

GW - 297

**GENERAL  
CORRESPONDENCE**

**YEAR(S):**

---

2003-1995

# Affidavit of Publication

STATE OF NEW MEXICO

COUNTY OF LEA

Joyce Clemens being first duly sworn on oath deposes and says that she is Advertising 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

was published in a regular and entire issue of **THE LOVINGTON DAILY LEADER** and not in any supplement thereof,

for one (1) day, beginning with the issue of September 3, 2003 and ending with the issue of September 3, 2003.

And that the cost of publishing said notice is the sum of \$ 119.24 which sum has been (Paid) as Court Costs.

Subscribed and sworn to before me this 23rd day of September 2003

Debbie Schilling  
Debbie Schilling

Notary Public, Lea County, New Mexico  
My Commission Expires June 22, 2006

## 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 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-297) - Chaparral Services, Inc., P.O. Box 1769, Eunice, NM 88231, has submitted a discharge permit renewal application for its facility located in the SW/4 NW/4 of Section 20, Township 25 South, Range 37 East and the SE/4 NE/4 of Section 19, Township 25 South, Range 37 East, NMPM, Lea County, New Mexico. Approximately 50 gallons per month of waste oil and solvents are collected in fiberglass storage tanks, then transported offsite for disposal. Groundwater most likely to be affected in the event of an accidental discharge is at an estimated depth of approximately 40 feet with a total dissolved solids concentration ranging from 700 to 1,000 mg/l. The discharge permit addresses how oilfield products and waste will be properly handled, stored, and disposed of, including how spills, leaks, and other accidental discharges to the surface will be managed in order to protect fresh water.

(BW-025) Paul Prather, P.O. Box 7169, Eunice, New Mexico 88231, has submitted a discharge plan renewal application for the CSI Brine Sales Station located in the NE/4 NE/4 of Section 20, Township 25 South, Range 37 East, NMPM, Lea County, New Mexico. Fresh water from the City of Jal is injected into the Salado Formation at an approximate depth of 1,150 feet and brine water is extracted with an average total dissolved solids concentration of 350,000 mg/l. The brine water is stored in four 1,000 barrel above ground closed top tanks. The plan includes a chemical storage dock and a below grade concrete pit for temporary storage of exempt oilfield waste. Ground water

tal discharge is at a depth of approximately 40 feet with a total dissolved solids concentration of approximately 875 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(BW-018) Key Energy Services, Inc., Bob Patterson, (505) 394-2581, P.O. Box 340, Hobbs, New Mexico, 88240, has submitted a discharge application for its previously approved discharge plan for the Trucker's #2 Brine Station located in the NE/4 SW/4 of Section 33, Township 18 South, Range 38 East, NMPM, Lea County, New Mexico. Fresh water is injected into the Salado Formation at an approximate depth of 2,000 feet and brine is extracted with an average total dissolved solids concentration of 390,000 mg/l. Ground water most likely to be affected in the event of an accidental discharge is at a depth of approximately 60 feet with a total dissolved solids concentration of approximately 500 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(GW-145) - Flatrock Energy Partners, Mr. Clay Smith, P.E., 15600 San Pedro, Suite 401, San Antonio, Texas 78232, (210) 494-6777, on behalf of Raptor Gas Transportation LLC operated by ConocoPhillips, has submitted a discharge renewal application for the Zia Gas Plant and the Zia Booster Compressor Station located in the NE/4 NE/4 of Section 19, Township 19 South, Range 32 East, NMPM, Lea County, New Mexico. Approximately 5,900 gallons per month of process wastewater will be collected and stored in above ground steel tanks prior to disposal at an OCD approved offsite commercial disposal facility. The total dissolved solids concentration of the wastewater is approximately 2,000 mg/l. Ground water most likely to be affected in the event of an accidental discharge is at a depth of approximately 280 feet with a total dissolved solids concentration of approximately 2,400 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(GW-351) - EOTT Energy LLC, Mr. Frank Hernandez, P.O. Box 1660, 5805 East Highway 80, Midland, Texas 79702

permit application for the EOTT Lea Station crude pump facility located in the NW/4, Section 28, Township 20 South, Range 37 East, NMPM, Lea County, New Mexico. Any potential discharge at the facility will be collected prior to transport to an OCD approved off-site disposal facility.

Groundwater under the facility is being remediated under an OCD approved abatement plan. The discharge plan addresses how spill, 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.annrd.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 to him and a public hearing may be requested by any interested person. Request 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 may approve or disapprove 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 information submitted at the hearing.

GIVEN under the Seal of the State of New Mexico, Commission at Santa Fe, New Mexico, on this day of August 2003.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION  
LORI WROTE

SEAL

Published in Lovington Daily September 3, 2003

# 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 applications have 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-304) - El Paso Natural Gas Company, David Bays, (505) 599-2256, 614 Reilly Avenue, Farmington, New Mexico 87401-2634, has submitted its discharge permit renewal application for its Turley Compressor Station (Trunk O) located in the SW/4 NW/4 of Section 30, Township 30 North, Range 9 West, NMPM, San Juan County, New Mexico. Approximately 250 barrels per month of produced water, with a dissolved solids concentration ranging from 8,000 to 76,000 mg/l, is collected in closed steel tanks prior to transport to an off-site, OCD-approved disposal facility. Approximately 10 barrels per year of wastewater from equipment washdown is collected in a closed, double-walled underground sump prior to transport to an off-site, OCD-approved disposal facility. Groundwater most likely to be affected in the event of an accidental discharge is at a depth of approximately 100 feet with a total dissolved solids concentration of approximately 300 mg/l. The discharge permit addresses how oilfield products and waste will be properly handled, stored, and disposed of, including how spills, leaks, and other accidental discharges to the surface will be managed in order to protect fresh water.

(GW-147) - El Paso Natural Gas Company, Richard Duarte, (505) 831-7763, 3801 Atrisco Blvd. N.W., Albuquerque, New Mexico 87120, has submitted its discharge permit renewal application for its Deming Compressor Station located in the SE/4 SE/4 of Section

32, Township 23 South, Range 11 West, NMPM, Luna County, New Mexico. Approximately 43,200 gallons per day of cooling tower blowdown water with a total dissolved solids concentration of approximately 77,000 mg/l is stored in above-ground, lined evaporation ponds equipped with leak detection. Groundwater most likely to be affected in the event of an accidental discharge is at an estimated depth of approximately 30 feet with a total dissolved solids concentration of approximately 5,000 mg/l. The discharge permit addresses how oilfield products and waste will be properly handled, stored, and disposed of, including how spills, leaks, and other accidental discharges to the surface will be managed in order to protect fresh water.

(GW-297) - Chaparral Services, Inc., P.O. Box 1769, Eunice, NM 88231, has submitted a discharge permit renewal application for its facility located in the SW/4 NW/4 of Section 20, Township 25 South, Range 37 East, and the SE/4 N/4 of Section 19, Township 25 South, Range 37 East, NMPM, Lea County, New Mexico. Approximately 50 gallons per month of waste oil and solvents are collected in fiberglass storage tanks, then transported offsite for disposal. Groundwater most likely to be affected in the event of an accidental discharge is at an estimated depth of approximately 40 feet with a total dissolved solids concentration ranging from 700 to 1,000 mg/l. The discharge permit addresses how oilfield products and waste will be properly handled, stored, and disposed of, including how spills, leaks, and other accidental discharges to the surface will be managed in order to protect fresh water.

(GW-303) - El Paso Natural Gas Company, David Bays, (505) 599-2256, 614 Reilly Avenue, Farmington, New Mexico 87401-2634, has submitted its discharge permit renewal application for its Navajo City Compressor Station (Trunk L) located in the SW/4 NW/4 of Section 33, Township 30 North, Range 7 West, NMPM, San Juan County, New Mexico. Approximately 250 barrels per month

of produced water, with a dissolved solids concentration ranging from 8,000 to 76,000 mg/l, is collected in closed steel tanks prior to transport to an off-site, OCD-approved disposal facility. Approximately 10 barrels per year of wastewater from equipment washdown is collected in a closed, double-walled underground sump prior to transport to an off-site, OCD-approved disposal facility. Groundwater most likely to be affected in the event of an accidental discharge is at a depth of approximately 200 feet with a total dissolved solids concentration of approximately 1,000 mg/l. The discharge permit addresses how oilfield products and waste will be properly handled, stored, and disposed of, including how spills, leaks, and other accidental discharges to the surface will be managed in order to protect fresh water.

(GW-302) - El Paso Natural Gas Company, David Bays, (505) 599-2256, 614 Reilly Avenue, Farmington, New Mexico 87401-2634, has submitted its discharge permit renewal application for its Potter Canyon Compressor Station (Trunk H/H) located in the NW/4 NE/4 of Section 19, Township 30 North, Range 10 West, NMPM, San Juan County, New Mexico. Approximately 500 barrels per month of produced water, with a dissolved solids concentration of 10,000 mg/l, is collected in closed steel tanks prior to transport to an off-site, OCD-approved disposal facility. Approximately 10 barrels per year of wastewater from equipment washdown is collected in a closed, double-walled underground sump prior to transport to an off-site, OCD-approved disposal facility. Groundwater most likely to be affected in the event of an accidental discharge is at a depth of approximately 250 feet with a total dissolved solids concentration of approximately 2,000 mg/l. The discharge permit addresses how oilfield products and waste will be properly handled, stored, and disposed of, including how spills, leaks, and other accidental discharges to the surface will be managed in order to protect fresh water.

(GW-298) - El Paso Natural Gas Company,

David Bays, (505) 599-2256, 614 Reilly Avenue, Farmington, New Mexico 87401-2634, has submitted its discharge permit renewal application for its Martinez Canyon Compressor Station located in the SE/4 SE/4 of Section 16, Township 27 North, Range 6 West, NMPM, Rio Arriba County, New Mexico. Approximately 20 gallons per day of wastewater with a dissolved solids concentration of 10,000 mg/l is collected in the wash rack and a double-walled, closed steel tank sump prior to transport to an off-site, OCD-approved disposal facility. Groundwater most likely to be affected in the event of an accidental discharge is at a depth greater than 200 feet with a total dissolved solids concentration of approximately 500 mg/l. The discharge permit addresses how oilfield products and waste will be properly handled, stored, and disposed of, including how spills, leaks, and other accidental discharges to the surface will be managed in order to protect fresh water.

(GW-301) - El Paso Natural Gas Company, David Bays, (505) 599-2256, 614 Reilly Avenue, Farmington, New Mexico 87401-2634, has submitted its discharge permit renewal application for its Manzaneros Compressor Station (Trunk A-R) located in the SW/4 NW/4 of Section 16, and N/E N/E of Section 17, Township 29 North, Range 9 West, NMPM, San Juan County, New Mexico. Approximately 75 Barrels per month of produced water with a dissolved solids concentration ranging from 8,000 to 76,000 mg/l is collected in closed, steel tanks prior to transport to an off-site, OCD-approved disposal facility. Approximately 10 barrels per year of wastewater from equipment washdown is collected in a double-walled, underground sump prior to transport to an off-site, OCD-approved disposal facility. Groundwater most likely to be affected in the event of an accidental discharge is at a depth of approximately 50 feet with a total dissolved solids concentration of approximately 300 mg/l to 3,000 mg/l. The discharge permit addresses how oilfield products and waste will be properly handled,

including how spills, leaks, and other accidental discharges to the surface will be managed in order to protect fresh water.

(GW-154) - El Paso Natural Gas Company, David Bays, (505) 599-2256, 614 Reilly Avenue, Farmington, New Mexico 87401-2634, has submitted its discharge permit renewal application for its Angel Peak 2B3B Compressor Station located in the NE/4 NW/4 of Section 8, Township 27 North, Range 10 West, NMPM, San Juan County, New Mexico. Approximately 2 gallons per day of process wastewater with a dissolved solids concentration of 3,500 mg/l is stored in closed, steel tanks prior to transport to an off-site, OCD-approved disposal facility. Groundwater most likely to be affected in the event of an accidental discharge is at a depth greater than 150 feet, with a total dissolved solids concentration of approximately 500 mg/l. The discharge permit addresses how oilfield products and waste will be properly handled, stored, and disposed of, including how spills, leaks, and other accidental discharges to the surface will be managed in order to protect fresh water.

(GW-153) - El Paso Natural Gas Company, David Bays, (505) 599-2256, 614 Reilly Avenue, Farmington, New Mexico 87401-2634, has submitted its discharge permit renewal application for its Angel Peak 2B3A Compressor Station located in the SW/4 NW/4 of Section 20, Township 27 North, Range 10 West, NMPM, San Juan County, New Mexico. Approximately 2 gallons per day of process wastewater with a dissolved solids concentration of 3,500 mg/l is stored in closed, steel tanks prior to transport to an off-site, OCD-approved disposal facility. Groundwater most likely to be affected in the event of an accidental discharge is at a depth of 55 feet, with a total dissolved solids concentration of approximately 500 mg/l. The discharge permit addresses how oilfield products and waste will be properly handled, stored, and disposed of, including how spills, leaks, and other accidental discharges to the surface will be managed in order to protect fresh

(GW-352) - Williams Field Services, Michael K. Lane, (505) 632-4625, 118 CR 4900, Bloomfield, New Mexico 87413, has submitted a discharge permit application for the Williams Field Services Cabresto Compressor Station located in the NE/4 NE/4 of Section 19, Township 30 North, Range 4 West, NMPM, Rio Arriba County, New Mexico. Approximately 2000 to 9000 barrels per year of produced water is stored in an above ground storage tank prior to transport to an OCD approved off-site disposal facility. The total dissolved solids (TDS) of the produced water is approximately 1,100 milligrams per liter (mg/l). Groundwater most likely to be affected in the event of an accidental discharge at the surface is at a depth of 100 to 400 feet with estimated total dissolved solids concentration of approximately 2,000 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(BW-025) Paul Prather, P.O. Box 7169, Eunice, New Mexico 88231, has submitted a discharge plan renewal application for the CSI Brine Sales Station located in the NE/4 NE/4 of Section 20, Township 25 South, Range 37 East, NMPM, Lea County, New Mexico. Fresh water from the City of Jal is injected into the Salado Formation at an approximate depth of 1,150 feet and brine water is extracted with an average total dissolved solids concentration of 350,000 mg/l. The brine water is stored in four 1,000 barrel above ground closed top tanks. The plan includes a chemical storage dock and a below grade concrete pit for temporary storage of exempt oilfield waste. Groundwater most likely to be affected in the event of an accidental discharge is at a depth of approximately 40 feet with a total dissolved solids concentration of approximately 875 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(BW-018) Key Energy Services, Inc., Bob Patterson, (505) 394-2581, P.O. Box 340, Hobbs, New Mexico, 88240, has submitted a discharge application for its

charge plan for the Trucker's #2 Brine Station located in the NE/4 SW/4 of Section 33, Township 18 South, Range 38 East, NMPM, Lea County, New Mexico. Fresh water is injected into the Salado Formation at an approximate depth of 2,000 feet and brine is extracted with an average total dissolved solids concentration of 390,000 mg/l. Ground water most likely to be affected in the event of an accidental discharge is at a depth of approximately 60 feet with a total dissolved solids concentration of approximately 500 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 to him 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 27th day of August 2003.

STATE OF  
NEW MEXICO  
OIL CONSERVATION  
DIVISION

S E A L

LORI WROTENBERY,  
Director  
Legal #73956  
Pub. September 3, 2003

THE SANTA FE  
**NEW MEXICAN** RECEIVED  
Founded 1849

SEP 08 2003

OIL CONSERVATION  
DIVISION

Ed Martin

NM OIL CONSERVATION DIV.

1220 ST. FRANCIS DR

~~ATTN: MARY ANNA~~

SANTA FE NM 87505

ALTERNATE ACCOUNT: 56689

AD NUMBER: 00025904 ACCOUNT: 00002212

LEGAL NO: 73956 P.O. #: 04-199-050340  
680 LINES 1 TIME(S) 465.52

AFFIDAVIT: 5.25

TAX: 31.48

TOTAL: 502.25

AFFIDAVIT OF PUBLICATION

STATE OF NEW MEXICO  
COUNTY OF SANTA FE

I, K. Voorhees, being first duly sworn declare and say that I am Legal Advertising Representative of THE SANTA FE NEW MEXICAN, a daily newspaper 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 # 73956 a copy of which is hereto attached was published in said newspaper 1 day(s) between 09/03/2003 and 09/03/2003 and that the notice was published in the newspaper proper and not in any supplement; the first date of publication being on the 3rd day of September, 2003 and that the undersigned has personal knowledge of the matter and things set forth in this affidavit.

/S/ K. Voorhees  
LEGAL ADVERTISEMENT REPRESENTATIVE

Subscribed and sworn to before me on this 3rd day of September, 2003

Notary Laura E. Harding

Commission Expires: 11/23/03



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

**BILL RICHARDSON**

Governor

Joanna Prukop  
Cabinet Secretary

**Lori Wrotenbery**

Director

Oil Conservation Division

July 21, 2003

Chaparral Service, Inc.  
P.O. Drawer 1769  
Eunice, NM 88231

Attn: Mr. Paul Prather

Dear Mr. Prather,

Enclosed are the following:

1. A copy of your current Discharge Permit for the facility formerly owned by Quality Oil Service, Inc. and transferred to Chaparral on 10/20/99.
2. A blank application form for Discharge Permit renewal.

Please complete the renewal form and mail to me, along with \$100.00 for the application fee plus \$1,700.00 for the permit, by August 15, 2003.

If none of the information in the current Discharge Permit has changed, all you need to do is reference the current plan. You do not need to re-do the plan, all I need is the completed application along with the fees.

If you have any questions, do not hesitate to contact me at (505) 476-3492 or [emartin@state.nm.us](mailto:emartin@state.nm.us)

Sincerely,

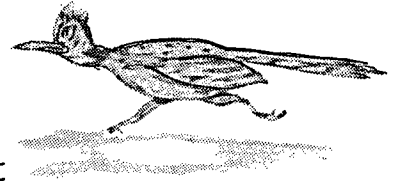
A handwritten signature in cursive script, appearing to read "Ed Martin".

Ed Martin  
New Mexico Oil Conservation Division  
Environmental Bureau

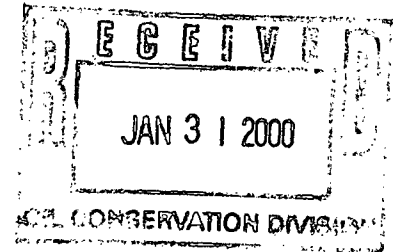
*Chaparral*

Service, Inc.

SCC NM 841-1



☆ Phone (505) 394-2545 ☆ West Texas Ave. ☆ P.O. Drawer 1769 ☆ Eunice, New Mexico 88231 ☆  
(505) 394-2811  
(505) 397-3044  
FAX # (505) 394-2426



January 27, 2000

W. Jack Ford, C.P.G.  
Environmental Bureau  
Oil Conservation Division  
2040 South Pacheco Street  
Santa Fe, New Mexico 87505

RE: Discharge plan GW-297  
Jal Facility  
Lea County, New Mexico

Dear Mr. Ford:

Please accept this letter as transfer of Discharge Plan GW-297 from Quality Oil Service, Inc. to Chaparral Service, Inc. effective October 20, 1999.

Chaparral Service, Inc. understands compliance with the terms and conditions of this discharge plan will be our responsibility.

Sincerely,

Paul Prather  
President

PP/mlm



NEW MEXICO ENERGY, MINERALS  
& NATURAL RESOURCES DEPARTMENT

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

January 4, 2000

**CERTIFIED MAIL**  
**RETURN RECEIPT NO. Z 142 564 929**

Mr. Paul D. Prather  
Chaparral Service, Inc.  
P. O. Box 1769  
Eunice, New Mexico 88231

RE: Discharge Plan GW-297  
Jal Facility  
Lea County, New Mexico

Dear Mr. Prather:

In response to our telephone discussion of this date, I am enclosing a copy of the Discharge Plan, GW-297, covering the Jal facility formerly owned by Quality Oil Service. It is the understanding of OCD that Chaparral Service, Inc. has acquired certain assets of Quality Oil Service including the facility covered by discharge plan GW-297. Notification to the OCD of change of ownership is required pursuant to Water Quality Control Commission (WQCC) regulations under Section 3111.

Kindly furnish the OCD with the date of transfer from Quality Oil Service to Chaparral Service, Inc. Be advised compliance with the terms and conditions of the discharge plan will be the responsibility of the owner. A request for transfer of the discharge plan, GW-297, is required by the OCD immediately.

If you have any questions contact me at (505) 827-7156.

Sincerely,

W. Jack Ford, C.P.G.  
Environmental Bureau

Enclosure (1)

cc: Hobbs District Office

Z 142 564 929 *OCD*

US Postal Service *FORD*  
Receipt for Certified Mail  
No Insurance Coverage Provided.  
Do not use for International Mail (See reverse)

Sent to	<i>P. Prather</i>
Street & Number	<i>Chaparral</i>
Post Office, State, & ZIP Code	<i>Eunice</i>
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	<i>GW-297</i>

PS Form 3800, April 1995

April 6, 1998

William H. (Bill) Brininstool has sold XL Transportation Company, Salado Brine Sales, and Jet Disposal System, Inc. to Quality Oil Service, Inc. effective March 21, 1998.

The new address for "QOS" in Jal:  
Quality Oil Service, Inc.  
P. O. Box 1060  
Jal, NM 88252

The new remit to address:  
Quality Oil Service, Inc.  
P. O. Box 4346, Dept. 297  
Houston, TX 77210-4346

All certificates of insurance have been mailed, but I am enclosing a copy of insurance binder. If you did not receive your certificate of insurance please let me know and I will have insurance company issue another.

Quality Oil Service, Inc. agrees to honor all previous agreements made and entered into by XL Transportation Company. "QOS" looks forward to continuing servicing your account.

Cordially,

A handwritten signature in cursive script, appearing to read "Christine Brininstool".

Christine Brininstool  
General Manager

DATE: 2/2/98

To ROGER ANDERSON - NMOC505-827-8177

From

WAYNE PRICE - ENVIRONMENTAL ENGR. - NMOC DISTRICT I

Energy &amp; Minerals Department

Telephone Number 505-393-6161 FAX # 505-393-0720

- |   |   |
|---|---|
| <input type="checkbox"/> For Your Files             | <input type="checkbox"/> Prepare a Reply for My Signature |
| <input type="checkbox"/> For Your Review and Return | <input type="checkbox"/> For Your Information             |
| <input type="checkbox"/> For Your Handling          | <input type="checkbox"/> For Your Approval                |
| <input type="checkbox"/> As Per Your Request        | <input type="checkbox"/> For Your Signature               |
| <input type="checkbox"/> Please Advise              | <input checked="" type="checkbox"/> For Your Attention    |

XL - City of JAL NMTOTAL # of PAGES INCL COVER 5

NMOCD INTER-OFFICE CORRESPONDENCE

TO: File of XL Transportation Co.

