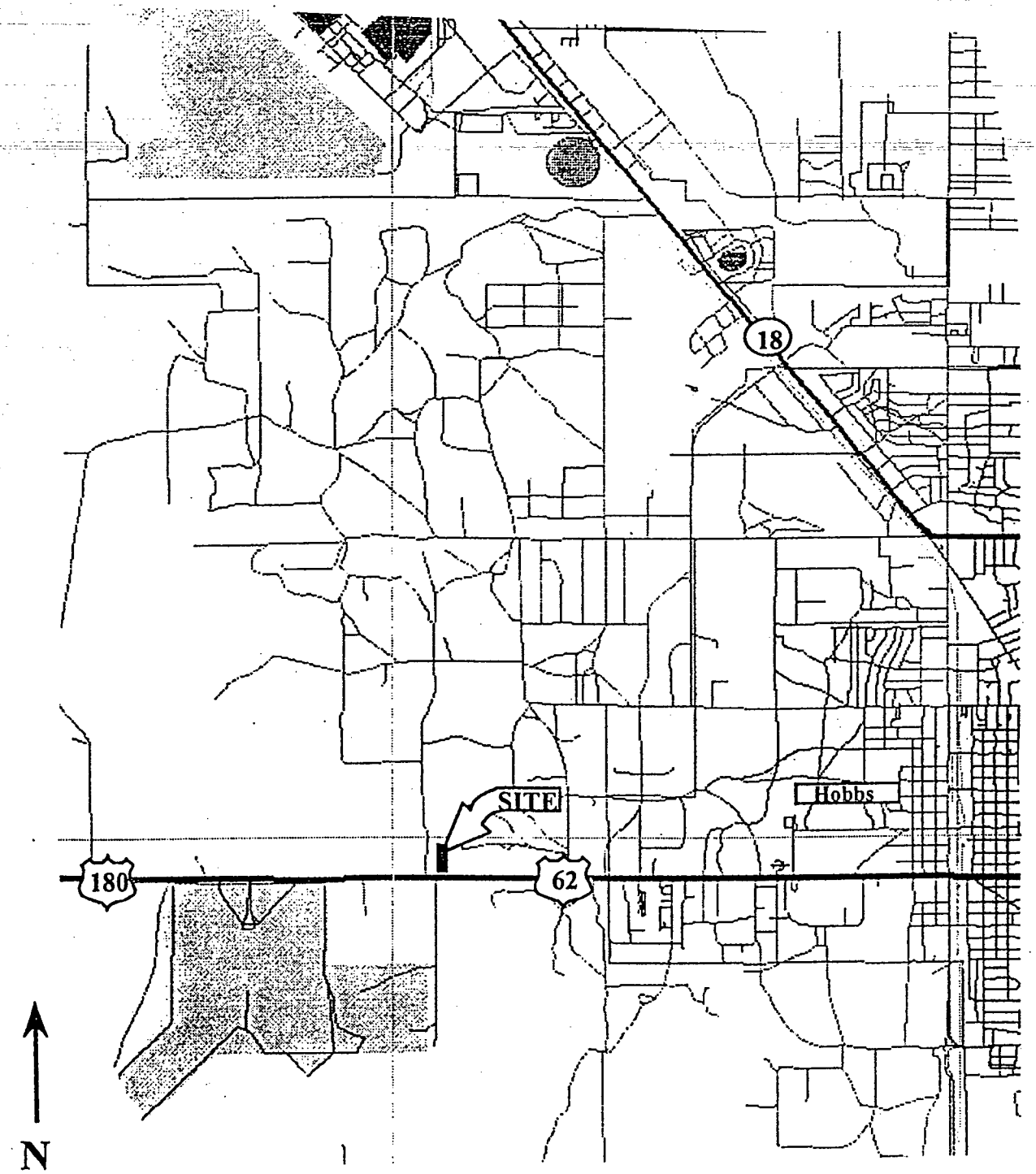
Flooding Potential: None

XIII. Closure Plans

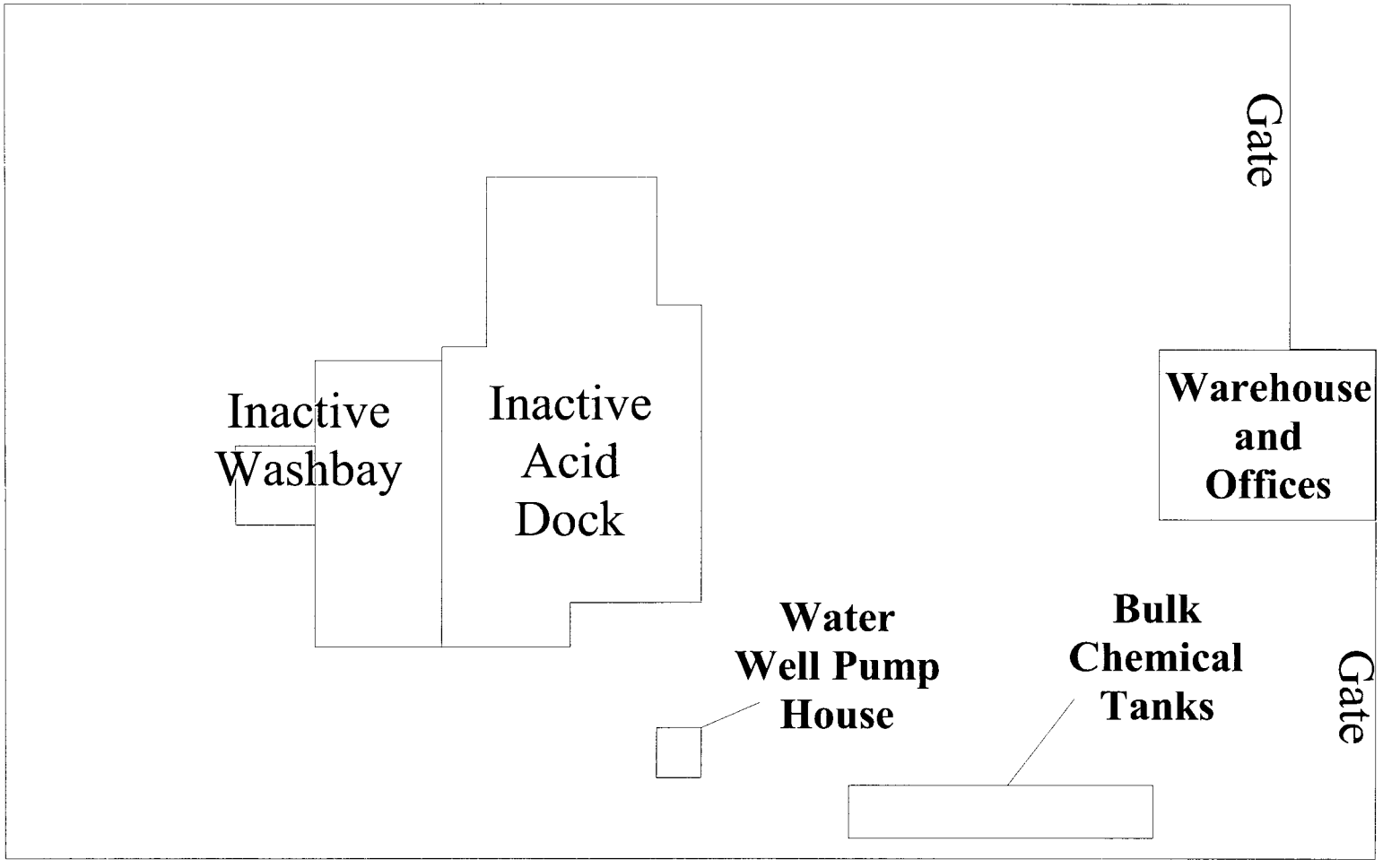
BJ Services submitted a letter to the OCD on July 11, 1997 outlining the closure activities that had been performed to date and planned closure activities. As a result of some of the items in the letter, BJ Services retained Brown and Caldwell to perform some closure and assessment activities. Brown and Caldwell has submitted two closure plans related to these activities to the OCD. Additional closure plans will be submitted throughout the closure procedure.

ATTACHMENT 1

SITE PLANS



BJ	**Figure 1: Site Location Map** Last Revised: 3/12/98
BJ Services Company, U.S.A. 8701 New Trails Drive The Woodlands, TX 77381	Facility Name: BJ Services Company, U.S.A. Facility Address: 5514 Carlsbad Highway Hobbs, NM 88240



BJ Services Company, USA
11211 FM 2920
Tomball, Texas 77375

Figure 1: Hobbs Tools Facility Layout

	Not To Scale	REVISION DATE: 09/09/03	DRAWN BY: JSG

ATTACHMENT 2

BASE/DISTRICT HSE INSPECTION REPORT

US Inspection - 2004
Base/District Facility Inspection Report

Region: Permian Basin
District/Base: Hobbs Tools
Inspector: _____

Job Title of Inspector(s): _____

Date of Inspection: _____

Product Line : Service Tools

Facility Score = / X 100 = %

Key
N/A - Not Applicable (Default Value)
0 - Needs Immediate Attention
1 - Needs Attention
2 - Meets Standards

Housekeeping Key
N/A - Note Applicable (Default Value)
0 - Needs Immediate Attention
1 - Poor
2 - Needs some attention
4 - Good - Meets Standards

SUMMARY - AREAS

General Facility Conditions
Shop(s)
Locker Room(s) - Washroom(s) - Break Area(s)
Yard / External Equipment Storage Area
Forklift

QUESTIONS

General Facility Conditions

1	Current mandatory safety legislation posters
2	Local legislative accident log (e.g. OSHA 200 or equivalent)
3	Emergency evacuation assembly point (posted, visible, unobstructed)
4	Emergency plans for fire, injury or chemical spill (posted, current)
5	Emergency phone numbers posted (fire, ambulance, police, doctor, chemical spills, injuries)
6	Fire alarm call point (in working order/visible)
7	Fire extinguishers - (operable, inspected, proper location, proper type)
8	Personal protective equipment (used as required)
9	PPE available for visitors or vendors
10	First aid kit (adequate nunber of, adequately stocked, highly visible)
11	Trained first aiders at facility (sufficient number, identified, posted)
12	Safety signs and notices (sufficient number, all hazards, current)
13	Safety bulletin board (current)
14	Employer liability insurance certificate (current, displayed) UK only
15	Entryway/gateway (signed, unobstructed)

16	Parking (sufficient, unobstructed, signed)
17	Road surfaces (safe, maintained)
18	Lighting (sufficient, working, assess both internal and external)
19	Heating and cooling system (radiators free/clear, system checked annually, adequate records)
20	Electrical panels and wiring (labeled, secure, maintained)
21	Landscape (presentable, maintained)
22	BJ Services company signs (visible, maintained)
23	Prohibited articles/substances sign (visible, maintained)
24	Safety signs for LTI free days (up to date, visible)
25	Notice to visitors and vendors (where to go, posted)
26	Speed limit signs (posted, visible, adhered to)
27	Security fence (sufficient, maintained)
28	Fixed stairs, ladders, walkways, handrails, gates and doors (maintained, clear, safe)
29	Emergency exits/routes (signed, unobstructed, site plan of)
30	Hazardous chemicals inventory (held locally, current)
31	Material safety data sheets (accessible locally, current) Dispatch?
32	Spills or leaks visible
33	Spill control material (available, appropriate, utilized)
34	Knowledge of environmental and safety (HSE) manuals
35	Knowledge of emergency response plans (fire, injury, spillage)
36	Surface-water/storm-water drains & discharge points free of oil, debris, etc
37	Site isolation valves marked/signed, access to, maintained (electricity, gas, water, drains)
38	Drains (surface/foul) emergency cut-off valves - where installed (work properly)
39	No open containers outside collecting water
40	Environmental Records present and in order
HK	Housekeeping (Rating 0,1,2,4)

Shop(s)	
1	Hand tools (condition, noise, sufficient number, proper storage)
2	Grinding equipment (signs/visibility, tool rests, wheels inspected/maintained)
3	Welding and cutting equipment (stored properly, flash back arrestors, welding screens)

4	Cranes, hoists and jacks (capacity signed, periodic inspection, tested, records)
5	Lubrication area (clean, labeled, spill controls)
6	Parts storage (secure, labeled, clean, records)
7	Overhead storage area (posted for capacity, heavy items below, undamaged, secured to hazard points on floor)
8	Material safety data sheets (accessible locally, current) - Shop materials involved
9	Battery charging and storage area (separate, clean, ventilated)
10	Shop sumps clean & routinely maintained
11	Painting and paint storage area (contained, labeled, appropriate)
12	Cleaning agents and solvents area (storage, ventilated or enclosed, hazard signage, MSDS available)
13	Work benches (clean, tidy, vice condition)
14	Oily rag containers (enclosed, metal, labeled)
15	Lockout/tagout procedures (adhered, monitored, effective, understood)
16	Ladders (checked periodically and tagged, not painted)
17	Machine tools (pillar drill, lathe, etc.) (maintained, guarded, PPE available, signage, tested)
18	Used oil and filters being properly handled
19	Used anti-freeze being properly handled
20	Air compressors (belts guarded, auto start signage, PRV's checked annually/tagged)
21	Overhead doors (height marked, good working order)
HK	Housekeeping (Rating 0,1,2,4)

Locker Room(s) - Washroom(s) - Break Area(s)

1	Ventilation (adequate)
2	Showers and sinks (adequate, clean, maintained)
3	Toilets (adequate, clean, maintained)
4	Lockers (sufficient size/number, accessible, lockable)
5	Drinking water (available)
6	Sufficient personal storage and changing space (clean, maintained, adequate)
7	Any required regulations/posters
HK	Housekeeping (Rating 0,1,2,4)

Yard / External Equipment Storage Area	
1	Containers (appropriate, stacked, labeled)
2	Safe storage of waste (correctly segregated, labeled)
3	Pallets (adequate, maintained, safe)
4	Noise levels (signage, measured)
5	Flammable gas (caged, signed, segregated)
6	Road traffic signage (speed limits posted, warning signage for pedestrians), inspections, records, properly utilized)
7	Segregation of pedestrians/vehicles (walkways marked, railings)
8	PPE (signage, appropriate to risk assessed)
9	Racking (capacity signed, inspections, records, properly utilized)
10	Washbay sump(s) clean (routinely maintained and emptied)
HK	Housekeeping (Rating 0,1,2,4)

Forklift	
1	Forks (condition, maintained, appropriate)
2	Pre-use check sheets (available, utilized)
3	Area FLT warning signage (visible)
4	Rated capacity shown on FLT
5	Backup alarm and/or flashing light (audible, working)
6	FLT Operators (trained, licensed, nominated)
7	Controls (operate properly, maintained)
8	Brakes (operate properly, maintained)
9	Horn (operates properly, maintained)
10	Seat condition (maintained, comfortable)
11	Headlights (sufficient, working)
12	Rollover protection fitted

CORRECTIVE ACTION RESPONSIBILITY

Corrective Actions Assigned to: _____

Due Date for Completion: _____

Corrective Action Status: _____

SIGNATURE SECTION

If you are the relevant District/Facility Manager, Region/Country/Area Manager, District/ HSE Officer or Other Relevant Manager you should sign the report when you have read it. To add your signature to the appropriate section, click the **Edit** button (to enter Edit mode), then click on the **Review and Sign Off** button. This will add your name and the current date to the Accident Report in the relevant section below.

Reviewed and Signed Off by the Following:-

District Safety/Training Supervisor _____

District Manager _____

Region Safety/Training Manager _____

Region Manager _____

Service Supervisor _____

Other Relevant Personnel _____

ATTACHMENT 3

FACILITY EMERGENCY REPSONSE CONTINGENCY PLAN

BJ SERVICES COMPANY, U.S.A.
HOBBS TOOLS EMERGENCY RESPONSE PLAN

IN THE CASE OF ANY OIL OR CHEMICAL SPILLS

The Facility Supervisor will immediately notify the District Tools Manager. The District Tools Manager will follow procedures in the US Environmental Standards when reporting spills.

Facility Supervisor	Jimmy (Lance) Davis	505-513-0825 cell 505-391-1475 office
District Tools Mgr.	Blake Cox	432-381-2301 office
RSTM	David Winkles	432-683-2781 office

CHEMICAL SPILLS OCCURING OFFSITE OR LARGE ONSITE SPILLS

Call CURA National Emergency Response Service at (800) 579-2872

Contact the Environmental Department during work hours at (281) 351-8131 (Main Tomball Number). All agency reporting and reports will be taken care by CURA.

After hours Dispatch Personnel are to obtain the following information from the caller:

Incident Location (address, mile marker, nearest city, etc.)
Person Reporting the Spill (name, title) and phone number
On scene contact (name, title) and phone number
Description of the incident (type and volume of release, substance released, etc.)
Surfaces affected (soil/grass, asphalt, concrete, other)
Water affected (surface, groundwater, coastal)
Sensitive receptors (parks, storm sewer, drainage ditch, residential or populated areas)
Note any initial actions taken to control release.

The Facility Supervisor will call the following people, starting at the top of the list until someone on the list is contacted:

Jo Ann Cobb	(281) 357-2572	Office
	(713) 898-6635	Cellular/Pager
	(281) 353-4481	Home
Charles Smith	(281) 357-2582	Office
	(713) 594-0876	Cellular/Pager
	(281) 870-8997	Home
Jason Goodwin	(281) 357-2573	Office
	(713) 805-0284	Cellular/Pager
	(281) 292-0809	Home

Tomball Research & Technology Center	Address: 11211 FM 2920, Tomball, TX 77375	
	Main Number:	(281) 351-8131
	QHSE Fax	(281) 357-2585

NATIONAL RESPONSE CENTER (Oil Spills)..... (800) 424-8802

ATTACHMENT 4

BORING LOG

BROWN AND CALDWELL

Monitoring Well: MW-2

Project Name: BJ Services Comp[illegible] U.S.A. (Hobbs, New Mexico) Project Number: 6240.01 Sheet 1 of 2

Project Location: **Northeast Corner of Claiche Pit**		Logged By: **T. Jenkins**	Approved: **T. Jenkins**
Drilling Contractor: **West Texas Water Well**		Date Started: **11/19/97**	Date Finished: **11/19/97**
Drilling Equipment: **Badger 1250**	Driller: **Bernie Brockman**	Total Boring Depth: (feet) **60.0**	Depth to Static Water: (feet) **47.0**
Drilling Method: **Air Rotary**	Borehole Diameter: **4.875"**	TOC Elevation:	Ground Elevation: **NA**
Sampling Method: **Core/Split Spoon**		Diameter and Type of Well Casing: **2" Sch. 40 - PVC**	
Comments: **Monitor Well MW-2 was installed in Soil Boring SB-3**		Slot Size: **0.010**	Filter Material: **Silica Sand**
		Development Method: **Surge and Bail**	

Depth (feet)	USC Soil Type	Description	PID Readings	Sampled Interval	Recovery (feet)	Sample ID
2	SM	GRAVEL/MEDIUM with sand				
4						
6		Light tan colored, caliche/sand mixture	5		1	
8		Dense Caliche, Tan, mixed with small gravel				
10		Tan colored, Caliche	6		1	
12						
14		Caliche, becoming darker with depth				
16		Reddish, Tan colored caliche	5		1	
18						
20	SM	Tan caliche mixed with coarse sand and gravel	6		1	SB-3-20
22						
24						
26		No recovery first attempt			0	
		No recovery second attempt			0	
28		Limestone	8		1	
	SM	reddish Brown Sand				
30		Reddish brown sand	8		1	
32						

Monitoring Well Remarks

Cement grout with 5% bentonite.

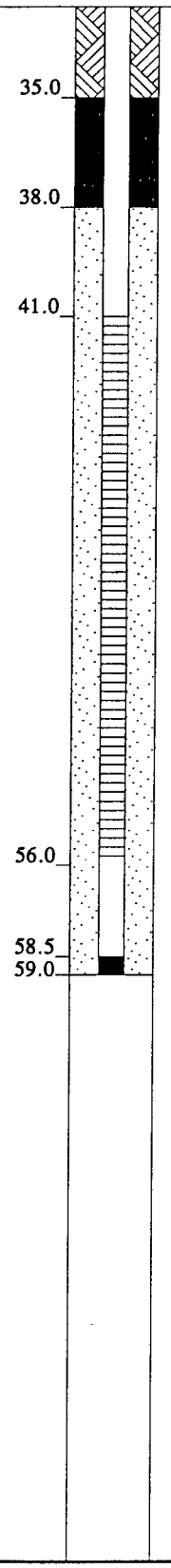
BROWN AND CALDWELL

Monitoring Well: MW-2

Project Name: BJ Services Company U.S.A. (Hobbs, New Mexico) Project Number: 6240.01 Sheet 2 of 2

Depth (feet)	Depth to Water	USC Soil Type	Lithology	Description	PID Readings	Sampled Interval	Recovery (feet)	Sample ID
34								
36				Reddish brown sand	15		1	
38								
40				Reddish Brown sand	18		1	SB-3-40
42								
44								
46	▼			Attempt split spoon sample obtained about 3" sample -Reddish-brown sand 6" recovery	>244		0.75	SB-3-45
48								
50				Saturated reddish-brown sand	11		2	
52								
54								
56				No sample obtained			0	
58								
60				No sample obtained			0	
				Total depth = 60 feet				

Monitoring Well Remarks



35.0 — Top of bentonite seal at 35.0 feet.

38.0 — Top of sand filter pack at 38.0 feet.

41.0 — Top of screen at 41.0 feet.

56.0 — Bottom of screen at 56.0 feet.

58.5

59.0 — Bottom of well at 59.0 feet.

Price, Wayne

From: Price, Wayne
Sent: Wednesday, June 25, 2003 4:36 PM
To: 'jason_goodwin@bjservices.com'
Subject: BJ (Old Nowsco-Acid Engr) Hobbs yard GW-017

Contacts: Jason Goodwin

Dear Jason:

Our records are showing this discharge plan expired 4/18/2003. Do we still have a groundwater issue there? if not then I recommend you request a closure along with evidence that groundwater has been abated.

Sincerely:

Wayne Price
New Mexico Oil Conservation Division
1220 S. Saint Francis Drive
Santa Fe, NM 87505
505-476-3487
fax: 505-476-3462
E-mail: WPRICE@state.nm.us

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
Governor
Jennifer A. Salisbury
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

Memorandum of Meeting or Conversation

Telephone __X__
Personal _____
E-Mail _____

Time: 1:40 pm
Date: 7/14/00

Originating Party: Wayne Price-OCD

Other Parties: Rick Johnson-BJ Service. Co.

Subject: BJ's old Nowsco (Acid Engr) Yard GW-017 Hobbs

Discussion: At BJ's convenience OCD would like to meet concerning the groundwater contamination at the above site, or if not possible OCD could outline in a letter.

Conclusions or Agreements:

Rick Johnson will try and coordinate a stop in Santa Fe on one of his trips to Farmington Area in the near future.

Signed: Wayne Price

CC: Rick Johnson-BJ

May 17, 2000

MAY 22

Mr. Wayne Price
State of New Mexico
Energy, Minerals, and Natural Resources Department
Oil Conservation Division
2040 South Pacheco Street
State Land Office Building
Santa Fe, NM 87505

RE: BJ Services Company, USA; Hobbs, NM (former Nowsco) Facility;
Discharge Plan Renewal

Dear Mr. Price:

Please find enclosed a copy of the Discharge Plan Renewal Application for the above referenced facility. As we discussed on the phone today, this facility is closed and the only activities on-site are related to closure of former operating areas.

Please note that the Owner Contact information contained in this application has changed. The new information is:

BJ Services Company, USA
11211 FM 2920
Tomball, TX 77375
(281) 351-8131
Contact: Ms. Jo Ann Cobb, REM

If you have any questions or concerns regarding the information presented, feel free to contact me at (281) 357-2573. Thank you.

Sincerely,

Rick N. Johnson, REM
Senior Environmental Specialist

wp

BROWN AND CALDWELL

July 24, 1998

Mr. Mark Ashley
New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division
2040 South Pacheco Street
Santa Fe, New Mexico 87505

6240-02

Subject: **Extension of Report Submittal Date**
Report of Sump and Ramp Unit Closure Activities
Discharge Plan (GW-17) (Formerly NOWSCO)
Hobbs Facility
Lea County, New Mexico

Reference: Ltr. from M. Ashley (NMOCD) to R. Johnson (BJ Services) dtd. 5/27/98; subj.: Closure Plan for Sump and Ramp Unit, Discharge Plan (GW-17)

Dear Mr. Ashley:

As discussed in our telephone conversation on July 22, 1998, Brown and Caldwell understands that an extension of required submittal date for the subject report from July 27, 1998, as specified in the referenced correspondence, to August 27, 1998 has been granted by the Oil Conservation Division of the New Mexico Energy, Minerals and Natural Resources Department (NMOCD). This request for an extension was necessitated due to drilling difficulties encountered during completion of soil borings requested in the referenced correspondence.

Please be advised that the borings have recently been successfully completed, and that Brown and Caldwell and BJ Services Company, U.S.A. will continue to work with the NMOCD to achieve closure of the subject unit.

If you have any questions regarding the information presented herein, please contact me or Tim Jenkins at (713) 759-0999.

Sincerely,

BROWN AND CALDWELL

Richard Rexroad

Richard Rexroad, P.G.
Principal-In-Charge

cc: Wayne Price (NMOCD – Hobbs District)
Rick Johnson (BJ Services Company, U. S. A.)
Tim Jenkins (Brown and Caldwell)

1415 Louisiana, Suite 2500, Houston, TX 77002
(713) 759-0999 Fax (713) 759-0952

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☒ Telephone ☐ Personal	Time 2:30 pm	Date 7-1-98
Originating Party		Other Parties
TIM JENKINS - Brown & Caldwell		MARK ASHLEY

Subject BJ - NOWSCO

Discussion TIM CALLED TO GIVE 72 HR. NOTICE. THEY WILL BEGIN WORK ON TUESDAY (7-7-98), AND SAMPLE ON (7-10-98).

Conclusions or Agreements

Distribution

Signed Mark Ashley

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

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

May 27, 1998

CERTIFIED MAIL
RETURN RECEIPT NO. P-288-259-071

Mr. Rick N. Johnson
BJ Services Company, U.S.A.
8701 New Trails Drive
Woodlands, Texas 77381

RE: Closure Plan for Sump and Ramp Unit
Discharge Plan GW-17 (Formerly Nowsco)
Hobbs Facility
Lea County, New Mexico

Dear Mr. Johnson:

The New Mexico Oil Conservation Division (OCD) has completed a review of the BJ Services Company, U.S.A. (BJ) "Work Plan for Investigation at Former Sump and Ramp Unit" dated April 24, 1998. This plan contains BJ's sampling and closure activities to be performed in the vicinity of the former sump and ramp unit associated with an inactive acid dock at the former NOWSCO Well Services, Inc. facility in Hobbs, New Mexico. The OCD approves of BJ's closure plan with the following conditions:

1. BJ stated in the above mentioned work plan that the existing pit beneath the former sump and ramp area has not been excavated to the limits of available excavation equipment. The OCD requires BJ to excavated the pit to the maximum limits of available equipment, not to exceed 5 feet in any direction.

2. Prior to backfilling, BJ will sample the floor and sidewalls for concentrations of major cations and anions, heavy metals, volatile and semivolatile organics, and TPH-D and TPH-G using EPA approved methods.

3. Bottom hole samples from all borings will be sampled for concentrations of major cations and anions, heavy metals, volatile and semivolatile organics, and TPH-D and TPH-G using EPA approved methods.

4. All borings that encounter ground water will be completed as monitor wells.

5. Monitor wells will be constructed with:

   a. A minimum of fifteen feet of well screen, with at least five feet of well screen

above the water table and ten feet of well screen below the water table.

b. An appropriately sized gravel pack will be set around the well screen from the bottom of the hole to 2-3 feet above the top of the well screen.

c. A 2-3 foot bentonite plug will be placed above the gravel pack.

d. The remainder of the hole will be grouted to the surface with cement containing 5% bentonite.

6. Ground water from the monitor wells will be sampled and analyzed for concentrations of major cations and anions, heavy metals, and volatile and semivolatile organics using EPA approved methods.

7. All soils generated will be characterized for hazardous constituents and disposed of at an OCD approved site.

8. BJ will submit a report on the investigation to the OCD by July 27, 1998. The report will include a description of the actions performed and the results of all sampling activities. The report will also include conclusions and recommendations for future actions based on the results of sampling.

9. BJ will notify the OCD Hobbs District Office at least 72 hours prior to all activities.

10. All original documents will be submitted to the OCD Santa Fe Office with copies provided to the OCD Hobbs District Office.

Please be advised that OCD approval does not relieve BJ of liability if contamination exists which is beyond the scope of the closure plan or if the activities fail to adequately determine the extent of contamination related to BJ's activities. In addition, OCD approval does not relieve BJ of responsibility for compliance with any other federal, state or local laws and/or regulations.

If BJ has any questions please contact me at (505)-827-7155.

Sincerely,

Mark Ashley
Geologist

xc: OCD Hobbs Office

Mark Ashley

From: Price, Wayne
Sent: Monday, April 20, 1998 2:45 PM
To: Mark Ashley; Bill Olson
Cc: Roger Anderson; Chris Williams
Subject: BJ Services- Nowsco Hobbs Yard Sump removal

Dear Mark!

I just reviewed the March 25, 1998 report submitted by BJ. After reviewing, it appears there is considerable high levels of both BTEX & TPH.

Due to the close proximity to both the Hobbs Country Club and nearby Eunice Well field I have the following recommendation:

Recommendation:

BJ should provide a plan to address the remaining contamination. Risk-Assessment approach should not be used until these levels are actively reduced.

There should be a Monitor Well located in the source area.

TALKED TO WAYNE 4-30-98 11:30AM

- CHANGE TPH TO 418.1 NOT 8015
- CHANGE METALS
- NEED TO KEEP DIGGING (EXCAVATE THE SOURCE)

Affidavit of Publication

STATE OF NEW MEXICO)
) ss.
COUNTY OF LEA)

Joyce Clemens being first duly sworn on oath deposes and says that he is Adv. Director of THE LOVINGTON DAILY LEADER, a daily newspaper of general paid circulation published in the English language at Lovington, Lea County, New Mexico; that said newspaper has been so published in such county continuously and uninterruptedly for a period in excess of Twenty-six (26) consecutive weeks next prior to the first publication of the notice hereto attached as hereinafter shown; and that said newspaper is in all things duly qualified to publish legal notices within the meaning of Chapter 167 of the 1937 Session Laws of the State of New Mexico.

That the notice which is hereto attached, entitled

Legal Notice

Notice of Publication

and numbered ..... was published in a regular and entire issue of THE LOVINGTON DAILY LEADER and not in any supplement thereof, for one (1) day consecutive weeks, beginning with the issue of

April 17, 1998

and ending with the issue of

April 17, 1998

And that the cost of publishing said notice is the sum of $ 50.00

which sum has been (Paid) (Assessed) as Court Costs

Joyce Clemens

Subscribed and sworn to before me this 23rd day of April, 1998

Jean Hewer

Notary Public, Lea County, New Mexico

My Commission Expires September 28 1998

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

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations, the following discharge plan .application(s) have been submitted to the Director of the Oil Conservation Division, 2040 South Pacheco, Santa Fe, New Mexico 87505, Telephone (505) 827-7131:

(GW-096) BJ Services Company, USA, Rick N. Johnson, (713) 363-7521, 5500 Northwest Central Drive, Houston, Texas, 77092, has submitted a discharge application for renewal of its previously approved discharge plan for the old NOWSCO Facility located in Section 36, Township 18 South, Range 37 East, NMPM, Lea County,New Mexico. The facility is not currently in operation, but the discharge plan is being renewed because of the ground water monitoring activities occurring at the facility. Ground water most likely to be affected in the event of an accidental discharge is at a depth of approximately 46 feet with a total dissolved solids concentration of approximately 1,600 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The discharge plan application(s) may be viewed at the above address between 8:00 a.m. and 4:00 p.m., Monday through Friday. Prior to ruling on any proposed discharge plan application(s), the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted and a public hearing may be requested by any interested person. Requests for a public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines there is significant public interest.

If no public hearing is held, the Director will approve or disapprove the proposed plan(s) based on information available. If a public hearing is held, the Director will approve or disapprove the proposed plan(s) based on the information in the discharge plan application(s) and information submitted at the hearing.

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 14th day of April 1998.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION
LORI WROTENBERY, Director
SEAL

Published in the Lovington Daily Leader April 17, 1998

OK MA 4-28-98

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

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

April 13, 1998

Lovington Daily Leader
Attention: Advertising Manager
Post Office Box 1717
Lovington, New Mexico 88260

Re: Notice of Publication

_____

_____

_____

Dear Sir/Madam:

Please publish the attached notice one time immediately on receipt of this request. Please proofread carefully, as any error in a land description or in a key word or phrase can invalidate the entire notice.

Immediately upon completion of publication, please send the following to this office:

1. ***Publisher's affidavit in duplicate.***
2. ***Statement of cost (also in duplicate).***
3. ***Certified invoices for prompt payment.***

We should have these immediately after publication in order that the legal notice will be available for the hearing which it advertises, and also so that there will be no delay in your receiving payment.

Please publish the notice no later than April 20, 1998.

Sincerely,

Sally Martinez
Administrative Secretary

Attachment

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

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

April 13, 1998

The New Mexican
***Attention:** Betsy Perner*
202 East Marcy
Santa Fe, New Mexico 87501

Re: Notice of Publication
PO # 98-199-00257

Dear Ms. Perner:

Please publish the attached notice one time immediately on receipt of this request. Please proofread carefully, as any error in a land description or in a key word or phrase can invalidate the entire notice.

Immediately upon completion of publication, please send the following to this office:

1. ***Publisher's affidavit.***
2. ***Invoices for prompt payment.***

We should have these immediately after publication in order that the legal notice will be available for the hearing which it advertises, and also so that there will be no delay in your receiving payment.

Please publish the notice no later than Monday, April 18, 1998.

Sincerely,

Sally Martinez
Administrative Secretary

Attachment

NOTICE OF PUBLICATION

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

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GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 14th day of April 1998.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

Roger Anderson

SEAL

for LORI WROTENBERY, Director

The Santa Fe New Mexican

Since 1849. We Read You.

NM OCD
ATTN: SALLY MARTINEZ
2040 S. PACHECO ST.
SANTA FE, NM 87505

RECEIVED
APR 22 1998
OIL CONSERVATION DIVISION

AD NUMBER: 21129 ACCOUNT: 56689

LEGAL NO: 63359 P.O. #: 98-199-000257

166 LINES ONCE at $ 66.40

Affidavits: 5.25

Tax: 4.48

Total: $ 76.13

NOTICE OF PUBLICATION

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

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GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 14th day of April 1998.

STATE OF NEW MEXICO
OIL CONSERVATION
DIVISION
LORI WROTENBERY,
Director

Legal #63359
Pub. April 20, 1998

AFFIDAVIT OF PUBLICATION

STATE OF NEW MEXICO
COUNTY OF SANTA FE

I, BETSY PERNER being first duly sworn declare and say that I am Legal Advertising Representative of THE SANTA FE NEW MEXICAN, a daily news paper published in the English language, and having a general circulation in the Counties of Santa Fe and Los Alamos, State of New Mexico and being a Newspaper duly qualified to publish legal notices and advertisements under the provisions of Chapter 167 on Session Laws of 1937; that the publication # 63359 a copy of which is hereto attached was published in said newspaper once each WEEK for ONE consecutive week(s) and that the notice was published in the newspaper proper and not in any supplement; the first publication being on the 20 day of APRIL 1998 and that the undersigned has personal knowledge of the matter and things set forth in this affidavit.

/S/ Betsy Perner
LEGAL ADVERTISEMENT REPRESENTATIVE

Subscribed and sworn to before me on this 20 day of APRIL A.D., 1998

OK MM 4-23-98

Notary B. Mathie
Commission Expires 3-13-2001

OFFICIAL SEAL
B. MATHIE
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires 3-13-2001

NOTICE OF PUBLICATION

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

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GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 14th day of April 1998.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

for LORI WROTENBERY, Director

SEAL

NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

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

July 7, 1995

CERTIFIED MAIL
RETURN RECEIPT NO. Z-765-962-372

Mr. Harold Haro
NOWSCO Well Service Inc.
P.O. Box 10647
Midland, Texas 79702-7647

RE: INVESTIGATION AND CLOSURE REPORT
NOWSCO WELL SERVICE INC. HOBBS FACILITY

Dear Mr. Haro:

The New Mexico Oil Conservation Division (OCD) has completed a review of NOWSCO's May 1995 "SUBSURFACE INVESTIGATION AND SITE CLOSURE PLAN UPDATE NOWSCO HOBBS FACILITY, 5514 CARLSBAD HIGHWAY, HOBBS, NEW MEXICO". This document contains the results of NOWSCO's contaminant investigation regarding an unlined pit at NOWSCO's Hobbs Facility and recommendations for closure.