From: Wayne Price-Environmental Engineer *Wayne Price*

Date: 1-30-98

Reference: Complaint from NM State Police about possible illegal dumping of chemicals into the City of Jal, NM city sewer system. Report taken by NMOCD Paul Kautz on Wednesday Jan 28, 1998.

Subject: Field Inspection Trip on 1-30-98 with Chris Williams, NMOCD.

## Comments:

KBIM local tv coverage has been covering the story and had contacted the NMOCD District I office concerning NMOCD's investigation plans.

Met Fred Seifts, Public Works Director at City Hall. Mr. Seifts gave overview of problem. They began receiving complaints from residents in area of 1st and 2nd streets on Tuesday, January 27. Strong chemical smell, gasoline smell, glue smells and in one case a rotten egg smell. Some residents were evacuated out of their homes.

On Wednesday, January 28, city employees had traced the problem back to the area near the XL Transportation Co., an oilfield service company. The city had collected sewer water samples above (upstream) and below (downstream).

Toured area with Mr. Seifts, and had an interview with Bill Brininstool, owner of XL. Inspected XL's wash pad sump. Discovered sump contained (BTEX) type odors. Ran PID found extremely high values of organic hydrocarbons. Olfactory smells were similar to paint thinner solvent like toluene and/or xylene. Mr. Brininstool indicated his company still uses and sells toluene but does not know how these chemical constituents got into the sump. Chris Williams and I advised Mr. Brininstool to conduct an internal investigation of his employees and operations to determine the cause of this problem. Mr. Brininstool advised us he would.

Conducted PID/TDS sampling of various city of Jal sewer manhole openings and XL wash pad sump. Took pictures of sump area. A recent spill appears to have been covered with fine caliche.

See attached pictures, field sketch and field findings.

Preliminary findings indicate the source appears to be the XL sump. After a telephone conference with Roger Anderson and Bill Olsen of the NMOCD Environmental Bureau, a decision was made to recommend to XL to conduct area sampling to determine if XL's sump is a problem. NMOCD will split samples.

Williams and Price made recommendation to Mr. Brininstool. Mr. Brininstool called Cardinal Lab and set up a sampling appointment.

Met Cardinal Lab personnel at approximately 4PM and XL representative, Rule Gatewood and city of Jal's public works director, Fred Seifts.

Took samples, see sampling chain of custody and attached photos.

Price and Seifts collected samples for state lab. These samples had previously been collected by city of Jal employees on Wednesday, January 28, at approximately 10 AM. These samples were noted to have the same identical olfactory smell that was experienced and observed at the XL sump.

Price and Seifts met with XL rep Rule Gatewood. Recommended to XL to isolate and contain all water in sump. Mr. Gatewood was going to plug inlet of sump.

cc: Chris Williams-NMOCD District I Supervisor  
Roger Anderson-Environmental Bureau Chief, Santa Fe, NM  
Bill Olson-Environmental Bureau, Santa Fe, NM

attachments- pictures, field sketch & notes, chain of custody.

*Johnny Vigil*  
*City Police*

*cal A.M.*

*XL Transportation*  
*dumping in sewer*  
*smells like Gasoline etc.*  
*gal plant*

*Wayne Price* overflowing  
*from locator*

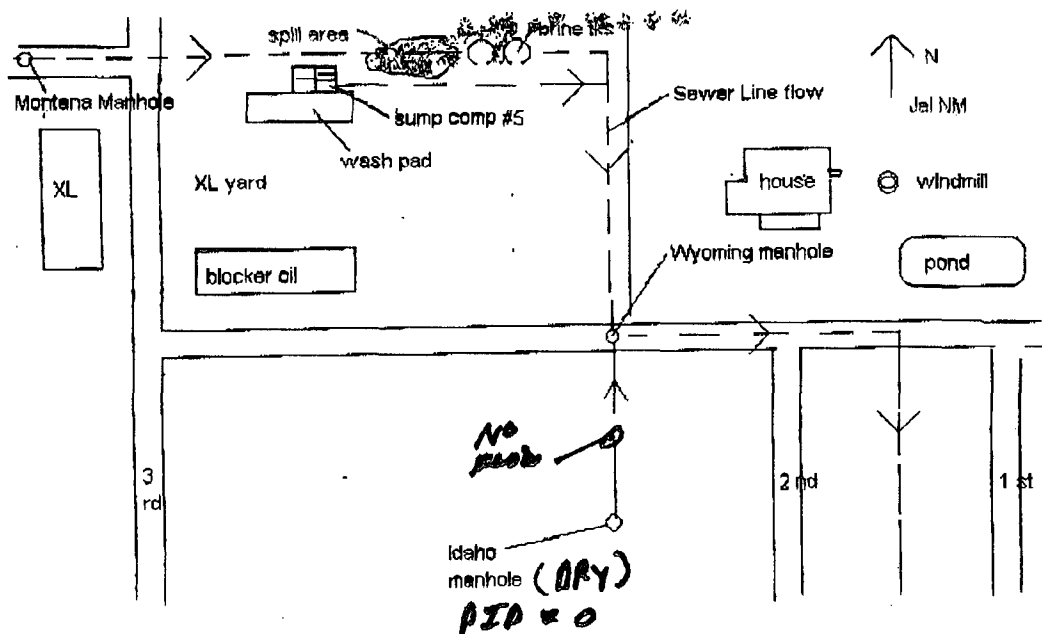
*1/2-8/98*  
*2:40 PM*  
*Chris +*  
*Wayne*

*Johnny Vigil* called

*Johnny Vigil*  
*called in cal*  
*at City Police*  
*and would like*  
*to be kept*  
*informed.*

*Someone has been dumping in*  
*sewer lines. Vigil & city water*  
*located it to just below Huttons*  
*and some thing from XL everything*  
*OK. Vigil says it smells like*  
*gasoline and has been going on for a while*  
*XL refused to do anything about*  
*overflow. I told Vigil that Wayne*  
*Price would check it out. If gasoline*  
*will have to turn over to ED.*  
*Next Does XL have a discharge*  
*plan. Vigil said if nothing is*  
*done he will turn over to PA*

*Paul*

FIELD SKETCH

TOOK PICTURES 1/30/98

BY 2 PRICE - NMOC

ADDRESS: CULLIANS

PID

PID READINGSXL SUMP COMP #5  
# 12 Noon

HELD ABOVE WATER IN SUMP

691 PPM (BLEY)  
PAINE THINER SMELLCOLLECTED SAMPLE USING  
3' PE BAILER - RAN HEADSPACE  
IN QLT JAR>2500 PPM (BLEY)  
CLEAR WATER  
TDS 1700 MGD  
STRONG BENZENE-  
LIKE ODRXL SUMP COMP #5  
OUTLET TO CITY  
SEWER

TDS SUMP

MARS  
CITY  
400 MGD

	#1	#2	#3	#4	#5
TDS	3000	1800	1000	1000	1000
PH					3900
DOSE	13,000	13000	5000	5000	5000

MONTANA MANHOLE  
12:20 PM

- HELD ABOVE WATER FLOW
- COLLECTED WATER SAMPLE  
QLT JAR - HEADSPACE

PID "ND" (BLEY)

PID

0-5 PPM  
SEWAGE SMELL ONLY  
0-10% EVAPORATED 750

WYOMING MANHOLE

- HELD ABOVE WATER FLOW
- COLLECTED WATER SAMPLE  
QLT JAR - HEADSPACE

PID

45 PPM (BLEY)

161 PPM PAINE SMELL  
AS XL SUMP  
0-10% EVAPORATED  
TDS 700 MGD

## CHAIN OF CUSTODY

DATE: 1/30/78 PAGE: 1 OF 1

**PAEN LAB 10**

FEB-2-98 MON 3:19 PM OCD HOBBS

FAX NO. 15053930720

P. 5

**SHADED AREAS ARE FOR LAB USE ONLY.**

**PLEASE FILL THIS FORM IN COMPLETELY.**

PROJECT MANAGER: ZAYNE PRICE

COMPANY: PMOCA

ADDRESS: P.O. 1980  
MOBBS N.M. 88241

PHONE: 505-393-6161

FAX: 505-393-0720

BILL TO: S.A.R.

COMPANY: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

NAME	DATE	TIME	MATH	TEST
VL 504 #5 7801301645	1/30/78	415p	245F2	
" " "	1/30/78	415p	"	
Wyo M129 7801301720	1/30/78	520p	"	
" " "	"	"	"	
3045A				
MONTEANA 7801231000	1/30/78	548p	241F2A	
3045A 7801221000	1/30/78	550p	"	
PANTHER 7801281000	1/30/78	555p	"	

ANALYSIS REQUEST	
Petroleum Hydrocarbons (418.1) TPH	
(MOD.8015) Diesel/Direct/Inject	
(M8015) Gas/Purge & Trap	
Gasoline/BTEX & MTBE (M8015/8020)	
BTXE/MTBE (8020)	
BTEX & Chlorinated Aromatics (U02/8020)	
BTXE/MTBE/EDC & EDB (8020/8010/Short)	
Chlorinated Hydrocarbons (601/8010)	
504 EDB <input type="checkbox"/> / DBCP <input type="checkbox"/>	
Polynuclear Aromatics (610/8310)	
Volatile Organics (624/8240) GC/MS	
Volatile Organics (8260) GC/MS	
Pesticides/PCB (608/8080)	
Herbicides (615/8150)	
Base/Neutral/Acid Compounds GC/MS (625/8270)	
General Chemistry:	
Priority Pollutant Metals (13)	
Target Analyte List Metals (23)	
RCRA Metals (8)	
RCRA Metals by TCLP (Method 1311)	
Metals:	

PROJECT INFORMATION		PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS		FURNISHED BY:		FURNISHED BY:	
PROJ. NO.: <b>2ASH SWP</b>		(RUSH) <input type="checkbox"/> 24hr <input type="checkbox"/> 48hr <input type="checkbox"/> 72h <input type="checkbox"/> 1 WEEK <input checked="" type="checkbox"/> FINAL		Signature: <b>[Signature]</b> Time: <b>8:00 AM</b>		Signature: _____ Time: _____	
PROJ. NAME: <b>XL JAL NM</b>		CERTIFICATION REQUIRED: <input checked="" type="checkbox"/> NM <input type="checkbox"/> SDWA <input type="checkbox"/> OTHER		Printed Name: <b>2ASH SWP</b> Date: <b>1/30/98</b>		Printed Name: _____ Date: _____	
P.O. NO.:		METHANOL PRESERVATION <input type="checkbox"/>		Company: <b>NMOCO</b>		Company: _____	
SHIPPED VIA:		COMMENTS: FIXED FEE <input type="checkbox"/> <b>SAMPLES ON ICE!</b>		RECEIVED BY: _____ DATE: _____		RECEIVED BY (LAB): _____ DATE: _____	
SAMPLE RECEIPT		<b>XL IS TAKEN USING CLEAN 16 BAKER</b>		Signature: _____ Time: _____		Signature: _____ Time: _____	
NO. CONTAINERS:		<b>0-3'</b>		Printed Name: _____ Date: _____		Printed Name: _____ Date: _____	
CUSTODY SEALS:		<b>7801301720 TAKEN BEING CLEAN</b>		Company: _____		Company: _____	
RECEIVED INTACT:		<b>OF JAL AS NIPER</b>					
REFERENCE:		<b>245555: FRED SEIFTS - CIB/JAL</b>					

# 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

XXXXXXXXXXXX

XXXXXXXXXXXX

XXXXXXXXXXXX

County, New Mexico, was published in a regular and entire issue of THE LOVINGTON DAILY LEADER and not in any supplement thereof, XXXXXXXX WEEK XXXXXXXX

same day of the week for one (1) day

consecutive weeks, beginning with the issue of

April 5, 1998

and ending with the issue of

April 5, 1998

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

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

Subscribed and sworn to before me this 16th

day of April, 1998

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-297) - XL Transport Company, Christine Brininstool, (505) 395-2010, P.O. Drawer A, 113 North 3rd Street, Jal, New Mexico 88252, has submitted a discharge application for the XL Transport Company facility located in the SW/4 NW/4 of Section 20, Township 25 South, Range 37 East and the SE/4 NE/4 of Section 19, Township 25 South, Range 37 East, NMPM, Lea County, New Mexico. Approximately

50 gallons per month of waste oil and solvents are collected in fiber-glass storage tanks then transported offsite for disposal. Ground water most likely to be affected in the event of an accidental discharge is at an estimated depth of a approximately 40 feet with a total dissolved solids concentration ranging from 700 to 1,000 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.

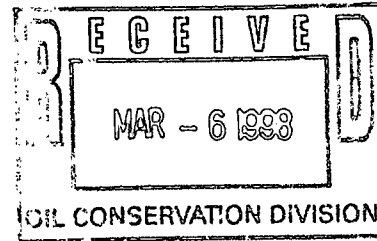
GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 25th day of March, 1998.

STATE OF  
NEW MEXICO  
OIL CONSERVATION  
DIVISION  
LORI WROTENBERY,  
Director

SEAL  
Published in the  
Lovington Daily Leader  
April 5, 1998.

# XL TRANSPORTATION COMPANY

P.O. DRAWER A  
JAL, NEW MEXICO 88252  
505-395-2010 800-748-2265  
FAX 505-395-2914



March 3, 1998

New Mexico Energy, Minerals  
& Natural Resources Department  
Oil Conservation Division  
2040 South Pacheco Street  
Santa Fe, New Mexico 87505

GW-297

Attention: Mr. W. Jack Ford

Re: Discharge Plan Requirement  
XL Transportation Company  
Lea County, New Mexico

Dear Mr. Ford,

XL Transportation Company is providing a discharge plan to you, to the Hobbs OCD office and to the attorneys representing XL Transportation.

My understanding the filing fee is fifty dollars and the "flat fee" for oil and gas service companies is one thousand, three hundred and eighty dollars. A total of one thousand four hundred and thirty dollars.

If you have any questions, please give me a call.

Cordially,

A handwritten signature in cursive script that reads "Christine Brininstool".

Christine Brininstool  
Office Manager

DISCHARGE PLAN  
XL TRANSPORTATION COMPANY  
113 NORTH 3<sup>RD</sup> STREET  
JAL, NEW MEXICO 88252  
March 3, 1998

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 1

Submit C  
Plus 1  
to S:  
1 Copy to appr:  
District

**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: Transportation of liquids for the oilfield in Southeastern New Mexico
2. Operator: William H. Brininstool dba XL Transportation Company  
Address: P. O. Drawer A, 113 North 3rd Street, Jal, NM 88252  
Contact Person: Chris Brininstool Phone: 505-395-2010
3. Location: 

S/W	N/W	20	25S	37E
S/E	N/E	19	25S	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. CERTIFICATION

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

NAME: Christine Brininstool

Title: Office Manager

Signature: Christine Brininstool

Date: March 3, 1998

## TYPE OF OPERATION

XL Transportation Company provides transportation of liquids for the oilfield in Southeastern New Mexico and West Texas.

## LEGALLY RESPONSIBLE PARTY

William H. Brininstool  
P. O. Drawer A, 113 North 3<sup>rd</sup> Street  
Jal, New Mexico 88252  
505-395-2010

## Contact person

Chris Brininstool  
Phone and address, same as above

## LANDOWNER

William H. Brininstool  
P. O. Drawer A  
Jal, New Mexico 88252

## FACILITY DESCRIPTION

Block 65, Lots 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, and 14 located West side of 3<sup>rd</sup> street in the S/E ¼ of the N/E ¼ of Section 19 Township 25S Range 37E of the City of Jal. The facility consists of a main office, 3 bay shop building, truck yard, and employee parking. The first bay in the shop building is used to store bulk containers of lubricants for trucks. These bulk containers are stored on metal racks, which is on a concrete floor that is slopping to a sump that has compartments for separation. All lubricants are stored in this area to provide containment if a spill occurs. Used lubricants are disposed into a 500-gallon fiberglass tank that is on a concrete pad with a concrete berm. A shop heater is located in the third bay. Burning contents from the 500-gallon tank in the shop heater beneficially reuses waste lubricants. In the event of excess waste, it will be disposed in accordance with OCD rules and regulations. Block 1, lots 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10, located East side of 3<sup>rd</sup> street in the S/W ¼ of the N/W ¼ of Section 20 Township 25S Range 37E of the City of Jal. This area consists of two 500-barrel fiberglass KCL storage tanks with berm, above ground diesel storage with plastic lined pit and berm, discontinued sump with paved loading ramp, and truck parking.

## MATERIALS STORED OR USED AT THE FACILITY

2-500 barrel fiberglass KCL tanks *bermed?*  
1-10,000 gallon diesel tank - *AST? - bermed?*  
1-500 gallon waste oil tank  
250 gallon grease tank  
55 gallon drum of antifreeze  
500 gallon motor oil  
250 gallon pump oil  
500 gallon solvent tank  
300 gallon soap tank

*Secondary Containment?*

## SOURCES AND QUANTITIES OF EFFLUENT AND WASTE SOLIDS GENERATED AT THE FACILITY

Used oil and solvents are disposed into the above ground 500-gallon fiberglass tank. This tank is on a concrete floor with concrete berm. The heater in shop burns the waste collected in the 500-gallon tank.

*amcent/da  
/mo or/yr.?*

#/mo.?

Used oil filters <sup>are</sup> drained and placed in a plastic bag for disposal by Waste Management. No trucks are washed at this facility. Approximately 50 gallons of waste is disposed each month. *what kind of waste?*

**INSPECTION, MAINTENANCE AND REPORTING- SPILL/LEAK PREVENTION AND REPORTING PROCEDURES (CONTINGENCY PLANS)**

*what kind?*

Bulk storage containers in the shop are inspected daily. Three mechanics work in the shop 6 days a week, a supervisor is in and out of the shop 7 days a week, and out of 25 truck drivers one or more will be in the shop greasing, repairing, or servicing a truck every day. Drivers will diesel up trucks in the mornings and evenings, and supervisors view diesel storage daily. KCL storage tanks are inspected on a daily basis, as a truck driver will get a load out of tanks or unload into tanks. Significant spills and leaks will be reported immediately to the NMOCD district office in Hobbs.

**SITE CHARACTERISTICS**

A Map showing cross-section, vertical and horizontal limits of all groundwater having less than 10,000/1 TDS with table of explanation is included. Also copies of generalized and specific maps and cross-sections depicting both regional and site-specific geology. Please refer to the following report: Ground Water Report #6, Geology and Ground Water Conditions in Southern Lea County, New Mexico, United States Geological Survey, State Bureau of Mines and Mineral Resources, New Mexico Institute of Mining & Technology. Maps of facility location by county and city are provided.

Precipitation and/or run off are into the curbed and paved streets of Jal.

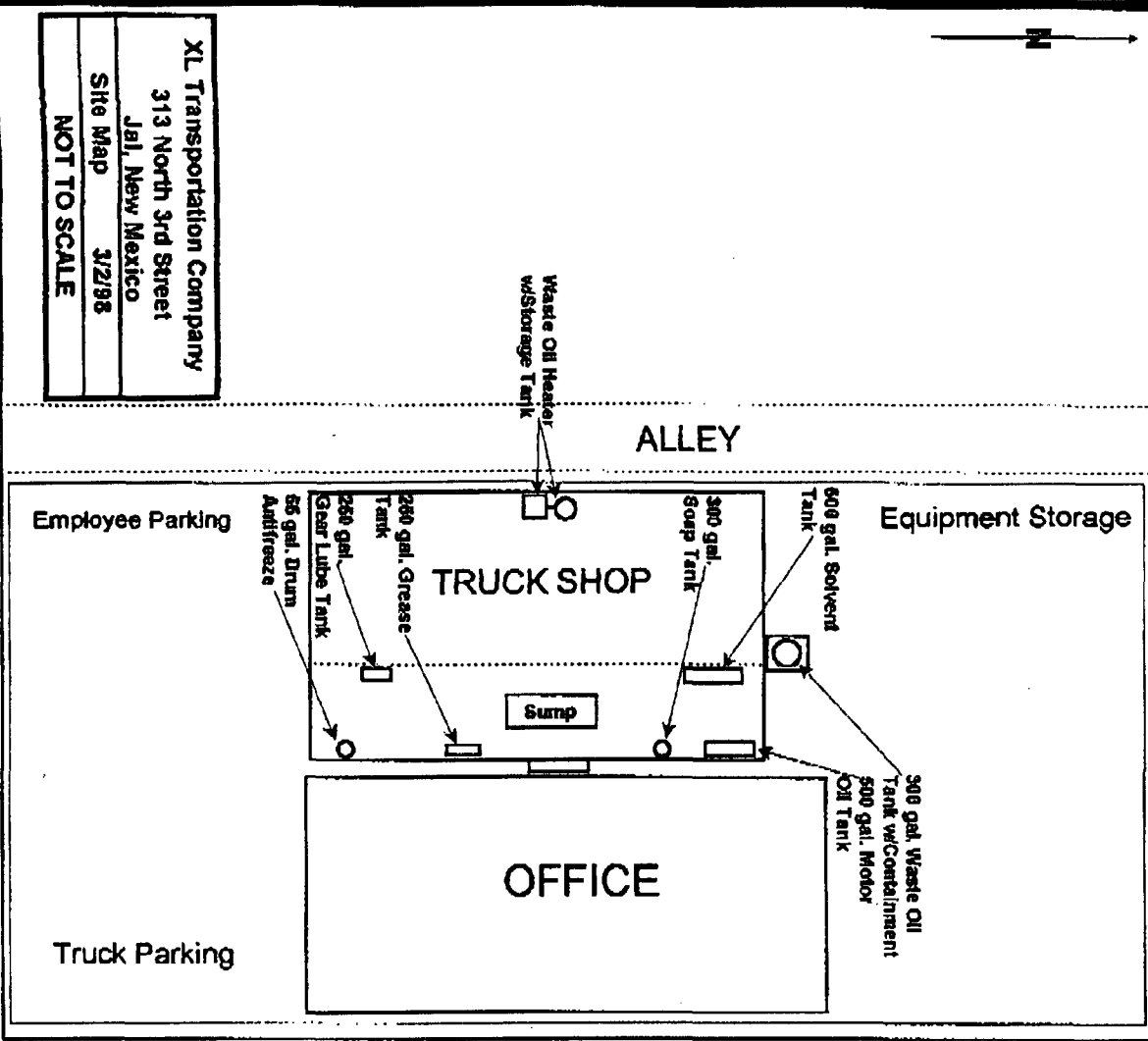
**FACILITY CLOSURE PLAN**

All reasonable and necessary measures will be taken to comply with the WQCC and NMOCD rules and regulations should XL Transportation Company choose to permanently close the facility. XL Transportation Company will submit a detailed closure plan to the NMOCD prior to closure.

General, closure measures will include removal of all above ground tanks and equipment. All wastes will be removed from the site and properly disposed in accordance with the rules and regulations in place at the time of closure.

Should contaminated soil be discovered, any necessary reporting under NMOCD or WQCC will be made and clean-up activities will commence. Post-closure maintenance and monitoring plans would not be necessary unless contamination is encountered.

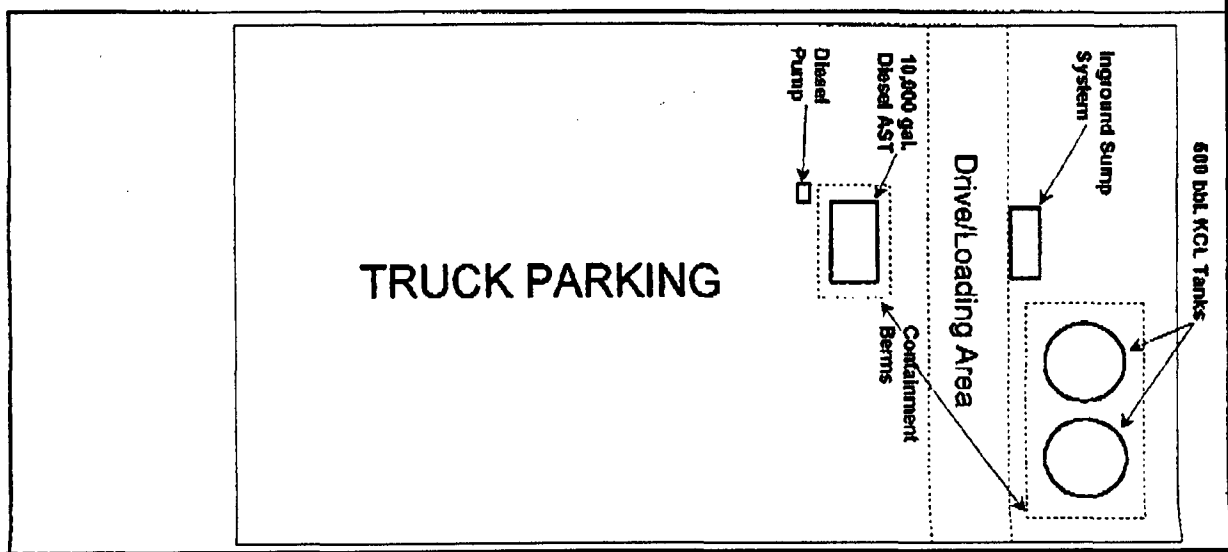
WEST MONTANA

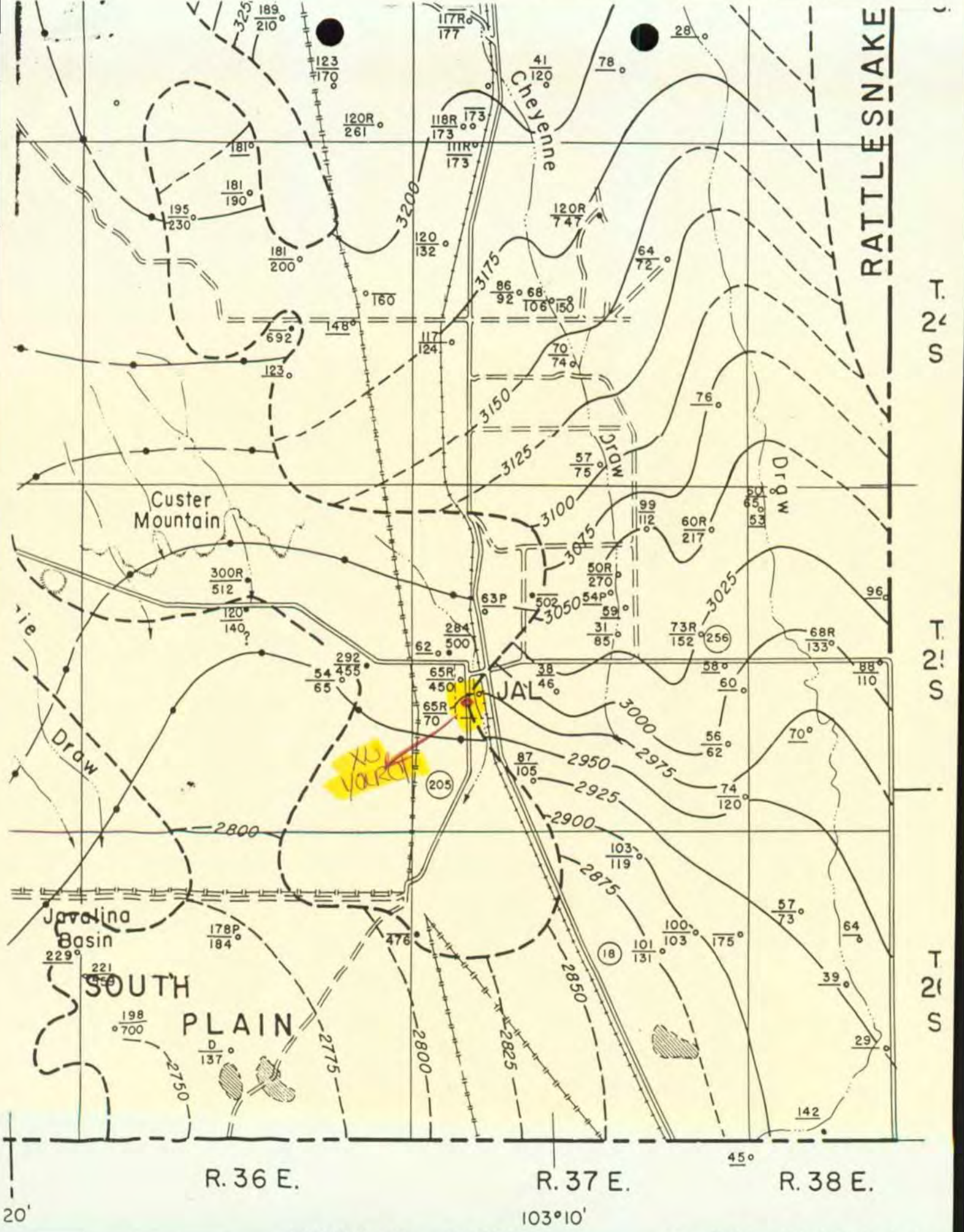


XL Transportation Company  
313 North 3rd Street  
Jal, New Mexico  
Site Map 3/2/98  
NOT TO SCALE

EAST WYOMING

3RD STREET





RATTLESNAKE

T. 24 S

T. 25 S

T. 26 S

Cheyenne

Custer Mountain

Draw

Draw

Javalina Basin

SOUTH PLAIN

JAL

XLS VARIET

R. 36 E.

R. 37 E.

R. 38 E.

20'

103°10'

WINKLER COUNTY

Compiled by Alfred Glabach, Jr.

# EXPLANATION

150  
252

Water well

Upper figure is depth to water; lower figure is depth of well. Open circles are wells finished in Tertiary or Quaternary rocks; solid circles are wells finished in Triassic rocks

F = Flowing

R = Reported

P = Water level measured while pumping

D = Dry

? = Uncertainty as to aquifer

> = More than

< = Less than

(See tables 6 and 7 for detailed well data.)

3925

Water-table contour in Tertiary or Quaternary rocks

Dashed where inferred or uncertain. Contour interval 25 feet. Datum mean sea level

3500

Water-table or piezometric contour on water body in Triassic aquifers

Dashed where inferred or uncertain. Contour interval 100 feet. Datum mean sea level

Approximate position of boundary between Triassic rocks and saturated Tertiary and Quaternary rocks

20'

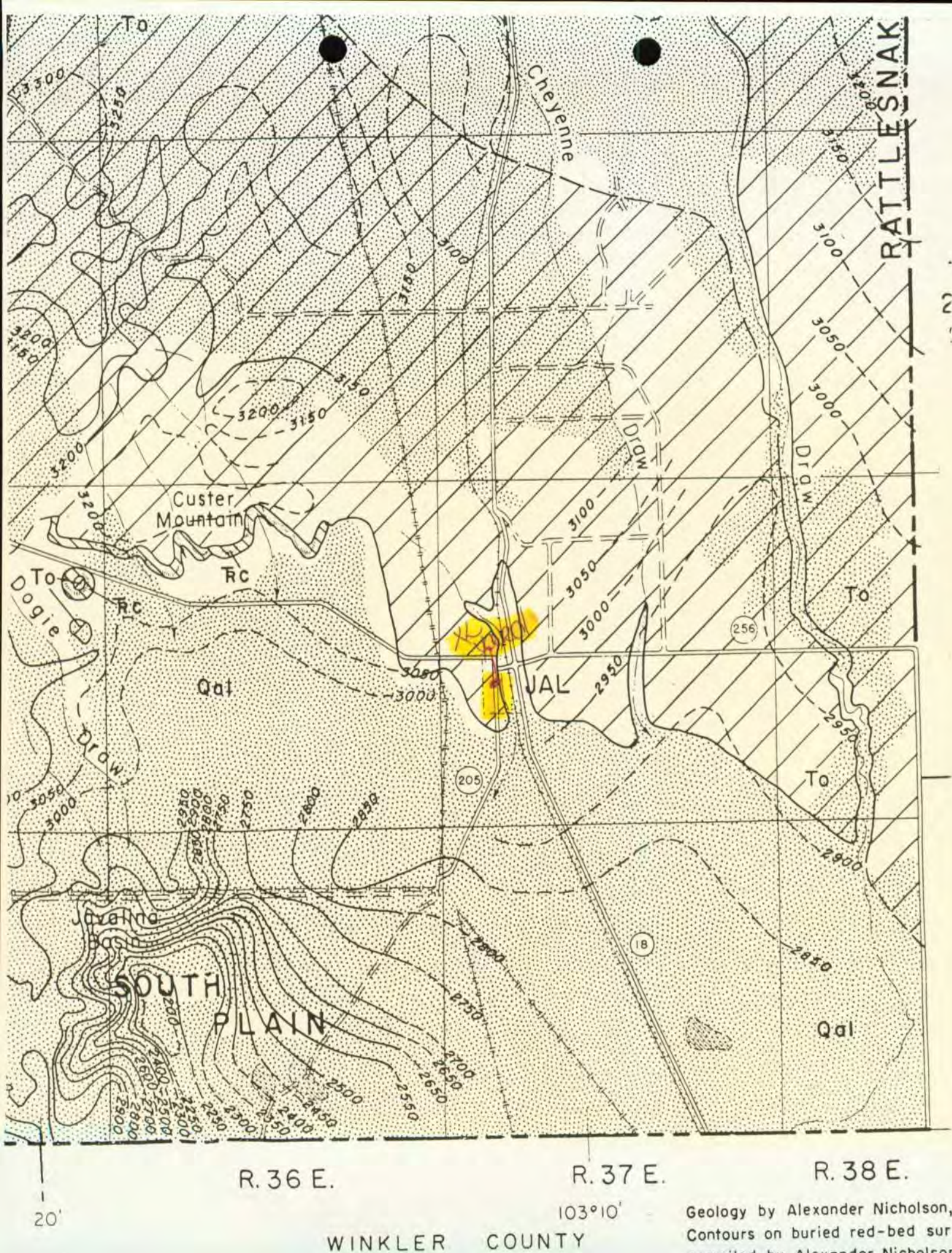
R. 36 E.

R. 37 E.

103°10'

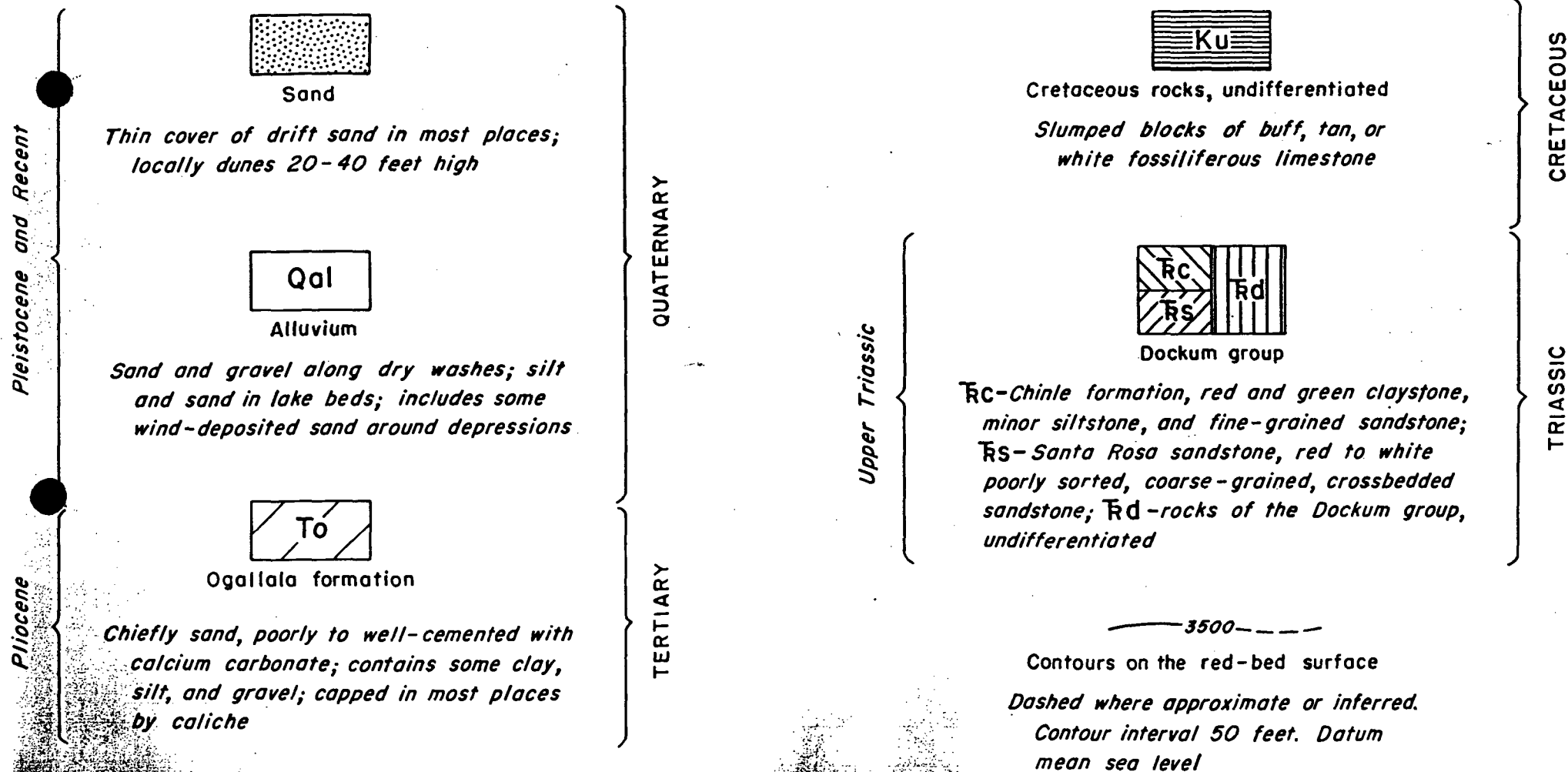
R. 38 E.

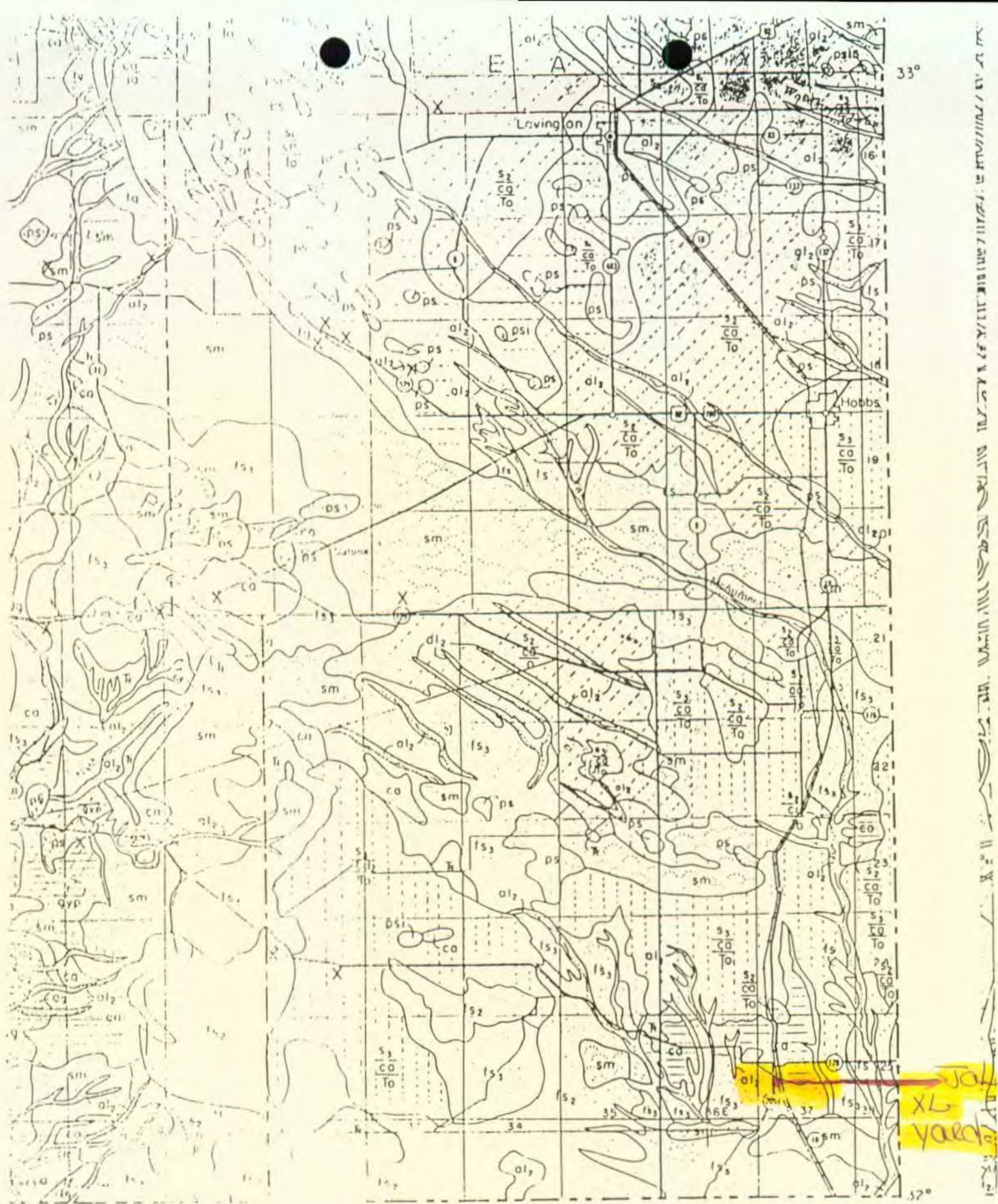
R. 39 E.



Geology by Alexander Nicholson,  
Contours on buried red-bed sur-  
compiled by Alexander Nicholson

# EXPLANATION





Geology by Charles B. Hunt, 1974 - 1976 Cartography by Nedra M. Pearson, 1976

Not shown in map, borders of single layer of closely spaced stones angular or rounded, over a wide layer of boulders etc. Stones collect at the surface by a sorting action, apparently due to frost and/or salt heaving, or swelling and shrinking of the clay. This border pavement may be partly eaten in by the water, but is not a true border pavement. It is at least 12 inches thick, and is from about 4 to 12 inches wide, depending upon the width of the border, due to advanced weathering and soil erosion the same sort of border pavement also forms above walls or walls in places where the water is running, leaving behind the coarsest boulders. While border pavement is in high runoff it protects the ground below.

Best shown in map 1, it normally has a vein at base, recording an early stage of subglacial water flow that eroded the ice. The gravel is overlain by clay or silt, deposited at the flow of water diminished, and this in turn is overlain by tillstones. Tillstones are overlain by silt. Local remnants of Pleistocene animals have been in deposits below the tillstones, remnants of Holocene animals that cover the overlying deposits. Other ice deposits occur in basaltic lavas, especially in the area southwest of the Zion Mountains. These deposits include boulders fallen from the roofs, dust, and some ice.

Not shown on map. Accumulation of fibrous peat in seepage marshes bordering many flow & open lakes. Both fibrous and woody peat accumulated in small, poorly-drained depressions and may, too, in flows. Mostly less than 15 ft

Not above us now, A black stain of iron and manganese oxides on bare rock surfaces and on pebbles of desert pavement. Predates prehistoric pottery. Is among occupations of the region. Predominantly middle Holocene, partly late Pleistocene. Many of these stained surfaces have petroglyphs carved by prehistoric peoples.

Deposits transitional between those formed in situ and those transported, deposits moved downslope chiefly by gravity, particularly slow creep (colluvium). Also includes rock falls, landslides and avalanches, are shown as periglacial features.

Colluvium includes the heterogeneous mantle of soil and rock fragments derived from channels, bedrock, and/or unconsolidated surficial deposits moved slowly downslope by gravitational force and sheet wash. Slopes generally steeper than 20 percent. Mass wasting, the process causing debris to move downslope, is aided by added weight and lubrication of water-saturated debris, frost heaving, alternate wetting and drying of clays, crystallization of salts, growth of roots, burrowing and trampling by animals, falling of trees, and impact of hail or rain. These, like other erosional processes, may be accelerated by man's activities.

Colluvium is basically a chaotic mixture of angular rock fragments and loose granular material. In flow-like colluvium is generally less than 10 ft thick. Locally, it is in the form of debris fans or debris aprons that extend to bases of hillsides. In the northeast and southwest parts of the state where steep shale slopes underlie resistant caprock of sandstone or lava, tuff, and locally, three ages of colluvium may be distinguished. These are thought to be mid-Holocene, late Wisconsinan, and early Wisconsinan, respectively. Such occurrences provide an index of retreat of cliffs. Some shale slopes are armored and protected against erosion by blocks of the caprock.