The investigation actions taken to date are satisfactory and the closure recommendations as contained in the above referenced document are approved with the following conditions:

1. NOWSCO's proposed sampling plan for the monitor wells will include sampling and analyzing ground water for concentrations of benzene, toluene, ethylbenzene, xylene, heavy metals and major cations and anions using EPA approved methods.

   NOTE: Since there is no New Mexico Water Quality Control Commission (WQCC) ground water standard for total petroleum hydrocarbons (TPH), the OCD does not require that NOWSCO analyze ground water samples for TPH.

2. NOWSCO will notify the OCD at least one week in advance of all scheduled activities such that the OCD has the opportunity to witness the events and or split samples.

3. All original reports will be submitted to the OCD Santa Fe Office with copies provided to the OCD Hobbs District Office.

Please be advised that OCD approval does not relieve NOWSCO of liability should remaining contaminants pose a future threat to public health, ground water, surface water or the environment. In addition, OCD approval does not relieve NOWSCO of responsibility for compliance with any other federal, state or local laws and/or regulations.

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

Sincerely,

William C. Olson
Hydrogeologist
Environmental Bureau

xc: Jerry Sexton, OCD Hobbs District Supervisor
Wayne Price , OCD Hobbs Office
Mitch Ritter, Ritter Environmental & Geotechnical Services

Bill Olson

From: Wayne Price
To: Bill Olson
Cc: Roger Anderson; Wayne Price; Jerry Sexton
Subject: Nowsco -Hobbs Ground water contamination
Date: Tuesday, May 30, 1995 12:03PM
Priority: High

Dear Bill,

I have reviewed the Subsurface Investigation submitted by Ritter Environmental on behalf of Nowsco. Please note, there is an indication that ARSENIC has been discovered in low levels in the ground water along with high TDS values. The analytical results indicated .2 ppm Arsenic (Total).

I though I would bring this to your attention since this value exceeds both state and federal levels. Also, there is documentation that this water has made employees sick at the facility.

Please advise if you think we should issue some sort site specific health advisory! Preliminary indications and comments from Mitch Ritter is that the arsenic is naturally occuring and the high TDS is migrating in from off site.

April 2, 1998

CERTIFIED MAIL NO. P 414 630 971
RETURN RECEIPT REQUESTED

Mr. Mark Ashley
State of New Mexico
Energy, Minerals, and Natural Resources Department
Oil Conservation Division
2040 South Pacheco Street
State Land Office Building
Santa Fe, NM 87505

RE: Discharge Plan Renewal: GW-17
BJ Services Company, U.S.A.
5514 Carlsbad Highway
Hobbs, New Mexico
Old NOWSCO (Acid Engineering) Facility

Dear Mr. Ashley:

Please find enclosed a renewal application for the discharge plan of the above referenced facility and the required renewal fee. This facility is closed and non-operational. BJ Services Company, U.S.A. (BJ Services) is in the process of closing out the above referenced discharge plan (DP). These closure activities will require BJ to perform various activities on the facility. Therefore, BJ Services is renewing the discharge plan so that the clean up and closure activities are covered by the discharge plan

If you have any questions or concerns regarding the information presented, please contact me at (281) 363-7521. Thank you.

Sincerely,

Rick N. Johnson
Environmental Specialist

c: Ms. JoAnn Cobb, BJ Services Company, U.S.A.
Mr. Charles Smith, BJ Services Company, U.S.A.
Mr. Wayne Price, OCD - Hobbs Office

Hobbs, NM 88241-1980
District II - (505) 748-1283
811 S. First
Artesia, NM 88210
District III - (505) 334-6178
1000 Rio Brazos Road
Aztec, NM 87410
District IV - (505) 827-7131

Energy Minerals and Natural Resources Department
Oil Conservation Division
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

Revised 12/1/
Submit Origin
Plus 1 Copi
to Santa I
1 Copy to appropria
District Offi

DISCHARGE PLAN APPLICATION FOR SERVICE COMPANIES, GAS PLANTS, REFINERIES, COMPRESSOR, AND CRUDE OIL PUMP STATIONS

(Refer to the OCD Guidelines for assistance in completing the application)

☐ New ☒ Renewal ☐ Modification

1. Type: OILFIELD SERVICE FACILITY
2. Operator: BJ SERVICES COMPANY, USA

   Address: 5514 Carlsbad Hwy ; Hobbs ,NM ; 88240

   Contact Person: Jo Ann Cobb Phone: 281-363-7528
3. Location: ____/4 ____ ____/4 Section 36 Township 18S Range 37E

   Submit large scale topographic map showing exact location.

✓4. Attach the name, telephone number and address of the landowner of the facility site.

✓5. Attach the description of the facility with a diagram indicating location of fences, pits, dikes and tanks on the facility.

✓6. Attach a description of all materials stored or used at the facility.

7. Attach a description of present sources of effluent and waste solids. Average quality and daily volume of waste water must be included.

8. Attach a description of current liquid and solid waste collection/treatment/disposal procedures.

✓9. Attach a description of proposed modifications to existing collection/treatment/disposal systems.

N/A 10. Attach a routine inspection and maintenance plan to ensure permit compliance.

✓11. Attach a contingency plan for reporting and clean-up of spills or releases. (HASP)

12. Attach geological/hydrological information for the facility. Depth to and quality of ground water must be included.

13. Attach a facility closure plan, and other information as is necessary to demonstrate compliance with any other OCD rules, regulations and/or orders.

14. CERTIFICATION

I herby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

NAME: JO ANN COBB Title: MANAGER, ENVIRONMENTAL SERVICES

Signature: Jo Ann Cobb Date: 4-3-98

BJ Services Company U.S.A.
Discharge Plan Renewal – Hobbs, New Mexico
(former NOWSCO Wells Services, Inc. Facility)

1. Type of Operation

This facility is closed. The only activities occurring at this facility are related to the closure of the discharge plan.

2. Operator

Facility Address: BJ Services Company, U.S.A.
5514 Carlsbad Highway
Hobbs, NM 88240

Owner Contact: BJ Services Co. U.S.A.
8701 New Trails Drive
The Woodlands, TX 77381
(281) 363-7528
Contact: Ms. Jo Ann Cobb, R.E.M.

Note: All correspondence and inquires should be addressed to the *Owner Contact.*

3. Location*

Section 36; Township 18 South; Range 37 East; NMPM; Lea County; Hobbs, New Mexico

*** See Figure 1**

4. Landowner of Facility Site

BJ Services Company
5500 Northwest Central Drive
Houston, Texas 77092
Contact: Ms. Jo Ann Cobb, R.E.M.

5. Facility Description

See Figure 2, Site Plan

6. Materials Stored or Used at the Facility

No materials are stored at this facility. When closure activities are occurring at the facility, laboratory grade detergent, distilled water, and deionized water may be used to clean various types of sampling equipment.

7. Sources of Effluent and Waste Solids

Waste Stream	Source	Approximate amount per year	On-site Management Practices
Purge water	On-site monitoring wells	3 drums	Placed into drums for characterization and disposal
Decon Water	Cleaning sampling equipment	3 drums	Placed into drums for characterization and disposal
Soil cuttings	Drilling of soil borings or monitoring wells	Currently 6 drums[1]	Placed into drums for characterization and disposal
Waste soil	Excavation of previously used equipment	Currently 150 cubic yards[1]	Stockpiled onsite for characterization and disposal

1 – Current numbers are provided for waste soil generation because future corrective action efforts will dictate the amount of waste soil generated.

8. Current Liquid and Solid Waste Collection/Treatment/Disposal Procedures

Decontamination water and water removed from the on-site monitoring wells prior to sampling will be placed in drums for characterization and subsequent disposal. This fluid will be disposed of at Controlled Recovery, Inc (CRI). Soil cuttings and waste soil generated as a result of corrective action will also be disposed of at CRI.

9. Proposed Modifications

BJ Services proposes to modify the discharge plan to include only the information contained in this document. All of the items contained in the previous discharge plans are null and void as the facility is closed and not operating.

10. Inspection and Maintenance

No inspection and maintenance aspects are required in this discharge plan.

11. Contingency Plan

Since this facility is not operational, there is no contingency plan for facility operations. However, as a part of the ongoing closure and assessment activities, a Health and Safety Plan (HASP) has been generated. This document is included as Attachment 1.

12. Site Characteristics

There are three monitoring wells at the location. Soil encountered below ground surface is generally caliche down to 20 feet, followed by a thin limestone layer, followed by a sandy clay

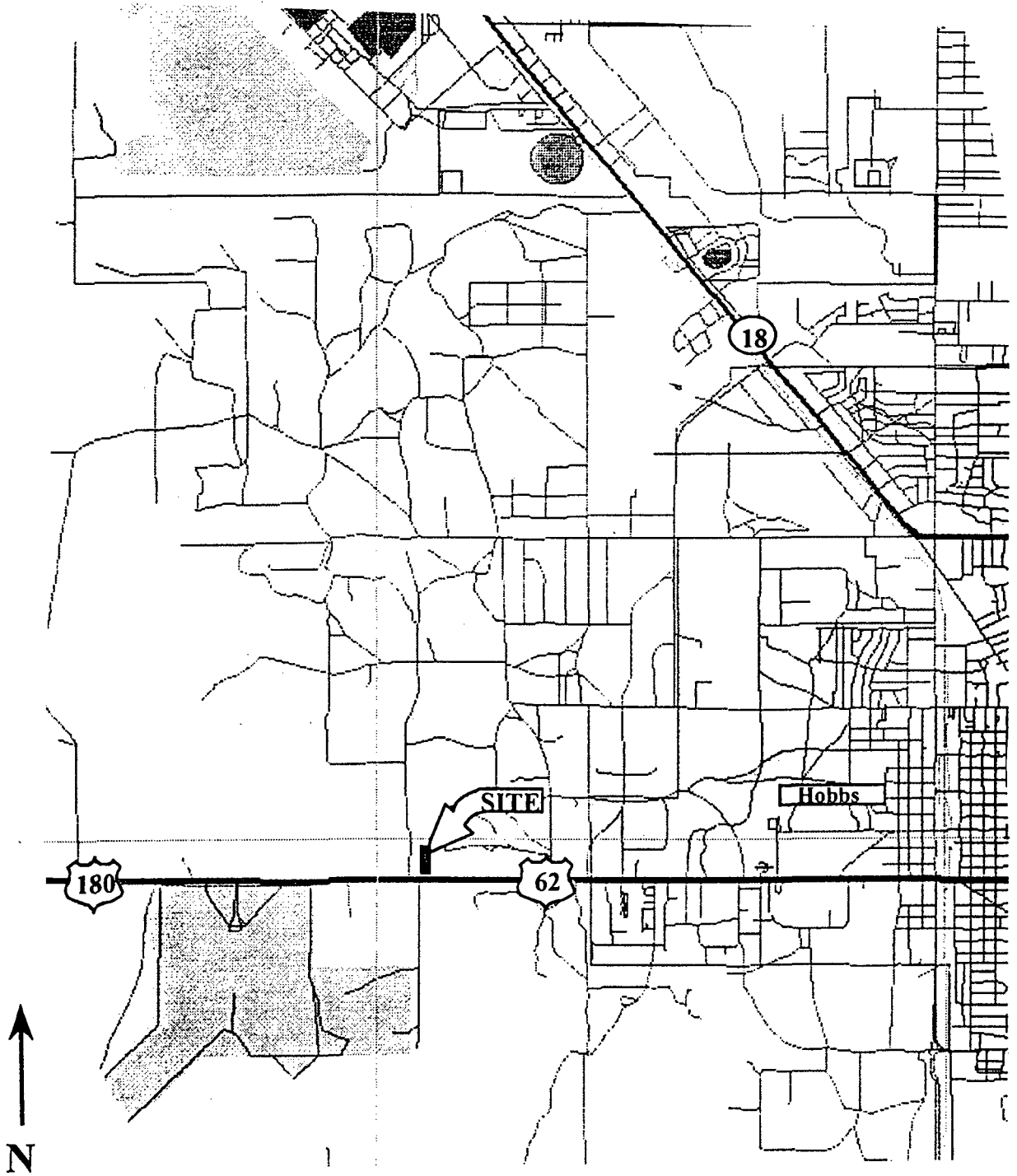


	Figure 1: Site Location Map Last Revised: 3/12/98
BJ Services Company, U.S.A. 8701 New Trails Drive The Woodlands, TX 77381	Facility Name: BJ Services Company, U.S.A. Facility Address: 5514 Carlsbad Highway Hobbs, NM 88240

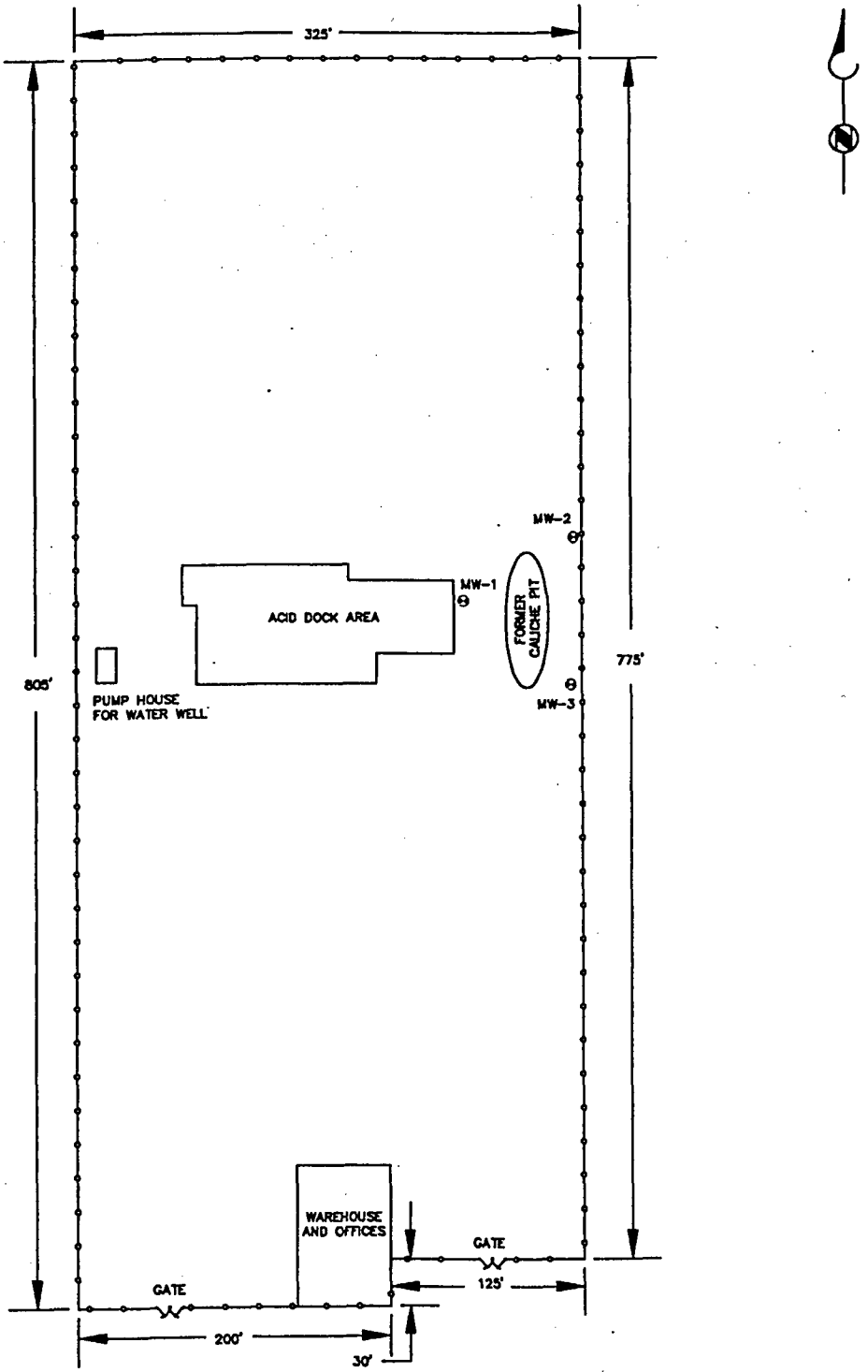


	Figure 2: Site Layout Map Last Revised: 3/12/98
BJ Services Company, U.S.A. 8701 New Trails Drive The Woodlands, TX 77381	Facility Name: BJ Services Company, U.S.A. Facility Address: 5514 Carlsbad Highway Hobbs, NM 88240

Attachment 1

BROWN AND CALDWELL
SITE SAFETY AND HEALTH PLAN

Site History

The project site is currently owned by BJ Services Company, U.S.A (BJ Services) as a result of its purchase of NOWSCO Well Services, Inc. (NOWSCO) on June 12, 1996. BJ Services is a well servicing company operating nationwide. NOWSCO provided oil field-related services to exploration and development operations conducted in southern New Mexico from the facility at Hobbs, New Mexico. The facility has been non-operational since the purchase of NOWSCO by BJ Services, however.

Site Description

The site is located at 5514 Carlsbad Highway in an industrial area at Hobbs, New Mexico.

An acid dock at the site was used for the loading and blending of dilute hydrochloric acid for use in well stimulation services. A small (i.e., estimated capacity of 250 gallons) acid scrubber aboveground storage tank (AST) containing a transparent yellowish liquid is present in the vicinity of the acid dock.

Also present at the facility is a drum storage area containing four drums suspected to contain waste oil and/or antifreeze, several additional ASTs, and a wastewater tank containing effluent from sumps located inside the former shop area of the facility and/or the acid loading dock.

In addition, an open excavation, known as the caliche pit, is present in the eastern portion of the facility. The caliche pit was apparently used for disposal of various waste materials generated during facility operations. A monitor well is located immediately west of the caliche pit.

Project Objectives

The present objectives of the project are to install two to three groundwater monitoring wells in the vicinity of the caliche pit and to perform waste characterization sampling of the contents of the containment vessels described above in order to facilitate subsequent collection and disposal of the contents of these vessels.

This site-specific health and safety plan (SSHP) has been prepared in order to establish guidelines designed to minimize exposure to hazards created by the field activities associated with this project.

Field Activities

Soil borings will be completed at two or three locations in the area of the caliche pit. Soil samples will be collected from these borings. Groundwater monitoring wells will subsequently be installed in the soil borings. The groundwater monitoring wells will then be developed and sampled.

Waste characterization samples will be collected from the various previously described containment vessels. The contents of these containment vessels will then be removed and disposed.

KEY PERSONNEL AND RESPONSIBILITIES

Tim Jenkins is the project manager (PM). Anne Baptiste, Certified Industrial Hygienist (CIH), is the health and safety officer (HSO). Mr. Jenkins will perform waste characterization as well as soil and groundwater sampling in addition to providing oversight of soil boring and monitor well installation activities. He will also function as site safety officers (SSO). The project field staff has completed 40 hours of comprehensive health and safety training which meets the requirements of Title 29 Code of Federal Regulations Part 1910.120 (29 CFR 1910.120), and the requisite 8-hour refresher training. The SSO has the authority to monitor and correct health and safety problems as noted on-site.

PM Responsibilities

The PM is responsible for generating, organizing, and compiling the SSHP which describes planned field activities and potential hazards that may be encountered at the site. The PM is also responsible for assuring that adequate training and site safety briefing(s) are provided to the project field team. The PM will provide a copy of this SSHP to each member of the project field team and one copy to each subcontractor prior to field activities.

HSO Responsibilities

The HSO is responsible for developing and coordinating the Brown and Caldwell (BC) health and safety program. For specific projects, the HSO is responsible for reviewing and approving the SSHP for accuracy and incorporating new information or guidelines which aid the PM and SSO in further definition and control of the potential health and safety hazards associated with the project.

Oversight Responsibilities

The project technicians/geologists/engineers are responsible for ensuring that data acquisition is performed in accordance with the work plan and SSHP, and that deviations from the plan are based upon field conditions encountered and are well documented in the field notes. The project technician's/geologist's/engineer's health and safety responsibilities include:

1. Following the SSHP.

2. Reporting, to the PM, any unsafe conditions or practices.

3. Reporting, to the PM, facts pertaining to incidents which result in injury or exposure to toxic materials.

4. Reporting, to the PM, equipment malfunctions or deficiencies.

SSO Responsibilities

The SSO has on-site responsibility for ensuring that all team members, including subcontractor(s), comply with the SSHP. It is the SSO's responsibility to inform the subcontractor(s) and other field personnel of chemical and physical hazards as he becomes aware of them. Additional SSO responsibilities include:

1. Providing site safety briefing for team members.

2. Updating equipment or procedures to be used on-site based on new information gathered during the site investigation.

3. Inspecting all personal protective equipment (PPE) prior to on-site use.

4. Assisting the PM in documenting compliance with the SSHP by completing the standard BC forms.

5. Assisting in and evaluating the effectiveness of decontamination procedures for personnel, protective equipment, sampling equipment and containers, and heavy equipment and vehicles.

6. Enforcing the "buddy system" as appropriate for site activities.

7. Posting location and route to the nearest medical facility; arranging for emergency transportation to the nearest medical facility.

8. Posting the telephone numbers of local public emergency services (i.e., police and fire).

9. Stopping operations that threaten the health and safety of the field team or surrounding populace.

10. Entering the exclusion area in emergencies after he has notified emergency services.

11. Observing field team members for signs of exposure, stress, or other conditions related to pre-existing physical conditions or site work activities.

Project Contacts

The following is a reference list of project contacts:

Client:	BJ Services Company, U.S.A. Jo Ann Cobb, Manager, Health, Safety, Environment (281) 363-7528
Regulatory Agency:	New Mexico Oil Conservation Division Mark Ashley (505) 827-7155
BC PM:	Timothy Lyle Jenkins (713) 759-0999
BC HSO:	Anne Baptiste (619) 528-9090 (office) (619) 641-5134 (phone) (800) 608-9495
BC SSO:	Timothy L. Jenkins (713) 816-9955 (mobile phone at the former NOWSCO Hobbs, NM facility)
Subcontractor(s):	West Texas Water Well Drilling Mr. Paul McAnear (915) 638-4753

Emergency Telephone Numbers

The following emergency telephone numbers will be used to call for assistance:

Police	911
Ambulance	911
Fire	911
Hospital	Lea Regional Hospital (505) 392-6581

Hospital Location

Lea Regional Hospital is located at 5419 Lovington Highway, in Hobbs, New Mexico. A map from the site to the hospital is provided in Attachment 1.

Subcontractor Responsibilities

All subcontractors are responsible for their own health and safety program and the health and safety of their own employees. This requirement is based on OSHA regulations, which recognize the employer-to-employee responsibility for health and safety. A copy of their written program must be submitted for review to BC, if requested. In an effort to assist the subcontractors, and to comply with hazard communication requirements, Brown and Caldwell will provide a copy of the site safety and health plan for this project to each subcontractor for implementation for the subcontractor's employees.

HAZARD ANALYSIS

The potential hazards to personnel working at the subject site have been identified as chemical contamination, physical hazards of working around heavy equipment, drill rigs, uneven terrain, heat stress or cold stress (depending on weather conditions), inclement weather, facility equipment, lifting, noise and possible flammable substances at the facility. Each potential hazard relative to the potential for exposure is described below.

Chemical Contamination

The chemical health and safety hazards of this project are potential exposure to phase separated hydrocarbons and/or hydrochloric acid. Exposure could be due to inhalation of vapors from affected soil or groundwater, and/or skin contact with affected materials. Personal protective equipment and safe work practices will be used to control potential exposure to chemical contaminants. The principle hydrocarbon constituent of concern is hydrochloric acid.

Hydrochloric acid, CAS# 7647-01-0, is not listed as a carcinogen, but has shown significant acute and chronic overexposure effects. Consult the material safety data sheet (MSDS) included as Appendix A for first aid and handling precautions.

Other chemicals, such as benzene, toluene, ethylbenzene, and xylenes may be present in impacted soils. Benzene is a carcinogen, whereas toluene, ethylbenzene and xylene are considered non-carcinogenic. MSDS for these chemicals are also included in Appendix A.

Table 1
Chemical Exposure Limits and Characteristics

		NIOSH[b]				

Chemical	OSHA[a] PEL (ppm)	REL (8 hour TWA) (ppm)	ACGIH[c] TLV (ppm)	IDLH[d] Level (ppm)	Flammable Range %	Notes[e]
Benzene	1	0.1	10	CA	1.3 - 7.9	Ca, Fl
Toluene[f]	100	100	50	2000	1.2 - 7.1	Fl, T
Ethylbenzene	100	100	100	2000	1.0 - 6.0	Fl, T
Xylenes	100	100	100	1000	1.0 - 7.0	Fl, T

a. Permissible Exposure Limit as required by the Occupational Safety and Health Administration (OSHA) as published by the National Institute for Occupational Safety and Health (NIOSH), publication number 90-117, June 1990.

b. Recommended Exposure Limit (REL), based on an 8-hour time-weighted average (TWA), recommended by NIOSH, publication number 90-117, June 1990.

c. Threshold Limit Value, as the airborne 8-hour TWA, published by the American Conference of Governmental Industrial Hygienists (ACGIH), 1994-1995.

d. Immediately Dangerous to Life and Health level as published by NIOSH, Publication Number 90-117, June 1990.

e. Fl = Flammable, Ca = Carcinogenic, T = Toxic.

f. These chemicals have a skin designation by ACGIH and OSHA - the exposure shall be reduced to the extent necessary through the use of appropriate personal protective equipment, engineering controls or work practices to prevent or reduce an employee's skin exposure.

Physical Hazards

When working around or operating heavy equipment, the potential for physical injury, noise stress, and physically becoming entangled in the heavy equipment exists. Extra care should be taken when moving around the site. All personnel will observe safe working procedures and wear the required personnel protective equipment. Faulty or suspect equipment should be reported immediately.

Noise

Noise is a potential hazard in areas where heavy equipment including drilling rigs, excavators, power tools, pumps or generators are operated. Heavy equipment operation may produce noise levels that reach or exceed 85 decibels (dBA), the action level established by the Occupational Safety and Health Administration (OSHA). Elevated noise levels will be evaluated by the SSO when the drilling rig is operated. Exposure to elevated noise levels can lead to temporary or permanent hearing loss, and can also cause muscle tension and irritability. The SSO will ensure hearing protection is utilized when noise levels are elevated (e.g., when the drilling rig is in operation). Ear plugs will be worn if, at any time, verbal communication becomes difficult to comprehend within a radius of three feet.

Sunburn

Working outdoors on sunny days for extended periods of time can cause sunburn to the skin. Excessive exposure to sunlight is associated with the development of skin cancer. Field staff should take precautions to prevent sunburn by using sun-screen lotion and/or wearing hats and long-sleeved garments.

Heat Stress

The potential for heat stress is a concern when field activities are performed on warm, sunny days, and is accentuated when chemical protective clothing is worn. Heat stress prevention measures and monitoring will be implemented if ambient temperatures are above 70 degrees Fahrenheit (F).

General Precautions. Precautions to prevent heat stress will include: work/rest cycles so that rest periods are taken before excessive fatigue occurs; regular intake of water to replace that lost from sweating. Work/rest cycles will be based on monitoring the heart rate (pulse) of each individual worker. Rest breaks will be long enough to reduce the heart rate (HR) below levels calculated according to the following method:

1. Workers will initially determine their resting HR prior to starting work activities.

2. At the start of the first rest period, workers will determine their initial HR. This initial HR should not exceed the individual's age-adjusted maximum HR, which equals [(0.7)(220 - age in years)]. At 1 minute into the rest period, the recovery HR will be determined. The recovery HR should not exceed 110 beats per minute.

3. If the initial HR exceeds the age-adjusted maximum HR, or the 1-minute recovery HR is greater than 110 beats per minute, then the next work period will be decreased by 10 minutes.

An initial work/rest cycle of 1 hour work and 15 minutes rest is recommended for protection of staff when the heat stress hazard is high. The recommended cycle will be adjusted up or down based upon worker monitoring, environmental conditions, and the judgment of the SSO. At any time, field team members recognize the signs or symptoms of heat stress prior to a scheduled rest period, they will notify the SSO immediately in order that a rest period can be called.

Heat stress due to water loss can be prevented. To prevent dehydration, water intake must approximate sweat loss. Water intake guidelines are as follows:

1. The sense of thirst is not an adequate indicator of water replacement needs during heat exposure. Therefore, water must be replaced at prescribed intervals.

    a. Before work begins, drink two 8-ounce glasses of water.
    b. During each rest period, drink at least two 8-ounce glasses of water.

2. Plain water, served cool, is excellent. An adequate supply of drinking water (at least one gallon per person per day) and clean cups will be readily available (i.e., at the support vehicle) to provide water during rest periods.

3. Adding salt to water is not recommended. However, other fluids, in addition to water, could include fruit juices and diluted electrolyte replacement drinks (diluted 3:1 with water). **Do not use salt tablets!**

Heat stress, if not prevented, results in heat stress illnesses. Two critical illnesses, if not recognized and treated immediately, can become life-threatening. These are heat exhaustion and heat stroke. Heat exhaustion will result if the prevention measures described above are not implemented. Ignoring the signs and symptoms of heat exhaustion will lead to the development of heat stroke. Heat stroke is an immediate, life-threatening condition that results because the body's heat regulating mechanisms shut down, and the body cannot cool itself sufficiently. As heat is excessively stored in the body, brain damage can result causing permanent disability or death.

Heat Exhaustion. The signs and symptoms of heat exhaustion are headache; dizziness; nausea; weakness; fainting; profuse sweating; loss of appetite; approximately normal body temperature; dilated pupils; weak and rapid pulse; shallow and rapid breathing; possible cramps in abdomen and extremities; possible vomiting; difficulty walking; and **skin that is cool and sweaty to the touch with pale to ashen-gray coloring.**

First aid for heat exhaustion is as follows:

1. Immediately remove victim to the support area; if you are the victim, go to the support area.

2. Decontaminate, if practical, before entering support area.

3. Start cooling, but be careful not to cause a chill (i.e., rest in shade and apply wet towel to forehead; open up and/or remove clothing as much as practical, especially chemical-resistant clothing).

4. Drink cool water slowly, but only if conscious and not in shock.

5. If vomiting, and/or the signs and symptoms are not lessening within an hour, call for emergency help and/or transport the victim to emergency room.

6. It is likely that a heat exhaustion victim will be unable to work for the remainder of the day.

Heat Stroke (also known as sun stroke). The signs and symptoms of heat stroke are **hot, dry skin to the touch with reddish coloring**; body temperature >105 degrees F; no sweating; mental confusion; deep, rapid breathing that sounds like snoring progressing to shallow, weak breathing;

headache; dizziness; nausea; vomiting; weakness; dry mouth; convulsions; muscular twitching; sudden collapse; possible unconsciousness.

First aid for heat stroke is as follows:

1. Immediately remove the victim to the support area; prior to entering the support area, remove and dispose the victim's chemical-resistant clothing.

2. Cool the victim rapidly using whatever means are available, such as shade, opening up and/or removing clothing, soaking clothing/skin with water and fanning, placing victim in vehicle using air conditioning on maximum.

3. Do **not** give drinking water to victim.

4. Treat for shock, if needed.

5. **Transport** the victim **to the emergency room** or call for emergency help; **no exceptions** for heat stroke victim.

Cold Stress

The potential for cold stress is a particular concern when field activities are performed while air temperatures at the site are below 40 degrees F. If winds are blowing at 5 miles per hour (mph) or greater and/or the weather is damp or wet, cold stress is even more of a potential hazard. Precautions that will be taken to prevent cold stress include wearing cold-protective clothing appropriate for the level of cold and physical activity, changing under clothing if it becomes wet, and establishing a work/warming regimen. Cold protective clothing will include layering of garments and use of gloves and hats. The warming breaks should be taken in a warm location if at all possible, including improvising a wind break shelter at the site. During warming breaks, warm sweet beverages and soups should be consumed to provide calories and fluids. Drinking coffee or other caffinated beverages is **not** recommended.

Cold stress, if not prevented, can result in frostbite and hypothermia. Ignoring the signs and symptoms of cold stress can be life-threatening. Prevention is the key. As a preventive measure, body core temperature must not drop below 96.8 degrees F. Pain in the extremities is the first early warning of cold stress. Severe shivering sets in when the body core temperature has dropped to 95 degrees F or less. If this occurs, work will stop immediately and the affected worker(s) will take a warming break of sufficient duration that the cold stress signs and symptoms are gone.

TRAINING REQUIREMENTS

All BC staff working on site have completed training in hazard recognition and basic health and safety issues as required by the occupational safety and health regulations contained in 29 CFR 1910.120 (e).

This training is accomplished through an initial 40-hour classroom program, which includes hazard communication training, and 24-hour on-the-job training. The 8-hour refresher training is conducted annually. In addition, field personnel will be familiar with the requirements of this SSHP, and will participate in site activity and safety briefings provided by the project SSO. The SSO and project manager have completed the required 8 hours of additional supervisory training for this project assignment, and first aid and CPR.

All subcontractor personnel directly involved with the field work must also meet the training requirements of 29 CFR 1910.120, and be respirator trained and fit-tested by a qualified person. In addition, the subcontractor's field personnel must attend the site safety briefings conducted prior to starting field activities and as needed during the project.

PERSONAL PROTECTIVE EQUIPMENT

Based on the hazard analysis for this project, the following PPE will be required and used. Changes to these specified items of PPE will not be made without the approval of the SSO.

Level D is the minimum protection required for this job; which includes a hard hat, steel-toed work boots, long pants and long-sleeved shirt (or coveralls). Personnel will also wear safety glasses with side shields. Contact lenses are not allowed on-site. Depending on conditions encountered at the site, air-purifying respirators (level C) with organic vapor/acid gas cartridges may be required and should therefore be available at all times. Hard hats, safety glasses (goggles), and safety shoes must meet American National Standards Institute (ANSI) approval. Cold protective gear will be available for use if weather conditions warrant.

ENVIRONMENTAL MONITORING PLAN

The potential hazards identified in the Hazard Analysis portion of this SSHP determined the need for initial and/or ongoing monitoring for assessment of exposure to the hazards as follows.

At the beginning of the work day, the wind direction should be established in order to determine the location of work zones. The wind direction should be monitored periodically throughout the work day to detect any changes. The work zones may need to be adjusted or moved based on these findings.

During the soil boring program, the environment will be monitored an appropriate monitoring device.

During containment vessel sampling operations where hydrochloric acid may be present, vapors will be monitored using a draeger tube. These will be checked for a 0.5-hour period at the start of each job activity or changed condition as the SSO deems necessary, and changed out according to manufacturer recommendations. If the tubes indicate the presence of hydrochloric acid vapors above the TLV (i.e., 5 ppm for HCl), then respiratory protection will be donned and skin protection provided adequate to the job task.

To detect the present of BTEX constituents and other volatile organic compounds, a flame ionization detector (FID) or photoionization detector (PID) will be used for air screening. A background, upwind reading will be taken daily prior to the start of excavation activities. If at any time during the work, vapor concentrations greater than 10 parts per million (ppm) are observed in the breathing zone, respiratory protection will be required. If readings of 10 to 50 ppm are shown by the FID/PID, half-face respirators will be worn. If readings of 50 ppm to 100 ppm are shown by the FID/PID, then full face respirators will be worn. It is unlikely that this concentration will be reached. If readings greater than 100 ppm are consistently detected, work will stop and the level of protective equipment re-evaluated. Ionization potentials for BTEX constituents are given in Table 2.

Heat stress, cold stress and noise will be monitored as described in the Hazard Analysis portion of this SSHP.

Table 2
Ionization Potentials

Chemical	Ionization Potential
Benzene	9.24
Toluene	8.82
Ethylbenzene	8.76
Xylenes	8.44 - 8.56

MEDICAL SURVEILLANCE REQUIREMENTS

Medical surveillance is conducted as a routine program for BC field staff which meets the requirements of 29 CFR 1910.120 (f). This program includes baseline medical examinations for field work certification and annual follow-up examinations. Special medical tests or examinations are not anticipated for field personnel assigned to this project. The medical surveillance program is conducted under the guidance of an occupational medicine physician who established the medical exam protocol and certification requirements.

All subcontractor personnel directly involved with the field work must also meet the medical surveillance requirements of 29 CFR 1910.120

SITE CONTROL MEASURES

This section describes the general facilities and site-specific control measures for this project. The potential chemical and physical hazards have been identified in this SSHP; however, should unexpected conditions arise, the SSO will stop all work at the site and notify the PM and HSO. Work will not resume until the SSHP and working conditions have been reevaluated and the SSHP revised accordingly.

Work zones will be established based on wind direction, site access, work location and daily facility operations. Communication between field team members will consist of verbal communications and hand signals. The work area will be at a controlled access site so there should be no problem with accidental entry by the general public.