On long steep slopes such as flanks of the Zuni Mountains and east flank of the Sacramento Mountains, the colluvium is generally thin (commonly 1 to 2 ft thick) and rests on the base of the hillsides, and is composed of the resistant rock forming the dip slope. Some of this colluvium could as well be mapped as stony talus, or even limestone. Hillsides on granitic and volcanic rocks may also be overlain by thin but bouldery sandy colluvium. Colluvium on steep, faulted mountain fronts consists of a mixture of stones representing all the exposed formations underlying.

(c) COLLENUM. Subscript indicate the underlying hillside formation: e.g., colliv. collivum on Tertiary volcanic rocks.

Most vertical deposits are rocks and particles weathered from bedrock in one area, transported by water, wind, ice, or gravity to an area of deposition, and are susceptible to further erosion and transportation. These deposits are much younger than and unrelated to the underlying bedrock. They are classified according to their mode of transportation to the site of deposition.

[illegible]

10 ft high, shallow curved swales in sand dunes, and local stabilized dunes. Vastly sand, silt, and some layers of gravel. Caliche crusts are weakly developed in the swales, dunes, coatings on rocks, and with nodules. Deposits commonly 25 ft thick. Ground water shows subject to pollution. Extensively farmed; subject to flooding.

[al<sub>2</sub>] FLOODPLAIN AND CHANNEL BED POSITS ARE GENERALLY TOP-ARMYKOS AND WASHES. Includes deposits along some perennial & ephemeral streams. Extent & composition to emphasize drainage patterns. Surface shows al<sub>2</sub> gradients 5 to 15 percent. Average 10 ft deep commonly. Surface flat where deposit was formed by stream overflowing its bank, hummocky where formed by wind & flow at mouth of drainage that crossed flood plain. Many small pits 1 to 3 ft from 1/4 to 1/2 ft deep where alluvium grades laterally into fan sand washed from channel bedrock. Epifaunal perforated wash tubes under some deposits. Width of deposit & position has been exaggerated but total area probably about right because total area is not to be quantified.

56 COARSE CLAY, SILT, AND SANDY ALLUVIAL FANS  
Interrelationships between (a) and (b) of low deposits (c) and (d)

SAVED ALUMINUM *Borders Peoria River south of Fort*

Altogether over 1000 feet. Directed to bowl capped  
upside down, in some cases in old valleys; thickness  
of 100 feet or more.

19. GRAVEL TERRACE. Well-rounded stream gravels with cobbles 6 inches or more in diameter; some terraces 250 ft higher than the streams. Especially well developed along the San Juan River, less so along the Pecos, Gila, and Canadian Rivers; most represent deposits by Pleistocene melt waters from mountains. Abundant caliche deposits, especially on the higher terraces, which may be Kansan; lowest are Wisconsinan.

In alluvial fans, unlike floodplain alluvium, beds tend to be thick, massive, and highly lenticular rather than well stratified. This is characteristic of all the facies, whether boulder, gravel, sand, or silt. Beds lenticular and elongated down the slope of the fans; slopes 2 to 20 percent. Deposition mostly by flash floods, with poor sorting and mixed textures. Coarse-textured lenses commonly form ridges extending down the fan onto generally finer grained sediment. Boundaries between the textural facies of the deposits roughly parallel the fan contour, but detailed boundaries are irregularly lobate; these shown are approximations. Fan textures and slopes depend partly on composition of the parent rocks and partly on height and steepness of the bordering hill or mountain. Fans extensive in the Basin and Range part of the state where they comprise about half the total area; in other parts of the state, fans are small. On the larger fans, arroyos become shallower towards the toe; many head at low grounds that probably mark old mudflows. Ground subject to sheet flooding.

**GRAVEL FACIES.** Bouldery towards apex of fan, grading downslope to cobble and fine gravel with increasing proportion of sand and finer grained material. Commonly dissected to form 2 to 3 levels of gravel boulders to 50 ft. apart. Gravel washes (e.g., Mulligan Wash, Alamosa River, Cuchillo Negro Creek, and Rincon Arroyo) are incised 100 ft below fan surfaces. On short, steep fans, depths of valleys generally decrease downslope. On the broad Palomas surface, west of the Rio Grande above Hatch, valleys maintain their depth. Except near the apex, extensive surfaces have smooth desert pavement. On short, steep fans, gravel shows minimal weathering and are weakly cemented with caliche; are probably Wisconsinan and Holocene. On broad, more gently sloping fans, gravels are more weathered and commonly cemented by caliche; are probably pre-Wisconsinan. In south half of the state, gravel facies is characterized by creosote bush cover. Thin alluvial gravel covering pediments is denoted by lg over subscript that identifies parent formation

**fs** SAND FACIES -- Sandy alluvium with subordinate amounts of fine gravel, silt, and clay. Forms at least four kinds of ground: 1) On short, steep fans sloping from the mountains of granitic or gneissic rock (e.g., parts of the Florida Mountains), the facies is a 10 to 20 inch sandy layer a few feet thick composed of covering gravel below silt and clay. 2) On 10 to 15 degree steeply exposed underlying gravel, 2) On other short, fan sand facies may form arcuate belt at toe of fan with slopes averaging 10 percent, commonly reworked into cobbles dunes 3 to 7 ft high (sm). 3) Other belts of smooth sandy ground commonly slope 5 percent or less and consist of sand mounds approximately 1 ft high over caliche (fs<sub>1</sub>). 4) Gypsiferous sand (fs<sub>2</sub>), especially in the Jornada del Muerto, Tularosa Valley and east side of the Pecos Valley. Sand facies absent on the broad Las Palomas surface. Thin fan sand covering pediments is denoted by fs over subscript that identifies underlying formation. Boundary with residual sand, fan gravel, and fan silt is approximate.

**SILT FACIES** - In Basin and Range parts of the state, toes of fans may be silty and coarse, rather than sandy, surface smooth, with slight ripple. Boundary. Slope incline fan rates and into slough result in sluggish runoff. Forms a belt below the sand facies and grades downward to playa silt (psl) with slopes less than 2 percent. Abundant swelling clays and exchangeable sodium. Surface layers predominantly Holocene; subject to sheet flooding, gradational with al. East and west of Sangre de Cristo Mountains, also forms fans of sandy or silty loam with little gravel in upper 3 to 4 ft, but abundant gravel below the loam. Caliche soil. Includes loess on isolated hillslopes. Boundary with residual loam (rl), playa silt (psl), and fan sand (fs) approximate.

Eolian deposits are laid down by wind, mostly as sheets of sand or silt (loess). Rarely, after prolonged drought on shale desert in the San Juan Basin, shale flakes may accumulate in rippled sheets or even small dunes, but with the next rain, these become mud. Sand dune shapes depend on topography, relative strength of the winds, supply of sand, and vegetation. Some dunes are concave towards the windward (parabolic), others are concave towards the leeward (barchans), and others are longitudinal or transverse. Some dune clusters (e.g., Great White Sands) have all four kinds. Dunes may climb a windward slope or fall on a leeward slope. Most of New Mexico's eolian sand sheets have a basal layer of weathered, partly cemented, reddish stabilized sand; some sand surfaces on such layers are smooth. In the Basin and Range and Great Plains parts of the state, these surfaces are generally underlain by caliche; in the San Juan Basin, sand sheets commonly overlie residuum, fan deposits, or bedrock. Where sand is thick, as on sand facies of fans in the Basin and Range and at climbing dunes east of the Pecos River (Mesalero Sands) the sand is in mounds (scopier dunes) with profuse growth of vegetation -- mesquite, and saltbrush in the Basin and Range; and sage, shinnery oak, small spined yucca, and occasional mesquite on the Mesalero Sands. Sand sheets are predominantly late Pleistocene; mounds and dunes are largely Holocene.

**1/b** SAND UNDERLAIN BY BASALT. Exposure on basaltic plains south and east of Zuni Mountains and on West Potrillo Mountains. At Kilbourne Hole and Hunt's Hole, the sand is of volcanic origin.

**s/cr/QTs** SAND UNDERLAIN BY CALICHE ON SANTA FE GROUP  
Mostly on La Mesa and south part of the Jornada del Muerto

**s<sub>1</sub>/ca/To** THEN SAND ON CALCITE ON OGALLALA FORMATION  
Thickness about 1 ft. Chips of calcite comprise 30 percent of the sand. Generally too shallow for farming, but good shallow source for aggregates.

**1/1a/To** MODERATELY THICK SAND ON CALICHE ON OGALLALA FORMATION -- Sand 1 to 3 ft thick. Surface layer noncalcareous over reddish loam. Local sand mounds. Ground favorable for farming. Boundaries approximate

**t<sub>3</sub>/ca/To** THICK SAND ON CALICHE ON OGALLALA FORMATION -- Sand 3 to 5 ft thick. Local mounds. Brownish-red, fine sandy loam over reddish-brown, sandy clay loam; noncalcareous to depths of 3 ft; calcareous subsoil contains filaments of lime carbonate. Where farmed, ground is subject to wind erosion. Boundaries approximate.

**sm** LOOSE SAND IN MOUNDS. — Coppice dunes, commonly 3 to 7 ft high and 25 to 50 ft in diameter; generally elongated north of east but a local exception lies east of Columbus where elongation is south of east. Age is Holocene. Boundaries fairly accurate.

**SAND SHEETS** --- Surfaces smooth except for ripples 2 to 3 inches high and scattered sand mounds 3 to 12 inches high, especially around small shrubs. Thickness of loose sand generally no more than about 12 to 24 inches, but commonly overlies stabilized sand. Underlying material where known identified by subscript

**ds** LONGITUDINAL DUNES -- Sand commonly 6 ft thick, locally 10 ft. Forms distinct ridges generally oriented north of east. Locations diagrammatic and width exaggerated.

OTHER DUNES - - ds<sub>1</sub>, quartzose sand, ds<sub>2</sub>, gyttiferous sand  
LOAM ON OLD BASALTIC LAVA - - Prob. the pre-Wisconsinan

16	COARSE SANDY SILT
17	COARSE SANDY SILT
18	COARSE SANDY SILT
19	COARSE SANDY SILT
20	COARSE SANDY SILT
21	COARSE SANDY SILT
22	COARSE SANDY SILT
23	COARSE SANDY SILT
24	COARSE SANDY SILT
25	COARSE SANDY SILT
26	COARSE SANDY SILT
27	COARSE SANDY SILT
28	COARSE SANDY SILT
29	COARSE SANDY SILT
30	COARSE SANDY SILT
31	COARSE SANDY SILT
32	COARSE SANDY SILT
33	COARSE SANDY SILT
34	COARSE SANDY SILT
35	COARSE SANDY SILT
36	COARSE SANDY SILT
37	COARSE SANDY SILT
38	COARSE SANDY SILT
39	COARSE SANDY SILT
40	COARSE SANDY SILT
41	COARSE SANDY SILT
42	COARSE SANDY SILT
43	COARSE SANDY SILT
44	COARSE SANDY SILT
45	COARSE SANDY SILT
46	COARSE SANDY SILT
47	COARSE SANDY SILT
48	COARSE SANDY SILT
49	COARSE SANDY SILT
50	COARSE SANDY SILT
51	COARSE SANDY SILT
52	COARSE SANDY SILT
53	COARSE SANDY SILT
54	COARSE SANDY SILT
55	COARSE SANDY SILT
56	COARSE SANDY SILT
57	COARSE SANDY SILT
58	COARSE SANDY SILT
59	COARSE SANDY SILT
60	COARSE SANDY SILT
61	COARSE SANDY SILT
62	COARSE SANDY SILT
63	COARSE SANDY SILT
64	COARSE SANDY SILT
65	COARSE SANDY SILT
66	COARSE SANDY SILT
67	COARSE SANDY SILT
68	COARSE SANDY SILT
69	COARSE SANDY SILT
70	COARSE SANDY SILT
71	COARSE SANDY SILT
72	COARSE SANDY SILT
73	COARSE SANDY SILT
74	COARSE SANDY SILT
75	COARSE SANDY SILT
76	COARSE SANDY SILT
77	COARSE SANDY SILT
78	COARSE SANDY SILT
79	COARSE SANDY SILT
80	COARSE SANDY SILT
81	COARSE SANDY SILT
82	COARSE SANDY SILT
83	COARSE SANDY SILT
84	COARSE SANDY SILT
85	COARSE SANDY SILT
86	COARSE SANDY SILT
87	COARSE SANDY SILT
88	COARSE SANDY SILT
89	COARSE SANDY SILT
90	COARSE SANDY SILT
91	COARSE SANDY SILT
92	COARSE SANDY SILT
93	COARSE SANDY SILT
94	COARSE SANDY SILT
95	COARSE SANDY SILT
96	COARSE SANDY SILT
97	COARSE SANDY SILT
98	COARSE SANDY SILT
99	COARSE SANDY SILT
100	COARSE SANDY SILT

## by Charles B. Hunt 1977

## LAKE AND PLAYA DEPOSITS

New Mexico has two kinds of lake deposits in addition to those forming today in artificial reservoirs. The most extensive deposits were laid down in Pleistocene lakes that flooded closed basins now marked by playas. Many of these deposits in the Basin and Range are of the type known as the "Tertiary" or "Pleistocene" of the Great Plains, or the "Tertiary" of the Basin and Range. Some of these valleys are filled with alluvium and sand and muds on the level; others are due to solution and are of the type known as "playas". Still others may be attributed to warping. The "playas" are of the type known as "playas" or "playa lakes". The "playas" are of the type known as "playas" or "playa lakes". The "playas" are of the type known as "playas" or "playa lakes".

- PSI** - SALT LAKE OR PLAYA DEPOSITS - Ground mostly bare, gypsiferous deposits labeled psi.
- PS** - SANDY LAKE OR PLAYA DEPOSITS - Gypsiferous deposits labeled ps.
- PS, ps** - BEACH DEPOSITS - Sand or gravel, sandy stretches mostly restricted into low dunes, to completely shown.
- PS** - EVAPORITES - Saline or alkaline deposits precipitated from brines or playas having high evaporation rates, notably Estancia Valley, Amador Valley, and Zuni Salt Lake. Salts are gypsiferous with playas (ps) and occur in orderly concentric zones reflecting relative solubility of the salts. Thickness range from 1 to several inches, but salts mixed with sand may be from 1 to 2 feet deep. Efflorescent crusts subject to wind erosion contribute to salinity of ground to leeward.

## GLACIAL AND PERIGLACIAL DEPOSITS

During the Pleistocene New Mexico had mountain (alpine) glaciers high on the Sangre de Cristo Range, Tular Mountains, and Sierra Blanca Peak. The source of such glaciers was in nearly circular, steep-sided basins (cirques) at valley heads. High valleys eroded by the glacial tongues tend to be U-shaped; at lower elevations where eroded by streams, these valleys are V-shaped. Gravels deposited along each side of valley ice represent debris that rolled down the mountainside into the ice to form lateral moraines. Hummocky ridges of sand and gravel deposited across the lower ends of the glaciers form terminal moraines. Within the cirques generally stand two ramparts of boulders. An inner rampart, forming today, is located at the lower edge of the snowbank that accumulates annually in the cirque; it represents rock broken by frost from the headwall of the cirque, rolled down the snowbank, and collected at the edge. These inner ridges are treeless. Farther out in the cirque - perhaps at the mouth - is a second ridge, forested, with firm, unweathered rock darkly stained with iron and manganese oxide. These outer ridge ridges formed during the mid-Pleistocene "little ice age".

- mb** - Boulders and glacial moraine features of Pleistocene mountain glaciers - Extent exaggerated.
- pg** - PERIGLACIAL DEPOSITS ON MOUNTAIN TOPS - Primarily composed by boulder fields and patterned ground where frost action was intensive during the glacial times. Extent and boundaries approximate; graded laterally to the medium and colluvium.
- av** - AVALANCHE DEPOSITS - Bouldery, some are lag concentrates of boulders where fine grained sediments have been removed by erosion. Deposits narrow and long down slope, commonly 10 to 50 ft thick. Apparently deposited in mudflows during late Pleistocene time when there were numerous perennial mountain snowfields. Frost action at the time was vigorous; sudden thaw could trigger floods or mudflows on the mountainsides. Slow movement downslope may be reactivated in artificial cuts through these deposits if water enters the plane of slippage.
- lds** - LANDSLIDE DEPOSITS - Abundant on slopes of Cretaceous shale. Whereas avalanche deposits are elongate downslope, landslide deposits are short downslope but wide along the contour. Characteristically, they retain a cap of the lava or sandstone sloping into the hillside atop a steep colluvial covered shale slope. Stabilized landslides may be reactivated if water is allowed to enter the plane of slippage.

## MISCELLANEOUS TYPES OF GROUND

- Basalt** - Includes lava flows, lava cones, cones of scoria, necks, and fields of scoria. Predominantly Quaternary and late Tertiary; some young enough to have sustained minimal weathering and retained their original structures and shapes are commonly referred to as malpais (Spanish, bad ground). Includes some Tertiary basalt that conspicuously contrast the topography. Locally covered by thin alluvial, colluvial deposits, alluvial stream deposits. These older surfaces are more deeply eroded, tilted, and faulted. Individual flows generally less than 50 ft thick; locally, several flows may aggregate a few hundred feet thick. Commonly interbedded with volcanic ash (tuff). Excludes lava mantled by less or other sediments, such areas indicated by subscript (e.g., T4 - lava over basalt; T4b - tan sand over basalt). Boundaries shown are adequate.
- Other bedrock** - Colluvium or other cover amounts to less than half the area. Only extensive areas are shown; age and rock type (e.g., T4 - Tertiary volcanic rocks) may be indicated by subscript (e.g., T4b - Tertiary volcanic rocks). Principal formations and subscripts used are:
- Gf** - Gila Group
- Gf1** - Gila Group, Tuff
- Gf2** - Gila Group, Sandstone
- Gf3** - Gila Group, Conglomerate
- Gf4** - Gila Group, Sandstone
- Gf5** - Gila Group, Sandstone
- Gf6** - Gila Group, Sandstone
- Gf7** - Gila Group, Sandstone
- Gf8** - Gila Group, Sandstone
- Gf9** - Gila Group, Sandstone
- Gf10** - Gila Group, Sandstone
- Gf11** - Gila Group, Sandstone
- Gf12** - Gila Group, Sandstone
- Gf13** - Gila Group, Sandstone
- Gf14** - Gila Group, Sandstone
- Gf15** - Gila Group, Sandstone
- Gf16** - Gila Group, Sandstone
- Gf17** - Gila Group, Sandstone
- Gf18** - Gila Group, Sandstone
- Gf19** - Gila Group, Sandstone
- Gf20** - Gila Group, Sandstone
- Gf21** - Gila Group, Sandstone
- Gf22** - Gila Group, Sandstone
- Gf23** - Gila Group, Sandstone
- Gf24** - Gila Group, Sandstone
- Gf25** - Gila Group, Sandstone
- Gf26** - Gila Group, Sandstone
- Gf27** - Gila Group, Sandstone
- Gf28** - Gila Group, Sandstone
- Gf29** - Gila Group, Sandstone
- Gf30** - Gila Group, Sandstone
- Gf31** - Gila Group, Sandstone
- Gf32** - Gila Group, Sandstone
- Gf33** - Gila Group, Sandstone
- Gf34** - Gila Group, Sandstone
- Gf35** - Gila Group, Sandstone
- Gf36** - Gila Group, Sandstone
- Gf37** - Gila Group, Sandstone
- Gf38** - Gila Group, Sandstone
- Gf39** - Gila Group, Sandstone
- Gf40** - Gila Group, Sandstone
- Gf41** - Gila Group, Sandstone
- Gf42** - Gila Group, Sandstone
- Gf43** - Gila Group, Sandstone
- Gf44** - Gila Group, Sandstone
- Gf45** - Gila Group, Sandstone
- Gf46** - Gila Group, Sandstone
- Gf47** - Gila Group, Sandstone
- Gf48** - Gila Group, Sandstone
- Gf49** - Gila Group, Sandstone
- Gf50** - Gila Group, Sandstone
- Gf51** - Gila Group, Sandstone
- Gf52** - Gila Group, Sandstone
- Gf53** - Gila Group, Sandstone
- Gf54** - Gila Group, Sandstone
- Gf55** - Gila Group, Sandstone
- Gf56** - Gila Group, Sandstone
- Gf57** - Gila Group, Sandstone
- Gf58** - Gila Group, Sandstone
- Gf59** - Gila Group, Sandstone
- Gf60** - Gila Group, Sandstone
- Gf61** - Gila Group, Sandstone
- Gf62** - Gila Group, Sandstone
- Gf63** - Gila Group, Sandstone
- Gf64** - Gila Group, Sandstone
- Gf65** - Gila Group, Sandstone
- Gf66** - Gila Group, Sandstone
- Gf67** - Gila Group, Sandstone
- Gf68** - Gila Group, Sandstone
- Gf69** - Gila Group, Sandstone
- Gf70** - Gila Group, Sandstone
- Gf71** - Gila Group, Sandstone
- Gf72** - Gila Group, Sandstone
- Gf73** - Gila Group, Sandstone
- Gf74** - Gila Group, Sandstone
- Gf75** - Gila Group, Sandstone
- Gf76** - Gila Group, Sandstone
- Gf77** - Gila Group, Sandstone
- Gf78** - Gila Group, Sandstone
- Gf79** - Gila Group, Sandstone
- Gf80** - Gila Group, Sandstone
- Gf81** - Gila Group, Sandstone
- Gf82** - Gila Group, Sandstone
- Gf83** - Gila Group, Sandstone
- Gf84** - Gila Group, Sandstone
- Gf85** - Gila Group, Sandstone
- Gf86** - Gila Group, Sandstone
- Gf87** - Gila Group, Sandstone
- Gf88** - Gila Group, Sandstone
- Gf89** - Gila Group, Sandstone
- Gf90** - Gila Group, Sandstone
- Gf91** - Gila Group, Sandstone
- Gf92** - Gila Group, Sandstone
- Gf93** - Gila Group, Sandstone
- Gf94** - Gila Group, Sandstone
- Gf95** - Gila Group, Sandstone
- Gf96** - Gila Group, Sandstone
- Gf97** - Gila Group, Sandstone
- Gf98** - Gila Group, Sandstone
- Gf99** - Gila Group, Sandstone
- Gf100** - Gila Group, Sandstone
- Gf101** - Gila Group, Sandstone
- Gf102** - Gila Group, Sandstone
- Gf103** - Gila Group, Sandstone
- Gf104** - Gila Group, Sandstone
- Gf105** - Gila Group, Sandstone
- Gf106** - Gila Group, Sandstone
- Gf107** - Gila Group, Sandstone
- Gf108** - Gila Group, Sandstone
- Gf109** - Gila Group, Sandstone
- Gf110** - Gila Group, Sandstone
- Gf111** - Gila Group, Sandstone
- Gf112** - Gila Group, Sandstone
- Gf113** - Gila Group, Sandstone
- Gf114** - Gila Group, Sandstone
- Gf115** - Gila Group, Sandstone
- Gf116** - Gila Group, Sandstone
- Gf117** - Gila Group, Sandstone
- Gf118** - Gila Group, Sandstone
- Gf119** - Gila Group, Sandstone
- Gf120** - Gila Group, Sandstone
- Gf121** - Gila Group, Sandstone
- Gf122** - Gila Group, Sandstone
- Gf123** - Gila Group, Sandstone
- Gf124** - Gila Group, Sandstone
- Gf125** - Gila Group, Sandstone
- Gf126** - Gila Group, Sandstone
- Gf127** - Gila Group, Sandstone
- Gf128** - Gila Group, Sandstone
- Gf129** - Gila Group, Sandstone
- Gf130** - Gila Group, Sandstone
- Gf131** - Gila Group, Sandstone
- Gf132** - Gila Group, Sandstone
- Gf133** - Gila Group, Sandstone
- Gf134** - Gila Group, Sandstone
- Gf135** - Gila Group, Sandstone
- Gf136** - Gila Group, Sandstone
- Gf137** - Gila Group, Sandstone
- Gf138** - Gila Group, Sandstone
- Gf139** - Gila Group, Sandstone
- Gf140** - Gila Group, Sandstone
- Gf141** - Gila Group, Sandstone
- Gf142** - Gila Group, Sandstone
- Gf143** - Gila Group, Sandstone
- Gf144** - Gila Group, Sandstone
- Gf145** - Gila Group, Sandstone
- Gf146** - Gila Group, Sandstone
- Gf147** - Gila Group, Sandstone
- Gf148** - Gila Group, Sandstone
- Gf149** - Gila Group, Sandstone
- Gf150** - Gila Group, Sandstone
- Gf151** - Gila Group, Sandstone
- Gf152** - Gila Group, Sandstone
- Gf153** - Gila Group, Sandstone
- Gf154** - Gila Group, Sandstone
- Gf155** - Gila Group, Sandstone
- Gf156** - Gila Group, Sandstone
- Gf157** - Gila Group, Sandstone
- Gf158** - Gila Group, Sandstone
- Gf159** - Gila Group, Sandstone
- Gf160** - Gila Group, Sandstone
- Gf161** - Gila Group, Sandstone
- Gf162** - Gila Group, Sandstone
- Gf163** - Gila Group, Sandstone
- Gf164** - Gila Group, Sandstone
- Gf165** - Gila Group, Sandstone
- Gf166** - Gila Group, Sandstone
- Gf167** - Gila Group, Sandstone
- Gf168** - Gila Group, Sandstone
- Gf169** - Gila Group, Sandstone
- Gf170** - Gila Group, Sandstone
- Gf171** - Gila Group, Sandstone
- Gf172** - Gila Group, Sandstone
- Gf173** - Gila Group, Sandstone
- Gf174** - Gila Group, Sandstone
- Gf175** - Gila Group, Sandstone
- Gf176** - Gila Group, Sandstone
- Gf177** - Gila Group, Sandstone
- Gf178** - Gila Group, Sandstone
- Gf179** - Gila Group, Sandstone
- Gf180** - Gila Group, Sandstone
- Gf181** - Gila Group, Sandstone
- Gf182** - Gila Group, Sandstone
- Gf183** - Gila Group, Sandstone
- Gf184** - Gila Group, Sandstone
- Gf185** - Gila Group, Sandstone
- Gf186** - Gila Group, Sandstone
- Gf187** - Gila Group, Sandstone
- Gf188** - Gila Group, Sandstone
- Gf189** - Gila Group, Sandstone
- Gf190** - Gila Group, Sandstone
- Gf191** - Gila Group, Sandstone
- Gf192** - Gila Group, Sandstone
- Gf193** - Gila Group, Sandstone
- Gf194** - Gila Group, Sandstone
- Gf195** - Gila Group, Sandstone
- Gf196** - Gila Group, Sandstone
- Gf197** - Gila Group, Sandstone
- Gf198** - Gila Group, Sandstone
- Gf199** - Gila Group, Sandstone
- Gf200** - Gila Group, Sandstone
- Gf201** - Gila Group, Sandstone
- Gf202** - Gila Group, Sandstone
- Gf203** - Gila Group, Sandstone
- Gf204** - Gila Group, Sandstone
- Gf205** - Gila Group, Sandstone
- Gf206** - Gila Group, Sandstone
- Gf207** - Gila Group, Sandstone
- Gf208** - Gila Group, Sandstone
- Gf209** - Gila Group, Sandstone
- Gf210** - Gila Group, Sandstone
- Gf211** - Gila Group, Sandstone
- Gf212** - Gila Group, Sandstone
- Gf213** - Gila Group, Sandstone
- Gf214** - Gila Group, Sandstone
- Gf215** - Gila Group, Sandstone
- Gf216** - Gila Group, Sandstone
- Gf217** - Gila Group, Sandstone
- Gf218** - Gila Group, Sandstone
- Gf219** - Gila Group, Sandstone
- Gf220** - Gila Group, Sandstone
- Gf221** - Gila Group, Sandstone
- Gf222** - Gila Group, Sandstone
- Gf223** - Gila Group, Sandstone
- Gf224** - Gila Group, Sandstone
- Gf225** - Gila Group, Sandstone
- Gf226** - Gila Group, Sandstone
- Gf227** - Gila Group, Sandstone
- Gf228** - Gila Group, Sandstone
- Gf229** - Gila Group, Sandstone
- Gf230** - Gila Group, Sandstone
- Gf231** - Gila Group, Sandstone
- Gf232** - Gila Group, Sandstone
- Gf233** - Gila Group, Sandstone
- Gf234** - Gila Group, Sandstone
- Gf235** - Gila Group, Sandstone
- Gf236** - Gila Group, Sandstone
- Gf237** - Gila Group, Sandstone
- Gf238** - Gila Group, Sandstone
- Gf239** - Gila Group, Sandstone
- Gf240** - Gila Group, Sandstone
- Gf241** - Gila Group, Sandstone
- Gf242** - Gila Group, Sandstone
- Gf243** - Gila Group, Sandstone
- Gf244** - Gila Group, Sandstone
- Gf245** - Gila Group, Sandstone
- Gf246** - Gila Group, Sandstone
- Gf247** - Gila Group, Sandstone
- Gf248** - Gila Group, Sandstone
- Gf249** - Gila Group, Sandstone
- Gf250** - Gila Group, Sandstone
- Gf251** - Gila Group, Sandstone
- Gf252** - Gila Group, Sandstone
- Gf253** - Gila Group, Sandstone
- Gf254** - Gila Group, Sandstone
- Gf255** - Gila Group, Sandstone
- Gf256** - Gila Group, Sandstone
- Gf257** - Gila Group, Sandstone
- Gf258** - Gila Group, Sandstone
- Gf259** - Gila Group, Sandstone
- Gf260** - Gila Group, Sandstone
- Gf261** - Gila Group, Sandstone
- Gf262** - Gila Group, Sandstone
- Gf263** - Gila Group, Sandstone
- Gf264** - Gila Group, Sandstone
- Gf265** - Gila Group, Sandstone
- Gf266** - Gila Group, Sandstone
- Gf267** - Gila Group, Sandstone
- Gf268** - Gila Group, Sandstone
- Gf269** - Gila Group, Sandstone
- Gf270** - Gila Group, Sandstone
- Gf271** - Gila Group, Sandstone
- Gf272** - Gila Group, Sandstone
- Gf273** - Gila Group, Sandstone
- Gf274** - Gila Group, Sandstone
- Gf275** - Gila Group, Sandstone
- Gf276** - Gila Group, Sandstone
- Gf277** - Gila Group, Sandstone
- Gf278** - Gila Group, Sandstone
- Gf279** - Gila Group, Sandstone
- Gf280** - Gila Group, Sandstone
- Gf281** - Gila Group, Sandstone
- Gf282** - Gila Group, Sandstone
- Gf283** - Gila Group, Sandstone
- Gf284** - Gila Group, Sandstone
- Gf285** - Gila Group, Sandstone
- Gf286** - Gila Group, Sandstone
- Gf287** - Gila Group, Sandstone
- Gf288** - Gila Group, Sandstone
- Gf289** - Gila Group, Sandstone
- Gf290** - Gila Group, Sandstone
- Gf291** - Gila Group, Sandstone
- Gf292** - Gila Group, Sandstone
- Gf293** - Gila Group, Sandstone
- Gf294** - Gila Group, Sandstone
- Gf295** - Gila Group, Sandstone
- Gf296** - Gila Group, Sandstone
- Gf297** - Gila Group, Sandstone
- Gf298** - Gila Group, Sandstone
- Gf299** - Gila Group, Sandstone
- Gf300** - Gila Group, Sandstone
- Gf301** - Gila Group, Sandstone
- Gf302** - Gila Group, Sandstone
- Gf303** - Gila Group, Sandstone
- Gf304** - Gila Group, Sandstone
- Gf305** - Gila Group, Sandstone
- Gf306** - Gila Group, Sandstone
- Gf307** - Gila Group, Sandstone
- Gf308** - Gila Group, Sandstone
- Gf309** - Gila Group, Sandstone
- Gf310** - Gila Group, Sandstone
- Gf311** - Gila Group, Sandstone
- Gf312** - Gila Group, Sandstone
- Gf313** - Gila Group, Sandstone
- Gf314** - Gila Group, Sandstone
- Gf315** - Gila Group, Sandstone
- Gf316** - Gila Group, Sandstone
- Gf317** - Gila Group, Sandstone
- Gf318** - Gila Group, Sandstone
- Gf319** - Gila Group, Sandstone
- Gf320** - Gila Group, Sandstone
- Gf321** - Gila Group, Sandstone
- Gf322** - Gila Group, Sandstone
- Gf323** - Gila Group, Sandstone
- Gf324** - Gila Group, Sandstone
- Gf325** - Gila Group, Sandstone
- Gf326** - Gila Group, Sandstone
- Gf327** - Gila Group, Sandstone
- Gf328** - Gila Group, Sandstone
- Gf329** - Gila Group, Sandstone
- Gf330** - Gila Group, Sandstone
- Gf331** - Gila Group, Sandstone
- Gf332** - Gila Group, Sandstone
- Gf333** - Gila Group, Sandstone
- Gf334** - Gila Group, Sandstone
- Gf335** - Gila Group, Sandstone
- Gf336** - Gila Group, Sandstone
- Gf337** - Gila Group, Sandstone
- Gf338** - Gila Group, Sandstone
- Gf339** - Gila Group, Sandstone
- Gf340** - Gila Group, Sandstone
- Gf341** - Gila Group, Sandstone
- Gf342** - Gila Group, Sandstone
- Gf343** - Gila Group, Sandstone
- Gf344** - Gila Group, Sandstone
- Gf345** - Gila Group, Sandstone
- Gf346** - Gila Group, Sandstone
- Gf347** - Gila Group, Sandstone
- Gf348** - Gila Group, Sandstone
- Gf349** - Gila Group, Sandstone
- Gf350** - Gila Group, Sandstone
- Gf351** - Gila Group, Sandstone
- Gf352** - Gila Group, Sandstone
- Gf353** - Gila Group, Sandstone
- Gf354** - Gila Group, Sandstone
- Gf355** - Gila Group, Sandstone
- Gf356** - Gila Group, Sandstone
- Gf357** - Gila Group, Sandstone
- Gf358** - Gila Group, Sandstone
- Gf359** - Gila Group, Sandstone
- Gf360** - Gila Group, Sandstone
- Gf361** - Gila Group, Sandstone
- Gf362** - Gila Group, Sandstone
- Gf363** - Gila Group, Sandstone
- Gf364** - Gila Group, Sandstone
- Gf365** - Gila Group, Sandstone
- Gf366** - Gila Group, Sandstone
- Gf367** - Gila Group, Sandstone
- Gf368** - Gila Group, Sandstone
- Gf369** - Gila Group, Sandstone
- Gf370** - Gila Group, Sandstone
- Gf371** - Gila Group, Sandstone
- Gf372** - Gila Group, Sandstone
- Gf373** - Gila Group, Sandstone
- Gf374** - Gila Group, Sandstone
- Gf375** - Gila Group, Sandstone
- Gf376** - Gila Group, Sandstone
- Gf377** - Gila Group, Sandstone
- Gf378** - Gila Group, Sandstone
- Gf379** - Gila Group, Sandstone
- Gf380** - Gila Group, Sandstone
- Gf381** - Gila Group, Sandstone
- Gf382** - Gila Group, Sandstone
- Gf383** - Gila Group, Sandstone
- Gf384** - Gila Group, Sandstone
- Gf385** - Gila Group, Sandstone
- Gf386** - Gila Group, Sandstone
- Gf387** - Gila Group, Sandstone
- Gf388** - Gila Group, Sandstone
- Gf389** - Gila Group, Sandstone
- Gf390** - Gila Group, Sandstone
- Gf391** - Gila Group, Sandstone
- Gf392** - Gila Group, Sandstone
- Gf393** - Gila Group, Sandstone
- Gf394** - Gila Group, Sandstone
- Gf395** - Gila Group, Sandstone
- Gf396** - Gila Group, Sandstone
- Gf397** - Gila Group, Sandstone
- Gf398** - Gila Group, Sandstone
- Gf399** - Gila Group, Sandstone
- Gf400** - Gila Group, Sandstone
- Gf401** - Gila Group, Sandstone
- Gf402** - Gila Group, Sandstone
- Gf403** - Gila Group, Sandstone
- Gf404** - Gila Group, Sandstone
- Gf405** - Gila Group, Sandstone
- Gf406** - Gila Group, Sandstone
- Gf407** - Gila Group, Sandstone
- Gf408** - Gila Group, Sandstone
- Gf409** - Gila Group, Sandstone
- Gf410** - Gila Group, Sandstone
- Gf411** - Gila Group, Sandstone
- Gf412** - Gila Group, Sandstone
- Gf413** - Gila Group, Sandstone
- Gf414** - Gila Group, Sandstone
- Gf415** - Gila Group, Sandstone
- Gf416** - Gila Group, Sandstone
- Gf417** - Gila Group, Sandstone
- Gf418** - Gila Group, Sandstone
- Gf419** - Gila Group, Sandstone
- Gf420** - Gila Group, Sandstone
- Gf421** - Gila Group, Sandstone
- Gf422** - Gila Group, Sandstone
- Gf423** - Gila Group, Sandstone
- Gf424** - Gila Group, Sandstone
- Gf425** - Gila Group, Sandstone
- Gf426** - Gila Group, Sandstone
- Gf427** - Gila Group, Sandstone
- Gf428** - Gila Group, Sandstone
- Gf429** - Gila Group, Sandstone
- Gf430** - Gila Group, Sandstone
- Gf431** - Gila Group, Sandstone
- Gf432** - Gila Group, Sandstone
- Gf433** - Gila Group, Sandstone
- Gf434** - Gila Group, Sandstone
- Gf435** - Gila Group, Sandstone
- Gf436** - Gila Group, Sandstone
- Gf437** - Gila Group, Sandstone
- Gf438** - Gila Group, Sandstone
- Gf439** - Gila Group, Sandstone
- Gf440** - Gila Group, Sandstone
- Gf441** - Gila Group, Sandstone
- Gf442** - Gila Group, Sandstone
- Gf443** - Gila Group, Sandstone
- Gf444** - Gila Group, Sandstone
- Gf445** - Gila Group, Sandstone
- Gf446** - Gila Group, Sandstone
- Gf447** - Gila Group, Sandstone
- Gf448** - Gila Group, Sandstone
- Gf449** - Gila Group, Sandstone
- Gf450** - Gila Group, Sandstone
- Gf451** - Gila Group, Sandstone
- Gf452** - Gila Group, Sandstone
- Gf453** - Gila Group, Sandstone
- Gf454** - Gila Group, Sandstone
- Gf455** - Gila Group, Sandstone
- Gf456** - Gila Group, Sandstone
- Gf457** - Gila Group, Sandstone
- Gf458** - Gila Group, Sandstone
- Gf459** - Gila Group, Sandstone
- Gf460** - Gila Group, Sandstone
- Gf461** - Gila Group, Sandstone
- Gf462** - Gila Group, Sandstone
- Gf463** - Gila Group, Sandstone
- Gf464** - Gila Group, Sandstone
- Gf465** - Gila Group, Sandstone
- Gf466** - Gila Group, Sandstone
- Gf467** - Gila Group, Sandstone
- Gf468** - Gila Group, Sandstone
- Gf469** - Gila Group, Sandstone
- Gf470** - Gila Group, Sandstone
- Gf471** - Gila Group, Sandstone
- Gf472** - Gila Group, Sandstone
- Gf473** - Gila Group, Sandstone
- Gf474** - Gila Group, Sandstone
- Gf475** - Gila Group, Sandstone
- Gf476** - Gila Group, Sandstone
- Gf477** - Gila Group, Sandstone
- Gf478** - Gila Group, Sandstone
- Gf479** - Gila Group, Sandstone
- Gf480** - Gila Group, Sandstone
- Gf481** - Gila Group, Sandstone
- Gf482** - Gila Group, Sandstone
- Gf483** - Gila Group, Sandstone
- Gf484** - Gila Group, Sandstone
- Gf485** - Gila Group, Sandstone
- Gf486** - Gila Group, Sandstone
- Gf487** - Gila Group, Sandstone
- Gf488** - Gila Group, Sandstone
- Gf489** - Gila Group, Sandstone
- Gf490** - Gila Group, Sandstone
- Gf491** - Gila Group, Sandstone
- Gf492** - Gila Group, Sandstone
- G**

## INTRODUCTION

Surficial geology concerns the origin, distribution, and significance of deposits and soils at or near the earth's surface. Completely bare bedrock forms probably less than 5 percent of New Mexico's land surface; consequently surficial materials form by far the largest and most-used part of the ground around us. Several aspects of surficial geology that contribute significantly to an understanding of our environment are water yielding properties of the ground; its susceptibility to flooding and erosion; its susceptibility in such hazards as landslides, avalanches, and earthquakes; ease of excavation; suitability for foundations and road building; agricultural potential, including suitability for irrigation or pasturage; and mineral resources potential.

Surficial materials commonly are poorly consolidated, consisting partly of bedrock weathered in situ (residuum), but mostly of sediments derived by erosion and transported by water, wind, ice, or gravity (mass wasting) to a site of temporary deposition before being further eroded and transported downslope.

Four major categories of surficial materials are distinguished on the map by color: residual materials, transitional deposits, transported deposits, and miscellaneous types of ground.

## RESIDUAL MATERIALS

Materials generally formed in place, including: residuum, formed in situ by weathering of a parent formation; caliche; travertine and related spring deposits; shale or sandstone baked by coal beds burning in situ (clinker); karst and related deposits in sinks; and the following, which are not distinguished on the map -- organic deposits; desert pavement; cave deposits; and desert varnish.

### RESIDUUM

In New Mexico, residuum tends to be thin, generally less than 2 ft thick -- rarely as much as 5 ft. Texture depends upon composition of parent rock, and ranges from clay to coarse sand; texture may be bouldery in granitic areas. Areas shown as residuum include small outcrops of parent rocks and some alluvial or eolian deposits either mistaken for residuum or too small to show on the map. These materials are predominantly of late Pleistocene (Wisconsinan) or Holocene age. Ground is hummocky with slopes less than 10 percent; scattered small outcrops of resistant beds form small ledges.

**LOAMY RESIDUUM** -- Texture variable -- mixed clay, silt, and sand. Thickness 1 to 5 ft. Parent formations fine grained, shallow, and identified by subscripts. Where clayey, this residuum generally contains appreciable amounts of swelling clay and is highly susceptible to sodium exchange, especially over the Chinle Formation (subscript Trc), Cretaceous shale (subscript Ksh), and Tertiary clayey volcanic formations. Slopes locally 10 percent and subject to washing. Although the unit is distinctive, the indicated boundaries are approximate.

**STONY RESIDUUM** -- Stony residuum, with accompanying sand and silt. Thickness mostly less than 3 ft. Texture variable depending on parent material, indicated by subscript. Boundaries gradational with cl and lg.

**STONY LOAM OVER BASALT** -- Lithology highly variable; locally abundant clay and silt, probably loessal; stones basaltic, mostly rough scoriae or angular blocks and flakes. Includes alluvium along small washes; numerous basalt mounds and low scarps along some washes and at edges of flows; thickness generally less than 3 ft. Surface smooth; slopes usually less than 5 percent except at sides of washes, bases of volcanic cones (including spatter cones), and edges of flows. Not subject to severe erosion. Boundaries indicated are fairly well defined despite variable lithology; boundaries with alluvium are approximate.

**SANDY OR SANDY LOAM RESIDUUM** -- The shallow sandy or sandy silt substrates are distinguished by subscripts (e.g., rs/Kd, sandy residuum over Dakota Sandstone). Thickness commonly 1 ft. Subject to wind erosion where vegetation is sparse; minimal washing. A distinctive unit with adequate boundaries, except in the San Juan Basin and along the Canadian River.

**GYPSIFEROUS AND SANDY RESIDUUM ALONG PECOS RIVER VALLEY** -- Parent material Artesia (Pst) and related formations. Rarely over 2 ft thick. Numerous small outcrops of gypsum thinly mantled by loose sand with or without small pebbles. A distinctive unit; boundaries are approximate.

**RESIDUUM ON LIMESTONE** -- Widespread on east slope of Sacramento Mountains, Chupadera Mesa, and flanks of Zuni Mountains; less extensive on Cretaceous limestone beds south of Raton. Stony and blocky; generally well cemented with calcium carbonate; little subject to erosion. Slopes average steeper than most residuum. Thickness generally less than 2 ft, rarely as much as 5 ft. A distinctive unit; boundaries indicated are adequate.