Work Practices

Safe work practices are part of assuring a safe and healthful working environment. These practices are standardized for all field activities, and it is the responsibility of BC employees to follow safe work practices when conducting field activities. Safe work practices to be employed during the entire progress of field work are as follows:

1. Set up, assemble, and check out all equipment for integrity and proper function prior to starting work activities.

2. Do not use faulty or suspect equipment.

3. Use only new and intact protective clothing. Change the suit, gloves, etc. if they tear.

4. Do not use hands to wipe sweat away from face. Use a clean towel or paper towels.

5. Practice contamination avoidance at all times.

6. Do not smoke, eat, drink or apply cosmetics while in the contaminated areas of the site, or prior to decontamination.

7. Wash hands, face, and arms prior to taking rest breaks, lunch break, and leaving the site at the end of the work day.

8. Check in and out with the SSO upon arrival and departure from the site.

9. Perform decontamination procedures completely as required by this SSHP.

10. Notify the SSO immediately if there is an accident that causes an injury or illness.

11. Use the buddy system when working in the contaminated areas of the site.

12. Do not approach or enter an area where oxygen deficiency or toxic or explosive concentrations of airborne contaminants may exist without the proper personal protective equipment and appropriate support personnel.

13. Use respirators correctly and as required for the site; check the fit of the respirator with a negative or positive pressure test; do not wear respirator with facial hair or other conditions

that prevent a face-to-facepiece seal; do not wear contact lenses when the use of a respirator is required.

DECONTAMINATION

Decontamination will take place in the decontamination area identified on site. All workers, PPE, sampling equipment, and heavy equipment leaving the exclusion area will be decontaminated to prevent the spread of hazardous materials. All workers will wash hands, arms and face after removing PPE and prior to leaving the site. Disposable items will be bagged for disposal along with other hazardous wastes removed from property. Sampling equipment will be decontaminated using laboratory grade detergent, followed by rinsing with tap water and a final rinse with distilled water. Support vehicles are to be left outside the exclusion area so that decontamination will not be necessary. All heavy equipment will be steam-cleaned prior to removal from the site. There are no special emergency decontamination procedures anticipated for this project.

EMERGENCY PROCEDURES

In the event of an emergency on site, the SSO will direct the course of action. It may be necessary for the SSO to depend on the other on-site personnel for assistance. The SSO will call for emergency assistance if needed. As soon as practical, the SSO will contact the PM and the HSO. All staff assigned to this project will be briefed on the emergency procedures and their responsibilities for implementation. A map showing the location and route to the hospital is included as Attachment 1.

The SSO is trained in first aid and CPR. A first aid kit and fire extinguisher will be located in the support vehicle. The nearest telephone is a portable phone located in the SSOs vehicle. The emergency telephone numbers to be used to call for assistance are listed in the section on Key Personnel and Responsibilities with the reference list of project contacts.

DOCUMENTATION

The implementation of the SSHP must be documented to assure employee participation and protection. In addition, the regulatory requirements must be met for record keeping on training, medical surveillance, injuries and illnesses, exposure monitoring, health risk information, and respirator fit-tests. Documentation of each employee's activities is maintained by the HSO in Sacramento, California.

Documentation of the implementation of this plan will be accomplished using Attachments A through E. Copies of these forms are included as Appendix B. Appendix C contains an Accident, Injury, and Illness Investigation Report form.

Attachment A must be completed by each BC employee at the initiation of field work for the project. The site safety officer is responsible for ensuring that each BC employee has completed this form, and for submitting copies to the HSO. The site safety officer is also responsible for completing the other attachments as required for a specific project. Copies should be maintained in the project file.

APPENDIX A

MATERIAL SAFETY DATA SHEETS

Genium Publishing Corporation
1145 Catalyn Street
Schenectady, NY 12303-1836 USA
(518) 377-8854

Sheet No. 316
Benzene

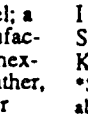
Issued: 11/78 Revision: E, 8/90

Section 1. Material Identification

Benzene (C_6H_6) **Description:** Derived by fractional distillation of coal tar, hydrodealkylation of toluene or pyrolysis of gasoline, catalytic reforming of petroleum, and transalkylation of toluene by disproportionation reaction. Used as a fuel; a chemical reagent; a solvent for a large number of materials such as paints, plastics, rubber, inks, oils, and fats; in manufacturing phenol, ethylbenzene (for styrene monomer), nitrobenzene (for aniline), dodecylbenzene (for detergents), cyclohexane (for nylon), chlorobenzene, diphenyl, benzene hexachloride, maleic anhydride, benzene-sulfonic acid, artificial leather, linoleum, oil cloth, varnishes, and lacquers; for printing and lithography; in dry cleaning; in adhesives and coatings; for extraction and rectification; as a degreasing agent; in the tire industry; and in shoe factories. Benzene has been banned as an ingredient in products intended for household use and is no longer used in pesticides.

R 1
I 4
S 2*
K 4
*Skin absorption

NFPA



HMIS
H
F
R
PPG
† Sec.

Other Designations: CAS No. 0071-43-2, benzol, carbon oil, coal naphtha, cyclohexatriene, mineral naphtha, nitration benzene, phene, phenyl hydride, pyrobenzol.

Manufacturer: Contact your supplier or distributor. Consult the latest *Chemicalweek Buyers' Guide*[7] for a suppliers list.

Cautions: Benzene is a confirmed *human carcinogen* by the IARC. *Chronic low-level exposure may cause cancer (leukemia) and bone marrow damage, with injury to blood-forming tissue.* It is also a dangerous fire hazard when exposed to heat or flame.

Section 2. Ingredients and Occupational Exposure Limits

Benzene, ca 100%*

1989 OSHA PELs
(29 CFR 1910.1000, Table Z-1-A)
8-hr TWA: 1 ppm, 3 mg/m³
15-min STEL: 5 ppm, 15 mg/m³

(29 CFR 1910.1000, Table Z-2)
8-hr TWA: 10 ppm
Acceptable Ceiling Concentration: 25 ppm
Acceptable Maximum Peak: 50 ppm (10 min)†

1989-90 ACGIH
TLV-TWA: 10 ppm, 32 mg/m³

1988 NIOSH RELs
TWA: 0.1 ppm, 0.3 mg/m³
Ceiling: 1 ppm, 3 mg/m³

1985-86 Toxicity Data‡
Man, oral, LD_{Lo}: 50 mg/kg; no toxic effect noted
Man, inhalation, TC_{Lo}: 150 ppm inhaled intermittently over 1 yr in a number of discrete, separate doses affects the blood (other changes) and nutritional and gross metabolism (body temperature increase)
Rabbit, eye: 2 mg administered over 24 hr produces severe irritation

* OSHA 29 CFR 1910.1000, Subpart Z, states that the final benzene standard in 29 CFR 1910.1028 applies to all occupational exposures to benzene except in some subsegments of industry where exposures are consistently under the action level (i.e., distribution and sale of fuels, sealed containers and pipelines, coke production, oil and gas drilling and production, natural gas processing, and the percentage exclusion for liquid mixtures); for the excepted subsegments, the benzene limits in Table Z-2 apply.
† Acceptable maximum peak above the acceptable ceiling concentration for an 8-hr shift.
‡ See NIOSH, *RTECS* (CY1400000), for additional irritative, mutative, reproductive, tumorigenic, and toxicity data.

Section 3. Physical Data

Boiling Point: 176 °F (80 °C)
Melting Point: 42 °F (5.5 °C)
Vapor Pressure: 100 mm Hg at 79 °F (26.1 °C)
Vapor Density (Air = 1): 2.7
Evaporation Rate (Ether = 1): 2.8

Molecular Weight: 78.11
Specific Gravity (15 °C/4 °C): 0.8787
Water Solubility: Slightly (0.180 g/100 g of H_2O at 25 °C)
% Volatile by Volume: 100
Viscosity: 0.6468 mPa at 20 °C

Appearance and Odor: A colorless liquid with a characteristic sweet, aromatic odor. The odor recognition threshold (100% of panel) is approximately 5 ppm (unfatigued) in air. Odor *is not* an adequate warning of hazard.

Section 4. Fire and Explosion Data

Flash Point: 12 °F (-11.1 °C), CC	Autoignition Temperature: 928 °F (498 °C)	LEL: 1.3% v/v	UEL: 7.1% v/v

Extinguishing Media: Use dry chemical, foam, or carbon dioxide to extinguish benzene fires. Water may be ineffective as an extinguishing agent since it can scatter and spread the fire. Use water spray to cool fire-exposed containers, flush spills away from exposures, disperse benzene vapor, and protect personnel attempting to stop an unignited benzene leak.

Unusual Fire or Explosion Hazards: Benzene is a Class 1B flammable liquid. A concentration exceeding 3250 ppm is considered a potential fire explosion hazard. Benzene vapor is heavier than air and can collect in low lying areas or travel to an ignition source and flash back. Explosive and flammable benzene vapor-air mixtures can easily form at room temperature. Eliminate all ignition sources where benzene is used, handled, or stored.

Special Fire-fighting Procedures: Isolate hazard area and deny entry. Since fire may produce toxic fumes, wear a self-contained breathing apparatus (SCBA) with a full facepiece operated in the pressure-demand or positive-pressure mode and full protective equipment. Structural firefighter's protective clothing provides limited protection. Stay out of low areas. Be aware of runoff from fire control methods. Do not release to sewers or waterways. Runoff to sewer can create pollution, fire, and explosion hazard.

Section 5. Reactivity Data

Stability/Polymerization: Benzene is stable at room temperature in closed containers under normal storage and handling conditions. Hazardous polymerization cannot occur.

Chemical Incompatibilities: Benzene explodes on contact with diborane, permanganic acid, bromine pentafluoride, peroxodisulfuric acid, and peroxomonosulfuric acid. It ignites on contact with dioxygen difluoride, dioxygenyl tetrafluoroborate, iodine heptafluoride, and sodium peroxide + water. Benzene forms sensitive, explosive mixture with iodine pentafluoride, ozone, liquid oxygen, silver perchlorate, nitryl perchlorate, nitric acid, and arsenic pentafluoride + potassium methoxide (explodes above 30 °C). A vigorous or incandescent reaction occurs with bromine trifluoride, uranium hexafluoride, and hydrogen + Raney nickel [above 410 °F (210 °C)]. Benzene is incompatible with oxidizing materials.

Conditions to Avoid: Avoid heat and ignition sources.

Hazardous Products of Decomposition: Thermal oxidative decomposition of benzene can produce toxic gases and vapors such as carbon monoxide.

Section 6. Health Hazard Data

Carcinogenicity: The ACGIH, OSHA, and IARC list benzene as, respectively, a supected human carcinogen, a cancer hazard, and, based on sufficient human and animal evidence, a human carcinogen (Group 1).
Summary of Risks: Prolonged skin contact or excessive inhalation of benzene vapor may cause headache, weakness, appetite loss, and fatigue. The most important health hazards are cancer (leukemia) and bone marrow damage with injury to blood-forming tissue from chronic low-level exposure. Higher level exposures may irritate the respiratory tract and cause central nervous system (CNS) depression.
Medical Conditions Aggravated by Long-Term Exposure: Exposure may worsen ailments of the heart, lungs, liver, kidneys, blood, and CNS.
Target Organs: Blood, central nervous system, bone marrow, eyes, upper respiratory tract, and skin.
Primary Entry Routes: Inhalation, skin contact.
Acute Effects: Symptoms of acute overexposure include irritation of the eyes, nose, and respiratory tract, breathlessness, euphoria, nausea, drowsiness, headache, dizziness, and intoxication. Severe exposure may lead to convulsions and unconsciousness. Skin contact may cause a drying rash (dermatitis).
Chronic Effects: Long-term chronic exposure may result in many blood disorders ranging from aplastic anemia (an inability to form blood cells) to leukemia.
FIRST AID
Eyes: Gently lift the eyelids and flush immediately and continuously with flooding amounts of water until transported to an emergency medical facility. Consult a physician immediately.
Skin: *Quickly* remove contaminated clothing. Immediately rinse with flooding amounts of water for at least 15 min. For reddened or blistered skin, consult a physician. Wash affected area with soap and water.
Inhalation: Remove exposed person to fresh air. Emergency personnel should protect against inhalation exposure. Provide CPR to support breathing or circulation as necessary. Keep awake and transport to a medical facility.
Ingestion: Never give anything by mouth to an unconscious or convulsing person. If ingested, *do not induce vomiting* since aspiration may be fatal. Call a physician immediately.
After first aid, get appropriate in-plant, paramedic, or community medical support.
Physician's Note: Evaluate chronic exposure with a CBC, peripheral smear, and reticulocyte count for signs of myelotoxicity. Follow up any early indicators of leukemia with a bone marrow biopsy. Urinary phenol conjugates may be used for biological monitoring of recent exposure. Acute management is primarily supportive for CNS depression.

Section 7. Spill, Leak, and Disposal Procedures

Spill/Leak: *Design and practice a benzene spill control and countermeasure plan (SCCP).* Notify safety personnel, evacuate all unnecessary personnel, eliminate all heat and ignition sources, and provide adequate ventilation. Cleanup personnel should protect against vapor inhalation, eye contact, and skin absorption. Absorb as much benzene as possible with an inert, noncombustible material. For large spills, dike far ahead of spill and contain liquid. Use nonsparking tools to place waste liquid or absorbent into closable containers for disposal. Keep waste out of confined spaces such as sewers, watersheds, and waterways because of explosion danger. Follow applicable OSHA regulations (29 CFR 1910.120).
Disposal: Contact your supplier or a licensed contractor for detailed recommendations. Follow applicable Federal, state, and local regulations.
EPA Designations
Listed as a RCRA Hazardous Waste (40 CFR 261.33), Hazardous Waste No. U019
Listed as a CERCLA Hazardous Substance* (40 CFR 302.4), Reportable Quantity (RQ): 1000 lb (454 kg) [* per Clean Water Act, Sec. 307 (a), 311 (b)(4), 112; and per RCRA, Sec. 3001]
SARA Extremely Hazardous Substance (40 CFR 355): Not listed
Listed as SARA Toxic Chemical (40 CFR 372.65)
OSHA Designations
Listed as an Air Contaminant (29 CFR 1910.1000, Tables Z-1-A and Z-2)

Section 8. Special Protection Data

Goggles: Wear protective eyeglasses or chemical safety goggles, per OSHA eye- and face-protection regulations (29 CFR 1910.133).
Respirator: Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a NIOSH-approved respirator. For emergency or nonroutine operations (cleaning spills, reactor vessels, or storage tanks), wear an SCBA. *Warning! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.*
Other: Wear impervious gloves, boots, aprons, and gauntlets to prevent skin contact.
Ventilation: Provide general and local explosion-proof ventilation systems to maintain airborne concentrations at least below the OSHA PELs (Sec. 2). Local exhaust ventilation is preferred since it prevents contaminant dispersion into the work area by controlling it at its source.[103]
Safety Stations: Make available in the work area emergency eyewash stations, safety/quick-drench showers, and washing facilities.
Contaminated Equipment: Never wear contact lenses in the work area: soft lenses may absorb, and all lenses concentrate, irritants. Remove this material from your shoes and equipment. Launder contaminated clothing before wearing.
Comments: Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Section 9. Special Precautions and Comments

Storage Requirements: Store in tightly closed containers in a cool, dry, well-ventilated area away from all heat and ignition sources and incompatible materials. *Caution! Benzene vapor may form explosive mixtures in air.* To prevent static sparks, electrically ground and bond all containers and equipment used in shipping, receiving, or transferring operations in production and storage areas. When opening or closing benzene containers, use nonsparking tools. Keep fire extinguishers readily available.
Engineering Controls: Because OSHA specifically regulates benzene (29 CFR 1910.1028), educate workers about its potential hazards and dangers. Minimize all possible exposures to carcinogens. If possible, substitute less toxic solvents for benzene; use this material with extreme caution and only if absolutely essential. Avoid vapor inhalation and skin and eye contact. Use only with adequate ventilation and appropriate personal protective gear. Institute a respiratory protection program that includes regular training, maintenance, inspection, and evaluation. Designate regulated areas of benzene use (see legend in the box below) and label benzene containers with "DANGER, CONTAINS BENZENE, CANCER HAZARD."
Other Precautions: Provide preplacement and periodic medical examinations with emphasis on a history of blood disease or previous exposure.

Transportation Data (49 CFR 172.101, .102)

DOT Shipping Name: Benzene (*benzol*)	IMO Shipping Name: Benzene
DOT Hazard Class: Flammable liquid	IMO Hazard Class: 3.2
ID No.: UN1114	ID No.: UN1114
DOT Label: Flammable liquid	IMO Label: Flammable liquid
DOT Packaging Exceptions: 173.118	IMDG Packaging Group: II
DOT Packaging Requirements: 173.119	

DANGER
BENZENE
CANCER HAZARD
FLAMMABLE–NO SMOKING
AUTHORIZED PERSONNEL ONLY
RESPIRATOR REQUIRED

MSDS Collection **References:** 1, 2, 12, 26, 73, 84-94, 100, 101, 103, 109, 124, 126, 127, 132, 134, 136, 138, 139, 143
Prepared by: MJ Allison, BS; **Industrial Hygiene Review:** DJ Wilson, CIH; **Medical Review:** MJ Upfal, MD, MPH; **Edited by:** JR Stuart, MS

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Sheet No. 317
Toluene
Issued: 8/79 Revision: E, 9/92 Errata: 2/9

Section 1. Material Identification

Toluene ($C_6H_5CH_3$) **Description:** Derived from petroleum i.e., dehydrogenation of cycloparaffin fractions followed by the aromatization of saturated aromatic hydrocarbons or by fractional distillation of coal-tar light oil and purified by rectification. Used widely as a solvent (replacing benzene in many cases) for oils, resins, adhesives, natural rubber, coal tar, asphalt, pitch, acetyl celluloses, cellulose paints and varnishes; a diluent for photogravure inks, raw material for organic synthesis (benzoyl & benzilidene chlorides, saccharine, TNT, toluene diisocyanate, and many dyestuffs), in aviation and high octane automobile gasoline, as a nonclinical thermometer liquid and suspension solution for navigational instruments.

R 1 NFPA
I 3
S 2*
K 3
* Skin absorption

Other Designations: CAS No. 108-88-3, Methacide, methylbenzene, methylbenzol, phenylmethane, toluol, Tolu-sol.

Manufacturer: Contact your supplier or distributor. Consult latest *Chemical Week Buyers' Guide*(73) for a suppliers list.

HMIS
H 2- Chro effec
F 3
R 0
PPE-Sec. 8

Cautions: Toluene is an eye, skin, and respiratory tract irritant becoming narcotic at high centrations. Liver and kidney damage has occurred. Pregnant women chronically exposed to toluene have shown teratogenic effects. Toluene is highly flammable.

Section 2. Ingredients and Occupational Exposure Limits

Toluene, < 100%; may contain a small amount of benzene (~ 1%), xylene, and nonaromatic hydrocarbons.

1991 OSHA PELs
8-hr TWA: 100 ppm (375 mg/m³)
15-min STEL: 150 ppm (560 mg/m³)

1990 IDLH Level
2000 ppm

1990 NIOSH RELs
TWA: 100 ppm (375 mg/m³)
STEL: 150 ppm (560 mg/m³)

1992-93 ACGIH TLV (Skin)
TWA: 50 ppm (188 mg/m³)

1990 DFG (Germany) MAK*
TWA: 100 ppm (380 mg/m³)
Half-life: 2 hr to end of shift
Category II: Substances with systemic effects
Peak Exposure Limit: 500 ppm, 30 min average value, 2/shift

1985-86 Toxicity Data†
Man, inhalation, TC_{Lo}: 100 ppm caused hallucinations and changes in motor activity and changes in psychophysiological tests.
Human, oral, LD_{Lo}: 50 mg/kg; toxic effects not yet reviewed
Human, eye: 300 ppm caused irritation.
Rat, oral, LD_{50}: 5000 mg/kg
Rat, liver: 30 µmol/L caused DNA damage.

* Available information suggests damage to the developing fetus is probable.
†See NIOSH, *RTECS* (XS5250000), for additional irritation, mutation, reproductive, and toxicity data.

Section 3. Physical Data

Boiling Point: 232 °F (110.6 °C)
Melting Point: -139 °F (-95 °C)
Molecular Weight: 92.15
Density: 0.866 at 68 °F (20/4 °C)
Surface Tension: 29 dyne/cm at 68 °F (20 °C)
Viscosity: 0.59 cP at 68 °F (20 °C)
Refraction Index: 1.4967 at 20 °C/D

Water Solubility: Very slightly soluble, 0.6 mg/L at 68 °F (20 °C)
Other Solubilities: Soluble in acetone, alcohol, ether, benzene, chloroform, glacial acetic acid, petroleum ether, and carbon disulfide.
Vapor Pressure: 22 mm Hg at 68 °F (20 °C); 36.7 mm Hg at 86 °F (30 °C)
Saturated Vapor Density (Air = 0.075 lb/ft³ or 1.2 kg/m³): 0.0797 lb/ft³ or 1.2755 kg/m³
Odor Threshold (range of all referenced values): *0.021 to 69 ppm*

Appearance and Odor: Colorless liquid with a sickly sweet odor.

Section 4. Fire and Explosion Data

Flash Point: 40 °F (4.4 °C) CC	Autoignition Temperature: 896 °F (480 °C)	LEL: 1.27% v/v	UEL: 7.0% v/v

Extinguishing Media: *Toluene is a Class 1B flammable liquid. To fight fire, use dry chemical carbon dioxide, or 'alcohol-resistant' foam. Water spray may be ineffective as toluene floats on water and may actually spread fire.* **Unusual Fire or Explosion Hazards:** Concentrated vapors are heavier than air and may travel to an ignition source and flash back. Container may explode in heat of fire. Toluenes' burning rate = 5.7 mm/min and its flame speed = 37 cm/sec. Vapor poses an explosion hazard indoors, outdoors, and in sewers. May accumulate static electricity. **Special Fire-fighting Procedures:** Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full facepiece operated in pressure-demand or positive-pressure mode. Structural firefighter's protective clothing provides only limited protection. Apply cooling water to sides of tanks until well after fire is out. Stay away from ends of tanks. For massive fire in cargo area, use monitor nozzles or unmanned hose holders; if impossible, withdraw from fire and let burn. Withdraw immediately if you hear a rising sound from venting safety device or notice any tank discoloration due to fire because a BLEVE (boiling liquid expanding vapor explosion) may be imminent. Do not release runoff from fire control methods to sewers or waterways.

Section 5. Reactivity Data

Stability/Polymerization: Toluene is stable at room temperature in closed containers under normal storage and handling conditions. Hazardous polymerization can't occur. **Chemical Incompatibilities:** Strong oxidizers, concentrated nitric acid, nitric acid + sulfuric acid, dinitrogen tetroxide silver perchlorate, bromine trifluoride, tetranitromethane, and 1,3-dichloro-5,5-dimethyl-2,4-imidazolididione. **Conditions to Avoid:** Contact with heat, ignition sources, or incompatibles. **Hazardous Products of Decomposition:** Thermal oxidative decomposition of toluene can produce carbon dioxide, and acrid, irritating smoke.

Section 6. Health Hazard Data

Carcinogenicity: The IARC,(164) NTP,(169) and OSHA(164) do not list toluene as a carcinogen. **Summary of Risks:** Toluene is irritating to the eyes, nose, and respiratory tract. Inhalation of high concentrations produces a narcotic effect sometimes leading to coma as well as liver and kidney damage. 93% of inhaled toluene is retained in the body of which 80% is metabolized to benzoic acid, then to hippuric acid and excreted in urine. The remainder is metabolized to *o*-cresol and excreted or exhaled unchanged. Toluene metabolism is inhibited by alcohol ingestion and is synergistic with benzene, asphalt fumes, or chlorinated hydrocarbons (i.e. perchloroethylene). Toluene is readily absorbed through the skin at 14 to 23 mg/cm²/hr. Toluene is absorbed quicker during exercise than at rest and appears to be retained longer in obese versus thin victims; presumably due to i lipid solubility. There is inconsistent data on toluene's ability to damage bone marrow; chronic poisoning has resulted in anemia and leucopenia wit biopsy showing bone marrow hypo-plasia. These reports are few and some authorities argue that the effects may have been due to benzene contami nants. Chronic inhalation during pregnancy has been associated with teratogenic effects on the fetus including microcephaly, CNS dysfunction, attentional deficits, developmental delay + language impairment, growth retardation, and physical defects including a small midface, short palpebra fissures, with deep-set eyes, low-set ears, flat nasal bridge with a small nose, micrognathia, and blunt fingertips. There is some evidence that toluen causes an autoimmune illness in which the body produces antibodies that cause inflammation of its own kidney.

Continue on next pa

Section 6. Health Hazard Data

Medical Conditions Aggravated by Long-Term Exposure: Alcoholism and CNS, kidney, skin, or liver disease. **Target Organs:** CNS, liver, kidney, skin. **Primary Entry Routes:** Inhalation, skin contact/absorption. **Acute Effects:** Vapor inhalation causes respiratory tract irritation, fatigue, weakness, confusion, dizziness, headache, dilated pupils, watering eyes, nervousness, insomnia, parasthesis, and vertigo progressing to narcotic coma. Death may result from cardiac arrest due to ventricular fibrillation with catecholamines loss. Liquid splashed in the eye causes conjunctival irritation, transient corneal damage and possible burns. Prolonged skin contact leads to drying and fissured dermatitis. Ingestion causes GI tract irritation and symptoms associated with inhalation. **Chronic Effects:** Symptoms include mucous membrane irritation, headache, vertigo, nausea, appetite loss and alcohol intolerance. Repeated heavy exposure may result in encephalopathies (cerebellar ataxia and cognitive dysfunction), liver enlargement, and kidney dystrophy (wasting away). Symptoms usually appear at workdays end, worsen at weeks end and decrease or disappear over the weekend. **FIRST AID** Eyes: *Do not* allow victim to rub or keep eyes tightly shut. Gently lift eyelids and flush immediately and continuously with flooding amounts of water until transported to an emergency medical facility. Consult an ophthalmologist immediately. **Skin:** *Quickly* remove contaminated clothing. Rinse with flooding amounts of water for at least 15 min. Wash exposed area with soap and water. **Inhalation:** Remove exposed person to fresh air and support breathing as needed. **Ingestion:** Never give anything by mouth to an unconscious or convulsing person. Contact a poison control center and unless otherwise advised, have that *conscious and alert* person drink 1 to 2 glasses of water to dilute. *Do not* induce vomiting because of danger of aspiration into the lungs. Gastric lavage may be indicated if large amounts are swallowed; potential toxicity needs to be weighed against aspiration risk when deciding for or against gastric lavage. **Note to Physicians:** Monitor cardiac function. If indicated, use epinephrine and other catecholamines carefully, because of the possibility of a lowered myocardial threshold to the arrhythmogenic effects of such substances. Obtain CBC, electrolytes, and urinalysis. Monitor arterial blood gases. If toluene has > 0.02% (200 ppm) benzene, evaluate for potential benzene toxicity. BEI: hippuric acid in urine, sample at shift end (2.5 g/g creatinine); Toluene in venous blood, sample at shift end (1.0 mg/L).

Section 7. Spill, Leak, and Disposal Procedures

Spill/Leak: Notify safety personnel, isolate and ventilate area, deny entry, and stay upwind. Cleanup personnel protect against inhalation and skin/eye contact. Use water spray to cool and disperse vapors but it may not prevent ignition in closed spaces. Cellosolve, hycar absorbent materials, and fluorocarbon water can also be used for vapor suppression/containment. Take up small spill with earth, sand, vermiculite, or other absorbent, noncombustible material. Dike far ahead of large spills for later reclamation or disposal. For water spills, (10 ppm or greater) apply activated carbon at 10X the spilled amount and remove trapped material with suction hoses or use mechanical dredges/lifts to remove immobilized masses of pollutants and precipitates. Toluene can undergo fluidized bed incineration at 842 to 1796 °F (450 to 980 °C), rotary kiln incineration at 1508 to 2912 °F (820 to 1600 °C), or liquid injection incineration at 1202 to 2912 °F (650 to 1600 °C). Follow applicable OSHA regulations (29 CFR 1910.120). **Ecotoxicity Values:** Blue gill, LC_{50} = 17 mg/L/24 hr; shrimp (*Crangonfracis coron*), LC_{50} = 4.3 ppm/96 hr; fathead minnow (*Pimephales promelas*), LC_{50} = 36.2 mg/L/96 hr. **Environmental Degradation:** If released to land, toluene evaporates and undergoes microbial degradation. In water, toluene volatilizes and biodegrades with a half-life of days to several weeks. In air, toluene degrades by reaction with photochemically produced hydroxyl radicals. **Disposal:** Treat contaminated water by gravity separation of solids, followed by skimming of surface. Pass through dual media filtration and carbon absorption units (carbon ratio 1 kg to 10 kg soluble material). Return waste water from backwash to gravity separator. Contact your supplier or a licensed contractor for detailed recommendations. Follow applicable Federal, state, and local regulations.

EPA Designations
Listed as a RCRA Hazardous Waste (40 CFR 261.33): No. U220
SARA Extremely Hazardous Substance (40 CFR 355), TPQ: Not listed
Listed as a CERCLA Hazardous Substance* (40 CFR 302.4): Final Reportable Quantity (RQ), 1000 lb (454 kg)
[* per RCRA, Sec. 3001; CWA, Sec. 311 (b)(4); CWA, Sec. 307 (a)]
Listed as a SARA Toxic Chemical (40 CFR 372.65): Not listed

OSHA Designations
Listed as an Air Contaminant (29 CFR 1910.1000, Table Z-1-A)

Section 8. Special Protection Data

Goggles: Wear protective eyeglasses with shatter-resistant glass and side-shields or chemical safety goggles, per OSHA eye- and face-protection regulations (29 CFR 1910.133). Because contact lens use in industry is controversial, establish your own policy. **Respirator:** Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a MSHA/NIOSH-approved respirator. For < 1000 ppm, use any chemical cartridge respirator with appropriate organic vapor cartridges, any supplied-air respirator (SAR), or SCBA. For < 2000 ppm, use any SAR operated in continuous-flow mode, any SAR or SCBA with a full facepiece, or any air-purifying respirator with a full facepiece having a chin-style, front or back mounted organic vapor canister. For emergency or nonroutine operations (cleaning spills, reactor vessels, or storage tanks), wear an SCBA. *Warning! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.* If respirators are used, OSHA requires a written respiratory protection program that includes at least: medical certification, training, fit-testing, periodic environmental monitoring, maintenance, inspection, cleaning, and convenient, sanitary storage areas. **Other:** Wear chemically protective gloves, boots, aprons, and gauntlets to prevent skin contact. Polyvinyl alcohol with a breakthrough time of > 8 hr, Teflon and Viton are recommended as suitable materials for PPE. **Ventilation:** Provide general and local exhaust ventilation systems to maintain airborne concentrations below the OSHA PELs (Sec. 2). Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.[103] **Safety Stations:** Make available in the work area emergency eyewash stations, safety/quick-drench showers, and washing facilities. **Contaminated Equipment:** Separate contaminated work clothes from street clothes and launder before reuse. Remove toluene from your shoes and clean PPE. **Comments:** Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Section 9. Special Precautions and Comments

Storage Requirements: Prevent physical damage to containers. Store in a cool, dry, well-ventilated area away from ignition sources and incompatibles. Outside or detached storage is preferred. If stored inside, use a standard flammable liquids warehouse, room, or cabinet. To prevent static sparks, electrically ground and bond all equipment used with toluene. Do not use open lights in toluene areas. Install Class 1, Group D electrical equipment. Check that toluene is free of or contains < 1% benzene before use. **Engineering Controls:** To reduce potential health hazards, use sufficient dilution or local exhaust ventilation to control airborne contaminants and to maintain concentrations at the lowest practical level. **Administrative Controls:** Adopt controls for confined spaces (29 CFR 1910.146) if entering areas of unknown toluene levels (holes, wells, storage tanks). Consider preplacement and periodic medical exams of exposed workers that emphasize the CNS, liver, kidney, and skin. Include hemocytometric and thrombocyte count in cases where benzene is a contaminant of toluene. Monitor air at regular intervals to ensure effective ventilation.

Transportation Data (49 CFR 172.101)

DOT Shipping Name: Toluene
DOT Hazard Class: 3
ID No.: UN1294
DOT Packing Group: II
DOT Label: Flammable Liquid
Special Provisions (172.102): T1

Packaging Authorizations
a) Exceptions: 150
b) Non-bulk Packaging: 202
c) Bulk Packaging: 242

Quantity Limitations
a) Passenger Aircraft or Railcar: 5L
b) Cargo Aircraft Only: 60L

Vessel Stowage Requirements
Vessel Stowage: B
Other: --

MSDS Collection References: 26, 73, 100, 101, 103, 124, 126, 127, 132, 140, 148, 153, 159, 163, 164, 167, 169, 171, 174, 175, 176, 180.
Prepared by: M Gannon, BA; Industrial Hygiene Review: PA Roy, CIH, MPH; Medical Review: AC Darlington, MD, MPH

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Sheet No. 385 Ethylbenzene

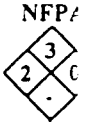
Issued: 8/78 Revision: B, 9/92

Section 1. Material Identification

Ethylbenzene ($C_6H_5C_2H_5$) Description: Derived by heating benzene and ethylene in presence of aluminum chloride with subsequent distillation, by fractionation directly from the mixed xylene stream in petroleum refining, or dehydrogenation of naphthenes. Used as a solvent, an antiknock agent in gasoline; and as an intermediate in production of synthetic rubber, styrene, cellulose acetate, diethylbenzene, acetophenone, ethyl anthraquinone, propyl oxide, and α-methylbenzol alcohol.
Other Designations: CAS No. 100-41-4, ethylbenzol, EB, phenylethane, NCI-C56393.
Manufacturer: Contact your supplier or distributor. Consult latest *Chemical Week Buyers' Guide*[73] for a suppliers list.

R 1
I 3
S 2*
K 4
* Skin absorption

NFPA



HMIS
H 2†
F 3
R 0
PPE - Se
† Chronic effects

Cautions: Ethylbenzene is a skin and mucous membrane irritant considered the most irritating of the benzene series. Inhalation causes acute and chronic central nervous system (CNS) effects. It is highly flammable and forms explosive mixtures with air.

Section 2. Ingredients and Occupational Exposure Limits

Ethylbenzene, ca >99.0%. Impurities include ~ 0.1% *meta* & *para* xylene, ~ 0.1% cumene, and ~ 0.1% toluene.

1991 OSHA PELs
8-hr TWA: 100 ppm (435 mg/m³)
15-min STEL: 125 ppm (545 mg/m³)
Action Level: 50 ppm (217 mg/m³)

1990 IDLH Level
2000 ppm

1990 NIOSH REL
TWA: 100 ppm (435 mg/m³)
STEL: 125 ppm (545 mg/m³)

1992-93 ACGIH TLVs
TWA: 100 ppm (434 mg/m³)
STEL: 125 ppm (545 mg/m³)

1990 DFG (Germany) MAK
TWA: 100 ppm (440 mg/m³)
Category 1: local irritants
Peak Exposure Limit: 200 ppm, 5 min momentary value, max of 8/shift
Danger of cutaneous absorption

1985-86 Toxicity Data*
Human, inhalation, TC_{Lo}: 100 ppm/8 hr caused eye effects sleep, and respiratory changes.
Human, lymphocyte: 1 mmol/L induced sister chromatid exchange.
Rat, oral, LD_{50}: 3500 mg/kg; toxic effects not yet reviewed
Rat (female), inhalation, TC_{Lo}: 1000 ppm/7 hr/day, 5 days/wk, for 3 wk prior to mating and daily for 19 days of gestation produced pups with high incidence of extra ribs.[179]

* See NIOSH, *RTECS* (DA0700000), for additional irritation, mutation, reproductive, and toxicity data.

Section 3. Physical Data

Boiling Point: 277 °F (136 °C)
Melting Point: -139 °F (-95 °C)
Surface Tension: 31.5 dyne/cm
Ionization Potential: 8.76 eV
Viscosity: 0.64 cP at 77 °F (25 °C)
Refraction Index: 1.4959 at 68 °F (20 °C)
Relative Evaporation Rate (ether = 1): 0.0106
Bulk Density: 7.21 lb/Gal at 77 °F (25 °C)
Critical Temperature: 651 °F (343.9 °C)
Critical Pressure: 35.6 atm

Molecular Weight: 106.16
Density: 0.863 at 77 °F (25 °C)
Water Solubility: Slightly, 14 mg/100 mL at 59 °F (15 °C)
Other Solubilities: Miscible in alcohol, ether; soluble in carbon tetrachloride, benzene, sulfur dioxide, and many organic solvents; insoluble in ammonia
Odor Threshold: 2.3 ppm
Vapor Pressure: 7.1 mm Hg at 68 °F (20 °C); 10 mmHg at 78.62 °F (25.9 °C); 100 mm Hg at 165.38 °F (74.1 °C)
Saturated Vapor Density (Air = 0.075 lb/ft³ or 1.2 kg/m³): 0.0768 lb/ft³ or 1.2298 kg/m³

Appearance and Odor: Colorless, flammable liquid with a pungent odor.