### CALICHE

**CALICHE** -- Partly indurated zone of calcium carbonate accumulation formed in upper layers of surficial deposits; 2 to 10 ft thick; commonly overlain by windblown sand. Much caliche shown on the map consists of tough, slabby surface layers underlain by calcium carbonate nodules that grade downward to fibrous and veinless. Especially well developed in Basin and Range and Great Plains parts of the state. Thick caliches (locally >20 ft) associated with undissected High Plains surfaces of the Great Plains commonly comprise an upper sequence of several carbonate-cemented zones interlayered with reddish loamy paleosol horizons over a basal caprock zone developed on Ogallala (Ti) sediments. Forms on various types of parent formations, indicated by subscripts. The extensive caliche along Rio Salado northwest of Socorro is partly a travertine deposit. Where buried by sand, the caliche is identified by subscript ca. A distinctive unit; boundaries are well defined where the caliche forms distinct and approximate where exposed in deflation hollows. Where thick and well indurated, caliche is quarried for road metal and other aggregate, subject to minimal erosion.

### SPRING DEPOSITS

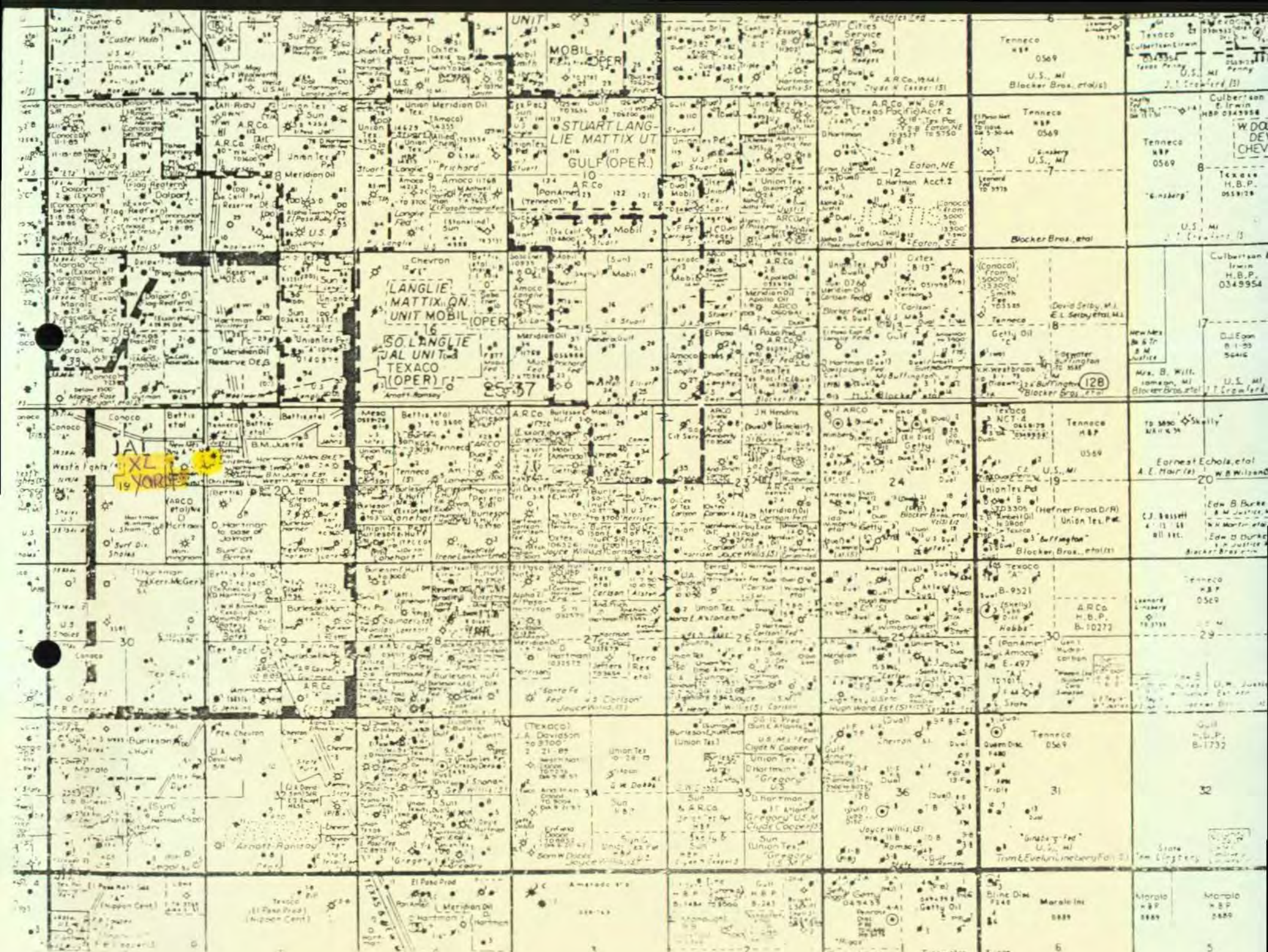
**TRAVERTINE AND RELATED DEPOSITS** -- Most deposits shown have been formed at springs discharging water hotter than 100°F (34°C). Travertine mounds and benches to 50 ft high. Deposits at east base of Mesa Lucero may not have been created by hot springs.

### CLINKER

**SLAGGY COAL ASH AND VERIFIED SHALE AND SANDSTONE MASSES USED BY BURNING COAL BEDS** -- Incompletely shown -- coal may ignite spontaneously, by lightning or ground fire. Depending on oxygen availability, the coal may burn tens of feet back into the ground. Common in coal-bearing formations of San Juan Basin and Raton district. Used for road metal.

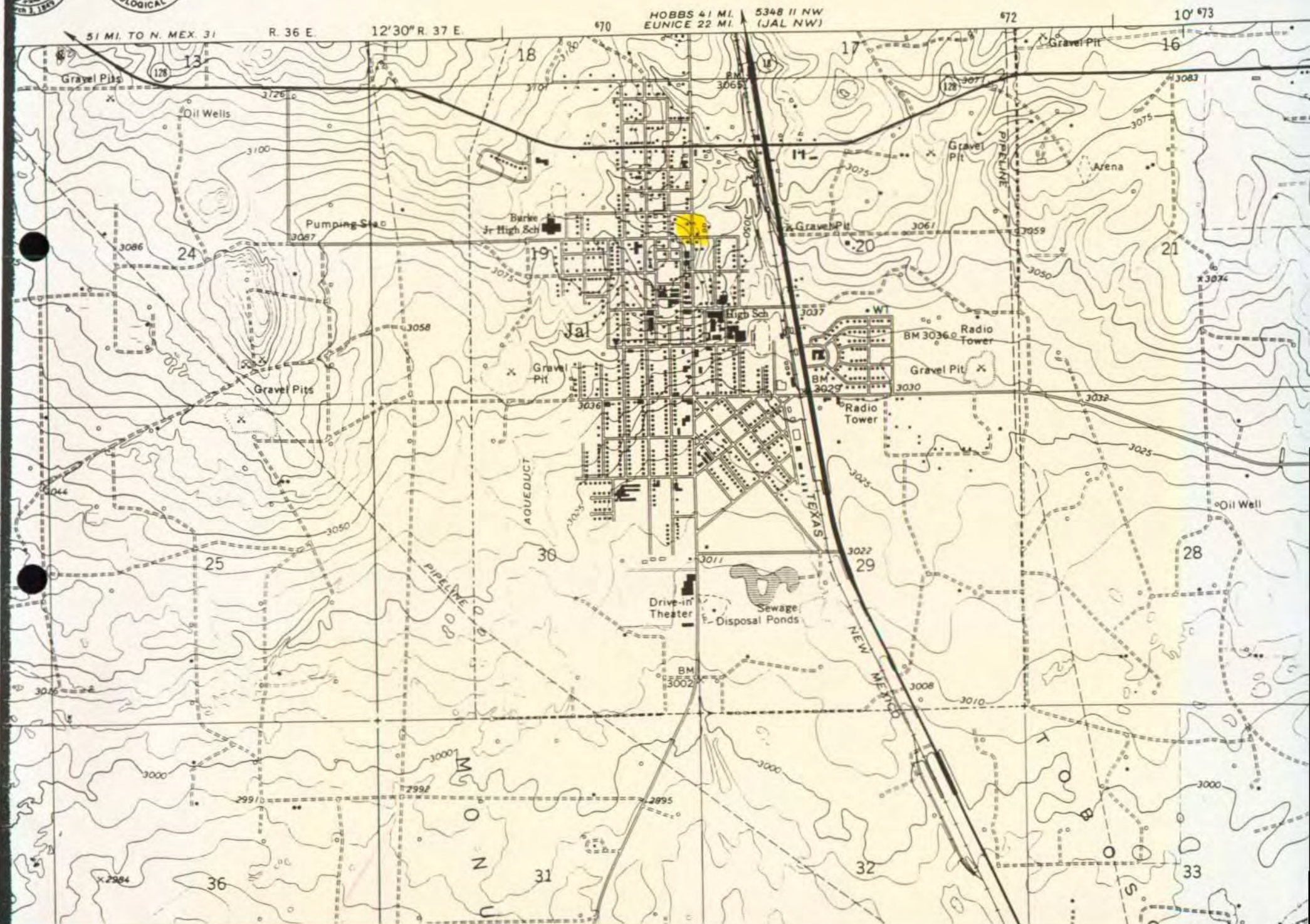
### KARST DEPRESSION DEPOSITS

**KARST-RELATED DEPOSITS** -- Underground solution of limestone and gypsum produces caverns or smaller subsurface voids, and causes roof-rock collapse, forming closed karst depressions (sinkholes) at the surface, mantled with blocks of the roof rock. Widespread in San Andres Formation (subscript Pst) north of the Sacramento Mountains and on Chupadera Mesa. Sinks commonly 50 ft deep and 500 to 1,000 ft wide. Similar deposits composed of stumped gravel and alluvium along the Pecos River valley are attributed to solution of underlying gypsum or other salts. Stumped beds dip 1 to 5 degrees into the depression; may be overlain by undisturbed gravel. Thickness in 300 ft. Although these are distinctive features, extent and boundaries, largely derived from the 1/250,000 quadrangle maps, are approximate.





XL YARD



# The Santa Fe New Mexican

Since 1849 We Read You

NM OIL CONSERVATION DIVISION

ATTN: SALLY MARTINEZ

2040 S. PACHECO ST.

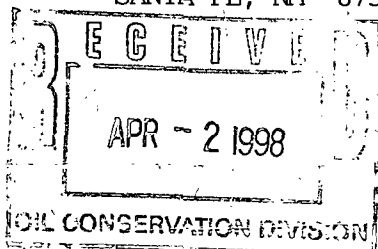
SANTA FE, NM 87505

AD NUMBER: 18409

ACCOUNT: 56689

LEGAL NO: 63261

P.O. #: 98-199-000257



169 LINES ONCE at \$ 67.60

Affidavits: 5.25

Tax: 4.55

Total: \$ 77.40

## 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-297) - XL Transport Company, Christine Brininstool, (505) 295-2010, P.O. Drawer A, 113 North 3rd Street, Jal, New Mexico 88252, has submitted a discharge application for the XL Transport Company facility located in the SW/4 NW/4 of Section 20, Township 25 South, Range 37 East, NMPM, Lea County, New Mexico. Approximately 50 gallons per month of waste oil and solvents are collected day of process waste water is collected in fiberglass storage tanks then transported offsite for disposal. Ground water most likely to be affected in the event of an accidental discharge is at an estimated depth of approximately 40 feet with a total dissolved solids concentration ranging from 700 to 1,000 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 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 25th day of March 1998.

STATE OF NEW MEXICO  
OIL CONSERVATION  
DIVISION  
LORI WROTENBERY,  
Director

Legal #63261  
Pub. April 1, 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 # 63261 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 1 day of APRIL 1998 and that the undersigned has personal knowledge of the matter and things set forth in this affidavit.

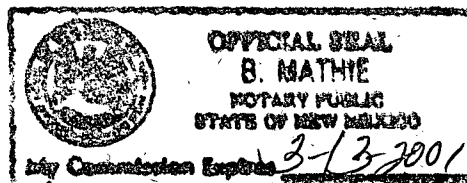
/S/

Betsy Perner  
LEGAL ADVERTISEMENT REPRESENTATIVE

Subscribed and sworn to before me on this 1 day of APRIL A.D., 1998

Notary B. Mathie

Commission Expires 3-13-2001



ACKNOWLEDGEMENT OF RECEIPT  
OF CHECK/CASH

I hereby acknowledge receipt of check No.                      dated 3/3/98,  
or cash received on                      in the amount of \$ 1430.00  
from XL Transportation  
for Jal GW 297

Submitted by:                      Date:                     

Submitted to ASD by: R. Chandel Date: 3/27/98

Received in ASD by:                      Date:                     

Filing Fee        New Facility        Renewal       

Modification        Other                     

Organization Code 521.07 Applicable FY 98

To be deposited in the Water Quality Management Fund.

Full Payment        or Annual Increment       

X. L. TRANSPORTATION CO.

DRAWER A-  
JAL, NM 88252

DATE 3-3-98

88-2207 / 1123

PAY  
TO THE  
ORDER OF

Oil Conservation Division

\$ 1430.00

CERTIFIED 430 DOLS 00 CTS

DOLLARS



Kermit State Bank

Post Office Drawer K-  
Kermit, Texas 79745

FOR

GW-297

Christine B. Bunker



NEW MEXICO ENERGY, MINERALS  
& NATURAL RESOURCES DEPARTMENT

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

March 27, 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 3, 1998

Sincerely,

*Sally Martinez*  
Sally Martinez  
Administrative Secretary

Attachment

269 262 826

US Postal Service  
Receipt for Certified Mail  
No Insurance Coverage Provided.  
Do not use for International Mail (See reverse)

Sent to	Street	Post Office	Postage	Certified Fee	Special Delivery Fee	Restricted Delivery Fee	Return Receipt Showing to Whom & Date Delivered	Return Receipt Showing to Whom, Date, & Addressee's Address	TOTAL Postage & Fees	Postmark or Date
	Lovington Daily Leader	PO Box 1717							\$	
		Lovington, NM 88260								

PS Form 3800, April 1995



NEW MEXICO ENERGY, MINERALS  
& NATURAL RESOURCES DEPARTMENT

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

March 27, 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.*

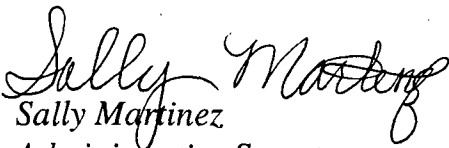
*Immediately upon completion of publication, please send the following to this office:*

- 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 Wednesday, April 1, 1998.*

*Sincerely,*

  
Sally Martinez  
Administrative Secretary

*Attachment*

## 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-297) - XL Transport Company, Christine Brininstool, (505) 395-2010, P. O. Drawer A, 113 North 3rd Street, Jal, New Mexico 88252, has submitted a discharge application for the XL Transport Company facility located in the SW/4 NW/4 of Section 20, Township 25 South, Range 37 East and the SE/4 NE/4 of Section 19, Township 25 South, Range 37 East, NMPM, Lea County, New Mexico. Approximately 50 gallons per month of waste oil and solvents are collected in fiberglass storage tanks then transported offsite for disposal. Ground water most likely to be affected in the event of an accidental discharge is at an estimated depth of approximately 40 feet with a total dissolved solids concentration ranging from 700 to 1,000 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 25th day of March, 1998.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION



LORI WROTENBERY, Director

SEAL

## 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-297) - XL Transport Company, Christine Brininstool, (505) 395-2010, P. O. Drawer A, 113 North 3rd Street, Jal, New Mexico 88252, has submitted a discharge application for the XL Transport Company facility located in the SW/4 NW/4 of Section 20, Township 25 South, Range 37 East and the SE/4 NE/4 of Section 19, Township 25 South, Range 37 East, NMPM, Lea County, New Mexico. Approximately 50 gallons per month of waste oil and solvents are collected in fiberglass storage tanks then transported offsite for disposal. Ground water most likely to be affected in the event of an accidental discharge is at an estimated depth of approximately 40 feet with a total dissolved solids concentration ranging from 700 to 1,000 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 25th day of March, 1998.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION



LORI WROTENBERY, Director

S E A L



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

OFFICE OF THE SECRETARY  
2040 South Pacheco Street  
Santa Fe, New Mexico 87305  
(505) 827-8880

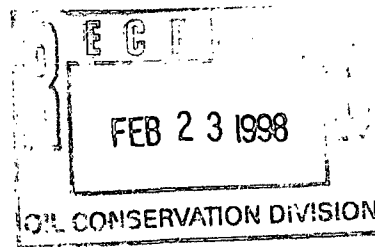
Jennifer A. Salisbury  
CABINET SECRETARY

February 20, 1998

To: Roger Anderson

From: Wayne Price

Re: XL Sump Analysis & XL Brine St. (BW-25) inspection.



Dear Roger:

Please find enclosed the analyticals from the sampling event taken on Jan 30, 1998. Also attached is a sketch showing the different locations. Please note the analyticals with the ID 9801281000 were taken from sample containers that were collected by the City of Jal the morning after the incident. The incident occurred the night of Jan 27, 1998. These samples reflect Toluene at high concentrations down stream of the XL sump. The Up-stream manhole (Montana) was "ND" for Toluene.

For clarification the Montana manhole is up-stream of the XL facility. The Wyoming & Panther is down stream.

After reviewing the data, it appears at this time the source of Toluene was the XL sump.

I recommend that we follow through with XL performing an internal investigation so as we can understand how Toluene waste is generated in the sump. This will help classify if this waste water and or the sludge in the bottom of the sump is exempt/non-exempt and thus a possible "Listed Hazardous Waste". Also we need to know how often and where this waste is being disposed of. This can be part of the Discharge Plan. I also recommend that we have XL supply us the analytical data they collected during our sampling event.

Please note XL normally washes out trucks at their Brine Facility wash out pit (BW-25). I recommend we have XL describe how and what type of waste is discharged into this pit. Please note this sludge according to Chris Brininstool, has been going to Sundance (Parabo) facility.

Please note the NMOCD District I office received a complaint about contaminated soil being disposed of from the Brine St. onto a lot located inside city of Jal, NM. My investigation revealed that J.L.N.M. Construction Co. (P.O. Box 566 Jal, NM 88252) hauled the sludge from the brine pit and dumped it at their facility in Jal, NM. According to the owner Mr. Jimmy Hill he did this as a temporary storing area, then he hauled to Sundance Parabo. He supplied me Parabo tickets. Pictures were taken of the staging area.

I inspected the Brine St. (BW-25) with Chris Brininstool and took pictures. They have installed an additional concrete pad with curb next to the wash-out pit to hold the wet sludge until it is dry enough to haul off. I understand there might be some mixing of sludge and soil to help solidify it. The pad & curb is designed to drain back to the pit. They have also installed a new underground drain line and above ground waste tank downhill from the pit. This new tank is on a 30 mil liner and bermed. Also they have added a KCL mixing station.

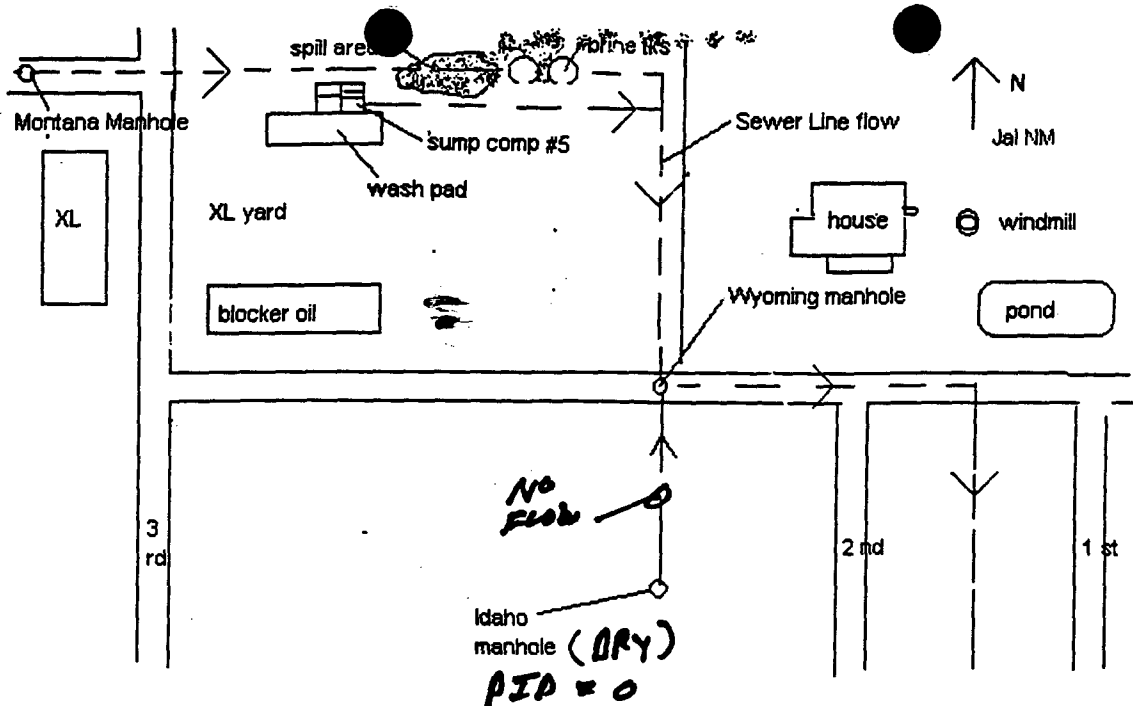
I ask Chris Brininstool if they have modified their discharge plan, she said no.

I recommend that XL Salado Brine ST (BW-25) be required to modify their discharge plan to reflect the new changes, plus they should list all types of waste, chemicals, etc that are discharged into the wash-out pit. They should determine if this waste is exempt or non-exempt. Is Toluene being discharged into this pit?

I also recommend that J.L.N.M be notified if they discharged any more contaminated soils at their site they will be required to obtain a Discharge Plan.

cc: Chris Williams-District I Supervisor -  
Jack Ford & Mark Ashley- NMOCD SF

attachments- for XL Transportation. cc of analyticals & sketch.  
- for Brine ST BW025 cc of pictures.