Section 4. Fire and Explosion Data

Flash Point: 64 °F (18 °C) CC	Autoignition Temperature: 810 °F (432 °C)	LEL: 1.0% v/v	UEL: 6.7% v/v

Extinguishing Media: Class 1B Flammable liquid. For small fires, use dry chemical, carbon dioxide, or 'alcohol-resistant' foam. For large fires, use fog or 'alcohol-resistant' foam. Use water only if other agents are unavailable; EB floats on water and may travel to an ignition source and spread fire. **Unusual Fire or Explosion Hazards:** Burning rate = 5.8 mm/min. Vapors may travel to an ignition source and flash back. Container may explode in heat of fire. EB poses a vapor explosion hazard indoors, outdoors, and in sewers. **Special Fire-fighting Procedures:** Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full facepiece operated in pressure-demand or positive-pressure mode. Cool container sides with water until well after fire is out. Stay away from ends of tanks. For massive fire in cargo area, use monitor nozzles or unmanned hose holders; if impossible, withdraw from area and let fire burn. Withdraw immediately if you hear rising sound from venting safety device or notice any tank discoloration due to fire. Do not release runoff from fire control methods to sewers or waterways.

Section 5. Reactivity Data

Stability/Polymerization: Ethylbenzene is stable at room temperature in closed containers under normal storage and handling conditions. Hazardous polymerization cannot occur.
Chemical Incompatibilities: Reacts vigorously with oxidizers.
Conditions to Avoid: Exposure to heat and oxidizers.
Hazardous Products of Decomposition: Thermal oxidative decomposition of EB can produce acrid smoke and irritating fumes.

Section 6. Health Hazard Data

Carcinogenicity: The IARC,[164] NTP,[169] and OSHA[164] do not list EB as a carcinogen. **Summary of Risks:** Occupational exposure to EB alone is rare since it is usually present together with other solvents. EB is irritating to the eyes, skin, and respiratory tract. Vapor inhalation produces varying degrees of CNS effects depending on concentration. The liquid is absorbed through the skin but vapors are not. 56 to 64% of inhaled ethylbenzene is retained and metabolized. Urinary metabolites following exposure to 23 to 85 ppm for 8 hr are mandelic acid (64%), phenylglyoxylic acid (25%), and methylphenylcarbinol/1-phenyl ethanol (5%). Concurrent exposure to xylene and ethylbenzene causes slower excretion of EB metabolites. Based on the rat LD_{50}, one manufacturer gives 3 to 4 oz. as the lethal dose for a 100 lb person.

Continue on next page

Section 6. Health Hazard Data

Medical Conditions Aggravated by Long-Term Exposure: Skin and CNS diseases and impaired pulmonary function (especially obstructive airway disease). **Target Organs:** Eyes, respiratory system, skin, CNS, blood. **Primary Entry Routes:** Inhalation, skin and eye contact. **Acute Effects:** Vapor inhalation of 200 ppm caused transient eye irritation; 1000 ppm caused eye irritation with profuse watering (tolerance developed rapidly); 2000 ppm caused severe and immediate eye irritation and watering, nasal irritation, chest constriction, and vertigo; 5000 ppm was intolerable and caused eye and nose irritation. Inhalation of high concentrations may cause narcosis, cramps, and death due to respiratory paralysis. Skin exposed to pure ethylbenzene for 10 to 15 min absorbed 22 to 33 mg/cm^2/hr. Immersion of hand in solutions of 112 & 156 mg/L for 1 hr absorbed 118 & 215.7 µg/cm^2/hr, respectively. **Chronic Effects:** Repeated skin contact may cause dryness, scaling, and fissuring. Workers chronically exposed to > 100 ppm complained of fatigue, sleepiness, headache, and mild irritation of the eyes and respiratory tract. Repeated vapor inhalation may result in blood disorders, particularly leukopenia (abnormally low level of white blood cells) and lymphocytosis.

FIRST AID

Eyes: *Do not* allow victim to rub or keep eyes tightly shut. Gently lift eyelids and flush immediately and continuously with flooding amounts of water until transported to an emergency medical facility. Consult a physician immediately. **Skin:** *Quickly* remove contaminated clothing. Rinse with flooding amounts of water for at least 15 min. Wash exposed area with soap and water. For reddened or blistered skin, consult a physician. **Inhalation:** Remove exposed person to fresh air and support breathing as needed. **Ingestion:** Never give anything by mouth to an unconscious or convulsing person. Contact a poison control center and unless otherwise advised, have that *conscious and alert* person drink 1 to 2 glasses of water to dilute. *Do not* induce vomiting! Aspiration of even a small amount of EB in vomitus can cause severe damage since its low viscosity and surface tension will cause it to spread over a large area of the lung tissue.

After first aid, get appropriate in-plant, paramedic, or community medical support.

Note to Physicians: BEI = mandelic acid in urine (1.5 g/g of creatinine), sample at end of shift at workweeks end. Since this test is not specific, test for EB in expired air for confirmation.

Section 7. Spill, Leak, and Disposal Procedures

Spill/Leak: Notify safety personnel. Isolate and ventilate area, deny entry and stay upwind. Shut off all ignition sources. Cleanup personnel should protect against vapor inhalation and skin/eye contact. Take up small spills with earth, sand, vermiculite, or other absorbent, noncombustible material and place in suitable container. Dike far ahead of large spill for later reclamation or disposal. Report any release >1000 lb. Follow applicable OSHA regulations (29 CFR 1910.120). **Environmental Transport:** If released to soil, EB partially evaporates into the atmosphere, with a half-life of hrs to wks, and some leaches into groundwater, especially in soil with low organic carbon content. Biodegradation occurs with a half-life of 2 days. Some EB may absorb to sediment or bioconcentrate in fish. Evidence points to slow biodegradation in groundwater. In air, it reacts with photochemically produced hydroxyl radicals with a half-life of hrs to 2 days. Additional amounts may be removed by rain. **Ecotoxicity Values:** Shrimp (*Mysidopsis bahia*), LC_{50} = 87.6 mg/L/96 hr; sheepshead minnow (*Cyprinodon variegatus*) LC_{50} = 275 mg/L/96 hr; fathead minnow (*Pimephales promelas*) LC_{50} = 42.3 mg/L/96 hr in hard water & 48.5 mg/L/96 hr in softwater. **Disposal:** A candidate for rotary kiln incineration at 1508 to 2912°F (820 to 1600°C), liquid injection incineration at 1202 to 2912°F (650 to 1600°C), and fluidized bed incineration at 842 to 1796°F (450 to 980°C). Contact your supplier or a licensed contractor for detailed recommendations. Follow applicable Federal, state, and local regulations.

EPA Designations

Listed as a RCRA Hazardous Waste (40 CFR 261.21): No. D001
Listed as a SARA Toxic Chemical (40 CFR 372.65)
SARA Extremely Hazardous Substance (40 CFR 355), TPQ: Not listed
Listed as a CERCLA Hazardous Substance* (40 CFR 302.4): Final Reportable Quantity (RQ), 1000 lb (454 kg) [* per CWA, Sec. 311 (b)(4) & CWA, Sec. 307 (a)]

OSHA Designations

Listed as an Air Contaminant (29 CFR 1910.1000, Table Z-1-A)

Section 8. Special Protection Data

Goggles: Wear protective eyeglasses or chemical safety goggles, per OSHA eye- and face-protection regulations (29 CFR 1910.133). Because contact lens use in industry is controversial, establish your own policy. **Respirator:** Seek professional advice prior to selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a MSHA/NIOSH-approved respirator. For < 1000 ppm, use a powered air-purifying respirator with an appropriate organic vapor cartridge, a supplied-air respirator (SAR), SCBA, or chemical cartridge respirator with appropriate organic vapor cartridge. For < 2000 ppm, use a SAR or SCBA with a full facepiece. For emergency or nonroutine operations (cleaning spills, reactor vessels, or storage tanks), wear an SCBA. *Warning! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.* If respirators are used, OSHA requires a respiratory protection program that includes at least: medical certification, training, fit-testing, periodic environmental monitoring, maintenance, inspection, cleaning, and convenient, sanitary storage areas. **Other:** Wear chemically protective gloves, boots, aprons, and gauntlets made of Viton or polyvinylchloride to prevent skin contact. **Ventilation:** Provide general and local exhaust ventilation systems to maintain airborne concentrations below the OSHA PELs (Sec. 2). Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.[103] **Safety Stations:** Make available in the work area emergency eyewash stations, safety/quick-drench showers, and washing facilities. **Contaminated Equipment:** Separate contaminated work clothes from street clothes and launder before reuse. Remove this material from your shoes and clean PPE. **Comments:** Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Section 9. Special Precautions and Comments

Storage Requirements: Store in a cool, dry, well-ventilated area away from ignition sources and oxidizers. Outside or detatched storage is preferred. If inside, store in a standard flammable liquids cabinet. Containers should have flame-arrester or pressure-vacuum venting. To prevent static sparks, electrically ground and bond all equipment used with ethylbenzene. Install Class 1, Group D electrical equipment. **Engineering Controls:** To reduce potential health hazards, use sufficient dilution or local exhaust ventilation to control airborne contaminants and to maintain levels as low as possible. Purge and ventilate reaction vessels before workers are allowed to enter for maintenance or cleanup. **Administrative Controls:** Consider preplacement and periodic medical exams of exposed workers that emphasize the CNS, skin, blood, and respiratory system.

Transportation Data (49 CFR 172.101)

DOT Shipping Name: Ethylbenzene
DOT Hazard Class: 3
ID No.: UN1175
DOT Packing Group: II
DOT Label: Flammable liquid
Special Provisions (172.102): T1

Packaging Authorizations
a) Exceptions: 173.150
b) Non-bulk Packaging: 173.202
c) Bulk Packaging: 173.242

Quantity Limitations
a) Passenger Aircraft or Railcar: 5L
b) Cargo Aircraft Only: 60 L

Vessel Stowage Requirements
a) Vessel Stowage: B
b) Other: —

MSDS Collection **References:** 26, 73, 100, 101, 103, 124, 126, 127, 132, 133, 136, 139, 140, 148, 153, 159, 162, 163, 164, 167, 168, 171, 176, 179

Prepared by: M Gannon, BA; **Industrial Hygiene Review:** D Wilson, CIH; **Medical Review:** W Silverman, MD

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Fact Sheet No. 318
Xylene (*Mixed Isomers*)

Issued: 11/80 Revision: E, 9/92

Section 1. Material Identification

Xylene (Mixed Isomers) (C_8H_{10}) **Description:** The commercial product is a blend of the three isomers [*ortho*-(*o*-), *meta*-(*m*-), *para*-(*p*-)] with the largest proportion being *m*- xylene. Xylene is obtained from coal tar, toluene by transalkylation, and pseudocumene. Used in the manufacture of dyes, resins, paints, varnishes, and other organics; as a general solvent for adhesives, a cleaning agent in microscope technique; as a solvent for Canada balsam microscopy; as a fuel component; in aviation gasoline, protective coatings, sterilizing catgut, hydrogen peroxide, perfumes, insect repellants, pharmaceuticals, and the leather industry; in the production of phthalic anhydride, isophthalic, and terephthalic acids and their dimethyl esters which are used in the manufacture of polyester fibers; and as an indirect food additive as a component of adhesives. Around the home, xylene is found as vehicles in paints, paint removers, degreasing cleaners, lacquers, glues and cements and as solvent/vehicles for pesticides.
Other Designations: CAS No. 1330-20-7 [95-47-6; 108-38-3; 106-42-3 (*o*-, *m*-, *p*-isomers)], dimethylbenzene, methyltoluene, NCI-C55232, Violet 3, xylol.
Manufacturer: Contact your supplier or distributor. Consult latest *Chemical Week Buyers' Guide*[73] for a suppliers list.

R 1
I 2
S 2
K 3

NFPA

HMIS
H 2
F 3
R 0
PPE ‡

† Chro
Effec
‡ Sec.

Cautions: Xylene is an eye, skin, and mucous membrane irritant and may be narcotic in high concentrations. It is a dangerous fire hazard.

Section 2. Ingredients and Occupational Exposure Limits

Xylene (mixed isomers): the commercial product generally contains ~ 40% *m*-xylene; 20% each of *o*-xylene, *p*-xylene, and ethylbenzene; and sma quantities of toluene. Unpurified xylene may contain pseudocumene.

1991 OSHA PELs
8-hr TWA: 100 ppm (435 mg/m^3)
15-min STEL: 150 ppm (655 mg/m^3)

1990 IDLH Level
1000 ppm

1990 NIOSH RELs
TWA: 100 ppm (435 mg/m^3)
STEL: 150 ppm (655 mg/m^3)

1992-93 ACGIH TLVs
TWA: 100 ppm (434 mg/m^3)
STEL: 150 ppm (651 mg/m^3)
BEI (Biological Exposure Index): Methylhippuric acids in urine at end of shift: 1.5 g/g creatinine

1990 DFG (Germany) MAK
TWA: 100 ppm (440 mg/m^3)
Category II: Substances with systemic effects
Half-life: < 2 hr
Peak Exposure: 200 ppm, 30 min, average value, 4 peaks per shift

1985-86 Toxicity Data*
Human, inhalation, TC_{Lo}: 200 ppm produced olfaction effects, conjunctiva irritation, and other changes involving the lungs, thorax, or respiration.
Man, inhalation, LC_{Lo}: 10000 ppm/6 hr; toxic effects not yet reviewed.
Human, oral, LD_{Lo}: 50 mg/kg; no toxic effect noted.
Rat, oral, LD_{50}: 4300 mg/kg; toxic effect not yet reviewed.
Rat, inhalation, LC_{50}: 5000 ppm/4 hr; toxic effects not yet reviewed.

* See NIOSH, *RTECS* (XE2100000), for additional toxicity data.

Section 3. Physical Data

Boiling Point Range: 279 to 284 °F (137 to 140 °C)*
Boiling Point: *ortho:* 291 °F (144 °C); *meta:* 281.8 °F (138.8 °C); *para:* 281.3 °F (138.5 °C)
Freezing Point/Melting Point: *ortho:* -13 °F (-25 °C); *meta:* -53.3 °F (- 47.4 °C); *para:* 55 to 57 °F (13 to 14 °C)
Vapor Pressure: 6.72 mm Hg at 70 °F (21 °C)
Saturated Vapor Density (Air = 1.2 kg/m^3): 1.23 kg/m^3, 0.077 lbs/ft^3
Appearance and Odor: Clear, sweet-smelling liquid.
* Materials with wider and narrower boiling ranges are commercially available.

Molecular Weight: 106.16
Specific Gravity: 0.864 at 20 °C/4 °C
Water Solubility: Practically insoluble
Other Solubilities: Miscible with absolute alcohol, ether, and many other organic liquids.
Octanol/Water Partition Coefficient: logKow = 3.12-3.20
Odor Threshold: 1 ppm
Viscosity: <32.6 SUS

Section 4. Fire and Explosion Data

Flash Point: 63 to 77 °F (17 to 25 °C) CC | **Autoignition Temperature:** 982 °F (527 °C) (*m*-) | **LEL:** 1.1 (*m*-, *p*-); 0.9 (*o*-) | **UEL:** 7.0 (*m*-, *p*-); 6.7 (*o*-

Extinguishing Media: For small fires, use dry chemical, carbon dioxide (CO_2), water spray or regular foam. For large fires, use water spray, fog or regular foam. Water may be ineffective. Use water spray to cool fire-exposed containers. **Unusual Fire or Explosion Hazards:** Xylene vapors or liquid (which floats on water) may travel to an ignition source and flash back. The heat of fire may cause containers to explode and/or produce irritating or poisonous decomposition products. Xylene may present a vapor explosion hazard indoors, outdoors, or in sewers. Accumulated static electricity may occur from vapor or liquid flow sufficient to cause ignition. **Special Fire-fighting Procedures:** Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full facepiece operated in pressure-demand or positive-pressure mode. Structural firefighter's protective clothing will provide limited protection. If feasible and without risk, move containers from fire area. Otherwise, cool fire-exposed containers until well after fire is extinguished. Stay clear of tank ends. Use unmanned hose holder or monitor nozzles for massive cargo fires. If impossible, withdraw from area and let fire burn. Withdraw immediately in case of any tank discoloration or rising sound from venting safety device. Do not release runoff from fire control methods to sewers or waterways.

Section 5. Reactivity Data

Stability/Polymerization: Xylene is stable at room temperature in closed containers under normal storage and handling conditions. Hazardous polymerization cannot occur. Xylene is easily chlorinated, sulfonated, or nitrated. **Chemical Incompatibilities:** Incompatibilities include strong acids and oxidizers and 1,3-dichloro-5,5-dimethyl-2,4-imidazolidindione (dichlorohydrantoin). Xylene attacks some forms of plastics, rubber, and coatings. **Conditions to Avoid:** Avoid heat and ignition sources and incompatibles. **Hazardous Products of Decomposition:** Thermal oxidative decomposition of xylene can produce carbon dioxide, carbon monoxide, and various hydrocarbon products.

Section 6. Health Hazard Data

Carcinogenicity: The IARC,[164] NTP,[169] and OSHA[164] do not list xylene as a carcinogen. **Summary of Risks:** Xylene is an eye, mucous membrane, and respiratory tract irritant. Irritation starts at 200 ppm; severe breathing difficulties which may be delayed in onset can occur at high concentrations. It is a central nervous system (CNS) depressant and at high concentrations can cause coma. Kidney and liver damage can occur with xylene exposure. With prolonged or repeated cutaneous exposure, xylene produces a defatting dermatitis. Chronic toxicity is not well defined, but it is less toxic than benzene. Prior to the 1950s, benzene was often found as a contaminant of xylene and the effects attributed to xylene such as blood dyscrasias are questionable. Since the late 1950s, xylenes have been virtually benzene-free and blood dyscrasias have not been associated with xylenes. Chronic exposure to high concentrations of xylene in animal studies have demonstrated milk reversible decrease in red and white cell counts as well as increases in platelet counts.

Continue on next page

Section 6. Health Hazard Data, *continued*

irregularity was reported in association with workplace exposure to xylene perhaps due to effects on liver metabolism. Xylene crosses the human placenta, but does not appear to be teratogenic under conditions tested to date. **Medical Conditions Aggravated by Long-Term Exposure:** CNS, respiratory, eye, skin, gastrointestinal (GI), liver and kidney disorders. **Target Organs:** CNS, eyes, GI tract, liver, kidneys, and skin. **Primary Entry Routes:** Inhalation, skin absorption (slight), eye contact, ingestion. **Acute Effects:** Inhalation of high xylene concentrations may cause dizziness; nausea, vomiting, and abdominal pain; eye, nose, and throat irritation; respiratory tract irritation leading to pulmonary edema (fluid in lung); drowsiness; and unconsciousness. Direct eye contact can result in conjunctivitis and corneal burns. Ingestion may cause a burning sensation in the oropharynx and stomach and transient CNS depression. **Chronic Effects:** Repeated or prolonged skin contact may cause drying and defatting of the skin leading to dermatitis. Repeated eye exposure to high vapor concentrations may cause reversible eye damage, peripheral and central neuropathy, and liver damage. Other symptoms of chronic exposure include headache, fatigue, irritability, chronic bronchitis, and GI disturbances such as nausea, loss of appetite, and gas.

FIRST AID *Emergency personnel should protect against exposure.* **Eyes:** *Do not* allow victim to rub or keep eyes tightly shut. Gently lift eyelids and flush immediately and continuously with flooding amounts of water until transported to an emergency medical facility. Consult a physician immediately. **Skin:** *Quickly* remove contaminated clothing. Rinse with flooding amounts of water for at least 15 min. Wash exposed area with soap and water. For reddened or blistered skin, consult a physician. Carefully dispose of contaminated clothing as it may pose a fire hazard. **Inhalation:** Remove exposed person to fresh air and support breathing as needed. Monitor exposed person for respiratory distress. **Ingestion:** Never give anything by mouth to an unconscious or convulsing person. Contact a poison control center and unless otherwise advised, *do not induce vomiting!* If spontaneous vomiting should occur, keep exposed person's head below the hips to prevent aspiration (breathing liquid xylene into the lungs). *Aspiration of a few millimeters of xylene can cause chemical pneumonitis, pulmonary edema, and hemorrhage.* Note to Physicians: Hippuric acid or the ether glucuronide of *ortho*-toluic acid may be useful in diagnosis of *meta-*, *para-* and *ortho*-xylene exposure, respectively. Consider gastric lavage if a large quantity of xylene was ingested. Proceed gastric lavage with protection of the airway from aspiration; consider endotracheal intubation with inflated cuff.

Section 7. Spill, Leak, and Disposal Procedures

Spill/Leak: Notify safety personnel, evacuate all unnecessary personnel, remove all heat and ignition sources, and ventilate spill area. Cleanup personnel should protect against vapor inhalation and skin or eye contact. If feasible and without undue risk, stop leak. Use appropriate foam to blanket release and suppress vapors. Water spray may reduce vapor, but does not prevent ignition in closed spaces. For small spills, absorb on paper and evaporate in appropriate exhaust hood or absorb with sand or some non-combustible absorbent and place in containers for later disposal. For large spills dike far ahead of liquid to contain. Do not allow xylene to enter a confined space such as sewers or drains. On land, dike to contain or divert to impermeable holding area. Apply water spray to control flammable vapor and remove material with pumps or vacuum equipment. On water, contain material with natural barriers, booms, or weirs; apply universal gelling agent; and use suction hoses to remove spilled material. Report any release in excess of 1000 lb. Follow applicable OSHA regulations (29 CFR 1910.120). **Environmental Transport:** Little bioconcentration is expected. Biological oxygen demand 5 (after 5 days at 20 °C): 0.64 (no stated isomer). **Ecotoxicity values:** LD_{50}, Goldfish, 13 mg/L/24 hr, conditions of bioassay not specified, no specific isomer. **Environmental Degradation:** In the atmosphere, xylenes degrade by reacting with photochemically produced hydroxyl radicals with a half-life ranging from 1-1.7 hr. in the summer to 10-18 hr in winter or a typical loss of 67-86% per day. Xylenes are resistant to hydrolysis. **Soil Absorption/Mobility:** Xylenes have low to moderate adsorption to soil and when spilled on land, will volatilize and leach into groundwater. **Disposal:** As a hydrocarbon, xylene is a good candidate for controlled incineration. Contact your supplier or a licensed contractor for detailed recommendations. Follow applicable Federal, state, and local regulations.

EPA Designations

SARA Extremely Hazardous Substance (40 CFR 355): Not listed
Listed as a SARA Toxic Chemical (40 CFR 372.65)
Listed as a RCRA Hazardous Waste (40 CFR 261.33): No. U239, F003 (spent solvent)
Listed as a CERCLA Hazardous Substance* (40 CFR 302.4): Final Reportable Quantity (RQ), 1000 lb (454 kg) [* per Clean Water Act, Sec. 311(b)(4); per RCRA, Sec. 3001]

OSHA Designations

Listed as an Air Contaminant (29 CFR 1910.1000, Table Z-1-A)

Section 8. Special Protection Data

Goggles: Wear protective eyeglasses or chemical safety goggles, per OSHA eye- and face-protection regulations (29 CFR 1910.133). Because contact lens use in industry is controversial, establish your own policy. **Respirator:** Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a MSHA/NIOSH-approved respirator. For concentrations >1000 ppm, use any chemical cartridge respirator with organic vapor cartridges; any powered, air-purifying respirator with organic vapor cartridges; any supplied-air respirator; or any self-contained breathing apparatus. For emergency or nonroutine operations (cleaning spills, reactor vessels, or storage tanks), wear an SCBA. *Warning! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.* If respirators are used, **Other:** Wear chemically protective gloves, boots, aprons, and gauntlets to prevent all skin contact. With breakthrough times > 8 hr, consider polyvinyl alcohol and fluorocarbon rubber (Viton) as materials for PPE. **Ventilation:** Provide general and local exhaust ventilation systems to maintain airborne concentrations below the OSHA PELs (Sec. 2). Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.[103] **Safety Stations:** Make available in the work area emergency eyewash stations, safety/quick-drench showers, and washing facilities. **Contaminated Equipment:** Separate contaminated work clothes from street clothes. Launder contaminated work clothing before wearing. Remove this material from your shoes and clean PPE. **Comments:** Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Section 9. Special Precautions and Comments

Storage Requirements: Store in clearly labelled, tightly closed, containers in a cool, well-ventilated place, away from strong oxidizing materials and heat and ignition sources. During transferring operations, electrically ground and bond metal containers. **Engineering Controls:** To reduce potential health hazards, use sufficient dilution or local exhaust ventilation to control airborne contaminants and to maintain concentrations at the lowest practical level. Use hermetically sealed equipment, transfer xylene in enclosed systems, avoid processes associated with open evaporating surfaces, and provide sources of gas release with enclosures and local exhaust ventilation. Use Class I, Group D electrical equipment. **Administrative Controls:** Establish air and biological monitoring programs and evaluate regularly. Consider preplacement and periodic medical examinations including a complete blood count, a routine urinalysis, and liver function tests. Consider hematologic studies if there is any significant contamination of the solvent with benzene. If feasible, consider the replacement of xylene by less toxic solvents such as petrol (motor fuel) or white spirit. Before carrying out maintenance and repair work, steam and flush all equipment to remove any xylene residues.

Transportation Data (49 CFR 172.101)

DOT Shipping Name: Xylenes
DOT Hazard Class: 3
ID No.: UN1307
DOT Packing Group: II
DOT Label: Flammable Liquid
Special Provisions (172.102): T1

Packaging Authorizations
a) Exceptions: 173.150
b) Nonbulk Packaging : 173.202
c) Bulk Packaging: 173.242

Quantity Limitations
a) Passenger, Aircraft, or Railcar: 5L
b) Cargo Aircraft Only: 60L

Vessel Stowage Requirements
a) Vessel Stowage: B
b) Other: –

MSDS Collection **References:** 26, 73, 89, 100, 101, 103, 124, 126, 127, 132, 133, 136, 139, 140, 148, 149, 153, 159, 163, 164, 167, 171, 174, 176, 180.
Prepared by: MJ Wurth, BS; **Industrial Hygiene Review:** PA Roy, MPH, CIH; **Medical Review:** W Silverman, MD

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Sheet No. 52
Hydrogen Sulfide

Issued: 7/79 Revision: B, 9/92

Section 1. Material Identification

Hydrogen Sulfide (H_2S) Description: Formed as a byproduct of many industrial processes (breweries, tanneries, slaughter houses), around oil wells, where petroleum products are used, in decaying organic matter, and naturally occurring in coal, natural gas, oil, volcanic gases, and sulfur springs. Derived commercially by reacting iron sulfide with dilute sulfuric or hydrochloric acid, or by reacting hydrogen with vaporized sulfur. Used in the production of various inorganic sulfides and sulfuric acid, in agriculture as a disinfectant, in the manufacture of heavy water, in precipitating sulfides of metals; as a source of hydrogen and sulfur, and as an analytical reagent.

R 2
I 4
S 3
K 3

NFPA

HMIS
H 3
F 4
R 0
PPE*
* Sec. 8

Other Designations: CAS No. 7783-06-4, dihydrogen monosulfide, hydrosulfuric acid, sewer gas, stink damp, sulfuretted hydrogen, sulfur hydride.

Manufacturer: Contact your supplier or distributor. Consult latest *Chemical Week Buyers' Guide*[73] for a suppliers list.

Cautions: Hydrogen sulfide is a highly flammable gas and reacts vigorously with oxidizing materials. It is highly toxic and can be instantly fatal if inhaled at concentrations of 1000 ppm or greater. Be aware that the sense of smell becomes rapidly fatigued at 50 to 150 ppm, and that its strong rotten-egg odor is not noticeable even at very high concentrations.

Section 2. Ingredients and Occupational Exposure Limits

Hydrogen sulfide: 98.5% *technical*, 99.5% *purified*, and CP *(chemically pure grade)*

1991 OSHA PELs
8-hr TWA: 10 ppm (14 mg/m³)
15-min STEL: 15 ppm (21 mg/m³)

1990 IDLH Level
300 ppm

1990 NIOSH REL
10-min Ceiling: 10 ppm (15 mg/m³)

1992-93 ACGIH TLVs
TWA: 10 ppm (14 mg/m³)
STEL: 15 ppm (21 mg/m³)

1990 DFG (Germany) MAK
TWA: 10 ppm (15 mg/m³)
Category V: Substances having intense odor
Peak exposure limit 20 ppm, 10 min momentary value, 4/shift

1985-86 Toxicity Data*
Human, inhalation, LC_{Lo}: 600 ppm/30 min; toxic effects not yet reviewed
Man, inhalation, LD_{Lo}: 5700 µg/kg caused coma and pulmonary edema or congestion.
Rat, intravenous, LD_{50}: 270 µg/kg; no toxic effect noted

* See NIOSH, *RTECS* (MX1225000), for additional toxicity data.

Section 3. Physical Data

Boiling Point: -76 °F (-60 °C)
Freezing Point: -122 °F (-86 °C)
Vapor Pressure: 18.5 atm at 68 °F (20 °C)
Vapor Density (Air = 1): 1.175
pH: 4.5 (freshly prepared saturated aqueous solution)
Viscosity: 0.01166 cP at 32 °F/0 °C and 1 atm
Liquid Surface Tension (est): 30 dyne/cm at -77.8 °F/-61 °C

Molecular Weight: 34.1
Density: 1.54 g/L at 32 °F (0 °C)
Water Solubility: Soluble*; 1g/187 mL (50 °F/10 °C), 1g/242 mL (68 °F/20 °C), 1g/ 314 mL (86 °F/30 °C)
Other Solubilities: Soluble in ethyl alcohol, gasoline, kerosine, crude oil, and ethylene glycol.
Odor threshold: 0.06 to 1.0 ppm†

Appearance and Odor: Colorless gas with a rotten-egg smell.

* H_2S solutions are not stable. Absorbed oxygen causes turbidity and precipitation of sulfur. In a 50:50 mixture of water and glycerol, H_2S is stable.
† Sense of smell becomes rapidly fatigued and can not be relied upon to warn of continuous H_2S presence.

Section 4. Fire and Explosion Data

Flash Point: None reported	Autoignition Temperature: 500 °F (260 °C)	LEL: 4.3% v/v	UEL: 46% v/v

Extinguishing Media: Let small fires burn unless leak can be stopped immediately. For large fires, use water spray, fog, or regular foam. **Unusual Fire or Explosion Hazards:** H_2S burns with a blue flame giving off sulfur dioxide. Its burning rate is 2.3 mm/min. Gas may travel to a source of ignition and flash back. **Special Fire-fighting Procedures:** Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full facepiece operated in pressure-demand or positive-pressure mode. Structural firefighter's protective clothing is not effective for fires involving H_2S. If possible without risk, stop leak. Use unmanned device to cool containers until well after fire is out. Withdraw immediately if you hear a rising sound from venting safety device or notice any tank discoloration due to fire. Do not release runoff from fire control methods to sewers or waterways.

Section 5. Reactivity Data

Stability/Polymerization: H_2S is stable at room temperature in closed containers under normal storage and handling conditions. Hazardous polymerization cannot occur. **Chemical Incompatibilities:** Hydrogen sulfide attacks metals forming sulfides and is incompatible with 1,1-bis(2-azidoethoxy) ethane + ethanol, 4-bromobenzenediazonium chloride, powdered copper + oxygen, metal oxides, finely divided tungsten or copper, nitrogen trichloride, silver fulminate, rust, soda-lime, and all other oxidants. **Conditions to Avoid:** Exposure to heat and contact with incompatibles. **Hazardous Products of Decomposition:** Thermal oxidative decomposition of hydrogen sulfide can produce toxic sulfur dioxide .

Section 6. Health Hazard Data

Carcinogenicity: The IARC,[164] NTP,[169] and OSHA[164] do not list hydrogen sulfide as a carcinogen. **Summary of Risks:** H_2S combines with the alkali present in moist surface tissues to form caustic sodium sulfide, causing irritation of the eyes, nose, and throat at low levels (50 to 100 ppm). Immediate death due to respiratory paralysis occurs at levels greater than 1000 ppm. Heavy exposure has resulted in neurological problems, however recovery is usually complete. H_2S exerts most of it's toxicity on the respiratory system. It inhibits the respiratory enzyme cytochrome oxidase, by binding iron and blocking the necessary oxydo-reduction process. Electrocardiograph changes after over-exposure have suggested direct damage to the cardiac muscle, however some authorities debate this. **Medical Conditions Aggravated by Long-Term Exposure:** Eye and nervous system disorders. **Target Organs:** Eyes, respiratory system and central nervous system. **Primary Entry Routes:** Inhalation, eye and skin contact. **Acute Effects:** Inhalation of low levels can cause headache, dizziness, nausea, cramps, vomiting, diarrhea, sneezing, staggering, excitability, pale

Continued on next page

other pollutants. It does not undergo photolysis but is oxidized by oxygen containing [illegible]
elemental sulfur. In soil, due to its low boiling point, much of H_2S evaporates quickly if spilled. Although, if soil is moist or precipitation occurs at time of spill, H_2S becomes slightly mobile due to its water solubility. H_2S does not bioaccumulate but is degraded rapidly by certain soil and water bacteria. **Disposal:** Aerate or oxygenate with compressor. For in situ amelioration, carbon removes some H_2S. Anion exchanges may also be effective. A potential candidate for rotary kiln incineration (1508 to 2912 °F/820 to 1600 °C) or fluidized bed incineration (842 to 1796 °F/450 to 980 °C). Contact your supplier or a licensed contractor for detailed recommendations. Follow applicable Federal, state, and local regulations.

EPA Designations
Listed as a RCRA Hazardous Waste (40 CFR 261.33): No. U135
SARA Toxic Chemical (40 CFR 372.65): Not listed

OSHA Designations
Listed as an Air Contaminant (29 CFR 1910.1000, Table Z-1-A & Z-2)

APPENDIX B

ATTACHMENTS A - E

Attachment A
Employee Acknowledgement

I hereby certify that I have read and understand the safety and health guidelines contained in Brown and Caldwell's Site Safety and Health Plan for:

_____ _____

(Project Name) (Job No.)

_____

Employee name

_____ _____

Signature Date

In case of emergency, please contact:

1. _____

Name Relationship Phone number

2. _____

Name Relationship Phone number

Received by:

_____

Site Safety Officer

_____ _____

Signature Date

Attachment B
Site Activity and Safety Briefing

Conducted by: _____ Date: _____

Project: _____ Job No.: _____

Location: _____ Project Type: _____

List names and employers of those in attendance:

List items discussed:

If any items require follow-up action, describe action below:

Attachment C
Field Checklist for Implementation

Fill in blanks and circle yes or no as appropriate for each. If an item does not apply, write N/A after question.

Site Safety Officer _____ Date _____

Project _____ Location _____
(City) (State)

Job No. _____ Weather Conditions _____

WORK ACTIVITIES

1.	Is a copy of the site safety and health plan (SSHP) on site?	YES	NO
2.	Is the personal protective equipment required by the SSHP available and being used correctly?	YES	NO
3.	Have the work zones been delineated?	YES	NO
4.	Has a decontamination station been set up as required by the SSHP?	YES	NO
5.	Are the decontamination procedures being followed?	YES	NO
6.	Is access to the exclusion zone being controlled?	YES	NO
7.	Has the site activities' briefing and tailgate safety meeting been provided?	YES	NO
8.	Is the list of emergency telephone numbers posted at the support zone?	YES	NO
9.	Are the directions to the nearest emergency medical assistance posted at the support zone?	YES	NO
10.	Is emergency equipment, as identified in the SSHP, readily available and functional?	YES	NO
11.	Has the nearest toilet facility been identified or a portable facility been set up?	YES	NO

12. Has an adequate supply of drinking water been provided? YES NO

13. Has water for decontamination been provided? YES NO

14. Have the instruments for environmental and exposure monitoring been calibrated and set up as required by the SSHP? YES NO

15. Are the instruments being used properly and periodically checked during the shift for battery charge status? YES NO

16. Have trenches and excavations been clearly marked? YES NO

17. Have trenches and excavations been shored or sloped as required by soil type and work activities? YES NO

18. Are dust suppression measures being used? YES NO

19. Is food and tobacco consumption being restricted to the support zone? YES NO

20. Has a confined space been identified as part of this project? YES NO

Identify:

21. Are the confined space entry procedures being correctly implemented? YES NO

22. Has the work/rest cycle for the shift been established? YES NO

Time on: _____ (mins.) Time off: _____ (mins.)

23. Has a shaded rest area been set up in the support zone? YES NO

Brown and Caldwell staff present:

	Name	Office
1.		
2.		
3.		
4.		

Subcontractors present and number of employees for each:

Subcontractor Name	Number present
1.	
2.	
3.	

Comments: _____

_____

_____

Send the completed checklist to CHSO, Sacramento office. Place a copy in the project file.

Reviewed by CHSO: _____ _____
Signature Date

Is follow-up with site safety office required? YES NO

Items: _____

_____

_____

Date follow-up completed: _____

_____

_____

_____

Attachment D
Notice of Unsafe Conditions

Contractor: _____ Date: _____
Project: _____ Job No.: _____

This notice is to advise you, the prime Contractor on the above Contract, that an unsafe condition has been observed (on the date shown above) on your Project by this representative of the Owner of the above-mentioned project. These conditions are listed as follows:

ITEM	CONDITION

By this Notice, the Owner or its Representatives shall not assume any responsibility under the GENERAL CONDITIONS or assume any liability for the existence or correction thereof, for the unsafe conditions, or any others that may have been unnoticed.