## FIELD SKETCH

TOOK PICTURES 1/30/98

BY Z. PRICE - NMOCN

BUSINESS: C WILLIAMS

PID

### PID READINGS

XL SUMP COMP #5  
≈ 12 NOON

HELD ABOVE WATER IN SUMP

691 PPM (BLEY)  
PAINT THINNER SMELL

COLLECTED SAMPLE USING  
3' PE BAILER - RAN HEADSPACE  
IN QLT JAR

>2500 PPM (BLEY)  
CLEAR WATER  
TDS 1700 UMMS  
STRONG BENZENE-  
LIKE OIL

XL SUMP COMP #5  
OUTLET TO CITY  
SEWER

TDS SUMP  
UMMS  
CITY  
400 UMMS

	#1	#2	#3	#4	#5
TOP	3000	1800	1000	1000	1000
MID					3900
BOE	13,000	13000	5000	5000	5000

MONTANA MANHOLE  
12:20 PM

- HELD ABOVE WATER FLOW
- COLLECTED WATER SAMPLE  
QLT JAR - HEADSPACE

PID "ND" (BLEY)

PID 0-5 PPM  
SEWAGE SMELL ONLY,  
0-10% TURB/TDS 750

WYOMING MANHOLE

- HELD ABOVE WATER FLOW
- COLLECTED WATER SAMPLE  
QLT JAR - HEADSPACE

PID 45 PPM (BLEY)

161 PPM SAME SMELL  
AS XL SUMP  
0-10% TURB  
TDS 700 UMMS

# *American Environmental Network, Inc.*

AEN I.D. 801394

February 18, 1998

NMOCD  
313 ALISO  
HOBBS NM 88241



Project Name XL JAL NM  
Project Number WASH SUMP

Attention: WAYNE PRICE

On 1/31/98 American Environmental Network (NM), Inc. (ADHS License No. AZ0015), received a request to analyze **aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

EPA method 8270 was analyzed by American Environmental Network (FL) Inc., Pensacola, FL.

All other parameters were analyzed by American Environmental Network (NM) Inc., Albuquerque, NM.

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

Kimberly D. McNeill  
Project Manager

H. Mitchell Rubenstein, Ph. D.  
General Manager

MR: mt

Enclosure

*American Environmental Network, Inc.*

CLIENT	: NMOCD	AEN I.D.	: 801394
PROJECT #	: WASH SUMP	DATE RECEIVED	: 1/31/98
PROJECT NAME	: XL JAL NM	REPORT DATE	: 2/18/98

AEN ID. #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	XLSUMP#5 9801301645	AQ	1/30/98
02	WYOMING 9801301720	AQ	1/30/98
03	MONTANA 9801281000	AQ	1/30/98
04	WYOMING 9801281000	AQ	1/30/98
05	PANTHER 9801281000	AQ	1/30/98



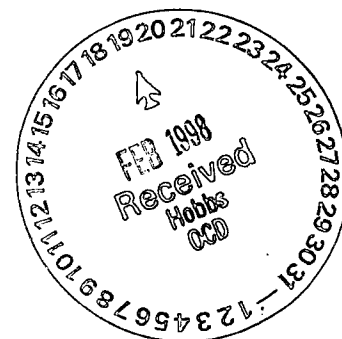
*American Environmental Network, Inc.*

GC/MS RESULTS

TEST : VOLATILE ORGANICS EPA METHOD 8260  
 CLIENT : NMOCD AEN I.D. : 801394  
 PROJECT # : WASH SUMP DATE RECEIVED : 1/31/98  
 PROJECT NAME : XL JAL NM

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
801394-01	XL SUMP #5 9801301645	AQUEOUS	1/30/98	N/A	02/04/98	1000

PARAMETER	DET. LIMIT		UNITS
Dichlorodifluoromethane	1.0	< 1000	ug/L
Chloromethane	1.0	< 1000	ug/L
Vinyl Chloride	1.0	< 1000	ug/L
Bromomethane	1.0	< 1000	ug/L
Chloroethane	1.0	< 1000	ug/L
Trichlorofluoromethane	1.0	< 1000	ug/L
Acetone	10	< 10000	ug/L
Acrolein	5.0	< 5000	ug/L
1,1-Dichloroethene	1.0	< 1000	ug/L
Iodomethane	1.0	< 1000	ug/L
Methylene Chloride	1.0	< 1000	ug/L
Acrylonitrile	5.0	< 5000	ug/L
cis-1,2-Dichloroethene	1.0	< 1000	ug/L
Methyl-t-butyl Ether	1.0	< 1000	ug/L
1,1,2,1,2,2-Trichlorotrifluoroethane	1.0	< 1000	ug/L
1,1-Dichloroethane	1.0	< 1000	ug/L
trans-1,2-Dichloroethene	1.0	< 1000	ug/L
2-Butanone	10	< 10000	ug/L
Carbon Disulfide	1.0	< 1000	ug/L
Bromochloromethane	1.0	< 1000	ug/L
Chloroform	1.0	< 1000	ug/L
2,2-Dichloropropane	1.0	< 1000	ug/L
1,2-Dichloroethane	1.0	< 1000	ug/L
Vinyl Acetate	1.0	< 1000	ug/L
1,1,1-Trichloroethane	1.0	< 1000	ug/L
1,1-Dichloropropene	1.0	< 1000	ug/L
Carbon Tetrachloride	1.0	< 1000	ug/L
Benzene	1.0	< 1000	ug/L
1,2-Dichloropropane	1.0	< 1000	ug/L
Trichloroethene	1.0	< 1000	ug/L
Bromodichloromethane	1.0	< 1000	ug/L
2-Chloroethyl Vinyl Ether	10	< 10000	ug/L
cis-1,3-Dichloropropene	1.0	< 1000	ug/L
trans-1,3-Dichloropropene	1.0	< 1000	ug/L
1,1,2-Trichloroethane	1.0	< 1000	ug/L
1,3-Dichloropropane	1.0	< 1000	ug/L
Dibromomethane	1.0	< 1000	ug/L
Toluene	1.0	64000	ug/L



American Environmental Network, Inc.

GC/MS RESULTS

TEST : VOLATILE ORGANICS EPA METHOD 8260  
 CLIENT : NMOCD  
 PROJECT # : WASH SUMP  
 PROJECT NAME : XL JAL NM

AEN I.D. : 801394  
 DATE RECEIVED : 1/31/98

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
801394-01	XL SUMP #5 9801301645	AQUEOUS	1/30/98	N/A	02/04/98	1000

PARAMETER	DET. LIMIT	UNITS
1,2-Dibromoethane	1.0	< 1000 ug/L
4-Methyl-2-Pentanone	10	< 10000 ug/L
2-Hexanone	10	< 10000 ug/L
Dibromochloromethane	1.0	< 1000 ug/L
Tetrachloroethene	1.0	< 1000 ug/L
Chlorobenzene	1.0	< 1000 ug/L
Ethylbenzene	1.0	< 1000 ug/L
1,1,1,2-Tetrachloroethane	1.0	< 1000 ug/L
m&p Xylenes	1.0	< 1000 ug/L
o-Xylene	1.0	< 1000 ug/L
Styrene	1.0	< 1000 ug/L
Bromoform	1.0	< 1000 ug/L
1,1,2,2-Tetrachloroethane	1.0	< 1000 ug/L
1,2,3-Trichloropropane	1.0	< 1000 ug/L
Isopropyl Benzene	1.0	< 1000 ug/L
Bromobenzene	1.0	< 1000 ug/L
trans-1,4-Dichloro-2-Butene	1.0	< 1000 ug/L
n-Propylbenzene	1.0	< 1000 ug/L
2-Chlorotoluene	1.0	< 1000 ug/L
4-Chlorotoluene	1.0	< 1000 ug/L
1,3,5-Trimethylbenzene	1.0	< 1000 ug/L
tert-Butylbenzene	1.0	< 1000 ug/L
1,2,4-Trimethylbenzene	1.0	< 1000 ug/L
sec-Butylbenzene	1.0	< 1000 ug/L
1,3-Dichlorobenzene	1.0	< 1000 ug/L
1,4-Dichlorobenzene	1.0	< 1000 ug/L
p-Isopropyltoluene	1.0	< 1000 ug/L
1,2-Dichlorobenzene	1.0	< 1000 ug/L
n-Butylbenzene	1.0	< 1000 ug/L
1,2-Dibromomo-3-chloropropane	1.0	< 1000 ug/L
1,2,4-Trichlorobenzene	1.0	< 1000 ug/L
Naphthalene	1.0	< 1000 ug/L
Hexachlorobutadiene	1.0	< 1000 ug/L
1,2,3-Trichlorobenzene	1.0	< 1000 ug/L

SURROGATE % RECOVERY

1,2-Dichloroethane-d4	106 ( 80 - 120 )
Toluene-d8	105 ( 88 - 110 )
Bromofluorobenzene	108 ( 86 - 115 )



*American Environmental Network, Inc.*

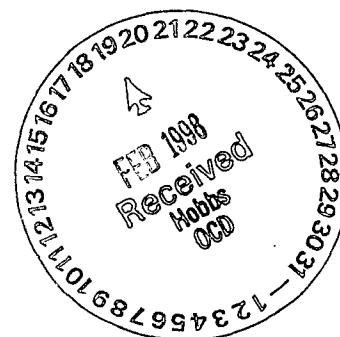
GC/MS RESULTS

TEST : VOLATILE ORGANICS EPA METHOD 8260  
 CLIENT : NMOC  
 PROJECT # : WASH SUMP  
 PROJECT NAME : XL JAL NM

AEN I.D. : 801394  
 DATE RECEIVED : 1/31/98

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
801394-02	WYOMING 9801301720	AQUEOUS	1/30/98	N/A	02/04/98	20
PARAMETER	DET. LIMIT	UNITS				

Dichlorodifluoromethane	1.0	< 20	ug/L
Chloromethane	1.0	< 20	ug/L
Vinyl Chloride	1.0	< 20	ug/L
Bromomethane	1.0	< 20	ug/L
Chloroethane	1.0	< 20	ug/L
Trichlorofluoromethane	1.0	< 20	ug/L
Acetone	10	< 200	ug/L
Acrolein	5.0	< 100	ug/L
1,1-Dichloroethene	1.0	< 20	ug/L
Iodomethane	1.0	< 20	ug/L
Methylene Chloride	1.0	< 20	ug/L
Acrylonitrile	5.0	< 100	ug/L
cis-1,2-Dichloroethene	1.0	< 20	ug/L
Methyl-t-butyl Ether	1.0	< 20	ug/L
1,1,2,1,2,2-Trichlorotrifluoroethane	1.0	120	ug/L
1,1-Dichloroethane	1.0	< 20	ug/L
trans-1,2-Dichloroethene	1.0	< 20	ug/L
2-Butanone	10	< 200	ug/L
Carbon Disulfide	1.0	< 20	ug/L
Bromochloromethane	1.0	< 20	ug/L
Chloroform	1.0	< 20	ug/L
2,2-Dichloropropane	1.0	< 20	ug/L
1,2-Dichloroethane	1.0	< 20	ug/L
Vinyl Acetate	1.0	< 20	ug/L
1,1,1-Trichloroethane	1.0	< 20	ug/L
1,1-Dichloropropene	1.0	< 20	ug/L
Carbon Tetrachloride	1.0	< 20	ug/L
Benzene	1.0	< 20	ug/L
1,2-Dichloropropane	1.0	< 20	ug/L
Trichloroethene	1.0	< 20	ug/L
Bromodichloromethane	1.0	< 20	ug/L
2-Chloroethyl Vinyl Ether	10	< 200	ug/L
cis-1,3-Dichloropropene	1.0	< 20	ug/L
trans-1,3-Dichloropropene	1.0	< 20	ug/L
1,1,2-Trichloroethane	1.0	< 20	ug/L
1,3-Dichloropropane	1.0	< 20	ug/L
Dibromomethane	1.0	< 20	ug/L
Toluene	1.0	1300	ug/L



*American Environmental Network, Inc.*

GC/MS RESULTS

TEST : VOLATILE ORGANICS EPA METHOD 8260  
 CLIENT : NMOCD AEN I.D. : 801394  
 PROJECT # : WASH SUMP DATE RECEIVED : 1/31/98  
 PROJECT NAME : XL JAL NM

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
801394-02	WYOMING 9801301720	AQUEOUS	1/30/98	N/A	02/04/98	20
PARAMETER	DET. LIMIT		UNITS			
1,2-Dibromoethane	1.0	< 20	ug/L			
4-Methyl-2-Pentanone	10	< 200	ug/L			
2-Hexanone	10	< 200	ug/L			
Dibromochloromethane	1.0	< 20	ug/L			
Tetrachloroethene	1.0	< 20	ug/L			
Chlorobenzene	1.0	< 20	ug/L			
Ethylbenzene	1.0	< 20	ug/L			
1,1,1,2-Tetrachloroethane	1.0	< 20	ug/L			
m&p Xylenes	1.0	< 20	ug/L			
o-Xylene	1.0	< 20	ug/L			
Styrene	1.0	< 20	ug/L			
Bromoform	1.0	< 20	ug/L			
1,1,2,2-Tetrachloroethane	1.0	< 20	ug/L			
1,2,3-Trichloropropane	1.0	< 20	ug/L			
Isopropyl Benzene	1.0	< 20	ug/L			
Bromobenzene	1.0	< 20	ug/L			
trans-1,4-Dichloro-2-Butene	1.0	< 20	ug/L			
n-Propylbenzene	1.0	< 20	ug/L			
2-Chlorotoluene	1.0	< 20	ug/L			
4-Chlorotoluene	1.0	< 20	ug/L			
1,3,5-Trimethylbenzene	1.0	< 20	ug/L			
tert-Butylbenzene	1.0	< 20	ug/L			
1,2,4-Trimethylbenzene	1.0	< 20	ug/L			
sec-Butylbenzene	1.0	< 20	ug/L			
1,3-Dichlorobenzene	1.0	< 20	ug/L			
1,4-Dichlorobenzene	1.0	< 20	ug/L			
p-Isopropyltoluene	1.0	< 20	ug/L			
1,2-Dichlorobenzene	1.0	< 20	ug/L			
n-Butylbenzene	1.0	< 20	ug/L			
1,2-Dibromomo-3-chloropropane	1.0	< 20	ug/L			
1,2,4-Trichlorobenzene	1.0	< 20	ug/L			
Naphthalene	1.0	< 20	ug/L			
Hexachlorobutadiene	1.0	< 20	ug/L			
1,2,3-Trichlorobenzene	1.0	< 20	ug/L			

SURROGATE % RECOVERY

1,2-Dichloroethane-d4 95  
 ( 80 - 120 )  
 Toluene-d8 102  
 ( 88 - 110 )  
 Bromofluorobenzene 98  
 ( 86 - 115 )



*American Environmental Network, Inc.*

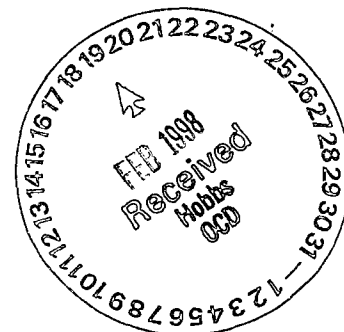
GC/MS RESULTS

TEST : VOLATILE ORGANICS EPA METHOD 8260  
 CLIENT : NMOC  
 PROJECT # : WASH SUMP  
 PROJECT NAME : XL JAL NM

AEN I.D. : 801394  
 DATE RECEIVED : 1/31/98

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
801394-03	MONTANA 9801281000	AQUEOUS	1/30/98	N/A	02/04/98	50
PARAMETER	DET. LIMIT		UNITS			

Dichlorodifluoromethane	1.0	< 50	ug/L
Chloromethane	1.0	< 50	ug/L
Vinyl Chloride	1.0	< 50	ug/L
Bromomethane	1.0	< 50	ug/L
Chloroethane	1.0	< 50	ug/L
Trichlorofluoromethane	1.0	< 50	ug/L
Acetone	10	2500	ug/L
Acrolein	5.0	< 250	ug/L
1,1-Dichloroethene	1.0	< 50	ug/L
Iodomethane	1.0	< 50	ug/L
Methylene Chloride	1.0	< 50	ug/L
Acrylonitrile	5.0	< 250	ug/L
cis-1,2-Dichloroethene	1.0	< 50	ug/L
Methyl-t-butyl Ether	1.0	< 50	ug/L
1,1,2,1,2,2-Trichlorotrifluoroethane	1.0	< 50	ug/L
1,1-Dichloroethane	1.0	< 50	ug/L
trans-1,2-Dichloroethene	1.0	< 50	ug/L
2-Butanone	10	< 500	ug/L
Carbon Disulfide	1.0	< 50	ug/L
Bromochloromethane	1.0	< 50	ug/L
Chloroform	1.0	< 50	ug/L
2,2-Dichloropropane	1.0	< 50	ug/L
1,2-Dichloroethane	1.0	< 50	ug/L
Vinyl Acetate	1.0	< 50	ug/L
1,1,1-Trichloroethane	1.0	< 50	ug/L
1,1-Dichloropropene	1.0	< 50	ug/L
Carbon Tetrachloride	1.0	< 50	ug/L
Benzene	1.0	< 50	ug/L
1,2-Dichloropropane	1.0	< 50	ug/L
Trichloroethene	1.0	< 50	ug/L
Bromodichloromethane	1.0	< 50	ug/L
2-Chloroethyl Vinyl Ether	10	< 500	ug/L
cis-1,3-Dichloropropene	1.0	< 50	ug/L
trans-1,3-Dichloropropene	1.0	< 50	ug/L
1,1,2-Trichloroethane	1.0	< 50	ug/L
1,3-Dichloropropane	1.0	< 50	ug/L
Dibromomethane	1.0	< 50	ug/L
Toluene	1.0	< 50	ug/L



*American Environmental Network, Inc.*

GC/MS RESULTS

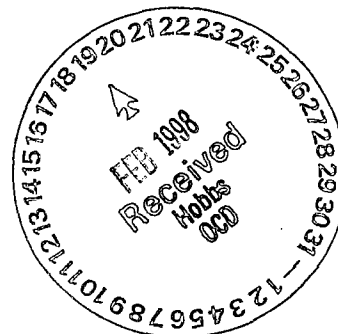
TEST : VOLATILE ORGANICS EPA METHOD 8260  
 CLIENT : NMOC  
 PROJECT # : WASH SUMP  
 PROJECT NAME : XL JAL NM

AEN I.D. : 801394  
 DATE RECEIVED : 1/31/98

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
801394-03	MONTANA 9801281000	AQUEOUS	1/30/98	N/A	02/04/98	50
PARAMETER	DET. LIMIT	UNITS				
1,2-Dibromoethane	1.0	< 50	ug/L			
4-Methyl-2-Pentanone	10	< 500	ug/L			
2-Hexanone	10	< 500	ug/L			
Dibromochloromethane	1.0	< 50	ug/L			
Tetrachloroethene	1.0	< 50	ug/L			
Chlorobenzene	1.0	< 50	ug/L			
Ethylbenzene	1.0	< 50	ug/L			
1,1,1,2-Tetrachloroethane	1.0	< 50	ug/L			
m&p Xylenes	1.0	< 50	ug/L			
o-Xylene	1.0	< 50	ug/L			
Styrene	1.0	< 50	ug/L			
Bromoform	1.0	< 50	ug/L			
1,1,2,2-Tetrachloroethane	1.0	< 50	ug/L			
1,2,3-Trichloropropane	1.0	< 50	ug/L			
Isopropyl Benzene	1.0	< 50	ug/L			
Bromobenzene	1.0	< 50	ug/L			
trans-1,4-Dichloro-2-Butene	1.0	< 50	ug/L			
n-Propylbenzene	1.0	< 50	ug/L			
2-Chlorotoluene	1.0	< 50	ug/L			
4-Chlorotoluene	1.0	< 50	ug/L			
1,3,5-Trimethylbenzene	1.0	< 50	ug/L			
tert-Butylbenzene	1.0	< 50	ug/L			
1,2,4-Trimethylbenzene	1.0	< 50	ug/L			
sec-Butylbenzene	1.0	< 50	ug/L			
1,3-Dichlorobenzene	1.0	< 50	ug/L			
1,4-Dichlorobenzene	1.0	< 50	ug/L			
p-Isopropyltoluene	1.0	< 50	ug/L			
1,2-Dichlorobenzene	1.0	< 50	ug/L			
n-Butylbenzene	1.0	< 50	ug/L			
1,2-Dibromomo-3-chloropropane	1.0	< 50	ug/L			
1,2,4-Trichlorobenzene	1.0	< 50	ug/L			
Naphthalene	1.0	< 50	ug/L			
Hexachlorobutadiene	1.0	< 50	ug/L			
1,2,3-Trichlorobenzene	1.0	< 50	ug/L			

SURROGATE % RECOVERY

1,2-Dichloroethane-d4 105  
 ( 80 - 120 )  
 Toluene-d8 106  
 ( 88 - 110 )  
 Bromofluorobenzene 105  
 ( 86 - 115 )



*American Environmental Network, Inc.*

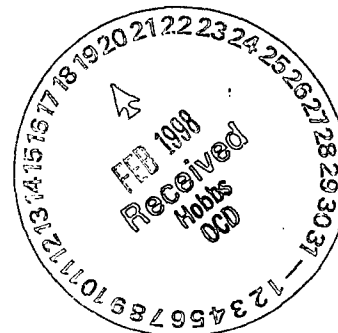
GC/MS RESULTS

TEST : VOLATILE ORGANICS EPA METHOD 8260  
 CLIENT : NMOCD  
 PROJECT # : WASH SUMP  
 PROJECT NAME : XL JAL NM

AEN I.D. : 801394  
 DATE RECEIVED : 1/31/98

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
801394-04	WYOMING 9801281000	AQUEOUS	1/30/98	N/A	02/04/98	50
PARAMETER	DET. LIMIT	UNITS				

Dichlorodifluoromethane	1.0	< 50	ug/L
Chloromethane	1.0	< 50	ug/L
Vinyl Chloride	1.0	< 50	ug/L
Bromomethane	1.0	< 50	ug/L
Chloroethane	1.0	< 50	ug/L
Trichlorofluoromethane	1.0	< 50	ug/L
Acetone	10	< 500	ug/L
Acrolein	5.0	< 250	ug/L
1,1-Dichloroethene	1.0	< 50	ug/L
Iodomethane	1.0	< 50	ug/L
Methylene Chloride	1.0	< 50	ug/L
Acrylonitrile	5.0	< 250	ug/L
cis-1,2-Dichloroethene	1.0	< 50	ug/L
Methyl-t-butyl Ether	1.0	< 50	ug/L
1,1,2,1,2,2-Trichlorotrifluoroethane	1.0	< 50	ug/L
1,1-Dichloroethane	1.0	< 50	ug/L
trans-1,2-Dichloroethene	1.0	< 50	ug/L
2-Butanone	10	< 500	ug/L
Carbon Disulfide	1.0	< 50	ug/L
Bromochloromethane	1.0	< 50	ug/L
Chloroform	1.0	< 50	ug/L
2,2-Dichloropropane	1.0	< 50	ug/L
1,2-Dichloroethane	1.0	< 50	ug/L
Vinyl Acetate	1.0	< 50	ug/L
1,1,1-Trichloroethane	1.0	< 50	ug/L
1,1-Dichloropropene	1.0	< 50	ug/L
Carbon Tetrachloride	1.0	< 50	ug/L
Benzene	1.0	< 50	ug/L
1,2-Dichloropropane	1.0	< 50	ug/L
Trichloroethene	1.0	< 50	ug/L
Bromodichloromethane	1.0	< 50	ug/L
2-Chloroethyl Vinyl Ether	10	< 500	ug/L
cis-1,3-Dichloropropene	1.0	< 50	ug/L
trans-1,3-Dichloropropene	1.0	< 50	ug/L
1,1,2-Trichloroethane	1.0	< 50	ug/L
1,3-Dichloropropane	1.0	< 50	ug/L
Dibromomethane	1.0	< 50	ug/L
Toluene	1.0	23000 (D1000)	ug/L