These conditions shall be remedied as soon as possible within a safe working period. If these corrections are not made, the Owner will be forced to remove all field staff from the job. No payment shall be made for any work installed after this date without first examination of work in accordance with the GENERAL CONDITIONS.

Representative of the Owner: _____
Title: _____ Date: _____

Received by: _____
Title: _____ Date: _____

Attachment E
Document of Environmental Monitoring Equipment

Name: _____ Project number: _____

Project: _____

Location: _____

Equipment used:

	Calibrated, date	Used, date(s)
OVA (Organic Vapor Analyzer)	☐_____	☐_____
OVM (Organic Vapor Monitor)	☐_____	☐_____
HNU	☐_____	☐_____
TLV Sniffer	☐_____	☐_____
Photovac TIP	☐_____	☐_____
Combustible Gas Meter	☐_____	☐_____
Other: _____	☐_____	☐_____

Instrument	Date	Time	Readout value	Area Monitored	Changes in PPE (yes or no) type of PPE	User's Initials

APPENDIX C

ACCIDENT, INJURY, AND ILLNESS INVESTIGATION REPORT

Accident, Injury, and Illness Investigation Report

Person(s) and title(s) conducting investigation	Date of accident/injury/illness
Name(s) of affected employee(s)	**Work area affected**
Nature of accident/injury/illness	**Part(s) of body affected**

Describe the workplace conditions, work practices, or protective equipment that contributed to the incident.

Describe what corrective actions will prevent another occurrence.

Was the unsafe problem corrected immediately? ☐ YES ☐NO (If "no," explain what has been done to ensure that it will be corrected.)

Until the above is corrected, what actions have been taken to prevent recurrence of the problem in the interim?

Will the safety inspection checklist require modification to prevent recurrence? ☐YES ☐NO (If "yes," explain what will be changed.)

Lead Investigator	Signature	Date
rson responsible for corrective actions	Signature	Date of receipt of this report
lanagement approval by	Signature	Date

NOTE: Send completed form to the Health and Safety Director.

ATTACHMENT 1

HOSPITAL ROUTE MAP

BROWN AND CALDWELL HOUSTON, TEXAS	0 0.5 1 miles Driving Route	TITLE HOSPITAL ROUTE MAP	DATE 08/21/97
		CLIENT BJ SERVICES COMPANY, U.S.A.	PROJECT NO. 2988-09
		SITE LOCATION ARTESIA, NEW MEXICO	FIGURE NO. 1

g:\BJServ\2988\09\H&SMap.ppt

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

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

April 2, 1998

CERTIFIED MAIL
RETURN RECEIPT NO. P-288-259-050

Mr. Rick N. Johnson
BJ Services Company, U.S.A.
8701 New Trails Drive
Woodlands, Texas 77381

RE: Sump and Ramp Unit
Discharge Plan GW-17 (Formerly Nowsco)
Hobbs Facility
Lea County, New Mexico

Dear Mr. Johnson:

The New Mexico Oil Conservation Division (OCD) has received the BJ Services Company, U.S.A. (BJ) "Sump and Ramp Unit Field Activity Report" dated March 25, 1998. This report contains BJ's field activities performed to date and proposed future actions at the concrete sump and ramp unit associated with an inactive acid dock at the former NOWSCO Well Services, Inc. facility in Hobbs, New Mexico.

In order for the review process to be completed, the OCD is requiring the following additional information:

1. A plan to determine verticle and lateral extent of contamination.

2. A plan for long term monitoring of contaminates left in place.

3. If the proposed risk based approach is not used, a plan for remediation of contaminates left in place will be provided.

If BJ has any questions please contact me at (505)-827-7155.

Sincerely,

Mark Ashley

Mark Ashley
Geologist

xc: OCD Hobbs Office

BROWN AND CALDWELL

March 25, 1998

Mr. Mark Ashley
State of New Mexico
Energy, Minerals, and Natural Resources Department
Oil Conservation Division
2040 South Pacheco
Santa Fe, New Mexico 87505

6240-02

Subject: BJ Services (Former NOWSCO) Facility – Hobbs, New Mexico
Sump and Ramp Unit Field Activity Report

Dear Mr. Ashley:

This letter is to inform you of field activities performed to date and to propose future actions to be taken by BJ Services. Proposed activities will commence upon your approval.

Field Activities Performed to Date

From February 11 through 13, 1998, Brown and Caldwell, under contract with BJ Services, coordinated the removal of a sump and ramp system at the BJ Services (Former NOWSCO) Facility in Hobbs, New Mexico. These activities were performed as prescribed in the Closure Plan dated February 6, 1998 (the Closure Plan). Figure 1, attached, shows the acid dock area and the area planned to be removed during closure activities

Concrete structures constituting the sump and ramp were removed on February 12, 1998. The concrete ramp was approximately 20 feet in length and 8 feet wide. The ramp sloped from grade at the south end to approximately 3.5 to 4 feet below grade at the north end. The sump structure was located at the north end of the ramp, and had approximate dimensions of 8 feet wide by 5 feet long and 3 to 4 feet deep. The sump was subdivided into two 4 foot by 5 foot bays by a narrow wall with a notch serving as an overflow weir. A narrow wall divided the sump from the ramp.

Following removal of the sump and ramp unit, soil samples were collected for field screening. Initial grab samples from the north end (from beneath the sump end of the unit) registered greater than 1,930 ppm on a photo-ionization device (PID). Some saturated stained soils were encountered immediately beneath the slab in the south end of the excavation. An immiscible phase was not identified in this sample, thus the soil was not identified as highly contaminated/saturated soil according to the Closure Plan. This soil, which registered a PID reading of 392 ppm, was excavated and stockpiled for disposal.

Environmental Engineering And Consulting • Analytical Services
1415 Louisiana, Suite 2500, Houston, TX 77002
(713) 759-0999 Fax (713) 759-0952

Soil from the south end of the former ramp area was excavated to a depth of 4 to 6 feet bgs. Soil was excavated from the north end to a depth of 15 feet bgs. The excavation limits and a cross section are included as Figures 2 and 3, respectively. Field screening was conducted continuously to guide the excavation. However, a concrete containment structure to the east, and concrete pads to the south and north of the sump and ramp unit, confined the excavation limits such that horizontal extent could not be determined. Additionally, vertical extent was not defined at 15 feet bgs. Field measurements using a PID and TPH analyzer indicated elevated levels of volatile organics and TPH in the floor composite samples from the bottom of the north and south portions of the excavation. These observations were confirmed by the laboratory analytical results, which are summarized in Table 1. Benzene was not detected in confirmation samples.

The excavation is currently open with barricades around the area. Excavated soil was stockpiled to the northwest of the excavation, and covered pending disposal approval by the NMOCD. The certificate of waste status including analytical results and a chain of custody was submitted to the disposal company, Rhino Environmental Services, Inc. on March 11, 1998. Final waste disposal approval is anticipated within 15 business days.

Proposed Future Actions

A groundwater assessment was conducted in November, 1997 for an area downgradient from the former sump and ramp unit (see Figure 1). In this groundwater assessment, groundwater was observed at a depth of approximately 46 feet below ground surface. Results of this assessment indicated that xylenes were detected in MW-1 at a total concentration of 1.8 µg/L; barium was detected at a concentration of 0.22 mg/L in MW-1. Other than typical anions and cations at typical concentration levels, barium and xylenes were the only constituents detected above method detection limits. This monitor well is located approximately 150 feet downgradient of the former sump and ramp unit. Based on these results, impact to the groundwater from the former sump and ramp unit operation is not observed, since the concentrations for xylenes and barium are below the respective New Mexico Water Quality Control Commission Standards for these constituents.

Based on the soil and groundwater analytical results available for the site, Brown and Caldwell proposes a determination and evaluation of a target cleanup level for residual TPH as a condition for sump and ramp unit closure. This evaluation will be based on a risk-based approach utilizing toxicity factors developed for effective carbon ranges of TPH constituents in soil. Brown and Caldwell proposes re-sampling of the current excavation floor (approximately 15 feet below ground surface) as shown in Figure 4, and performing a TPH speciation analysis by a qualified environmental laboratory. The results of the speciation analysis would then be

used to develop a target cleanup level for soil in the sump and ramp area, which would be compared to existing analytical data collected during confirmation samples. If results indicate that residual TPH does not pose an unacceptable risk, then site closure with no further action should be granted.

Without regard to the outcome of the TPH speciation analysis, further excavation of the sump and ramp area is not practical, as the area is bounded by concrete on three sides, and is currently nearing the limits of the available excavation equipment. Brown and Caldwell suggests that the NMOCD approve excavation backfilling upon completion of the TPH speciation sampling. As always, we will provide a minimum of 72-hours notification to the NMOCD of our planned activities at the subject facility, pending your approval of the proposed sampling and backfilling of the former sump and ramp unit. If you have any questions, please do not hesitate to contact me at (713) 646-1138.

Very truly yours,

BROWN AND CALDWELL

Timothy L. Jenkins
Associate Engineer

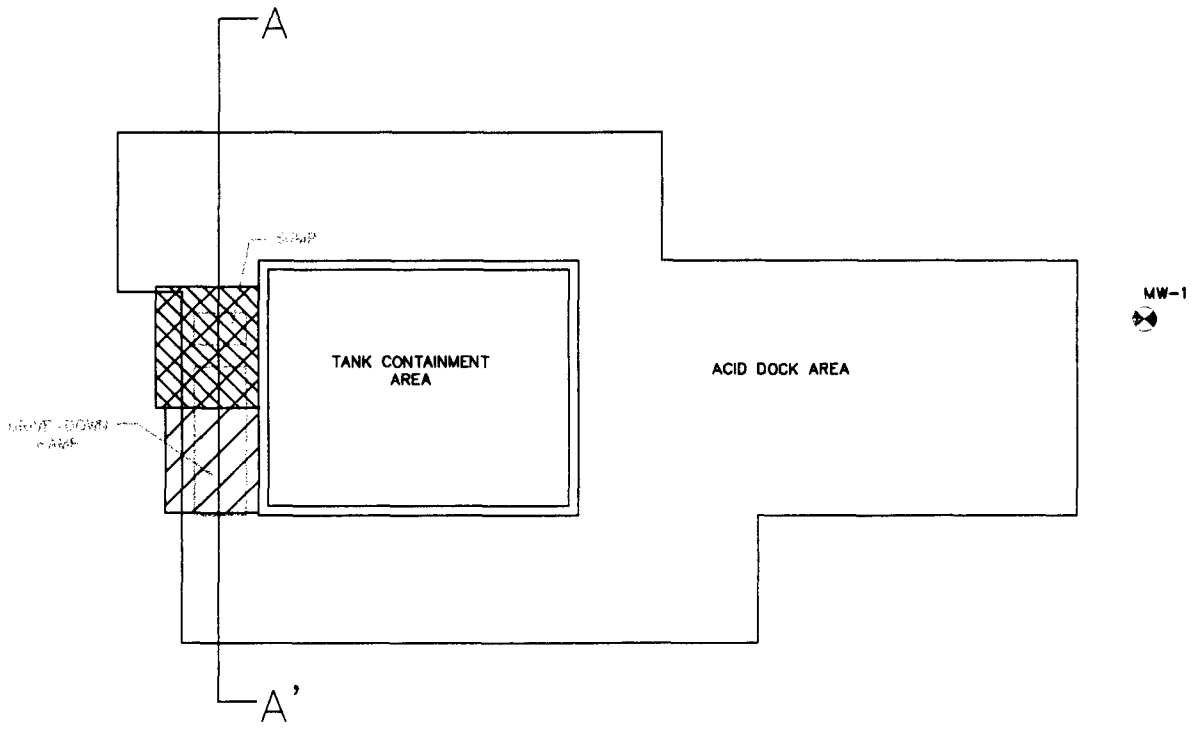
cc: NMOCD Artesia District Office
Jo Ann Cobb, BJ Services Company, U.S.A.
Rick N. Johnson, BJ Services Company, U.S.A.

Table 1
Soil Confirmation Results
Sump and Ramp Excavation
BJ Services Company, U.S.A. (Former NOWSCO)
Hobbs, New Mexico

Sample I.D.	SW-N-10	SW-W-10	SW-E-5	SW-S-10	SW-S-3	FC-N-15	FC-S-6	STCKPL-150	
Location	North Sidewall	West Sidewall	East Sidewall	South Sidewall (Deep Excavation)	South Sidewall (Shallow Excavation)	North Excavation (Deep Excavation) Floor Composite	South Excavation (Shallow Excavation) Floor Composite	Stockpile Composite	**NMOCD Action Levels**
Depth	10 feet bgs.	10 feet bgs.	5 feet bgs.	10 feet bgs.	3 feet bgs.	15 feet bgs.	6 feet bgs.	-	-
Field PID (ppm)	2402	1150	2500	1373	357	2073	1239	NA	-
Field TPH (ppm)	930	1684	NA	1070	1115	756	NA	NA	-
LABORATORY RESULTS (mg/kg):									
TPH	**16000**	**7200**	**31000**	**3700**	**1600**	**44000**	**7100**	**6400**	**100**
Benzene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1	< 0.62	< 0.5	< 0.05 (TCLP)	**10**
Toluene	350	120	350	97	10	960	88	NA	**NA**
Ethylbenzene	110	50	65	23	5.2	170	27	NA	**NA**
Xylene	280	84	110	29	7.6	230	58	NA	**NA**
Total BTEX	**740**	**254**	**525**	**149**	22.8	**1360**	**173**	< 0.05 (TCLP)	**50**
OTHER DETECTED CONSTITUENTS (mg/kg):									
Barium	NA	NA	NA	NA	NA	98.2	NA	< 1 (TCLP)	**100 (TCLP)**
Chromium	NA	NA	NA	NA	NA	2	NA	< 0.02 (TCLP)	**5 (TCLP)**
Lead	NA	NA	NA	NA	NA	1.1	NA	< 0.1 (TCLP)	**5 (TCLP)**
Napthalene	NA	NA	NA	NA	NA	100	NA	NA	-
Benzo(a)anthracene	NA	NA	NA	NA	NA	0.7	NA	NA	-
o-Cresol (TCLP)	NA	NA	NA	NA	NA	NA	NA	0.31	-

Notes:

bgs. = Below Ground Surface
NA = Not Analyzed
bold = Values which exceed NMOCD Action Levels



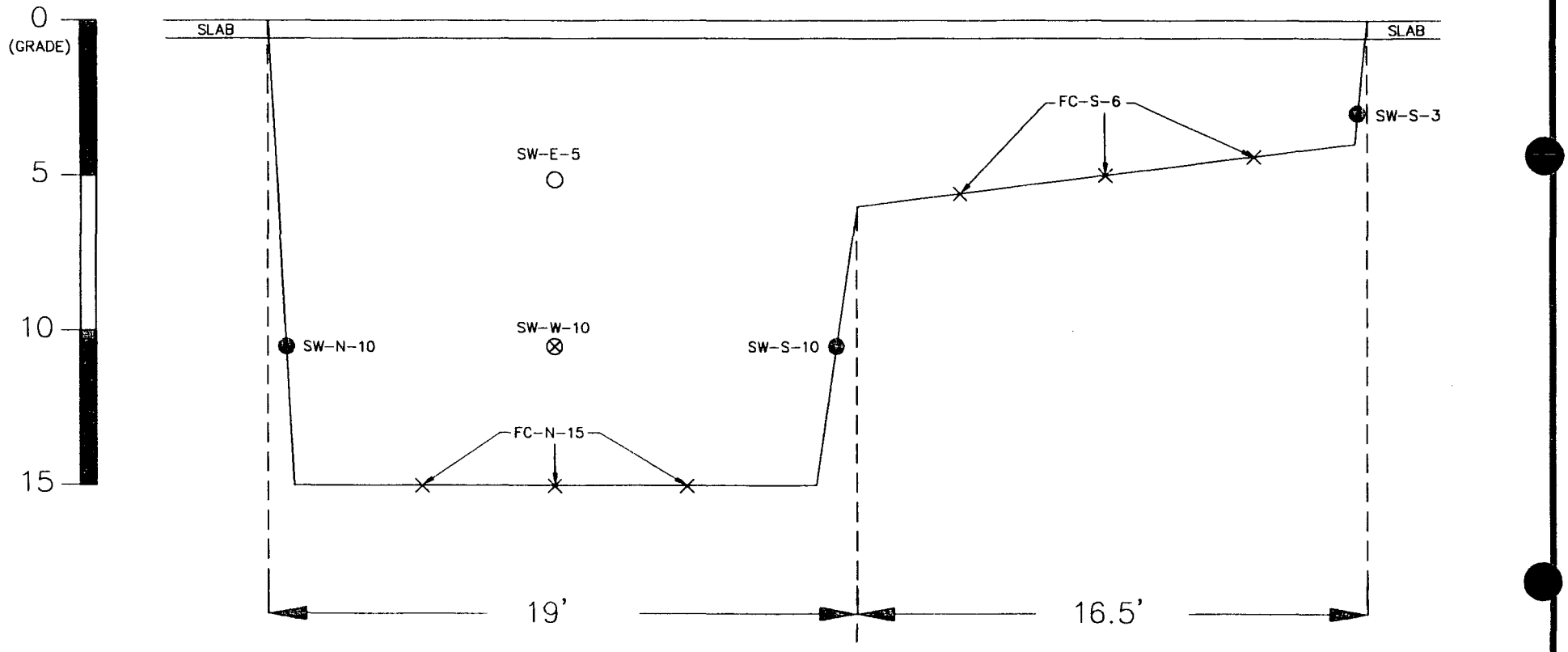
LEGEND

LIMITS OF EXCAVATION TO A DEPTH OF 4' – 6' BELOW GROUND SURFACE

LIMITS OF EXCAVATION TO A DEPTH OF 15' BELOW GROUND SURFACE

T:\6240\02\62400202 03-25-98 JR

BROWN AND CALDWELL HOUSTON, TEXAS SUBMITTED: _____ DATE: ____ PROJECT MANAGER APPROVED: _____ DATE: ____ BROWN AND CALDWELL	0 15 30 SCALE: 1" = 30' DRAWN BY: JR DATE 3/98 CHK'D BY: ____ DATE ____ APPROVED: ____ DATE ____	TITLE LIMITS OF EXCAVATION CLIENT BJ SERVICES COMPANY, U.S.A. SITE LOCATION HOBBS, NEW MEXICO	DATE 03/25/98 PROJECT NUMBER 6240.02 FIGURE NUMBER 2



T:\6240\02\0240203 03-17-98 JR

BROWN AND CALDWELL
HOUSTON, TEXAS

SUBMITTED: _____ DATE: _____
PROJECT MANAGER

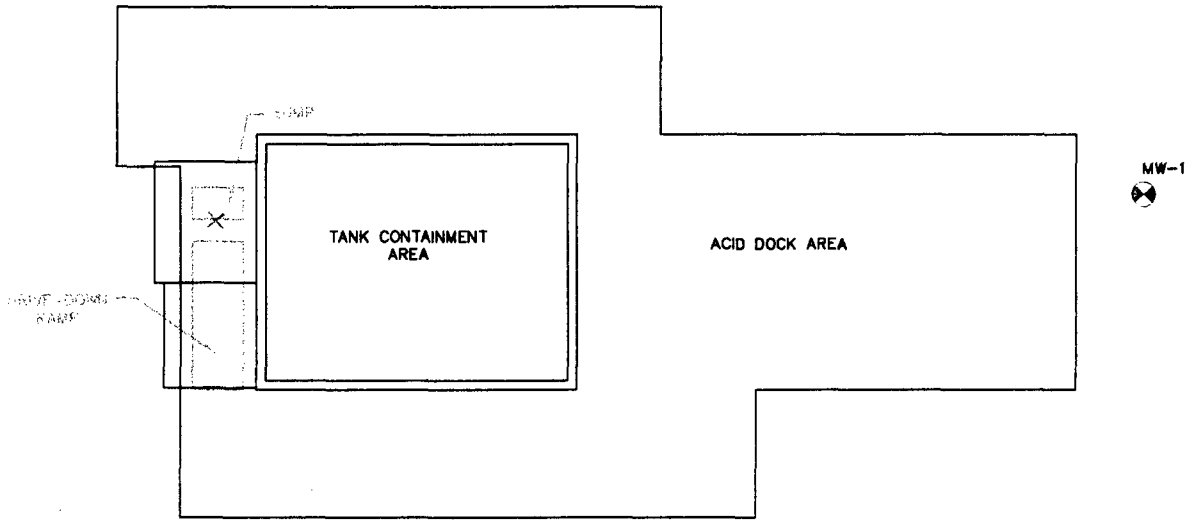
APPROVED: _____ DATE: _____
BROWN AND CALDWELL

LEGEND
- ○ FAR SIDEWALL SAMPLE
- ⊗ NEAR SIDEWALL SAMPLE
- ● SIDEWALL SAMPLE ALONG CROSS-SECTION
- × FLOR COMPLSITE

0 2.5 5
SCALE 1" = 5'
DRAWN BY: JR DATE 3/98
CHK'D BY: ____ DATE ____
APPROVED: ____ DATE ____

TITLE: CROSS-SECTION A – A' WITH SAMPLE LOCATIONS
CLIENT: BJ SERVICES COMPANY, U.S.A.
SITE LOCATION: HOBBS, NEW MEXICO

DATE: 03/17/98
PROJECT NUMBER: 6240.02
FIGURE NUMBER: 3



LEGEND

X PROPOSED TPH SPECIATION SAMPLE LOCATION

T:\6240\02\62400204 03-25-98 JR

BROWN AND CALDWELL HOUSTON, TEXAS SUBMITTED: _____ DATE: _____ PROJECT MANAGER APPROVED: _____ DATE: _____ BROWN AND CALDWELL	0 15 30 SCALE: 1" = 30' DRAWN BY: JR DATE 3/98 CHK'D BY: ____ DATE ____ APPROVED: ____ DATE ____	TITLE PROPOSED TPH SPECIATION SAMPLE LOCATION CLIENT BJ SERVICES COMPANY, U.S.A. SITE LOCATION HOBBS, NEW MEXICO	DATE 03/25/98 PROJECT NUMBER 6240.02 FIGURE NUMBER 4

Mark Ashley

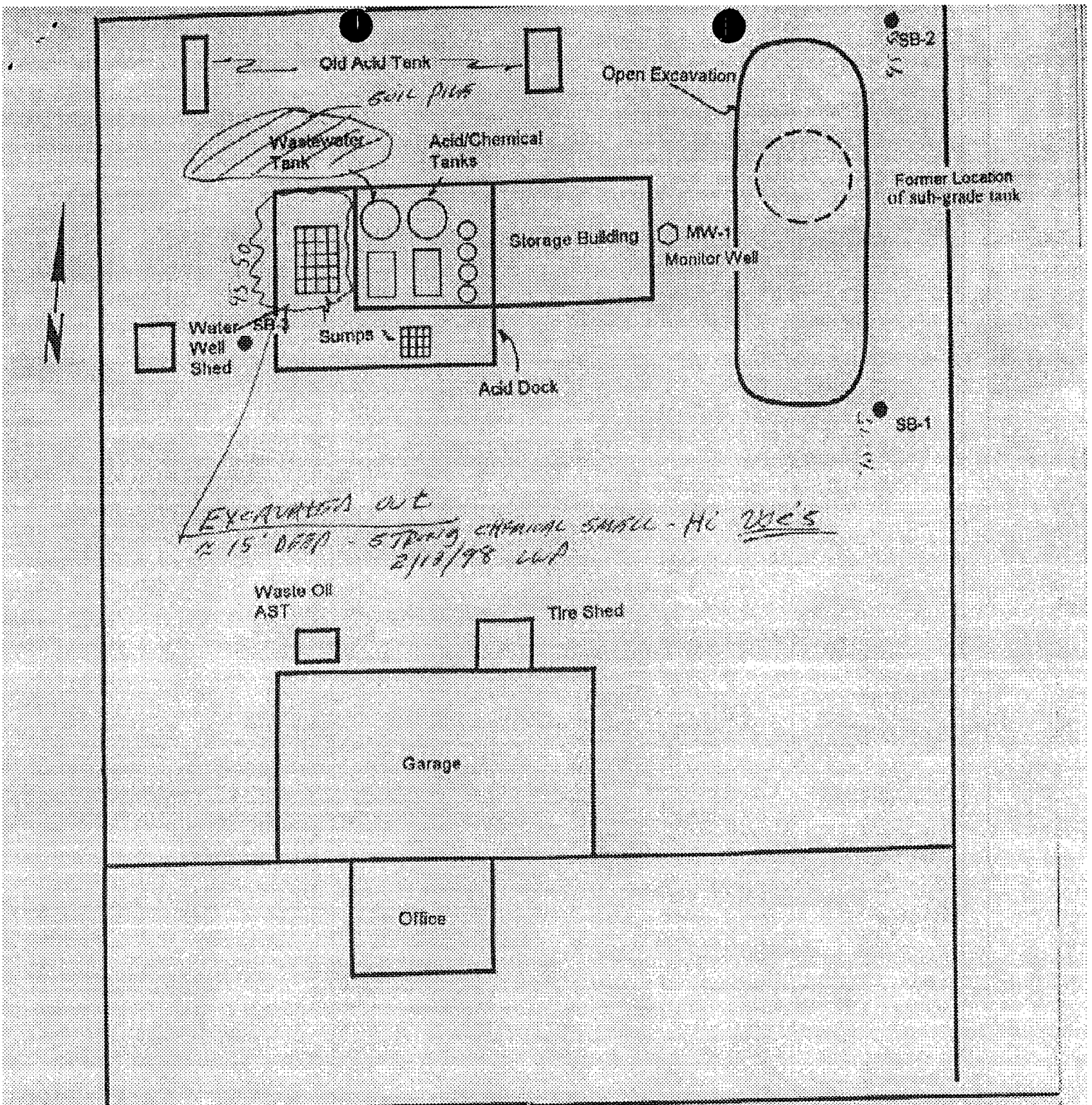
From: Price, Wayne
Sent: Saturday, February 14, 1998 12:57 PM
To: Mark Ashley
Cc: Chris Williams
Subject: BJ Old Nowsco yard Carlsbad HWY

Dear Mark:

Chris & I dropped by the BJ yard. Tim Jenkins of B&C was on site. They have excavated the west side sump out and stocked piled on & covered with plastic. They are planning on sampling the soil for disposal. Also they have excavted down to approx. 15 '. the bottom hole is still very aeromatic, on site PID is > 2000 ppm bottom hole sample. This soil has a very strong chemical smell, very much like an oilfield inhibitor such as a Quat or alky-purideen (SP?).

I recommend they remove the major source of this contamination before closure, due to the close proximity to the Hobbs Country club. From our field observation they still need to excavate some more before closure.

Picture 1 of 1



Highway 62-180

Ritter Environmental & Geotechnical Services

Legend

- Soil Boring
- Monitor Well

NOWSCO WELL SERVICE, INC.
Hobbs, New Mexico

SITE PLAN

No Scale

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

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

February 12, 1998

CERTIFIED MAIL
RETURN RECEIPT NO. P-288-259-017

Mr. Rick N. Johnson
BJ Services Company, U.S.A.
8701 New Trails Drive
Woodlands, Texas 77381

RE: Closure Plan for Sump and Ramp Unit
Discharge Plan GW-17 (Formerly Nowsco)
Hobbs Facility
Lea County, New Mexico

Dear Mr. Johnson:

The New Mexico Oil Conservation Division (OCD) has completed a review of the BJ Services Company, U.S.A. (BJ) "Closure Plan for Sump and Ramp Unit" dated February 6, 1998. This plan contains BJ's closure and sampling activities to be performed at the concrete sump and ramp unit associated with an inactive acid dock at the former NOWSCO Well Services, Inc. facility in Hobbs, New Mexico. The OCD approves of BJ's closure plan with the following conditions:

1. All residual liquids removed from the sump will be tested for hazardous constituents prior to disposal at an OCD approved site.

1. BJ will sample the soils beneath the sump and ramp unit for hazardous constituents. If contamination exists, verticle extent will be determined, and the contaminated soils will be removed and disposed of at an OCD approved site.

3. All wastes generated will be disposed of at an OCD approved site.

5. BJ will notify the OCD Hobbs District Office at least 72 hours prior to all activities.

4. BJ will submit a report on the investigation to the OCD by April 13, 1998. The report will include a description of the actions performed and the results of all sampling activities. The report will also include conclusions and recommendations for future actions based on the results of sampling.

6. All original documents will be submitted to the OCD Santa Fe Office with copies provided to the OCD Hobbs District Office.

Please be advised that OCD approval does not relieve BJ of liability if contamination exists which is beyond the scope of the closure plan or if the activities fail to adequately determine the extent of contamination related to BJ's activities. In addition, OCD approval does not relieve BJ of responsibility for compliance with any other federal, state or local laws and/or regulations.

If BJ has any questions please contact me at (505)-827-7155.

Sincerely,

Mark Ashley

Mark Ashley
Geologist

xc: OCD Hobbs Office

NEW MEXICO ENERGY, MINERALS & NATURAL RESOURCES DEPARTMENT

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

February 10, 1998

CERTIFIED MAIL
RETURN RECEIPT NO. P-288-259-015

Mr. Rick N. Johnson
BJ Services Company, U.S.A.
8701 New Trails Drive
Woodlands, Texas 77381

RE: Soil and Ground Water Assessment of Discharge Plan GW-17 (Formerly Nowsco)
Hobbs Facility
Lea County, New Mexico

Dear Mr. Johnson:

The New Mexico Oil Conservation Division (OCD) has completed a review of the BJ Services Company, U.S.A. (BJ) "Final Soil and Ground Water Assessment Report" dated January 30, 1998. This report contains a summary of field activities and conclusions and recommendations associated with GW-17. The OCD approves of BJ's recommendations with the following conditions:

1. MW-1 through MW-3 will be sampled for chlorides in addition to BTEX and RCRA metals.

2. The water supply well (WSW-1) will be included in the sampling events.

3. The schedule for sampling will be June 1998 and December 1998. BJ will submit a report to the OCD within 60 of each sampling event. The report will include a description of the actions performed and the results of all sampling activities. A ground water depth and gradient map will be included with the December 1998 report.

4. The OCD will consider closure or future monitoring requirements based on the sample results for 1998.

8. BJ will notify the OCD at least 72 hours in advance of all activities.

9. All original documents will be submitted to the OCD Santa Fe Office with copies to the OCD Hobbs District Office.

Because of the ground water monitoring activities occurring at the facility, the OCD considers the facility to still be active. Therefore, the discharge plan must be renewed for the ground water

monitoring program. The current Discharge plan will expire on April 18, 1998. Please submit an original discharge plan renewal application and one copy along with a discharge plan fee of $740 to OCD Santa Fe Division Office. A copy of the discharge plan renewal application is to be submitted to the OCD Hobbs District Office. Note that the completed and signed application form must be submitted with your discharge plan renewal request. Please make all checks payable to: NMED-Water Quality Management.

If BJ has any questions please contact me at (505)-827-7155.

Sincerely,

Mark Ashley
Geologist

xc: OCD Hobbs Office

BROWN AND CALDWELL
1415 LOUISIANA, SUITE 2500
HOUSTON, TEXAS 77002
PHONE (713) 759-0999
FAX (713) 308-3886

FAX TRANSMITTAL COVER SHEET

PLEASE DELIVER THE FOLLOWING PAGES TO:

Name: Mark Ashley **Company:** NMOCD

City: Santa Fe, NM **FAX No:** 505-827-8177

THIS TRANSMITTAL IS BEING SENT FROM:

Name: Rick Rexroad for Tim Jenkins **Return originals:** Yes ☐ No ☐

User ID: **Stamp:** Yes ☐ No ☐

Job No: 6240.01 **Staple:** Yes ☐ No ☐

SPECIAL INSTRUCTIONS/REMARKS:

NUMBER OF PAGES BEING TRANSMITTED INCLUDING COVER SHEET: 20

Environmental Engineering And Consulting

BROWN AND CALDWELL

Suite 2500, 1415 Louisiana, Houston, TX 77002
(713) 308-3886 • (713) 759-0999

TRANSMITTAL MEMORANDUM

To: Mr. Mark Ashley State of New Mexico, Oil Conservation Division Energy, Minerals, and Natural Resources Dept. 2040 South Pacheco Santa Fe, New Mexico 87505	Date: 11/17/97	Job No: 6240
	Subject: Hobbs, New Mexico Facility	
	Contract No:	
	Equipment No:	
	Spec. Ref:	
	Submittal No:	

WE ARE SENDING: ☒ Attached ☐ Under separate cover **Via FedEx** the following items:
☐ Shop Drawings ☐ Prints ☐ Plans ☐ Samples ☐ Specifications
☐ Copy of letter ☐ Change Order ☒ Other: Final Work Plan

THESE ARE TRANSMITTED AS CHECKED BELOW:
- ☐ For approval
- ☒ For your use
- ☐ As requested
- ☐ For review and signature
- ☐ With submittal review action noted

SUBMITTAL REVIEW ACTIONS:
- ☐ No exceptions taken
- ☐ Make revisions
- ☐ Amend and resubmit
- ☐ Rejected--see Remarks
- ☐ None

Copies	Date	No.	Description
1	11/17/97	6240	Final Work Plan for Drilling and Assessment Activities, Former NOWSCO Facility, Hobbs, New Mexico - BJ Services Company, U.S.A.

REMARKS:.

cc: Wayne Price, State of New Mexico, Hobbs District Office
Rick Johnson, BJ Services Company, U.S.A.
Brown and Caldwell project file (6240)
Transmittal File w/o attachments
Client File w/o attachments (BJ Services)

Timothy L. Jenkins

If enclosures are not as noted, kindly notify us at once *W:\BJSERV\TRANSMIT\199TR.DOC*

FINAL

WORK PLAN FOR DRILLING AND ASSESSMENT ACTIVITIES FORMER NOWSCO FACILITY HOBBS, NEW MEXICO

BJ SERVICES COMPANY, U.S.A.

NOVEMBER 17, 1997

CONTENTS

FINAL
WORK PLAN FOR DRILLING
AND ASSESSMENT ACTIVITIES
FORMER NOWSCO FACILITY
HOBBS, NEW MEXICO

BJ SERVICES COMPANY, U.S.A.

Prepared for

BJ Services Company U.S. A.
8701 New Trails Drive
The Woodlands, Texas 77381

Project Number: 6240-01

Timothy L. Jenkins
Associate Engineer

November 17, 1997

Brown and Caldwell
1415 Louisiana, Suite 2500
Houston, Texas 77002 - (713) 759-0999

W:\BJSERV\6240\006R.DOC

1.0 INTRODUCTION

On June 12, 1996, BJ Services Company, U.S.A. (BJ Services) purchased the NOWSCO Well Services, Inc. (NOWSCO), including the facility located at 5514 Carlsbad Highway (US 62/US 180) in Hobbs, New Mexico. The facility has been non-operational since this date. The facility was primarily utilized for well stimulation by acidizing, a process that uses hydrochloric acid mixtures, which are blended onsite and delivered to the well location.

In June 1997, Eco-logical Environmental Services, Inc. performed a sump clean out, sampled the monitor well (MW-1), and conducted a brief site inspection.

Based on a Task Order agreement dated November 14, 1997, Brown and Caldwell will serve as a consultant to BJ Services for the work described herein. This Site Assessment Work Plan (Work Plan) will describe the objectives of the site assessment, and the methods to be used for sampling and analysis of soils, the installation of monitor wells, and the sampling of groundwater. The objectives of the project are to assess the potential impact of a caliche pit operated by previous ownership, and to characterize the remaining tank liquids for disposal at a New Mexico Oil Conservation District (NMOCD) approved facility. Specifically, a letter from Mark Ashley of the NMOCD to BJ Services dated October 2, 1997 requested that additional water wells should be installed and sampled, and that the groundwater samples should be analyzed for various VOCs, SVOCs, and metals (See Appendix A). The letter also specified that an existing water supply well located on the west side of the site be sampled for these sample constituents. This Work Plan serves as 72 hour notice of the activities described herein. These activities are currently scheduled to begin Wednesday, November 19, 1997 at 8:00 am Mountain Standard Time.

The following sections describe the planned field activities to meet the objectives of the project and present a schedule to conduct the work and prepare an investigation report as defined in the NMOCD letter of October 2, 1997.

2.0 FACILITY DESCRIPTION

BJ Services intends to close or transfer the Discharge Plan GW-17 at the former NOWSCO facility on Carlsbad Highway in Hobbs, New Mexico. The facility has been inactive since June, 1996. The facility is located in an area of industrial and undeveloped land west of Hobbs, New Mexico, near the Lea County Airport. A site location map is attached as Figure 1.

2.1 Background

A Subsurface Investigation and Site Closure Plan Update was performed in March, 1995 by Ritter Environmental under contract to NOWSCO. A second site inspection, including a sump clean out, was performed in June, 1997 by Eco-logical Environmental. The site inspection identified residual liquids within various tanks located at the Acid Loading Dock.

2.2 Areas of Assessment Activity

Based on these reports, the areas requiring additional assessment and/or removal of material for offsite treatment/disposal are as follows:

- Caliche Pit (Installation of an Upgradient and Two Downgradient Monitor Wells)
- Northwest Corner Fiberglass Tank (Liquid for characterization and disposal)
- Small Fiberglass Tank (Liquids for characterization and disposal)

A facility site plan is presented as Figure 2.

3.0 FIELD PROCEDURES

This section describes the general field procedures that will be used during the Site Assessment activities.

3.1 Monitor Well Locations

A monitor well is currently located to the west of the caliche pit. Based on an assumed east to southeast groundwater flow gradient at the site, two soil borings will be advanced in the area east of the caliche pit (between the pit and the fenceline), and completed as monitor wells. After installation of these two new monitor wells, water level measurement will be taken from these wells and the existing well so that the groundwater flow direction at the site can be confirmed. A third well may be installed, depending on groundwater flow direction, such that at least one well is upgradient, and two wells are downgradient in order to meet the requirements specified in the October 2, 1997 NMOCD directive. Figure 2 depicts the approximate locations of MW-2 and MW-3.

3.2 Sample Collection Method

The soil borings will be installed by a subcontractor using air rotary drilling techniques. Borings will be advanced to a nominal depth of 60 feet, and will be sampled continuously. Samples will be screened by headspace analysis upon recovery using a photoionization device (PID). Three samples from each boring will be held as a contingency for potential future analysis. The samples will be collected from the interval indicating the highest PID response, from the sample collected from the vadose zone immediately above groundwater depth, and from the bottom (total depth) of each boring.

Liquid samples from the tanks containing liquids will be collected using a disposable sample device. A sufficient quantity of sample will be collected to characterize the liquids for disposal and/or treatment by a NMOCD approved facility.

3.3 Monitor Well Installation

Upon completion of soil boring and sampling activities, each boring will be completed as a monitoring well. Based on groundwater elevation data from MW-1, the groundwater level is approximately 50 feet below grade. As required by the NMOCD, and as described in Appendix B, each well will consist of the following:

- 15 feet of well screen (0.010 slot PVC well screen will be used), with approximately 5 foot of screen above the water table and approximately 10 feet of well screen below the water table;
- An appropriately sized sand filter pack, extending from the base of the boring to 2-3 feet above the top of the screen;
- A 2-3 foot bentonite plug placed above the filter pack; and
- Grout from the bentonite plug to the surface with a cement containing 5% bentonite.

The monitor wells will be completed using flush mount man-ways set in concrete pads. All wells shall be equipped with locking water-tight caps and locks.

Upon completion of the well installations, the wells will be developed by surging and bailing/pumping until the wells are relatively free of sediment. Water generated during the development activities will be placed in 55-gallon steel drums. Based on the results of groundwater analysis, purge and development water will be disposed of at an NMOCD-approved facility. All well installation work shall be performed in accordance with the New Mexico Oil Conservation Division drilling regulations under the supervision of a person licensed to conduct monitor well drilling and installation in the State of New Mexico.

3.4 Decontamination Procedures

The downhole drilling and sampling equipment will be decontaminated by pressure washer prior to commencement of sampling activities. All sampling equipment, including liquids collection devices for tank sampling, will be decontaminated prior to use at each boring location and between sample intervals by washing with a laboratory grade detergent, rinsing with potable water, and completing a final rinse with distilled water.

3.5 Analysis Criteria

Waste liquid samples collected from the containment vessels described in Section 2.2 will be characterized for disposal by analyzing for TCLP volatiles, TCLP semivolatiles, TCLP metals, and reactivity, corrosivity, and ignitability (RCI) by standard EPA methods.

Soil samples collected during boring activities will be held as a contingency for potential future analysis.

All wells at the site, including MW-1, the newly installed monitor wells, and the water supply well, if accessible, will be purged approximately three well volumes prior to sampling the groundwater. Each sample will be analyzed for major cations and anions, total metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) by SW-846 Method 3050/6010/7000 Series, polynuclear aromatic hydrocarbons (PAHs by Method 8310), and BTEX by Method 8020. The sample indicating the highest levels of BTEX will then be analyzed for aromatic and halogenated organics (volatiles and semivolatiles, including chlorinated compounds) by Methods 8240/8270/8100.

One duplicate groundwater sample will be collected and analyzed for the parameters listed above. One trip blank will be analyzed for BTEX for each sample cooler containing soil and/or groundwater samples being submitted for BTEX analysis.

4.0 WASTE MANAGEMENT AND HANDLING

Wastes generated during the soil boring installation and the waste liquids identified in Sections 3.3 and 3.4 will be managed and handled according to state and federal requirements.

4.1 Waste Soils

Wastes generated during boring activities will be placed on and covered with plastic sheeting. The soils will be disposed on the basis of the analytical results obtained during the investigation and any additional analyses required by the disposal facility.

4.2 Waste Liquids

Liquids generated from decontamination and groundwater sample collection will be placed in a 55 gallon steel drum for future treatment/disposal based as classified by analytical results obtained during the investigation and any additional analyses required by the disposal facility.

Based on the analytical results for the liquids contained in the various Field Book Areas/Tasks, the liquid wastes will be properly disposed at an RCRA approved facility.

5.0 SITE ASSESSMENT REPORT

A report documenting the assessment activities, well installations, groundwater sampling, and removal of tank liquids will be prepared and finalized for submittal to the NMOCD. The report will also include a summary of the assessment activities, a discussion on local geology and hydrogeology, a description of field methods, a groundwater depth and gradient map, field and laboratory analytical results, boring/monitor well completion diagrams, a sample location map, and documentation of the disposition of waste materials. The report will also present the recommendations for future actions pertaining to the closure or transfer of the discharge plan based on these results.

6.0 SCHEDULE

The well installation activities are anticipated to begin on Wednesday, November 19, 1997 and take two days to complete. Tank sampling will be accomplished during this same time period. The final site assessment report will be submitted to the NMOCD.

DISTRIBUTION

Final
Work Plan for Drilling and Assessment Activities
Former NOWSCO Facility
Hobbs, New Mexico
BJ Services Company, U.S.A.

November 17, 1997

1 copy to: State of New Mexico
Energy, Minerals, and Natural Resources Department
Oil Conservation Division
2040 South Pacheco
Santa Fe, New Mexico 87505

Attention: Mr. Mark Ashley

1 copy to: State of New Mexico
Oil Conservation Division, Hobbs District Office
Post Office Box 1980
Hobbs, New Mexico 88240

Attention: Mr. Wayne Price

1 copy to: BJ Services Company, U.S.A.
8701 New Trails Drive
The Woodlands, Texas 77381

Attention: Mr. Rick N. Johnson

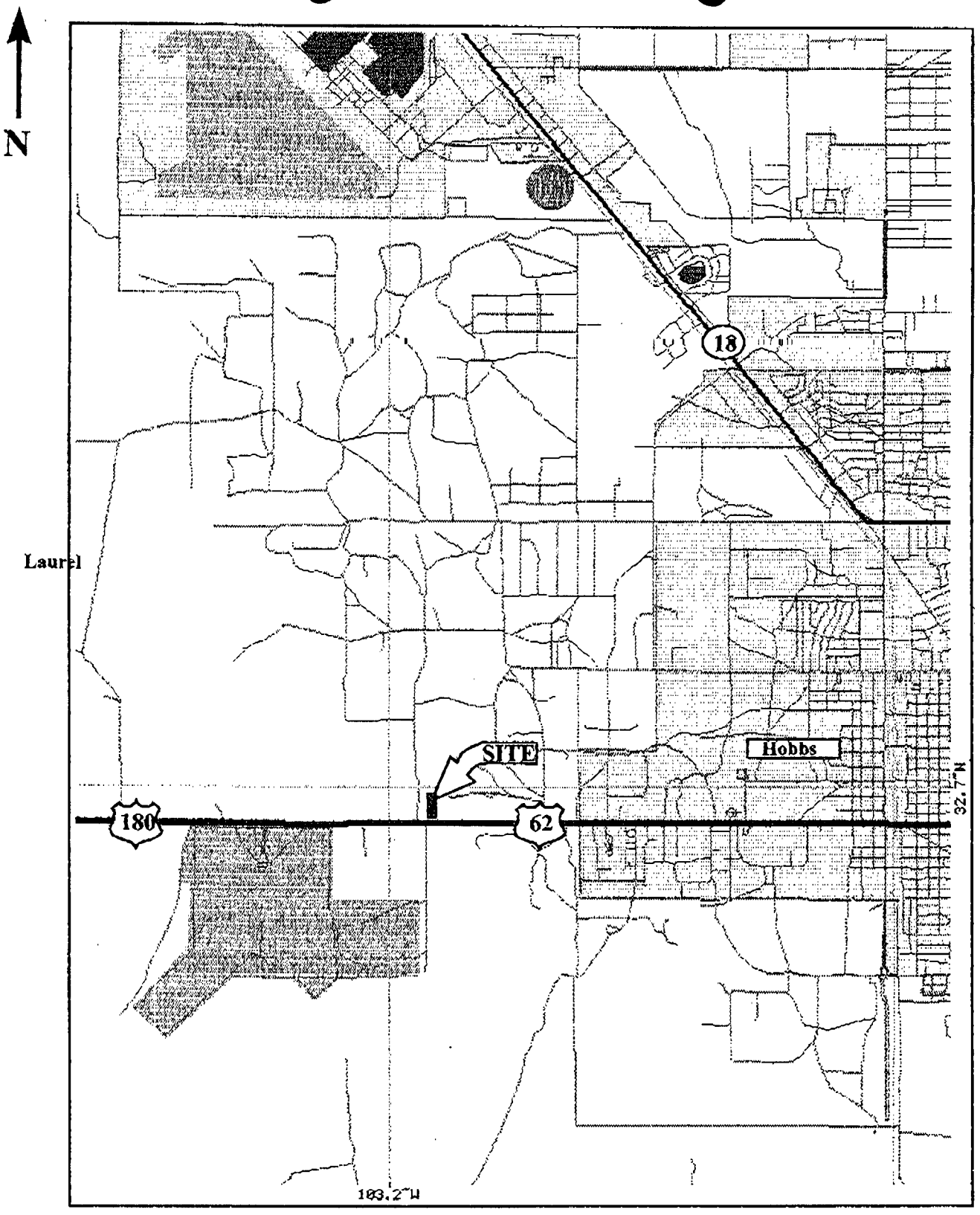
1 copy to: Brown and Caldwell
Project File

QUALITY CONTROL REVIEWER

Robert N. Jennings, P.E.
Vice President

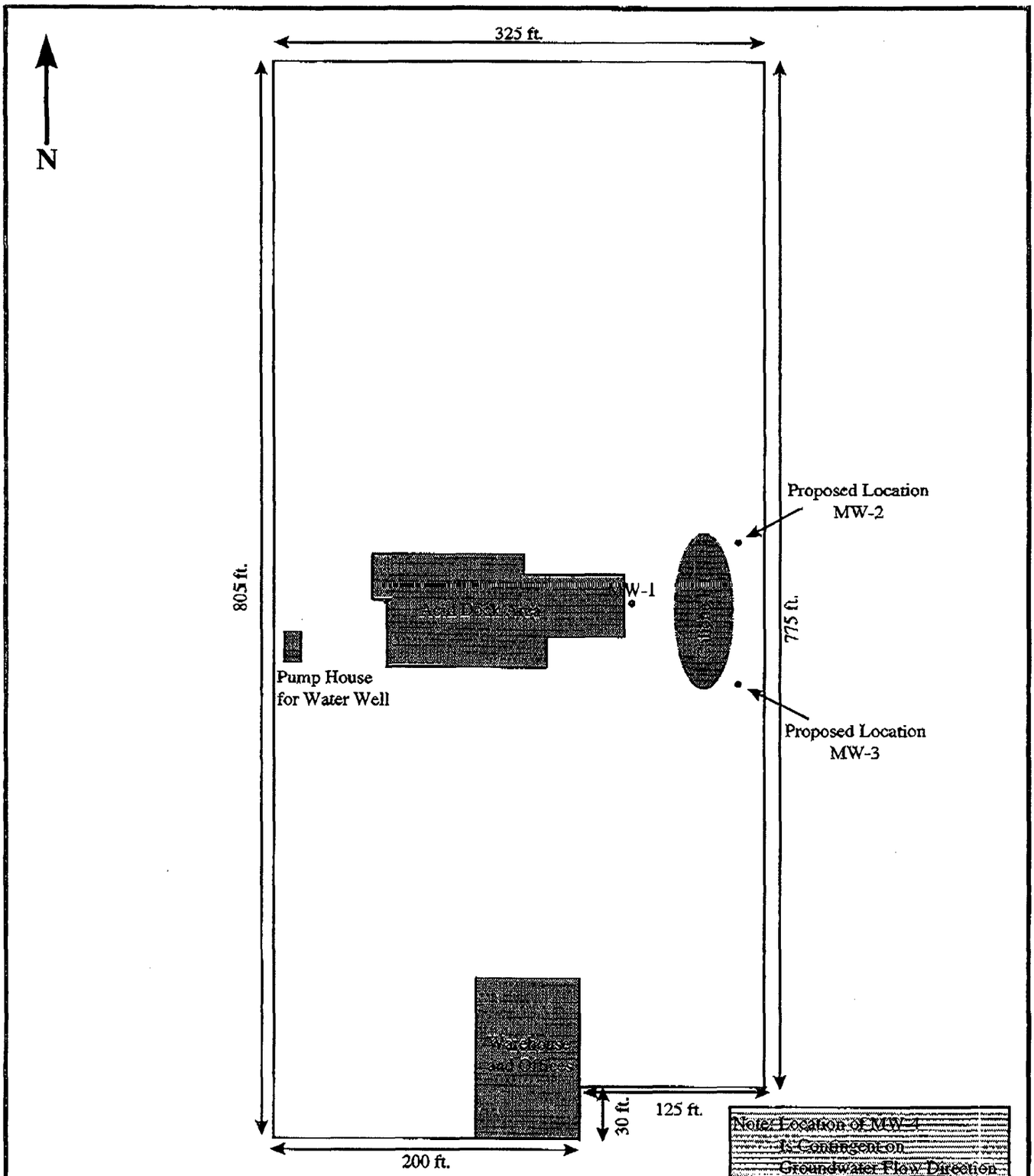
TLJ:uak

FIGURES



BROWN AND CALDWELL HOUSTON, TEXAS	0 0.5 1 miles	TITLE: SITE PLAN MAP	DATE: 11/14/97
		CLIENT: BJ SERVICES COMPANY, U.S.A.	PROJECT NO.: 6240.01
		SITE LOCATION: HOBBS, NEW MEXICO	FIGURE NO.: 2

g:\BJServ\6240\2-HOBBNOW.ppt



BROWN AND CALDWELL HOUSTON, TEXAS		TITLE SITE PLAN MAP (FORMER NOWSCO FACILITY)	DATE 11/14/97
		CLIENT BJ SERVICES COMPANY, U.S.A.	PROJECT NO. 6240.01
		SITE LOCATION HOBBS, NEW MEXICO	FIGURE NO. 2

g:\BJServ\6240\2SITEPLN.ppt

APPENDIX A

NMOCD Letter - October 2, 1997

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

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

October 2, 1997

CERTIFIED MAIL
RETURN RECEIPT NO. P-288-258-982

Mr. Rick N. Johnson
BJ Services Company, U.S.A.
8701 New Trails Drive
Woodlands, Texas 77381

RE: Closure Approval of Discharge Plan GW-17 (Formerly Nowsco)
Hobbs Facility
Lea County, New Mexico

Dear Mr. Johnson:

The New Mexico Oil Conservation Division (OCD) has received the letter dated July 11, 1997 for the Closure of the BJ Services Company, U.S.A. (BJ) GW-17 Discharge Plan located in the SW/4 SW/4 of Section 36, Township 18 South, Range 37 East, NMPM, Lea County, New Mexico. The closure of the Hobbs facility was submitted pursuant to Section 3107 A.11 of the Water Quality Control Commission Regulations. Based on information gathered to date, it is unclear if ground water at the site has been impacted by activities associated with the caliche pit.

The OCD requires further investigation by BJ that will include, at a minimum, the following information:

1. A ground water depth and gradient map.

2. A minimum of one monitor well installed upgradient and a minimum of two monitor wells installed downgradient from the caliche pit.

3. Monitor wells will be constructed with:

   a. A minimum of fifteen feet of well screen, with at least five feet of well screen above the water table and ten feet of well screen below the water table.

   b. An appropriately sized gravel pack will be set around the well screen from the bottom of the hole to 2-3 feet above the top of the well screen.

   c. A 2-3 foot bentonite plug will be placed above the gravel pack.

d. The remainder of the hole will be grouted to the surface with cement containing 5% bentonite.

4. All soils generated from drilling activities will be characterized for hazardous constituents and disposed of at an OCD approved site.

5. Ground water from the monitor wells will be sampled and analyzed for concentrations of major cations and anions, heavy metals, polynuclear aromatic hydrocarbons, and aromatic and halogenated organics using EPA approved methods.

6. The existing ground water supply well located on the facility will be sampled for the constituents listed in number 4 above.

7. BJ will submit a report on the investigation to the OCD by January 5, 1998. The report will include a description of the actions performed and the results of all sampling activities. The report will also include recommendations for future actions based on the results of ground water sampling.

8. BJ will notify the OCD at least 72 hours in advance of all activities.

9. All original documents will be submitted to the OCD Santa Fe Office with copies to the OCD Hobbs District Office.

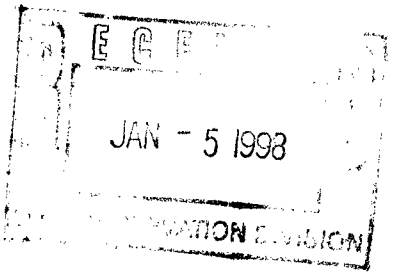
If BJ has any further questions or comments please contact me at (505)-827-7155.

Sincerely,

Mark Ashley
Geologist

xc: OCD Hobbs Office

BROWN AND CALDWELL



December 31, 1997

Mr. Mark Ashley
State of New Mexico
Energy, Minerals, and Natural Resources Department
Oil Conservation Division
2040 South Pacheco
Santa Fe, New Mexico 87505

6240-01

Subject: BJ Services Hobbs (Former NOWSCO) Facility
Well Installation Report

Dear Mr. Ashley:

As per our conversation yesterday, this letter is to confirm that the submittal deadline for the groundwater investigation report has been delayed from January 5, 1998 to February 2, 1998.

If you have any questions, please do not hesitate to contact me at (713) 646-1138.

Very truly yours,

BROWN AND CALDWELL

Timothy L. Jenkins
Associate Engineer

cc: Jo Ann Cobb, BJ Services Company, U.S.A.

1415 Louisiana, Suite 2500, Houston, TX 77002
(713) 759-0999 Fax (713) 759-0952

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☒ Telephone ☐ Personal	Time	Date
	9:00 AM	12-30-97

Originating Party	Other Parties
MARK ASHLEY - RETURNING PHONE CALL	TIM JENKINS

Subject: BT-NOWSCO

Discussion: TIM REQUESTED AN EXTENSION FROM 1-9-98 TO 2-2-98 BECAUSE OF LAB DELAYS.

Conclusions or Agreements: EXTENSION GRANTED

Distribution

Signed: Mark Ashley

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☒ Telephone ☐ Personal	Time 8:45 AM	Date 10-3-97
Originating Party		**Other Parties**
RICK JOHNSON - RETURNING MY CALL FROM 10-2-97, 4:10 PM		MARK ASHLEY

Subject BJ-NOWSCO CLOSURE GW-17

Discussion I REVIEWED THE NEED TO FURTHER INVESTIGATE THE PIT CLOSURE PRIOR TO CLOSURE OF THE BJ-NOWSCO YARD. I INFORMED RICK I WILL BE SENDING A LETTER TO HIM REQUESTING THE INVESTIGATION.

Conclusions or Agreements RICK AGREED WITH THE FINDINGS OF THE OCD

Distribution

Signed Mark Ashley

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

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

October 2, 1997

CERTIFIED MAIL
RETURN RECEIPT NO. P-288-258-982

Mr. Rick N. Johnson
BJ Services Company, U.S.A.
8701 New Trails Drive
Woodlands, Texas 77381

RE: Closure Approval of Discharge Plan GW-17 (Formerly Nowsco)
Hobbs Facility
Lea County, New Mexico

Dear Mr. Johnson:

The New Mexico Oil Conservation Division (OCD) has received the letter dated July 11, 1997 for the Closure of the BJ Services Company, U.S.A. (BJ) GW-17 Discharge Plan located in the SW/4 SW/4 of Section 36, Township 18 South, Range 37 East, NMPM, Lea County, New Mexico. The closure of the Hobbs facility was submitted pursuant to Section 3107 A.11 of the Water Quality Control Commission Regulations. Based on information gathered to date, it is unclear if ground water at the site has been impacted by activities associated with the caliche pit.

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4. All soils generated from drilling activities will be characterized for hazardous constituents and disposed of at an OCD approved site.

5. Ground water from the monitor wells will be sampled and analyzed for concentrations of major cations and anions, heavy metals, polynuclear aromatic hydrocarbons, and aromatic and halogenated organics using EPA approved methods.

6. The existing ground water supply well located on the facility will be sampled for the constituents listed in number 4. above.

7. BJ will submit a report on the investigation to the OCD by January 5, 1998. The report will include a description of the actions performed and the results of all sampling activities. The report will also include recommendations for future actions based on the results of ground water sampling.

8. BJ will notify the OCD at least 72 hours in advance of all activities.

9. All original documents will be submitted to the OCD Santa Fe Office with copies to the OCD Hobbs District Office.

If BJ has any further questions or comments please contact me at (505)-827-7155.

Sincerely,

Mark Ashley
Geologist

xc: OCD Hobbs Office

July 11, 1997

JUL 17 1997

CERTIFIED MAIL NO. P 414 631 831
RETURN RECEIPT REQUESTED

Mr. Mark Ashley
State of New Mexico
Energy, Minerals, and Natural Resources Department
Oil Conservation Division
2040 South Pacheco Street
State Land Office Building
Santa Fe, NM 87505

RECEIVED
JUL 17 1997
Environmental Bureau
Oil Conservation Division

RE: Discharge Plan Closure: GW-17
BJ Services Company, U.S.A.
5514 Carlsbad Highway
Hobbs, New Mexico
Old NOWSCO (Acid Engineering) Facility

Dear Mr. Ashley:

BJ Services Company, U.S.A. (BJ Services) intends to close the above referenced discharge plan (DP) for the above referenced facility. The purpose of this correspondence is to examine all aspects of this DP and present the closure activities performed to date, as well as to present a plan for completion of closure activities for each aspect of this DP to the New Mexico Oil Conservation Division (OCD) for approval. BJ Services understands that the OCD may conduct an inspection and request more information or work to be done at the facility prior to DP closure.

Background

The subject discharge plan was originally approved as DP-249 by the New Mexico Environmental Improvement Division (EID) on January 6, 1983 and only included approval to recycle field acid waste as acid mix water. The DP was eventually transferred to the OCD (and redesignated GW-17) on January 30, 1986. Since this time, the DP has been modified several times and now includes many other requirements related to facility operations.

On June 12, 1996, BJ Services purchased NOWSCO Well Services, Inc. The subject facility has been closed and non-operational since that time.

BJ Services has reviewed the DP file completely. The following chart summarizes the information regarding each of the discharge plan components identified:

Discharge Plan Component	Date Included in DP (OCD Approval Date)	Component Description and Requirements
Acid Waste Discharge/Recycling	1/6/83	Discharge/recycle field acid waste into a pit/tank for reuse as mix water and eventually, disposal well treatment solution.
Drum Storage	12/13/93	All drums must be stored on pad with curb type containment.
Sump Inspection	12/13/93	All sumps to be cleaned and visually inspected on an annual basis. Any new sumps will, upon approval by the OCD, incorporate secondary containment and leak detection in their designs.
Tank Berming	12/13/93	All tanks that contain material other than fresh water that, if released, could contaminate surface or groundwater or the environment be bermed to contain one and one-third times the capacity of the tank.
Spill Reporting	12/13/93	All spills and/or leaks be reported to the OCD district office.
Modifications to Discharge Plan	12/13/93	All proposed below-grade modifications to facilities or excavation and disposal of wastes or contaminated soils will have OCD approval prior to activity.
Sump Effluent Handling	12/13/93	All effluent generated from the Acid Dock be recycled as a disposal well treatment fluid.
Sump Solids Handling	12/13/93	All solids generated in any sumps will be appropriately tested and receive OCD approval prior to disposal.
Truckwash Effluent Handling	2/27/96	Disposal at Hobbs POTW, with hazardous constituent analysis and OCD approval prior to disposal.
Housekeeping	2/27/96	All systems designed for spill collection/prevention should be inspected frequently to ensure proper operation and to prevent overtopping or system failure.

Closure Activities to Date

BJ Services has performed the following procedures/methods to date in order to address the DP components:

⇒ Acid Waste Discharge/Recycling: As the facility is non-operational, there is no discharging or recycling of acid waste at the facility. Closure of this area is pending with ongoing groundwater monitoring through May 1998. A groundwater sample was taken on 6/13/97 from the one on-site monitoring well (MW-1). A letter report summarizing the analytical results from this sampling event will be submitted to the OCD. A final inspection of this area on 6/13/97 revealed that the area is non-operational and no discharge or recycling is occurring.

⇒ Drum Storage: An inspection of the drum storage areas was performed to ensure that all drums have been removed from facility. Four unmarked drums were observed at the facility and are suspected to contain waste oil and/or antifreeze.

⇒ Sump Inspection: Sumps (one inside the shop area and one near the acid loading dock) were cleaned and inspected by Ecological Environmental Services, Inc. (Ecological) on 6/13/97 with prior OCD approval. Pitting and cracks in the slab were observed on the ramp portion of the sump near the acid dock; however, the two square portions of the sump revealed no visible damage.

⇒ Tank Berming: Inspected the berms and tanks to ensure there are no signs of release and that the tanks are empty on 6/13/97. The containment berms appeared to be somewhat stained, but in good condition; however, several of the aboveground tanks in this area still contain liquid.

⇒ Spill Reporting: No action is needed for the closure of this item.

⇒ Modifications to DP: No action is needed for the closure of this item.

⇒ Sump Effluent Handling: No more sump effluent exists since the facility is non-operational. Liquids from the sumps were removed and disposed of properly by Ecological with OCD approval on 6/13/97. However, the wastewater tank that the sump effluent was apparently pumped into does contain some amount of sump effluent.

⇒ Sump Solids Handling: Sumps were cleaned and inspected by Ecological on 6/13/97 with prior OCD approval. Sump solids were disposed of properly with prior OCD approval.

⇒ Truck Wash Effluent: No more truckwash effluent is being generated at the facility.

⇒ Housekeeping: A final inspection of the site was performed to ensure that all systems designed for spill collection/prevention (i.e., containment berms, etc.). All systems were observed to be in good condition.

Proposed Final Closure Activities

BJ Services proposes the following procedures/methods to address the DP components and observations made on 6/13/97:

⇒ Acid Waste Discharge/Recycling: No further action needed for this component.

⇒ Drum Storage: Manage the four drums full of waste oils and antifreeze that were found on-site. This would be accomplished by having a reclamation company remove the contents of the drums for recycling and then transporting the empty drums to the operational BJ Services yard in Hobbs for use or disposal.

⇒ Sumps: BJ Services requests leaving the sump inside the warehouse in place as this increases the value of the property. Access to this sump is controlled by the

locked door and a locked chainlink fence surrounding the entire property. BJ Services proposes removal and off-site disposal of the acid dock sump in accordance with applicable OCD closure guidelines. Upon removal, the soils surround the acid dock sump would be inspected for any signs of release. Visually impacted soils would be removed from the excavation and two bottom hole confirmation soil samples would be collected. These soil samples would be analyzed for total petroleum hydrocarbons (TPH), volatile organic compounds (VOCs), and the eight Resource Conservation and Recovery Act (RCRA) metals using EPA-approved laboratory methods. Further investigation or remediation of the area would be based on the soil clean-up concentrations contained in the OCD closure guidelines. OCD notification procedures would be followed throughout the removal/investigation of the sump area.

⇒ Tank Berming: No further action is needed for the tank berming portion of this component; however, tanks which contain liquid must be emptied and the wastes managed properly prior to discharge plan closure. The following table identifies the tanks which need to be addressed and proposes waste management activities:

Tank Description	Estimated Total Capacity (gallons)	Estimated Current Volume (gallons)	Liquid Description	Proposed Waste Management Activities
Stainless steel totes (3)	250 (2), 550	250; 0; 0	Clean product in one, other two are empty	Contact manufacturer to pick-up and handle
Small acid scrubber AST	250	250	Transparent, yellow liquid	Consolidate with wastewater
Wastewater tank	12,000	unknown (unable to access tank at the time of inspection)	Wastewater (sump effluent)	Sample, analyze (Full TCLP and RCI), and dispose of wastewater properly with OCD pre-approval
White AST next to acid tank	10,000	unknown	Clear, clean water	Drain tank
AE Aromatic tank	12,000	750	Product	Transport this product to another BJ district for use

⇒ Sump Effluent Handling: The only sump effluent which remains at the facility is located in the wastewater tank. This issue is addressed in the tank berming item.

Upon the approval of this plan by the OCD, BJ Services will proceed with the closure activities outlined above. When these activities are completed, BJ Services will provide the OCD with a letter report accompanied by all the necessary documentation regarding the final disposition of wastes and the closure of the acid dock sump.

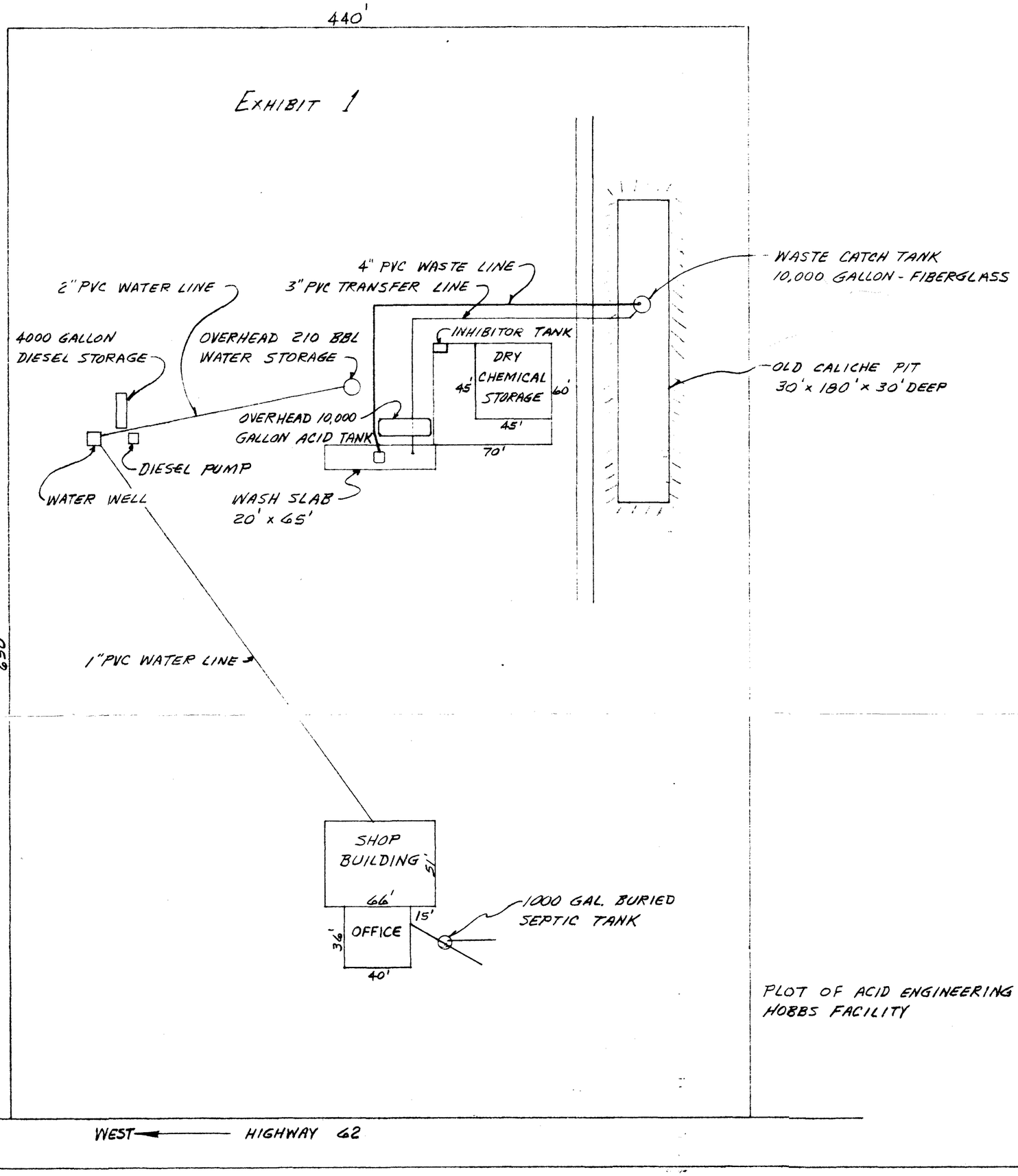
If you have any questions or concerns regarding this matter, please contact me at (281) 363-7521. Thank you.

Sincerely,

Rick N. Johnson
Environmental Specialist

c: Ms. JoAnn Cobb, BJ Services Company, U.S.A.
Mr. Charles Smith, BJ Services Company, U.S.A.
Mr. Wayne Price, OCD - Hobbs Office

EXHIBIT 1



PLOT OF ACID ENGINEERING YARD
HOBBS FACILITY

discharges must be consistent with the terms and conditions of the plan." Pursuant to Section 3107.C. you are required to notify the Director of any facility expansion, production increase, or process modification that would result in any change in the discharge of water quality or volume.

The discharge plan modification for the NOWSCO Well Service, Inc. Hobbs Facility is subject to WQCC Regulation 3114. Every billable facility submitting a discharge plan modification will be assessed a fee equal to the filing fee of $50 plus the flat rate $690 for oil field service companies. The New Mexico Oil Conservation Division (OCD) considers this modification to be minor in nature, therefore the flat fee has been waived. As of this date the OCD has not received your $50 filing fee which will be due upon receipt of this letter.

Please make all checks payable to: **NMED-Water Quality Management** and addressed to the OCD Santa Fe Office.

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

Sincerely,

Roger C. Anderson
Environmental Bureau Chief

RCA/mwa

xc: OCD Hobbs Office
Harold Haro, NOWSCO Well Service, Inc., P.O. Box 10647, Midland, Texas, 79702

ATTACHMENT TO THE DISCHARGE PLAN GW-17 MODIFICATION APPROVAL
NOWSCO WELL SERVICE, INC.
HOBBS FACILITY
DISCHARGE PLAN MODIFICATION REQUIREMENTS
(March 21, 1996)

1. Payment of Discharge Plan Fees: The $50 filing fee shall be submitted upon receipt of this approval.

2. NOWSCO Commitments: NOWSCO will abide by all commitments submitted in the modification application letter dated February 27, 1996 from NOWSCO as well as the discharge plan approval dated December 13, 1993.

3. Waste Water Testing: Prior to disposal at an OCD approved site, all waste water will be tested for hazardous constituents.

4. Housekeeping: All systems designed for spill collection/prevention should be inspected frequently to ensure proper operation and to prevent overtopping or system failure.

5. Spill Reporting: All spills/releases shall be reported pursuant to OCD Rule 116 and WQCC 1203 to the appropriate OCD District Office.

6. Conditions accepted by:

_____ _____
Company Representative Date

_____
Title

GW-17

RITTER ENVIRONMENTAL & GEOTECHNICAL SERVICES, INC.
2900 N. Big Spring, Midland, Texas 79705
Bus: (915) 682-7404 • Metro: (915) 570-6007 • Fax: (915) 682-7440

February 27, 1996

Mr. Mark Ashley
New Mexico Energy Minerals and Natural Resources
Oil Conservation Division
2040 S. Pacheco
Santa Fe, New Mexico 87505

Re: Nowsco Well Service - Hobbs, New Mexico

Dear Mr. Ashley:

This letter will provide notification to the NMOCD of a planned modification to the subgrade waste water and product collection system located at the Nowsco Well Service - Hobbs facility.

The existing sump will be upgraded to better separate and handle two different liquid streams generated at this facility. This upgrade will consist of elevation of a concrete divider now in place. This will allow complete separation and handling of liquids now generated. Waste wash water from truck washing will be pumped to a separate above ground tank for disposal at the local Hobbs POTW, pending proper analyses and NMOCD approval. Unused treating liquids returned from oil field operations will be pumped to a separate tank and sold as a product for down hole well treatment.

The process will include an over pour of the concrete divider to both elevate the divider height and to completely separate the two sumps. (Please refer to the enclosed diagrams for reference.)

After the concrete has had time to cure (approximately 30 days) an epoxy type coating (Morton-Thikol/2078) will be applied to prevent deterioration of the cement.

In conjunction with the above proposed work, a modification will be made to the existing discharge plan for this facility. The discharge plan now in effect was approved for Acid Engineering, the previous owner of this facility. Nowsco has purchased this site and is requesting a change of ownership to Nowsco.

We intend to begin the project in March or April, as soon as temperatures will allow the coating to be applied.

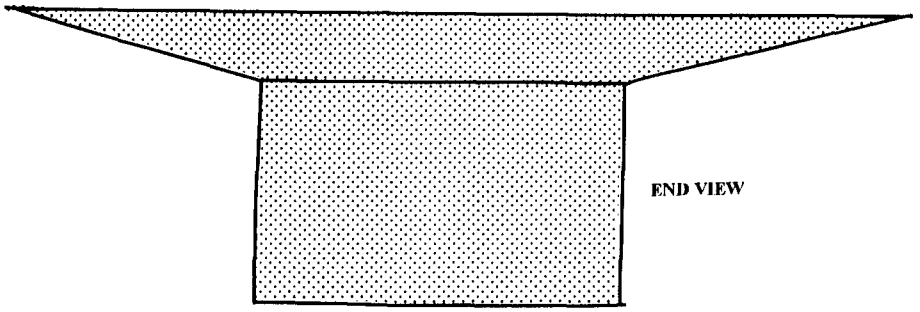
Your approval of this proposal will be appreciated. Should you need further information, please contact me at your convenience.

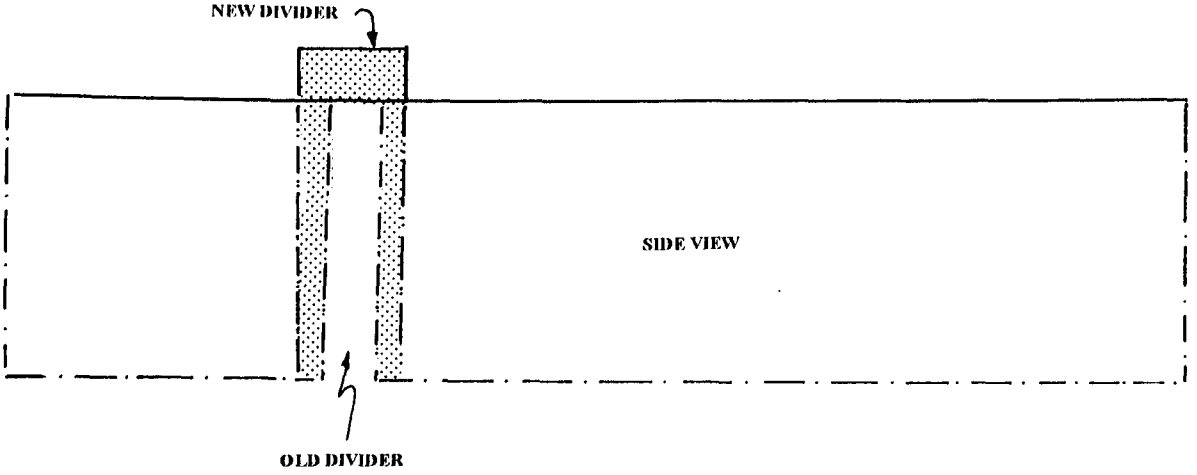
Sincerely,

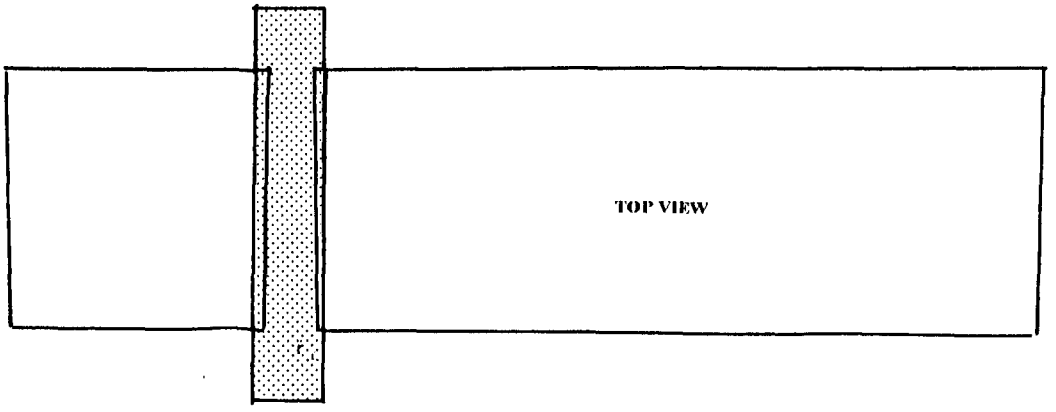
Mitchell R. Ritter
President

MRR/sh
Enclosures

cc: Ward Hawkins/Nowsco - Hobbs, NM
Harold Haro/Nowsco - Midland, Texas
Jerry Sexton/NMOCD - Hobbs, NM
Wayne Price/NMOCD - Hobbs, NM





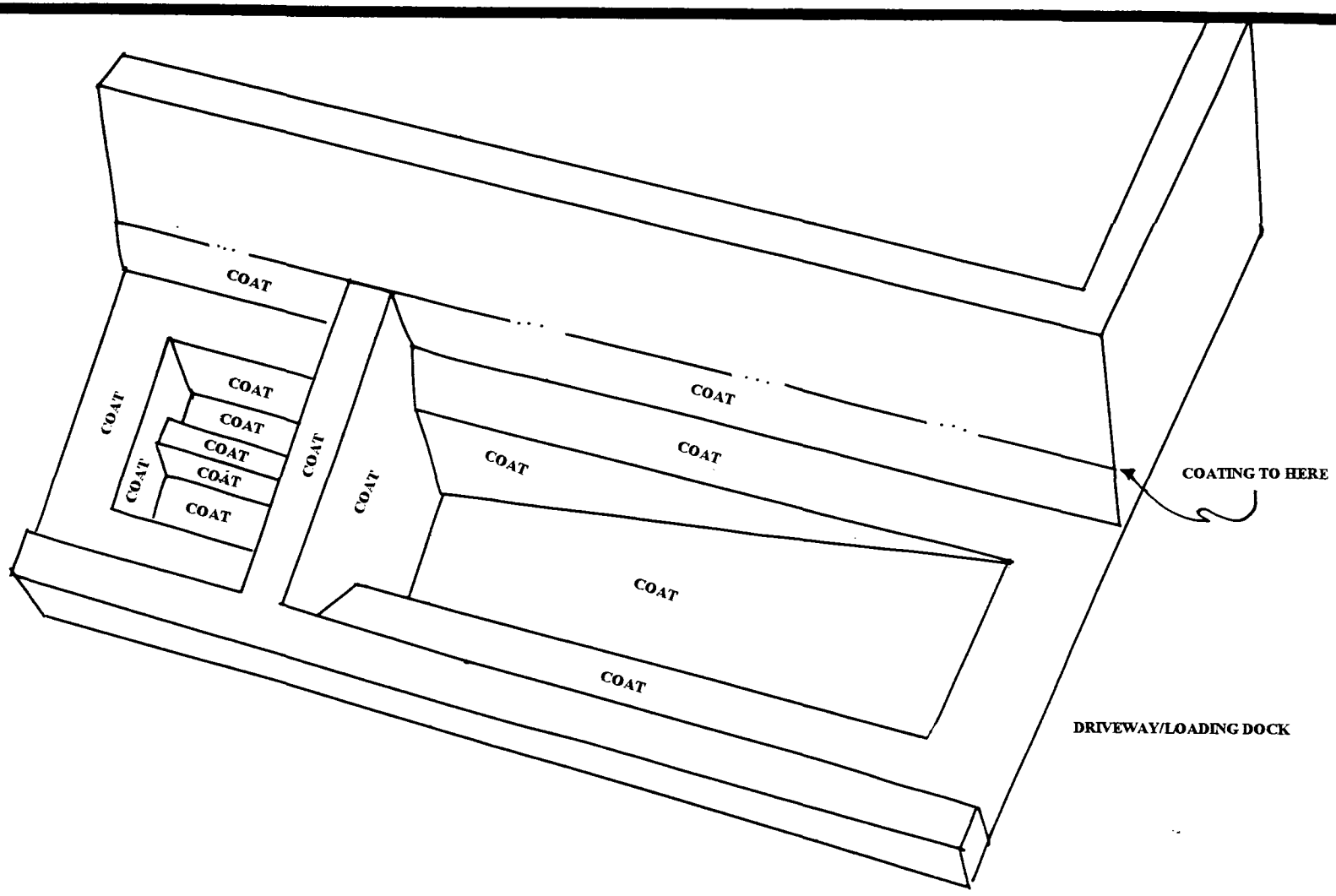


Ritter Environmental & Geotechnical Services, Inc

NOWSCO Hobbs Facility
Sump Design Plan
Hobbs, New Mexico

No Scale

Jan. 96

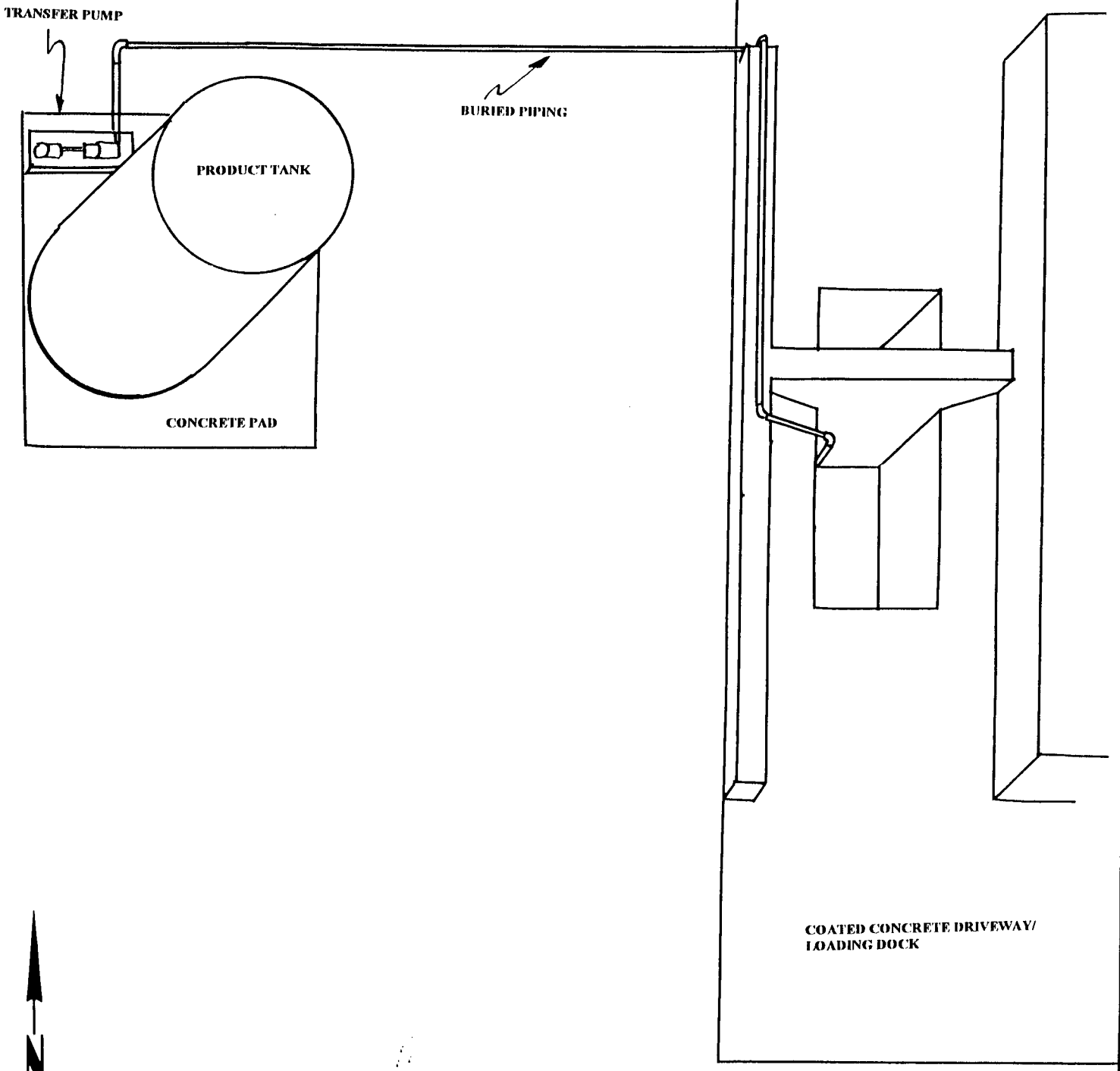


Ritter Environmental & Geotechnical Services, Inc

NOWSCO Hobbs Facility
Sump Design Plan
Hobbs, New Mexico

No Scale

Jan. 96



Ritter Environmental & Geotechnical Services, Inc

NOWSCO Hobbs Facility
Sump Design Plan
Hobbs, New Mexico

No Scale

Jan. 96

RITTER ENVIRONMENTAL & GEOTECHNICAL SERVICES
2900 N. Big Spring, Midland, Texas 79705
Bus: (915) 682-7404 • Metro: (915) 570-6007 • Fax: (915) 682-7440

May 15, 1995

CERTIFIED MAIL
P 080 137 678

RECEIVED
MAY 23 1995
Environmental Bureau
Oil Conservation Division

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

Re: Nowsco Well Service Inc., 5514 Carlsbad Highway, Hobbs, NM 88240

Dear Mr. Olson:

Enclosed please find the final report of the Subsurface Investigation and Site Closure Plan Update for the captioned facility. I will contact you to discuss the conclusions and recommendations. The surface impoundment will not be closed until we have approval from the NMOCD.

Should you have any questions, please contact Mitchell Ritter with Ritter Environmental & Geotechnical Services at 915/570-6007. Thank you for your assistance in this matter.

Sincerely,

Mitchell Ritter

MRR/bk

cc: Wayne Price, NMOCD - Hobbs
Ward Hawkins, NOWSCO - Hobbs
Harold Haro, NOWSCO - Midland

RITTER ENVIRONMENTAL & GEOTECHNICAL SERVICES
2900 N. Big Spring, Midland, Texas 79705
Bus: (915) 682-7404 • Metro: (915) 570-6007 • Fax: (915) 682-7440

VIA FAX

TO: Harold Haro - Nowsco - Midland
Ward Hawkins - Nowsco - Hobbs
Bill Olsen - NMOCD - Santa Fe
Wayne Price - NMOCD - Hobbs

FROM: Mitch Ritter

DATE: March 24, 1995

RE: Soil Investigation - Nowsco Hobbs Facility

Drilling at the Nowsco Hobbs facility has now been rescheduled for March 27-30. We plan to begin operations Monday, March 27.

RITTER ENVIRONMENTAL & GEOTECHNICAL SERVICES
2900 N. Big Spring, Midland, Texas 79705
Bus: (915) 682-7404 • Metro: (915) 570-6007 • Fax: (915) 682-7440

VIA FAX

MEMORANDUM

TO: Harold Haro - Nowsco - Midland
Ward Hawkins - Nowsco - Hobbs
Bill Olson NMOCD - Santa Fe
Wayne Price - NMOCD - Hobbs

FROM: Mitch Ritter

DATE: March 10, 1995

RE: Soil Investigation - Nowsco Hobbs Facility

Due to unforeseen circumstances, it is going to be necessary to cancel the drilling scheduled for Monday, March 13 at the Nowsco Hobbs facility.

We will rescheduled the event as soon as we are able to.

RITTER ENVIRONMENTAL & GEOTECHNICAL SERVICES
2900 N. Big Spring, Midland, Texas 79705
Bus: (915) 682-7404 • Metro: (915) 570-6007 • Fax: (915) 682-7440

VIA FAX

MEMORANDUM

TO: Harold Haro - Nowsco - Midland
Ward Hawkins - Nowsco - Hobbs
Bill Olson - NMOCD - Santa Fe
Wayne Price - NMOCD - Hobbs

FROM: Mitch Ritter

DATE: March 2, 1995

RE: Soil Investigation - Nowsco Hobbs Facility

Due to illness, the drilling crew could not perform the drilling at the Nowsco Hobbs facility as originally scheduled.

We have rescheduled the event for the week of March 13-17, 1995. We plan on beginning operations early March 13.

VIA FAX

RITTER ENVIRONMENTAL & GEOTECHNICAL SERVICES
2900 N. Big Spring, Midland, Texas 79705
Bus: (915) 682-7404 • Metro: (915) 570-6007 • Fax: (915) 682-7440

February 27, 1995

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

RE: Nowsco Well Service, Inc.
5514 Carlsbad Highway
Hobbs New Mexico

Dear Mr. Olson:

This letter will serve as notification of our intent to begin drilling procedures at Nowsco Well Service, Inc. in Hobbs, New Mexico on February 28, 1995. Our work should be completed by the end of the week.

We will notify you by phone so you may arrange for representatives to be onsite to witness the events.

Please let us know if you need any further information or clarification.

Sincerely,

Mitchell Ritter (P.E.)

MR:jg

cc: Wayne Price

State of New Mexico
ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT
Santa Fe, New Mexico 87505
OIL CONSERVATION DIVISION
2040 S. Pacheco St.
Santa Fe, New Mexico 87505

New Mexico DRUG FREE It's a State of Mind!

February 24, 1995

CERTIFIED MAIL
RETURN RECEIPT NO. P-667-242-287

Mr. Harold Haro
NOWSCO Well Service Inc.
P.O. Box 10647
Midland, Texas 79702-7647

RE: PIT CLOSURE PLAN
NOWSCO WELL SERVICE INC. HOBBS FACILITY

Dear Mr. Brooks:

The New Mexico Oil Conservation Division (OCD) has completed a review of NOWSCO's January 1995 "CLOSURE PLAN FOR AN UNLINED SURFACE IMPOUNDMENT LOCATED AT NOWSCO WELL SERVICE, INC., 5514 CARLSBAD HIGHWAY, HOBBS, NEW MEXICO". This document contains NOWSCO's plan for closure of an unlined pit at their facility.

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

1. The soil sample with the highest field photoionization detector (PID) headspace measurement from each borehole will also be analyzed for total petroleum hydrocarbons (TPH) and heavy metals using EPA approved methods.

2. A soil sample will be taken from 2-3 feet below the bottom of the pit. The sample will be analyzed for benzene, toluene, ethylbenzene, xylene (BTEX), chlorides, total petroleum hydrocarbons (TPH), chlorinated organics and heavy metals using EPA approved methods.

NOTE: A photoionization detector (PID) field headspace measurement of 100 parts per million (mg/l) of total organic vapor, if determined in accordance with OCD guidelines, may be substituted for a laboratory analysis of the concentrations of BTEX in soils. However, PID field measurements cannot be substituted for the concentrations of TPH or other constituents in soils.

3. Monitor wells will be constructed with:

   a. A minimum of 15 feet of well screen with at least 10 feet of well screen below the water table and 5 feet of well screen above the water table.

   b. An appropriate gravel pack around the well screen from the bottom of the hole to 2-3 feet above the top of the well screen.

   c. A 2-3 foot bentonite plug on top of the gravel pack.

   d. The remainder of the hole sealed with cement containing 3-5 % bentonite.

4. NOWSCO will submit a report on the investigations to the OCD by May 5, 1995. The report will include a description of the actions performed, the results of all sampling activities, and recommendations for closure.

5. NOWSCO will notify the OCD at least one week in advance of all scheduled activities such that the OCD has the opportunity to witness the events and or split samples.

6. All original documents submitted for approval will be submitted to the OCD Santa Fe Office with copies provided to the OCD Hobbs District Office.

Please be advised that OCD approval does not relieve NOWSCO of liability should the investigation activities determine that contamination exists which is beyond the scope of the work plan or if the closure activities fail to adequately determine the extent of contamination related to their activities. In addition, OCD approval does not relieve NOWSCO of responsibility for compliance with any other federal, state or local laws and/or regulations.

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

Sincerely,

William C. Olson
Hydrogeologist
Environmental Bureau

xc: Jerry Sexton, OCD Hobbs District Supervisor
Wayne Price , OCD Hobbs Office
Mitch Ritter, Ritter Environmental & Geotechnical Services

RITTER ENVIRONMENTAL & GEOTECHNICAL SERVICES
2900 N. Big Spring, Midland, Texas 79705
Bus: (915) 682-7404 • Metro: (915) 570-6007 • Fax: (915) 682-7440

CERTIFIED RETURN RECEIPT

RECEIVED
FEB 14 1995
Environmental Bureau
Oil Conservation Division

February 9, 1995

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

RE: Nowsco Well Service, Inc. - Hobbs Facility

Dear Mr. Olson:

On behalf of Nowsco Well Service, Inc., we will be representing Nowsco in certain matters concerning the status of Nowsco's Hobbs facility as it relates to issues under the jurisdiction of the NMOCD.

In reference to your letter dated February 2, 1995, we offer the following information:

1. Nowsco is in the process of closure of an unlined surface impoundment located in the northwest corner of the property. Information concerning this matter was sent to you on February 3, 1995 via U.S. mail.

2. Offsite sources of possible contaminants are suspected to exist at an oilfield brine disposal well located north and west of Nowsco's facility.

3. Onsite possible contaminant sources include the unlined surface impoundment previously mentioned and a concrete lined sump recently constructed to contain waste water at Nowsco's facility; however, at this time, the sump integrity appears to be intact, and the unlined surface impoundment has not contained fluids in what is reported to us to be of enough quantity to be able to influence the surrounding groundwater quality to the degree it has been. Subsequent information generated by the investigation of the unlined surface impoundment will further assist in making a determination as to any possible onsite sources.

Hopefully, this will assist you in finding the source of the contaminants found in the local groundwater supply. If you need further information, please don't hesitate to call or contact us directly.

Sincerely,

Mitchell Ritter

MR:jg

cc: Harold Haro, Nowsco Well Service, Inc., Midland, Texas
Ward Hawkins, Nowsco Well Service, Inc., Hobbs, New Mexico
Wayne Price, New Mexico Oil Conservation Division, Hobbs, New Mexico

RITTER ENVIRONMENTAL & GEOTECHNICAL SERVICES
2900 N. Big Spring, Midland, Texas 79705
Bus: (915) 682-7404 • Metro: (915) 570-6007 • Fax: (915) 682-7440

February 3, 1995

Mr. Bill Olsen
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, NM 87505

Dear Mr. Olsen:

Enclosed is the Surface Impoundment Closure Plan for Nowsco Well Service, Inc. in Hobbs, New Mexico, which is being submitted for your approval.

Should you have any questions or concerns, please do not hesitate to contact us.

Sincerely,

Mitchell Ritter

MR:jg

Enclosure

cc: Harold Haro, Nowsco Well Service, Inc., Midland, Texas
Ward Hawkins, Nowsco Well Service, Inc., Hobbs, New Mexico
Wayne Price, New Mexico Oil Conservation Division, Hobbs, New Mexico

State of New Mexico
ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT
Santa Fe, New Mexico 87505
OIL CONSERVATION DIVISION
2040 S. Pacheco St.
Santa Fe, New Mexico 87505

New Mexico DRUG FREE It's a State of Mind!

February 2, 1995

CERTIFIED MAIL
RETURN RECEIPT NO. P-667-242-207

Mr. Harold Haro
NOWSCO Well Service Inc.
P.O. Box 10647
Midland, Texas 79702-7647

RE: NOWSCO WELL SERVICE INC. HOBBS FACILITY

Dear Mr. Brooks:

The New Mexico Oil Conservation Division (OCD) is in receipt of NOWSCO's December 6, 1994 "NOWSCO WELL SERVICE., 5514 CARLSBAD HIGHWAY, HOBBS, NEW MEXICO 88240, EPA ID #NMD002189140". This document contains notification to the OCD of a water well at NOWSCO's Hobbs Facility containing ground water contaminated with chloride in excess of New Mexico Water Quality Control Commission ground water standards.

The OCD requests that NOWSCO provide the OCD with any available information related to potential onsite or offsite contaminant sources at NOWSCO's Hobbs Facility.

The OCD thanks you for bringing this matter to our attention.

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

Sincerely,

William C. Olson
Hydrogeologist
Environmental Bureau

xc: Jerry Sexton, OCD Hobbs District Supervisor
Wayne Price, OCD Hobbs District Office

NOWSCO Well Service Inc.
P.O. Box 10647 • Midland, Texas 79702-7647
PHONE (915) 570-5228 • FAX (915) 570-1939

December 6, 1994

Mr. Roger Anderson
Environmental Bureau Chief
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, NM 87505

Re: Nowsco Well Service Inc., 5514 Carlsbad Highway, Hobbs, NM 88240
EPA ID #NMD002189140

Dear Mr. Anderson:

This letter is to inform the Santa Fe NMOCD office that a recent inspection was conducted on the captioned facility and a field test, performed by your personnel, indicates our water well has a chloride content above state regulated limits. We were advised to contact your office to determine what future action may be required on our part.

Nowsco understands this letter is only an acknowledgment that a problem does exist with our water well. Additional testing will be conducted and performed by a reputable laboratory to determine if the problem can be defined.

Should you have any questions, please contact Mitchell Ritter with Ritter Environmental & Geotechnical Services at 915/570-6007. Thank you for your assistance in this matter.

Sincerely,

Harold Haro

HH/bk

cc: Wayne Price
NMOCD
P.O. Box 1980
Hobbs, NM 88240

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

BRUCE KING
GOVERNOR

POST OFFICE BOX 1980
HOBBS, NEW MEXICO 88241-1980
(505) 393-6161

NMOCD Inter-Correspondence

To: Roger Anderson-Environmental Bureau Chief

From: Wayne Price-Environmental Engineer District I

Date: December 6, 1994

Reference: NMOCD District I Action Plan for contaminated water wells.

Subject: Water Well Study In The Hobbs Airport-Carlsbad Highway Area.

Comments:

Dear Roger,

Jerry has requested that I send you information (see attachment) concerning possible water well contamination at two service companies located on the Carlsbad highway across from the Hobbs Airport and Country Club. These companies are Reef Chemical and Nowsco (previsiously Acid Engineering Co. DP # GW-017).

These two companies are in close proximity to the Scurlock Permian Brine well DP # BW -012. Jerry has indicated to me that this brine station has had a history of repeated leaks and spills.

The District's plan of action at this time is to set up a meeting with Permian and arrange for them to use the water out of the Reef well. Over a period of time this should clean up the well.

Also during our investigation it was discovered that another service company (Davis Tool Co.) was discharging their waste water into a leech\drain field. We have recommended to them that they should probably change their operation. We are planning on checking on this in three months to give them ample opportunity to complete this change.

Please don't hesitate to call or write if you require more information concerning these issues. Also, we appreciate any recommendations you might have on these procedures.

cc: Jerry Sexton-District I Supervisor

Attachments-1

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
HOBBS DISTRICT OFFICE

BRUCE KING
GOVERNOR

POST OFFICE BOX 1980
HOBBS, NEW MEXICO 88241-1980
(505) 393-6161

NMOCD Inter-Correspondence

To: Jerry Sexton-District I Supervisor

From: Wayne Price-Environmental Engineer District I

Date: November 28, 1994

Reference: Requested Information for Jerry Sexton.

Subject: **Water Well Study In The Hobbs Airport- Carlsbad Highway Area**

Comments:

Dear Jerry,

Please find enclosed the analytical results of the field samples taken fro various water wells located near the Hobbs Airport. I have also included a ma showing the location of the wells.

Please note that well #4 (Nowsco) and well #5 (Reef Chemical) exceeded the groun water standards set by the State of New Mexico. The results for Reef wer actually derived from previous analytical work submitted to the NMOCD by Reef I have included these results for your review.

Please note that during my visit to collect water well samples at the Davis Toc Co., I discovered that they are presently discharging waste water from thei facility into a septic\leech field. Also, it appears they have not segregate their present waste streams of exempt and non-exempt waste. From discussions wit the owner, Mr. Butch McCarty, who recently purchased this business, is unaware o any wrong doing.

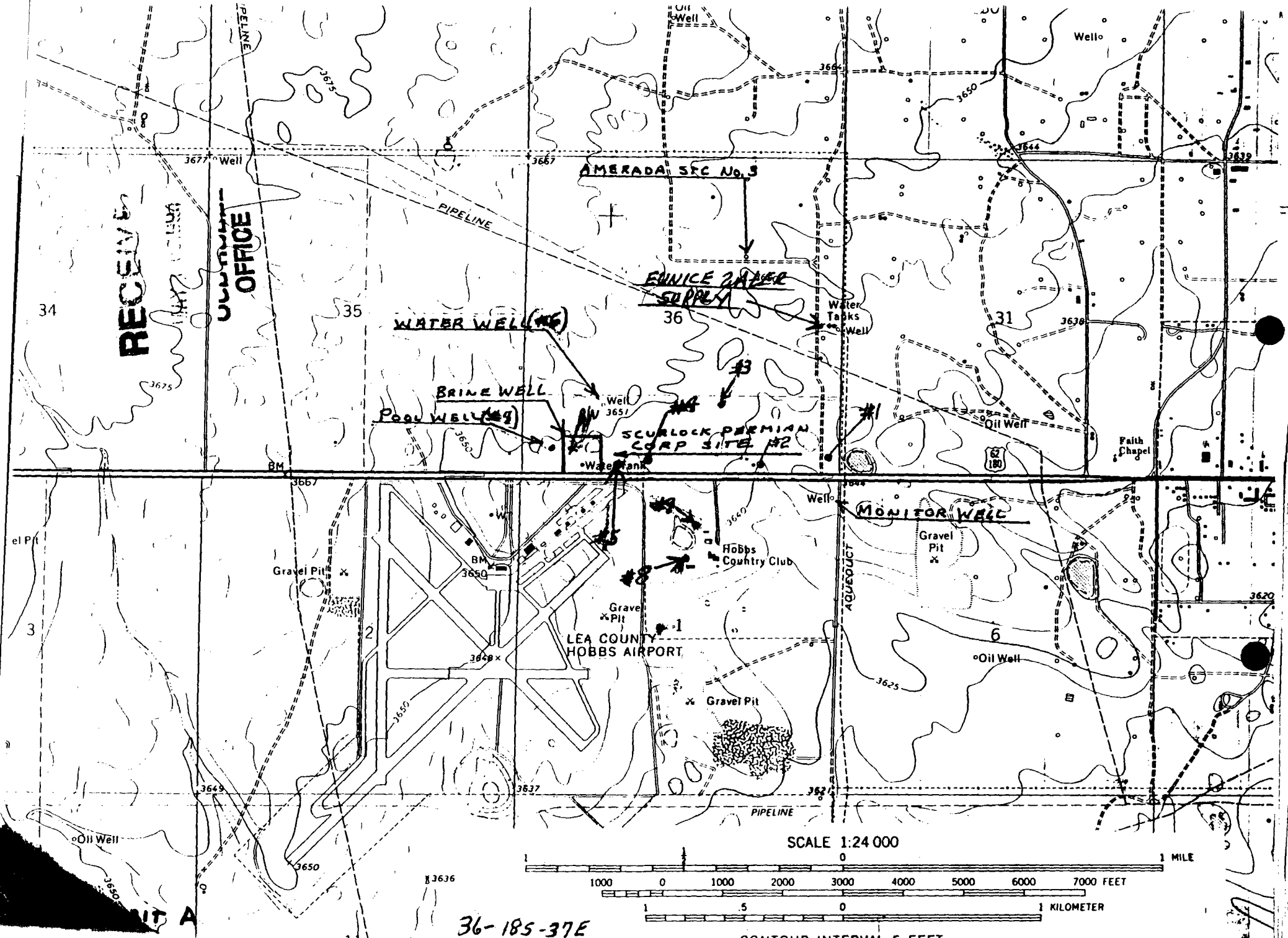
Please advise on what actions we should take on this matter concerning Davis Toc Co.

Recommendations:

In keeping with our NMOCD Environmental Bureau's policy, I informed the tw companies listed above that they should notify our Environmental Bureau o possible ground water contamination. Also, Roger Anderson has ask me to alway copy him on any site visits to such facilities. I have done this with copie already sent to you. I have not notified them of Davis Tool Co. visit as of t date. I will wait until I discuss the matter with you.

Please advise and let me know what we should do next or if you need any furthe information or need my assistance.

Thanks!


AMERADA SEC No. 3
EUNICE WATER SUPPLY
WATER WELL (#6)
BRINE WELL
POOL WELL (#9)
SCURLOCK PERMIAN CORP SITE #2
MONITOR WELL
RECEIVING OFFICE
PIPELINE
Water Tanks
Well
Oil Well
Gravel Pit
Hobbs Country Club
LEA COUNTY HOBBS AIRPORT
Faith Chapel
AQUEDUCT
BM
34
35
36
31
3
2
1
6
SCALE 1:24 000
1 0 1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 .5 0 1 KILOMETER
CONTOUR INTERVAL 5 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

36-18S-37E

Water Well Study Hobbs
Airport Area

Name:	Address\location:	Chlorides: ppm	Conductivity: umhos	Volatiles: btex: ova
#1 Davis Tool	4700 Carlsbad hwy	127	750	nd
#2 Penroc		21	500	nd
#3 Reeco Well Ser.	Carlsbad hwy	35	480	nd
#4 Nowsco	5514 Carlsbad hwy	480	1690	nd
#5 Reef Chem.	5700 Carlsbad hwy.	1255 *	2365 tds *	nd *
#6 Permian	1/4 mi north of Reef	42	500	nd
#7 Pool Co.	5730 Carlsbad hwy	35	480	nd
Hobbs Country Club:				
#8 Jockey pump well		35	610	nd
#9 Swimming Pool(OLD)		57	620	nd
City of HObbS	1000 w. Bdwy.	103	720	nd
Blank Water		<1	7	nd

Note:
1. All water samples were water white clear and no visible solids present.
2. All water samples were field screened for volatile organics using a PID and olfactor senses; none were detected by these methods and are marked as "nd".

* 3. Chemical analysis for Reef Chemical were supplied to NMOCD by Reef. ; no water sample taken.

4. See attached map for reference to water well locations. They are shown as #(1) for example.

F.A. INTERNATIONAL, INC.
CONSULTING SERVICES

P.O. BOX 60841
MIDLAND, TX 79711
TEL.: (915) 333-2255
(915) 367-8777
FAX: (915) 333-3317

Called Frank Call
He will send in
letter of correction!
cc: J Sexton

November 23, 1994

Mr. Roger Anderson
Environmental Bureau Chief
New Mexico Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

RE: POSSIBLE GROUND WATER CONTAMINATION
4700 CARLSBAD HIGHWAY, HOBBS, NEW MEXICO

Dear Sir,

As part of our due diligence for Reef Chemical, prior to leasing the above listed yard in Hobbs, New Mexico we collected a water sample from a water well located on the property. This sample (a copy attached) revealed high chloride content, very hard water, and high dissolved solids count.

During a recent visit to this site by Wayne Price of your office in Hobbs, Reef Chemical was informed of a need to advise you personally about this possible contamination. Reef Chemical is the leaser of the property and this contamination existed at this site prior to Reef Chemical taking possession of the yard. Reef Chemical does not use this water supply as the site is supplied by city water. It is the intention of Reef Chemical to meet all environmental rules and regulations and to be in compliance at all times.

If you should have any questions about this problem, please do not hesitate to contact me at (915) 333-2255.

Sincerely,

not true!
called city of Hobbs!

Frank J. Call
Frank J. Call
Safety Consultant

RECEIVED
NOV 2 6 1994
OCD HOBBS
OFFICE

FJC/elr

Enclosure

cc: Wayne Price, New Mexico Oil Conservation Division
Kevin Brooks, Reef Chemical
File

Analysis performed	MCL (mg/l)	Detection Level	Level Detected
Trichloroethylene	0.005	0.001	ND
1,4-Dichlorobenzene	0.075	0.001	ND
1,1-Dichloroethylene	0.007	0.001	ND
1,1,1, Trichloroethane	0.20	0.001	ND
Bromobenzene	-	0.002	ND
Bromomethane	-	0.002	ND
Chlorobenzene	0.1	0.001	ND
Chloroethane		0.002	ND
Chloromethane		0.002	ND
2 Dichlorotoluene		0.001	ND
4 Dichlorotoluene		0.001	ND
Dibromochloropropane (DBCP)	---	0.001	ND
Dibromomethane	--	0.002	ND
1,2-Dichlorobenzene	0.6	0.001	ND
1,3 Dichlorobenzene	---	0.001	ND
Dichlorodifluoromethane	---	0.002	ND
1,1-Dichloroethane	---	0.002	ND
Trans-1,2 Dichloroethylene	0.1	0.002	ND
cis-1,2-Dichloroethylene	0.07	0.002	ND
Dichloromethane	0.005	0.002	ND
1,2-Dichloropropane	0.005	0.002	ND
trans-1,3-Dichloropropene	---	0.002	ND
1-3-Dichloropropene	---	0.002	ND
2,2-Dichloropropane	--	0.002	ND
1,1-Dichloropropene	--	0.002	ND
1,3-Dichloropropane	---	0.002	ND
Ethylbenzene	0.7	0.001	ND
Ethylenedibromide (EDB)	---	0.001	ND
Styrene	0.1	0.001	ND
1,1,1,2-Tetrachloroethane	---	0.002	ND
1,1,2,2-Tetrachloroethane	--	0.002	ND
Tetrachloroethylene (PCE)	0.005	0.002	ND
1,2,3-Trichlorobenzene	---	0.002	ND
1,2,4-Trichlorobenzene	---	0.002	ND
1,1,2 Trichloroethane	0.005	0.002	ND
Trichlorofluoromethane	---	0.002	ND
1,2,3 Trichloropropane	---	0.002	ND
Toluene	1.0	0.001	ND
Xylene	10	0.001	ND

certify that the analyses performed for this report are accurate, and that the laboratory tests were conducted u methods approved by the U.S. Environmental Protection Agency or variations of these EPA methods.

hese test results are intended to be used for informational purposes only and may not be used for regulatory mpliance.

ESIDENT, NATIONAL TESTING LABORATORIES, INC

REV. 3-92

	03/23/94	04/05/94	9630916

CUSTOMER ADDRESS

FRANK CALL
817 CENTRAL
ODESSA, TX 79761-

DEALER ADDRESS

WATERCHECK / NATIONAL TESTING LABORATORIES INC.
6555 Wilson Mills Road
Cleveland, OH 44143
(216) 449-2525

DRINKING WATER ANALYSIS RESULTS

NOTE: "*" indicates that the MCL (Maximum Contaminant Level) has been exceeded, or in the case of pH is either too high OR too low.
"ND" indicates that none of this contaminant has been detected at or above our detection level.
"**" Result may be invalid due to lack of "Time Collected" or because the sample has exceeded the 30-hour time frame.
"BD" Bacteria destroyed due to lack of collection information or because the sample has exceeded the 48-hour time frame.
TNTC-Too Numerous To Count NBS-No Bacteria Submitted

Analysis performed	MCL (mg/l)	Detection Level	Level Detected
Microbiological:			
Total coliform (organism/100ml)	0	0	ND
Inorganic chemicals - metals:			
Aluminum	0.2	0.1	ND
Arsenic	0.05	0.010	0.016
Barium	2.0	0.30	ND
Cadmium	0.005	0.002	ND
Chromium	0.1	0.004	ND
Copper	1.3	0.004	0.015
Iron	0.3	0.020	0.36*
Lead	0.015	0.002	ND
Manganese	0.05	0.004	0.017
Mercury	0.002	0.001	ND
Nickel	0.1	0.02	ND
Selenium	0.05	0.002	ND
Silver	0.1	0.002	ND
Sodium	--	1.0	680
Zinc	5.0	0.004	0.36
Inorganic chemicals other, and physical factors:			
Alkalinity (Total as CaCO3)	--	10.0	190
Chloride	250	5.0	1255*
Fluoride	4.0	0.5	2.6
Nitrate as N	10	0.5	2.6
Nitrite as N	1.0	0.5	ND
Sulfate	250	5.0	107
Hardness (suggested limit = 100)		10.0	510*
pH (Standard Units)	6.5-8.5	--	7.4
Total Dissolved Solids	500	20.0	2365*
Turbidity (Turbidity Units)	1.0	0.1	0.9
Organic chemicals - trihalomethanes:			
Bromoform	--	0.004	ND
Bromodichloromethane	--	0.002	ND
Chloroform	--	0.002	ND
Dibromochloromethane	--	0.004	ND
Total THMs (sum of four above)	0.1	0.002	ND
Organic chemicals - volatiles:			
Benzene	0.005	0.001	ND
Vinyl Chloride	0.002	0.001	ND
Carbon Tetrachloride	0.005	0.001	ND
1,2 Dichloroethane	0.005	0.001	ND

ACID ENGINEERING, INC.

A DIV. OF NOWSCO WELL SERVICE INC.

P. O. Box 753

ACID ENGINEERING INC.

Kilgore, Texas 75663 - 0753

November 30, 1993

State of New Mexico
Energy, Minerals & Natural Resources Dept.
Oil Conservation Division
Attn: Ms. Kathy Brown
P. O. Box 2088
Santa Fe, NM 87504

RE: Discharge Plan Renewal GW-17
Acid Engineering Hobbs Service Facility

Dear Ms. Brown:

I am writing in response to your letter dated November 2, 1993. Due to an inspection on October 26, 1993, you have requested that we respond to several concerns that were noted.

1) **Acid Dock Sump Effluent:** As of November 15, 1993 all effluent from our Acid Dock will be sold to a Class II disposal well site. They will use this as a treatment to clean and enhance their well. Therefore, this Acid Dock effluent is not considered a waste.

2) **Sumps:** The sumps will be visually inspected by-annually. Documentation will remain at the Hobbs facility for your inspection.

3) **Waste Oil Tank:** Our used oil tank will be contained by a metal pan. This will be in place by December 1, 1993.

4) **Filing Fee:** Enclosed is a check for Fifty Dollars payable to NMED - Water Quality Management.

I hope we have adequately addressed all concerns in your letter. If there are any further questions please feel free to contact me at (903)983-2086.

Sincerely,

Ronnie Harpe
Safety Director

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

BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

November 2, 1993

CERTIFIED MAIL
RETURN RECEIPT NO. P-667-241-142

Mr. Lloyd Bolding
Acid Engineering, Inc.
5514 Carlsbad Highway
Hobbs, New Mexico 88240

RE: DISCHARGE PLAN RENEWAL GW-17
ACID ENGINEERING HOBBS SERVICE FACILITY
LEA COUNTY, NEW MEXICO

Dear Mr. Bolding:

The New Mexico Oil Conservation Division (OCD) has received and is in the process of reviewing the above referenced discharge plan application. The following comments and requests for additional information are based on the application dated June 16, 1993, and an inspection of the facility on October 26, 1993 by representatives of the OCD and Acid Engineering. Submission of the following information will allow review of the discharge plan application to continue.

1. Acid Dock Sump Effluent: In your discharge plan application you stated that the effluent from your acid dock sump is being disposed of into a Class II disposal well. The USEPA has ruled that oilfield service company wastes are not permitted to be disposed of down a Class II well. In addition, the effluent is not exempt from RCRA Subtitle C (hazardous waste) Regulations and the appropriate analyses must be conducted on the effluent prior to disposal. Any solids generated in the sump which are disposed of separately from the fluids must also be tested for hazardous characteristics. Please submit a method for either disposal or recycling of the wastes and an appropriate testing plan.

2. Sumps: It was observed during the facility inspection that all of the sumps at your facility are not equipped with secondary containment and leak detection. The OCD requires all new sumps have secondary containment and leak detection and to be approved by the OCD prior to construction. All preexisting sumps which do not have secondary containment and leak detection are required to be visually inspected on an annual basis to determine the integrity of the structure. Submit a schedule to visually inspect, once a year, all sumps at the facility.

3. Waste Oil Tank: It was observed during the facility inspection that the tank containing shop waste oil did not have containment. The OCD requires all tanks containing wastes which have the potential for leaks and spills to have pad and curb type containment beneath them. Please submit a schedule for containment of the waste oil tank.

4. Filing Fee: Pursuant to the New Mexico Water Quality Control Commission (WQCC) Regulation 3-114 "every billable facility submitting a discharge plan for approval, modification or renewal shall pay the fees specified in this section to the Water Quality Management Fund". The fee consists of a fifty dollar filing fee and a flat fee due at the time of approval. The OCD has not recieved your filing fee which was due when the discharge plan renewal application was submitted. Please submit the $50 filing fee and make all checks payable to the **NMED - Water Quality Management.**

Addressing the above items will allow review of your discharge plan application to continue. If you have any questions, please do not hesitate to contact me at (505) 827-5884.

Sincerely,

Kathy M. Brown
Geologist

xc: Jerry Sexton, OCD Hobbs Office

Lloyd Bolding
Acid Engineering, Inc.
5514 Carlsbad Highway
Hobbs, New Mexico 88240

CONTACT: Ward Hwakins 393-~~2617~~ 1377

Oct 26, 1993
R.C. Anderson } OCD
B. Meyers }

DISCHARGE PLAN GW-17
ACID ENGINEERING HOBBS SERVICE FACILITY

1. WASTEWATER - goes to Class II well (Sonnys Transport). need test to haul to disposal co. Hobbs State #1
2. SUMP SLUDGE - where does it go? primarily dirt (wind blown), suspended in waste water, vacuumed & hauled
3. ACID TANK - containment beneath?
4. DIESEL TANK - above or below ground? containment beneath?
5. FIBERGLASS WASTEWATER TANK - above or below ground? secondary containment? annual inspection?

(3, 4, 5 on full pad)

6. SUMP - secondary containment? NO annual inspection? age? 1yr old drained 2-3 times/month ⇒ annual inspection easy-visual inspection recorded each drain
7. DRUMS & CHEMICALS - stored on curbed pads?
8. DIESEL PUMP - containment at loading area?
9. WASTEWATER LINES - buried? age? testing? pump - on pad, pumped up over retaining wall, not buried
10. SPILLS - need committment to OCD Rule 116 & WQCC 1-203
11. WATER WELL - take sample
12. ~~STORMWATER~~ RUNOFF - have plan? necessary?
13. WQCC FEES - need filing fee ($50)

shop waste oil tank needs containment
↳ to be taken to Keeling - supplies oils & gas to Acid Engr.

Affidavit of Publication

STATE OF NEW MEXICO)
) ss.
COUNTY OF LEA)

Joyce Clemens being first duly sworn on oath deposes and says that he is Adv. Director of THE LOVINGTON DAILY LEADER, a daily newspaper of general paid circulation published in the English language at Lovington, Lea County, New Mexico; that said newspaper has been so published in such county continuously and uninterruptedly for a period in excess of Twenty-six (26) consecutive weeks next prior to the first publication of the notice hereto attached as hereinafter shown; and that said newspaper is in all things duly qualified to publish legal notices within the meaning of Chapter 167 of the 1937 Session Laws of the State of New Mexico.

That the notice which is hereto attached, entitled

Notice Of Publication

and numbered ..... in the ..... Court of Lea County, New Mexico, was published in a regular and entire issue of THE LOVINGTON DAILY LEADER and not in any supplement thereof, once each week on the same day of the week, for one (1) day consecutive weeks, beginning with the issue of July 1, 19 93 and ending with the issue of July 1, 19 93

And that the cost of publishing said notice is the sum of $ 28.35 which sum has been (Paid) (Assessed) as Court Costs

Joyce Clemens

Subscribed and sworn to before me this 14th day of July, 19 93

Mrs. Jeani Sexton

Notary Public, Lea County, New Mexico

My Commission Expires Sept. 28, 19 94

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

Notice is hereby given that pursuant to the New Mexico Water Quality Control Commission Regulations, the Following Discharge plan applications have been submitted to the Director of the Oil Conservation Division, State Land Office Building, P.O. Box 2088, Santa Fe, New Mexico 87504-2088, Telephone (505) 827-5800:

(GW-17) - Acid Engineering, Lloyd Bolding, owner, P.O. Box 753, Kilgore, Texas 75662, has submitted an application for their previously approved discharge plan for its Hobbs service facility located in Section 36, Township 18 South, Range 37 East, NMPM, Lea County, New Mexico. Approximately 300 gallons per day of waste water containing 0.1% hydrochloric acid, by weight, will be discharged to a fiberglass tank. The waste water will be recycled as makeup water in the oil well treatment process. Groundwater most likely to be affected in the event of an accidental discharge is at a depth of approximately 46 feet with a total dissolved solids concentration of approximately 1400 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The discharge plan application may be viewed at the above address between 8:00 a.m. and 5:00 p.m., Monday thru Friday. Prior to ruling on any proposed discharge plan or its modification, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted to him and public hearing may be requested by any interested person. Request for public hearing shall set forth the reasons why a hearing shall be held. A hearing will be held if the director determines that there is significant public interest.

If no hearing is held, the Director will approve or disapprove the plan based on the information available. If a public hearing is held, the Director will approve the plan based on the information in the plan and information presented at the hearing.

GIVEN under the Seal of New Mexico Conservation Commission at Santa Fe, New Mexico, on this 24th day of June, 1993.
STATE OF NEW MEXICO
OIL CONSERVATION DIVISION
WILLIAM J. LEMAY,
Director
SEAL
Published in the Lovington Daily Leader July 1, 1993.

NOTICE OF PUBLICATION
STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
Notice is hereby given that pursuant to the New Mexico Water Quality Control Commission Regulations, the following discharge plan applications have been submitted to the Director of the Oil Conservation Division, State Land Office Building, P.O. Box 2088, Santa Fe, New Mexico 87504-2088, telephone (505) 827-5800:
(GW-148) -Meridian Oil Inc., Michael J. Frmpton, Environmental representative, P.O. Box 4289, Farmingotn, New Mexico 87499-4289, has submitted a discharge application for their Pump Mesa Compressor Station located in the SE/4 of Section 14, Township 31 North, Range 8 West, NMPM, Sna Juan County, New Mexico. Approximately 5 gallons per day of waster water is stored in above ground steel tanks prior to transport to an OCD approved Class II injection well for disposal. Groundwater most likely to be affected in the event of an accidental discharge is at a depth of approximately 16 feet with a total dissolved solids, concentration of approximately 7,843 mg/1. the discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.
(GW-146)-Meridian Oil Inc., Michael J. Frampton, Environmental Representative, P.O. Box 4289, Farmington, new Mexico 87499-4289, has submitted a discharge plan application for their Sims Mesa Compressor Station located the NE/4 of Section 22, Township 30 North, Range 7 West, NMpM, Rio Arriba County New Mexico. Approximately 36 gallons per day of waste water is sorted in above ground steel tanks prior to transport to an OCD approved Class II injection well for disposal. Groundwater most likely to be affected in the event of an accidental discharge is at a depth of approximately 160 feet with a total dissolved solids concentration of approximately 600 mg./1. the discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.
(GW-138) -Continental Natural Gas Inc., Wayne Chang, Operations Manager, .O. Box 21470, Tulsa, Oklahoma 74119, has submitted a discharge application for their Westall Compressor Station located in the SW/4 NW/4 Section 35, Township 23 South, Range 28 East, NMPM, Eddy County, new Mexico. Approximately 840 gallons per day of produced water with total dissolved solids concentration of 251 608 mg/1 is stored above ground steel tanks prior to transport to an OCD approved Class II injection well for disposal. Groundwater most likely to be affected in the event of an accidental discharge is at a depth of approximately 7,843 mg/1. the discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.
(Gw-17) - Acid Engineering, Lloyd Bolding, owner, P.O. Box 753, Kilgore, Texas 75662, has submitted an application for their previously aproved discharge plan for its Hobbs service facility located in Section 36, Township 18 South, Range 37 East, NMPM, Lea County, New Mexico. Approximately 300 gallons per day of waste water containing 0.1% hydrochloric acid, by weight, will be discharged to a fiberglass tank. The waste water will be recycled as makeup water in the oil well treatment process. Groundwater most likely to be affected in the event of an accidental discharge is at a depth of approxiamtely 46 feet with a total dissolved solids concentration of approximately 1400 mg/1. the discharge plan addresses how spills, leaks, and other accidental dishcarges to the surface will be managed.
(GW-147) - El Paso Natural Gas Company, Donald N. Bigbie, Vice President, 304 Texas Street, El Paso, Texas 79901, has submitted a discharge application for their Deming Compressor Station located in the SE/4 Section 32, Township 23 South, Range 11 West, NMPM,

STATE OF NEW MEXICO
County of Bernalillo ss

OIL CONSERVATION DIVISION
RECEIVED
'93 JUL 14 AM 9 24

Dianne Berglund being duly sworn declares and says that she is National Advertising Sales Supervisor of **The Albuquerque Journal**, and that this newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Session Laws of 1937, and that payment therefore has been made or assessed as court costs; that the notice, copy of which is hereto attached, was published in said paper in the regular daily edition,

for 1 times, the first publication being on the 8 day of July, 1993, and the subsequent consecutive publications on ,1993

Sworn and subscribed to before me, a notary Public in and for the County of Bernalillo and State of New Mexico, this 8 day of July 1993.

Bernadette Cutz

PRICE $ 63.23

Statement to come at end of month.

12-1893

CLA-22-A (R-1/93) ACCOUNT NUMBER C81184

NOTICE OF PUBLICATION

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

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If no hearing is held, the Director will approve or disapprove the plan based on the information available. If a public hearing is held, the Director will approve the plan based on the information in the plan and information presented at the hearing.

GIVEN under the Seal of New Mexico Conservation Commission at Santa Fe, New Mexico, on this 24th day of June, 1993.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

William J. LeMay

SEAL

WILLIAM J. LEMAY, Director

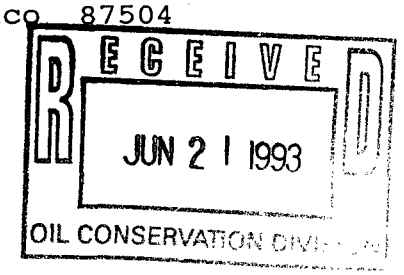
ACID ENGINEERING, INC.

P. O. Box 753

Kilgore, Texas 75663-0753

June 16, 1993

William J. LeMay, Director
Energy, Minerals and Natural Resources Department
Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87504



Re: Discharge Plan GW-17
Renewal Request
Hobbs Facility
Lea County, N.M.

Dear Mr. LeMay:

On April 18, 1988, the Oil Conservation Division for the State of New Mexico approved the discharge plan, G.W.-17 for Acid Engineering, Inc. at our Hobbs, New Mexico facility. This facility has worked flawlessly as a safe, clean, zero environmental operation for the past 5 years. The subject approval plan however, expired on April 18, 1993, and I am requesting renewal and or continuation.

Acid Engineering has made recent improvements in our loading - chemical storage area that has allowed us to totally enclose our storage and work area within a concrete containment area (See exhibit #2). Our diesel fuel pump and empty drum storage is now secured inside our enclosure area. A new 200 bbh fiberglass waste disposal tank was also installed as located in exhibit #2. Outside of the above mentioned improvements, our Hobbs facility is basically the same, with the same amount of activity as we had in 1988. The following listing corresponds to the information request for "Discharge plan application for Oilfield Service Facilities."

IV Acid Engineering, Inc. is the owner of the land and improvements at Hobbs, N.M. with Corporate office at P.O. Box 753 Kilgore, Tx. 75663.

V See Exhibits 1 & 2 - included.

VI A complete list of chemicals and volume inventory is recorded in our Hobbs facility along with Material Safety Data sheets. Mrs. Kathy Brown in your Santa Fe office

told me that it would not be necessary to remit this information along with this application.

VII & VIII All effluent generated at the Hobbs facility is a result of wash up water used to wash up truck mounted acid tanks used in Oil & Gas well acidizing. The driveway - wash up slab is 6" concrete that is curbed to force all drainage through a concrete disposal sump and gravity drains into a fiberglass waste tank. Total containment of effluent and any accidental spills was our goal and our new modified facility is doing that. (See exhibit #2)

A total of 20 bbls (840 gal) of wash up waste water can be generated in a busy work day. Monthly accumulation averages approximately 300 bbls, most of this waste water is recycled and used as flush water in our Oil & Gas well acidizing service. All excess water is hauled by Sonny's Transport in Hobbs, N.M. The contact person is Jack Clark, phone #505-393-4521. The waste water is then disposed into their State Certified well. (Hobbs State #3, Sec. 29, T185)

IX See exhibit 1 & 2.

X Observance and maintenance of our loading and storage facility is made daily because this is hub of our in-yard activity. The subject facility is so designed as to contain any inadvertent spill without depending on monitors and or transfer pumps.

XI Our stated policy concerning spills for the Hobbs facility as well as any off-site spill is as follows:

a. Any spill material and contaminated soil that can be collected in a 55 gal open top drum is handled without any further reporting.

b. Larger spills are considered reportable to Ward Hawkins (phone #505-393-1377 answered 24 hours), District Manager for Hobbs facility. He is further instructed to contact Jerry Sexton at phone #505-393-6161 with the Oil Conservation Division, State of New Mexico. Our employees are instructed to use all means to contain a spill in the smallest area possible until clean up operations can be completed.

VII No waste or effluent is disposed of on the subject facility. We do have a water well on the property that provides wash up and mix water to our loading facility as well as restroom requirements in our shop and office.

Thank you for reviewing my application for a discharge plan for our Hobbs, N.M. operation. If additional information is needed in making your determination, please call me at phone #903-983-2086 or write me at P.O. Box 753 Kilgore, Tx. 75663.

Very truly yours,

Lloyd Bolding

Acid Engineering, Inc.
Lloyd Bolding

enclosures
Sec. 1 & 2

LB/mh

State of New Mexico
Energy, Minerals and Natural Resources Department
OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, NM 87501

DISCHARGE PLAN APPLICATION FOR OILFIELD SERVICE FACILITIES

(Refer to OCD Guidelines for assistance in completing the application.)

I. TYPE: Oil Well Acidizing Service Co.

II. OPERATOR: Acid Engineering, Inc.

ADDRESS: 5514 Carlsbad Highway Hobbs, NM 88240

CONTACT PERSON: Ward Hwakins PHONE: (505)393-261

III. LOCATION: SE /4 SW /4 of the SW 1/4 Section 36 Township 18S Range 37E

Submit large scale topographic map showing exact location.

3 miles west of Hobbs, NM Directly across Hwy 64 from Hobbs Airport

IV. Attach the name and address of the landowner of the disposal facility site.

V. Attach description of the facility with a diagram indicating location of fences, pits, dikes, and tanks on the facility.

VI. Attach a description of all materials stored or used at the facility.

VII. Attach a description of present sources of effluent and waste solids. Average quality and daily volume of waste water must be included.

VIII Attach a description of current liquid and solid waste collection/treatment/disposal procedures.

IX Attach a description of proposed modifications to existing collection/treatment/disposal systems.

X. Attach a routine inspection and maintenance plan to ensure permit compliance.

XI. Attach a contingency plan for reporting and clean-up of spills or releases.

XII. Attach geological/hydrological evidence demonstrating that disposal of oil field wastes will not adversely impact fresh water. Depth to and quality of ground water must be included.

XIII. Attach such other information as is necessary to demonstrate compliance with any other OCD rules, regulations and/or orders.

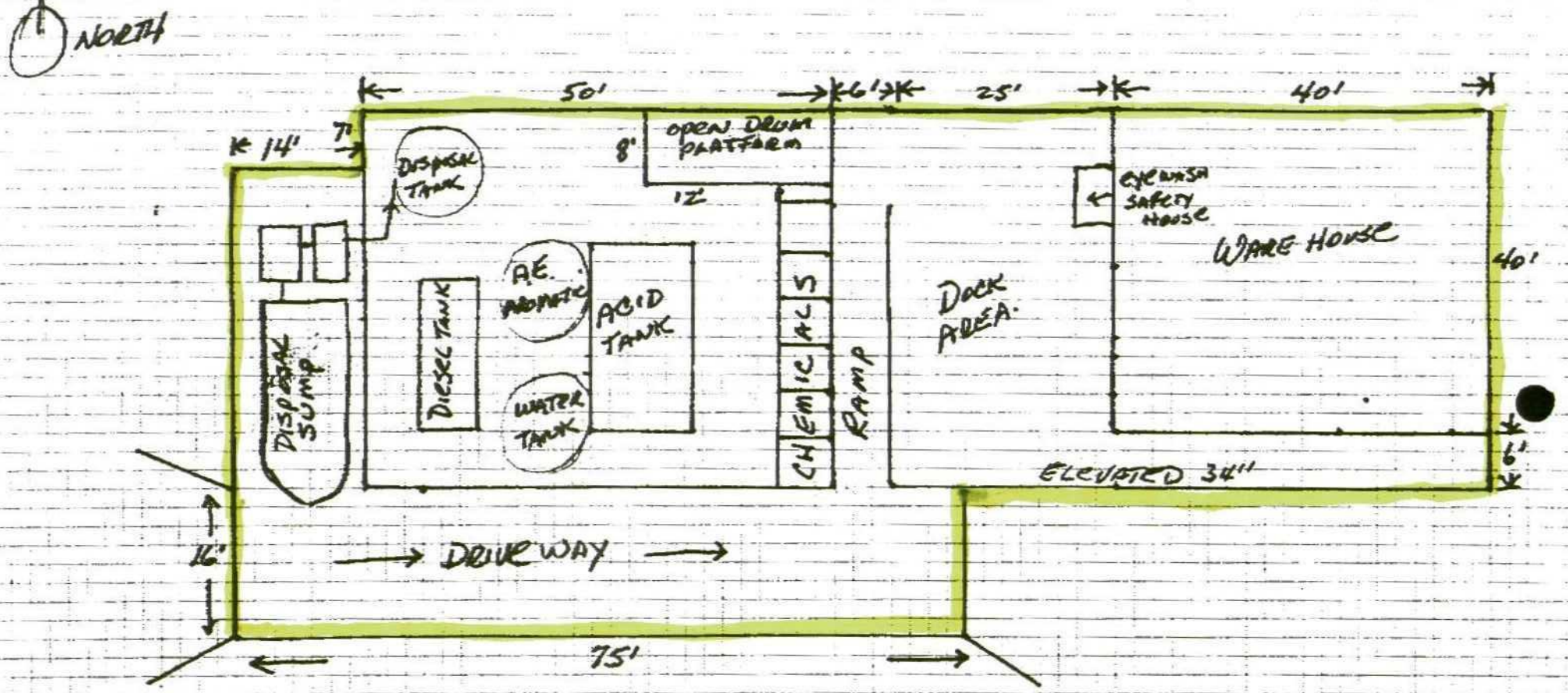
XIV. CERTIFICATION

I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: Lloyd Bolding Title: President

Signature: Lloyd Bolding Date:

DISTRIBUTION: Original and one copy to Santa Fe with one copy to appropriate Division District Office.



130 = 2 feet

ACID, DIESEL, CHEMICALS, DISPOSAL ETC.
ARE ALL IN A CONTAINED AREA
WITH A 7½" THICK BY 34" HIGH SEAMLESS WATER WALLS
BOTTOM CONCRETE IS 6" + THICK. - DISPOSAL TANK IS COVERED W/ SAFETY NET
FIBERGLASS - 2001b CAPACITY

EXHIBIT #2

Mark Hembree

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

May 14, 1993

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

CERTIFIED MAIL
RETURN RECEIPT NO.P-111-334-204

Mr. Lloyd Bolding
Acid Engineering Inc.
P.O. Box 753
Kilgore, Texas

RE: Discharge Plan GW-17 Renewal
Hobbs Facility
Lea County, New Mexico

Dear Mr. Bolding:

On April 18, 1988, the ground water discharge plan, GW-17 for the Acid Engineering Inc. Hobbs service facility located in Section 36, Township 18 South, Range 37 East, NMPM, Lea County, New Mexico, was approved by the Director of the Oil Conservation Division (OCD). This discharge plan was required and submitted pursuant to the Water Quality Control Commission (WQCC) regulations and was approved for a period of five years. The approval **expired** on April 18, 1993.

If your facility continues to have potential or actual effluent or leachate discharges and you wish to continue discharging, please submit your application for renewal as quickly as possible. The OCD is reviewing discharge plan submittals and renewals carefully and the reveiw time can often extend for several months. Please indicate whether you have made, or intend to make, changes in your discharge system, and if so, include an application for plan amendment with your application for renewal. To assist you in preperation of your renewal application, I have enclosed a copy of the OCD's Guidelines for the Preperation of Ground Water Discharge Plans at Oil Field Service Facilities and a copy of WQCC Regulations. These guidelines include berming of tanks, curbing and paving of process areas susceptible to leaks or spills and the disposition of any solid wastes. Please include these items in your renewal application.

If you no longer have such discharges and discharge plan renewal is not needed, please notify this office.

Sincerely,

William J. LeMay
Director

William J. LeMay
Director

WJL/cee

xc: OCD Aztec Office

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
Suite D, 3530 Pan American Highway NE
Albuquerque, New Mexico 87107

October 6, 1988

Mr. William J. Lemay, Director
Oil Conservation Division
State Land Office Building
P. O. Box 2088
Santa Fe, New Mexico 87504-2088

Dear Mr. Lemay:

This responds to your public notice dated September 12, 1988, in which several proposed groundwater discharge plans were described. We have reviewed all of the plans and have not identified any resource issues of concern to our agency in the following:

GW-38, New Mexico State University, Dona Ana County, Las Cruces, NM.
GW-17, ACID Engineering, Lea County, NM.
GW-40, Giant Bloomfield Refinery, San Juan County, Bloomfield, NM.

These comments represent the views of the Fish and Wildlife Service. If you have any questions concerning our comments, please contact Tom O'Brien at (505) 883-7877 or FTS 474-7877.

Sincerely yours,

Michael J. Donahoo

Michael J. Donahoo
Acting Field Supervisor

cc:
Director, New Mexico Department of Game and Fish, Santa Fe, New Mexico
Regional Administrator, Environmental Protection Agency, Attn: Kathy Hollar, Office of Ground Water, Dallas, Texas
Regional Director, U.S. Fish and Wildlife Service, Fish and Wildlife Enhancement, Albuquerque, New Mexico

AFFIDAVIT OF PUBLICATION

State of New Mexico,
County of Lea.

I,_____

_____

of the Hobbs Daily News-Sun, a daily newspaper published at Hobbs, New Mexico, do solemnly swear that the clipping attached hereto was published once a week in the regular and entire issue of said paper, and not a supplement thereof for a period

of_____

One weeks.
Beginning with the issue dated

August 29, 19 88
and ending with the issue dated

August 29, 19 88

Publisher.

Sworn and subscribed to before

me this 29 day of

August, 19 88

Notary Public.

My Commission expires_____

November 14, 19 88
(Seal)

LEGAL NOTICE
August 29, 1988

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

Notice is hereby given that pursuant to the New Mexico Water Quality Control Commission Regulations, the following discharge plan renewals have been submitted for approval to the Director of the Oil Conservation Division, State Land Office Building, P.O. Box 2088, Santa Fe, New Mexico 87504-2088, Telephone (505) 827-5800.

(GW-38) New Mexico State University, C.D. Black, Director of Physical Plant Department, Box 30001, Department 3545, Las Cruces, New Mexico 88003, has submitted an application for renewal of its previously approved discharge plan to discharge cooled geothermal water to an unlined pit at its greenhouse facility located in Section 23, Township 23 South, Range 2 East NMPM, Dona Ana County, New Mexico. Approximately 54,720 gallons per day of cooled geothermal water with a total dissolved solids content of 1775 mg/l will be discharged. The disposed geothermal water will percolate into the ground and will re-enter the geothermal reservoir. Uppermost ground water is geothermal and is found with a TDS of 1636 at a depth of 365 feet.

(GW-17) Acid Engineering, Lloyd Bolding, owner, P.O. Box 753, Kilgore, Texas 75662, has submitted an application for renewal of its previously approved discharge plan for its Hobbs service facility located in Section 36, Township 18, South, Range 37 East, (NMPM) Lea County, New Mexico. Approximately 300 gallons per day of waste water containing 0.1% hydrochloric acid by weight will be discharged to a fiberglass

1260

42
30
12600

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

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Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. Prior to ruling on any proposed discharge plan or its modification, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted to him and a public hearing may be requested by any interested person. Requests for public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines there is significant public interest.

If no public hearing is held, the Director will approve or disapprove the proposed plan based on information available. If a public hearing is held, the Director will approve or disapprove the proposed plan based on information in the plan and information submitted at the hearing.

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 17th day of August. To be published on or before September 2, 1988.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION
s/WILLIAM J. LEMAY, Director
Journal, August 27, 1988

RECEIVED
SEP 1 1988
OIL CONSERVATION DIVISION
SANTA FE

STATE OF NEW MEXICO }
County of Bernalillo } ss

[illegible] J. [illegible]

NATL ADV. MGR. being duly sworn declares and says that he is ..... of the **Albuquerque Journal**, and that this newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Session Laws of 1937, and that payment therefore has been made or assessed as court costs; that the notice, a copy of which is hereto attached, was published in said paper in the regular daily edition,

for 1 times, the first publication being on the 27 day of August, 198 8, and the subsequent consecutive publications on [illegible], 198[illegible]

[illegible]

OFFICIAL SEAL
Signature: [illegible]
ANGELA M. ARCHIBEQUE
NOTARY PUBLIC - NEW MEXICO
Filed with Secretary of State
My Commission Expires 12-30-92

Sworn and subscribed to before me, a Notary Public in and for the County of Bernalillo and State of New Mexico, this 31 day of August, 198 8

PRICE $36.43

Statement to come at end of month.

ACCOUNT NUMBER C80732

EDJ-15 (R-2/86)

PROOF OF PUBLICATION

Wayne Barnes, being duly sworn, deposes and says that he is the Advertising Director of the Las Cruces Sun-News, a newspaper published daily except Saturday in the County of Dona Ana, State of New Mexico; that the notice

notice of discharge plan renewals

as per clipping attached, was published once a week in the regular and entire issue of said newspaper and not in any supplement thereof, for one consecutive weeks (day): that the first publication was in the issue dated August 26, 19 88 and the last publication was in the issue dated August 26, 19 88

Deponent further states that this newspaper is duly qualified to publish legal notices or advertisements within the meaning of Sec. 3. Chapter 167, Laws of 1937. And payment of fees for said publication has been made.

(Signed) Wayne Barnes

Advertising Director

Official Position

STATE OF NEW MEXICO
COUNTY OF DONA ANA ss.

Subscribed and sworn to before me this 26th day of August 19 88

OFFICIAL SEAL
JUDY M. LUNA
NOTARY PUBLIC NEW MEXICO
NOTARY BOND FILED WITH SECRETARY OF STATE
My Commission Expires 2-27-91

Notary Public in and for Dona Ana County, N.M.

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

Notice is hereby given that pursuant to the New Mexico Water Quality Control Commission Regulations, the following discharge plan renewals have been submitted for approval to the Director of the Oil Conservation Division, State Land Office Building, P.O. Box 2088, Santa Fe, New Mexico 87504-2088, Telephone (505) 827-5800:

(GW-38) New Mexico State University, C.D. Black, Director of Physical Plant Department, Box 30001, Department 3545, Las Cruces, New Mexico 88003, has submitted an application for renewal of its previously approved discharge plan to discharge cooled geothermal water to an unlined pit at its greenhouse facility located in Section 23, Township 23 South, Range 2 East, NMPM, Dona Ana County, New Mexico. Approximately 54,720 gallons per day of cooled geothermal water with a total dissolved solids content of 1775 mg/l will be discharged. The disposed geothermal water will percolate into the ground and will re-enter the geothermal reservoir. Uppermost ground water is geothermal and is found with a TDS of 1636 at a depth of 365 feet.

(GW-17) Acid Engineering, Lloyd Bolding, owner, P.O. Box 753, Kilgore, Texas 75662, has submitted an application for renewal of its previously approved discharge plan for its Hobbs service facility located in Section 36, Township 18 South, Range 37 East, (NMPM) Lea County, New Mexico. Approximately 300 gallons per day of waste water containing 0.1% hydrochloric acid by weight will be discharged to a fiberglass tank. The waste water will be recycled as makeup water in the oil well treatment process. Ground water most likely to be affected by a discharge at the surface is at a depth of approximately 46 feet with a total dissolved content of approximately 1400 mg/l.

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. Prior to ruling on any proposed discharge plan or its modification, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted to him and a public hearing may be requested by any interested person. Requests for public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines there is significant public interest.

If no public hearing is held, the Director will approve or disapprove the proposed plan based on information available. If a public hearing is held, the Director will approve or disapprove the proposed plan based on information in the plan and information submitted at the hearing.

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 17th day of August. To be published on or before September 2, 1988.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

/s/ WILLIAM J. LEMAY,
Director

SEAL

Pub. No. 88-2313
Publish: August 26, 1988

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

GARREY CARRUTHERS
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

August 22, 1988

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Lloyd Bolding
ACID ENGINEERING, INC.
P. O. Box 753
Kilgore, Texas 75662

RE: Discharge Plan GW-17
Hobbs Service Facility,
Lea County, New Mexico

Dear Mr. Bolding:

The Oil Conservation Division (OCD) has received and reviewed your application, dated August 5, 1988, for the renewal of the above referenced discharge plan. The renewal application contains the updated information required for approval.

Public notice of your renewal application will be published on or before September 2, 1988. Prior to ruling on any proposed discharge plan renewal, the Director of the OCD shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted to him and a public hearing may be requested by any interested person.

An inspection of the facility by Environmental Bureau personnel will be scheduled for the fall of 1988. If there are no deficiencies found during this inspection, the renewal will be approvable. The trip will be scheduled in conjunction with other inspections in the Southeast part of the state and you will be notified of the dates in advance.

If you have any questions, please do not hesitate to call me at (505) 827-5885.

Sincerely,

Roger Anderson
Environmental Engineer

RA:sl

cc: OCD - Hobbs