*American Environmental Network, Inc.*

GC/MS RESULTS

TEST : VOLATILE ORGANICS EPA METHOD 8260  
 CLIENT : NMOCD  
 PROJECT # : WASH SUMP  
 PROJECT NAME : XL JAL NM

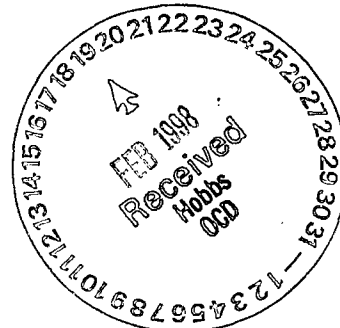
AEN I.D. : 801394  
 DATE RECEIVED : 1/31/98

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
801394-04	WYOMING 9801281000	AQUEOUS	1/30/98	N/A	02/04/98	50
PARAMETER	DET. LIMIT		UNITS			
1,2-Dibromoethane	1.0	< 50	ug/L			
4-Methyl-2-Pentanone	10	< 500	ug/L			
2-Hexanone	10	< 500	ug/L			
Dibromochloromethane	1.0	< 50	ug/L			
Tetrachloroethene	1.0	< 50	ug/L			
Chlorobenzene	1.0	< 50	ug/L			
Ethylbenzene	1.0	60	ug/L			
1,1,1,2-Tetrachloroethane	1.0	< 50	ug/L			
m&p Xylenes	1.0	51	ug/L			
o-Xylene	1.0	< 50	ug/L			
Styrene	1.0	< 50	ug/L			
Bromoform	1.0	< 50	ug/L			
1,1,2,2-Tetrachloroethane	1.0	< 50	ug/L			
1,2,3-Trichloropropane	1.0	< 50	ug/L			
Isopropyl Benzene	1.0	< 50	ug/L			
Bromobenzene	1.0	< 50	ug/L			
trans-1,4-Dichloro-2-Butene	1.0	< 50	ug/L			
n-Propylbenzene	1.0	< 50	ug/L			
2-Chlorotoluene	1.0	< 50	ug/L			
4-Chlorotoluene	1.0	< 50	ug/L			
1,3,5-Trimethylbenzene	1.0	< 50	ug/L			
tert-Butylbenzene	1.0	< 50	ug/L			
1,2,4-Trimethylbenzene	1.0	< 50	ug/L			
sec-Butylbenzene	1.0	< 50	ug/L			
1,3-Dichlorobenzene	1.0	< 50	ug/L			
1,4-Dichlorobenzene	1.0	< 50	ug/L			
p-Isopropyltoluene	1.0	< 50	ug/L			
1,2-Dichlorobenzene	1.0	< 50	ug/L			
n-Butylbenzene	1.0	< 50	ug/L			
1,2-Dibromomo-3-chloropropane	1.0	< 50	ug/L			
1,2,4-Trichlorobenzene	1.0	< 50	ug/L			
Naphthalene	1.0	< 50	ug/L			
Hexachlorobutadiene	1.0	< 50	ug/L			
1,2,3-Trichlorobenzene	1.0	< 50	ug/L			

(D1000) = 1000 X DILUTION, ANALYZED ON 2/4/98

SURROGATE % RECOVERY

1,2-Dichloroethane-d4 89  
 (80 - 120)  
 Toluene-d8 92  
 (88 - 110)  
 Bromofluorobenzene 89  
 (86 - 115)



*American Environmental Network, Inc.*

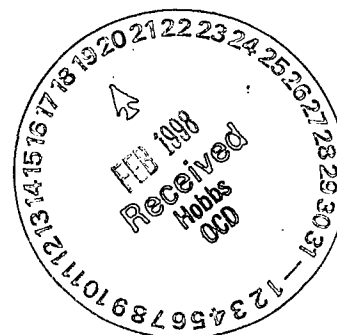
GC/MS RESULTS

TEST : VOLATILE ORGANICS EPA METHOD 8260  
 CLIENT : NMOCD  
 PROJECT # : WASH SUMP  
 PROJECT NAME : XL JAL NM

AEN I.D. : 801394  
 DATE RECEIVED : 1/31/98

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
801394-05	PANTHER 9801281000	AQUEOUS	1/30/98	N/A	02/04/98	1000
PARAMETER	DET. LIMIT	UNITS				

Dichlorodifluoromethane	1.0	< 1000	ug/L
Chloromethane	1.0	< 1000	ug/L
Vinyl Chloride	1.0	< 1000	ug/L
Bromomethane	1.0	< 1000	ug/L
Chloroethane	1.0	< 1000	ug/L
Trichlorofluoromethane	1.0	< 1000	ug/L
Acetone	10	< 10000	ug/L
Acrolein	5.0	< 5000	ug/L
1,1-Dichloroethene	1.0	< 1000	ug/L
Iodomethane	1.0	< 1000	ug/L
Methylene Chloride	1.0	< 1000	ug/L
Acrylonitrile	5.0	< 5000	ug/L
cis-1,2-Dichloroethene	1.0	< 1000	ug/L
Methyl-t-butyl Ether	1.0	< 1000	ug/L
1,1,2,1,2,2-Trichlorotrifluoroethane	1.0	< 1000	ug/L
1,1-Dichloroethane	1.0	< 1000	ug/L
trans-1,2-Dichloroethene	1.0	< 1000	ug/L
2-Butanone	10	< 10000	ug/L
Carbon Disulfide	1.0	< 1000	ug/L
Bromochloromethane	1.0	< 1000	ug/L
Chloroform	1.0	< 1000	ug/L
2,2-Dichloropropane	1.0	< 1000	ug/L
1,2-Dichloroethane	1.0	< 1000	ug/L
Vinyl Acetate	1.0	< 1000	ug/L
1,1,1-Trichloroethane	1.0	< 1000	ug/L
1,1-Dichloropropene	1.0	< 1000	ug/L
Carbon Tetrachloride	1.0	< 1000	ug/L
Benzene	1.0	< 1000	ug/L
1,2-Dichloropropane	1.0	< 1000	ug/L
Trichloroethene	1.0	< 1000	ug/L
Bromodichloromethane	1.0	< 1000	ug/L
2-Chloroethyl Vinyl Ether	10	< 10000	ug/L
cis-1,3-Dichloropropene	1.0	< 1000	ug/L
trans-1,3-Dichloropropene	1.0	< 1000	ug/L
1,1,2-Trichloroethane	1.0	< 1000	ug/L
1,3-Dichloropropane	1.0	< 1000	ug/L
Dibromomethane	1.0	< 1000	ug/L
Toluene	1.0	87000	ug/L



*American Environmental Network, Inc.*

GC/MS RESULTS

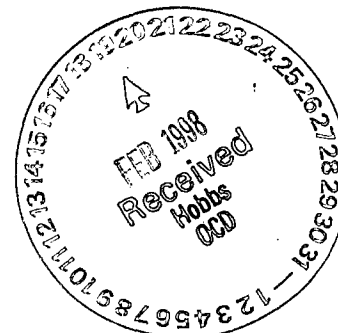
TEST : VOLATILE ORGANICS EPA METHOD 8260  
 CLIENT : NMOCD  
 PROJECT # : WASH SUMP  
 PROJECT NAME : XL JAL NM

AEN I.D. : 801394  
 DATE RECEIVED : 1/31/98

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
801394-05	PANTHER 9801281000	AQUEOUS	1/30/98	N/A	02/04/98	1000
PARAMETER	DET. LIMIT		UNITS			
1,2-Dibromoethane	1.0	< 1000	ug/L			
4-Methyl-2-Pentanone	10	< 10000	ug/L			
2-Hexanone	10	< 10000	ug/L			
Dibromochloromethane	1.0	< 1000	ug/L			
Tetrachloroethene	1.0	< 1000	ug/L			
Chlorobenzene	1.0	< 1000	ug/L			
Ethylbenzene	1.0	< 1000	ug/L			
1,1,1,2-Tetrachloroethane	1.0	< 1000	ug/L			
m&p Xylenes	1.0	< 1000	ug/L			
o-Xylene	1.0	< 1000	ug/L			
Styrene	1.0	< 1000	ug/L			
Bromoform	1.0	< 1000	ug/L			
1,1,2,2-Tetrachloroethane	1.0	< 1000	ug/L			
1,2,3-Trichloropropane	1.0	< 1000	ug/L			
Isopropyl Benzene	1.0	< 1000	ug/L			
Bromobenzene	1.0	< 1000	ug/L			
trans-1,4-Dichloro-2-Butene	1.0	< 1000	ug/L			
n-Propylbenzene	1.0	< 1000	ug/L			
2-Chlorotoluene	1.0	< 1000	ug/L			
4-Chlorotoluene	1.0	< 1000	ug/L			
1,3,5-Trimethylbenzene	1.0	< 1000	ug/L			
tert-Butylbenzene	1.0	< 1000	ug/L			
1,2,4-Trimethylbenzene	1.0	< 1000	ug/L			
sec-Butylbenzene	1.0	< 1000	ug/L			
1,3-Dichlorobenzene	1.0	< 1000	ug/L			
1,4-Dichlorobenzene	1.0	< 1000	ug/L			
p-Isopropyltoluene	1.0	< 1000	ug/L			
1,2-Dichlorobenzene	1.0	< 1000	ug/L			
n-Butylbenzene	1.0	< 1000	ug/L			
1,2-Dibromomono-3-chloropropane	1.0	< 1000	ug/L			
1,2,4-Trichlorobenzene	1.0	< 1000	ug/L			
Naphthalene	1.0	< 1000	ug/L			
Hexachlorobutadiene	1.0	< 1000	ug/L			
1,2,3-Trichlorobenzene	1.0	< 1000	ug/L			

SURROGATE % RECOVERY

1,2-Dichloroethane-d4 106  
 ( 80 - 120 )  
 Toluene-d8 104  
 ( 88 - 110 )  
 Bromofluorobenzene 106  
 ( 86 - 115 )



*American Environmental Network, Inc.*

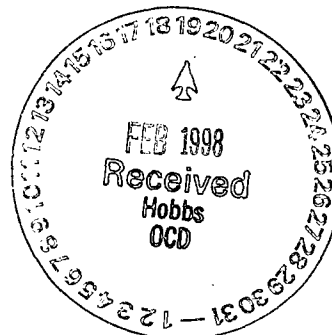
GC/MS RESULTS

TEST : VOLATILE ORGANICS EPA METHOD 8260  
 CLIENT : NMOCD  
 PROJECT # : WASH SUMP  
 PROJECT NAME : XL JAL NM

AEN I.D. : 801394

SAMPLE ID #	BATCH	MATRIX	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
REAGENT BLANK	020498	AQUEOUS	N/A	02/04/98	1
PARAMETER	DET. LIMIT	UNITS			

Dichlorodifluoromethane	1.0	< 1.0	ug/L
Chloromethane	1.0	< 1.0	ug/L
Vinyl Chloride	1.0	< 1.0	ug/L
Bromomethane	1.0	< 1.0	ug/L
Chloroethane	1.0	< 1.0	ug/L
Trichlorofluoromethane	1.0	< 1.0	ug/L
Acetone	10	< 10	ug/L
Acrolein	5.0	< 5.0	ug/L
1,1-Dichloroethene	1.0	< 1.0	ug/L
Iodomethane	1.0	< 1.0	ug/L
Methylene Chloride	1.0	< 1.0	ug/L
Acrylonitrile	5.0	< 5.0	ug/L
cis-1,2-Dichloroethene	1.0	< 1.0	ug/L
Methyl-t-butyl Ether	1.0	< 1.0	ug/L
1,1,2,1,2,2-Trichlorotrifluoroethane	1.0	< 1.0	ug/L
1,1-Dichloroethane	1.0	< 1.0	ug/L
trans-1,2-Dichloroethene	1.0	< 1.0	ug/L
2-Butanone	10	< 10	ug/L
Carbon Disulfide	1.0	< 1.0	ug/L
Bromochloromethane	1.0	< 1.0	ug/L
Chloroform	1.0	< 1.0	ug/L
2,2-Dichloropropane	1.0	< 1.0	ug/L
1,2-Dichloroethane	1.0	< 1.0	ug/L
Vinyl Acetate	1.0	< 1.0	ug/L
1,1,1-Trichloroethane	1.0	< 1.0	ug/L
1,1-Dichloropropene	1.0	< 1.0	ug/L
Carbon Tetrachloride	1.0	< 1.0	ug/L
Benzene	1.0	< 1.0	ug/L
1,2-Dichloropropane	1.0	< 1.0	ug/L
Trichloroethene	1.0	< 1.0	ug/L
Bromodichloromethane	1.0	< 1.0	ug/L
2-Chloroethyl Vinyl Ether	10	< 10	ug/L
cis-1,3-Dichloropropene	1.0	< 1.0	ug/L
trans-1,3-Dichloropropene	1.0	< 1.0	ug/L
1,1,2-Trichloroethane	1.0	< 1.0	ug/L
1,3-Dichloropropane	1.0	< 1.0	ug/L
Dibromomethane	1.0	< 1.0	ug/L
Toluene	1.0	< 1.0	ug/L



*American Environmental Network, Inc.*

GC/MS RESULTS

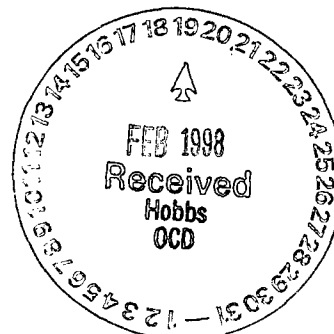
TEST : VOLATILE ORGANICS EPA METHOD 8260  
 CLIENT : NMOCD  
 PROJECT # : WASH SUMP  
 PROJECT NAME : XL JAL NM

AEN I.D. : 801394

SAMPLE ID #	BATCH	MATRIX	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
REAGENT BLANK	020498	AQUEOUS	N/A	02/04/98	1
PARAMETER	DET. LIMIT	UNITS			
1,2-Dibromoethane	1.0	< 1.0	ug/L		
4-Methyl-2-Pentanone	10	< 10	ug/L		
2-Hexanone	10	< 10	ug/L		
Dibromochloromethane	1.0	< 1.0	ug/L		
Tetrachloroethene	1.0	< 1.0	ug/L		
Chlorobenzene	1.0	< 1.0	ug/L		
Ethylbenzene	1.0	< 1.0	ug/L		
1,1,1,2-Tetrachloroethane	1.0	< 1.0	ug/L		
m&p Xylenes	1.0	< 1.0	ug/L		
o-Xylene	1.0	< 1.0	ug/L		
Styrene	1.0	< 1.0	ug/L		
Bromoform	1.0	< 1.0	ug/L		
1,1,1,2-Tetrachloroethane	1.0	< 1.0	ug/L		
1,2,3-Trichloropropane	1.0	< 1.0	ug/L		
Isopropyl Benzene	1.0	< 1.0	ug/L		
Bromobenzene	1.0	< 1.0	ug/L		
trans-1,4-Dichloro-2-Butene	1.0	< 1.0	ug/L		
n-Propylbenzene	1.0	< 1.0	ug/L		
2-Chlorotoluene	1.0	< 1.0	ug/L		
4-Chlorotoluene	1.0	< 1.0	ug/L		
1,3,5-Trimethylbenzene	1.0	< 1.0	ug/L		
tert-Butylbenzene	1.0	< 1.0	ug/L		
1,2,4-Trimethylbenzene	1.0	< 1.0	ug/L		
sec-Butylbenzene	1.0	< 1.0	ug/L		
1,3-Dichlorobenzene	1.0	< 1.0	ug/L		
1,4-Dichlorobenzene	1.0	< 1.0	ug/L		
p-Isopropyltoluene	1.0	< 1.0	ug/L		
1,2-Dichlorobenzene	1.0	< 1.0	ug/L		
n-Butylbenzene	1.0	< 1.0	ug/L		
1,2-Dibromomo-3-chloropropane	1.0	< 1.0	ug/L		
1,2,4-Trichlorobenzene	1.0	< 1.0	ug/L		
Naphthalene	1.0	< 1.0	ug/L		
Hexachlorobutadiene	1.0	< 1.0	ug/L		
1,2,3-Trichlorobenzene	1.0	< 1.0	ug/L		

SURROGATE % RECOVERY

1,2-Dichloroethane-d4 98  
 ( 80 - 120 )  
 Toluene-d8 96  
 ( 88 - 110 )  
 Bromofluorobenzene 98  
 ( 86 - 115 )



Spike Recovery and RPD Summary Report - WATER

Method : C:\HPCHEM\1\METHODS\82600203.M (RTE Integrator)  
Title : AEN New Mexico GC/MS  
Last Update : Tue Feb 03 15:31:09 1998  
Response via : Initial Calibration

Non-Spiked Sample: 02049811.D

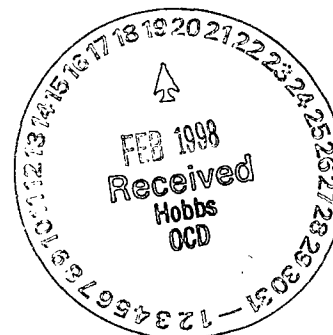
Spike Sample	Spike Duplicate Sample
File ID : 020498S3.D	020498S4.D
Sample : 802309-01 MS	802309-01 MS
Acq Time: 4 Feb 98 6:31 pm	4 Feb 98 7:07 pm

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC Limits RPD	QC Limits % Rec
1,1-Dichloroethene	0.0	50	44	44	88	88	0	14	61-145
Benzene	0.0	50	47	48	94	96	2	11	76-127
Trichloroethene	0.0	50	46	47	92	94	2	14	71-120
Toluene	0.0	50	47	48	94	96	2	13	76-125
Chlorobenzene	0.0	50	47	49	94	98	4	13	75-130

# - Fails Limit Check

82600203.M

Thu Feb 05 08:43:35 1998





# *American Environmental Network, Inc.*

11 EAST OLIVE ROAD • PENSACOLA, FL 32514 • (850) 474-1001

SIGNATURE PAGE

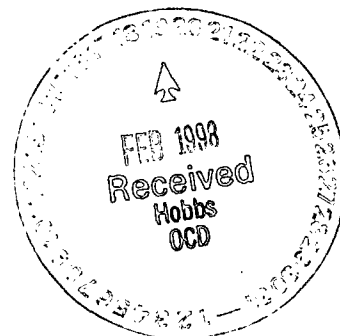
Reviewed by:

*Rinda Rofton*  
AEN Project Manager

Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.  
ALBUQUERQUE, NEW MEXICO

Project Name: N.M.-OCD  
Project Number: 801394  
Project Location: WASH SUMP  
Accession Number: 802033

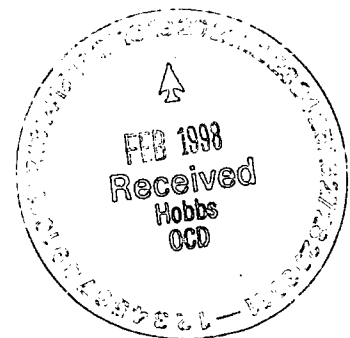
Project Manager: KIMBERLY D. MCNEILL  
Sampled By: N/S



Analysis Report

Analysis: ACID & BASE EXTRACTABLES (8270)

Accession:	802033
Client:	AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number:	801394
Project Name:	N.M.-OCD
Project Location:	WASH SUMP
Department:	ORGANIC/MS



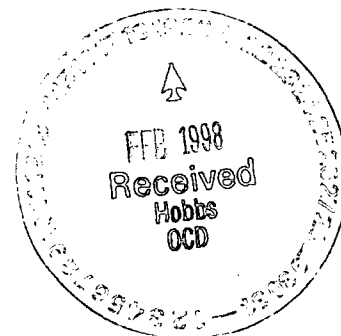
[0] Page 1  
Date 12-Feb-98

## "FINAL REPORT FORMAT - SINGLE"

Accession: 802033  
 Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.  
 Project Number: 801394  
 Project Name: N.M.-OCD  
 Project Location: WASH SUMP  
 Test: ACID & BASE EXTRACTABLES (8270)  
 Analysis Method: 8270/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.  
 Extraction Method: 3520/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.  
 Matrix: WATER  
 QC Level: II

Lab Id: 001 Sample Date/Time: 30-JAN-98 1645  
 Client Sample Id: 801394-01 Received Date: 03-FEB-98  
 Batch: ALW011 Extraction Date: 05-FEB-98  
 Blank: A Dry Weight %: N/A Analysis Date: 12-FEB-98

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZOIC ACID	UG/L	ND	50	
4-CHLORO-3-METHYLPHENOL	UG/L	ND	10	
2-CHLOROPHENOL	UG/L	ND	10	
2,4-DICHLOROPHENOL	UG/L	ND	10	
2,6-DICHLOROPHENOL	UG/L	ND	10	
2,4-DIMETHYLPHENOL	UG/L	ND	10	
4,6-DINITRO-2-METHYLPHENOL	UG/L	ND	50	
2,4-DINITROPHENOL	UG/L	ND	50	
2-METHYLPHENOL	UG/L	10	10	
4-METHYLPHENOL	UG/L	ND	10	
2-NITROPHENOL	UG/L	ND	10	
4-NITROPHENOL	UG/L	ND	50	
PENTACHLOROPHENOL	UG/L	ND	50	
PHENOL	UG/L	ND	10	
2,3,4,6-TETRACHLOROPHENOL	UG/L	ND	10	
2,4,5-TRICHLOROPHENOL	UG/L	ND	50	
2,4,6-TRICHLOROPHENOL	UG/L	ND	10	
ACENAPHTHENE	UG/L	ND	10	
ACENAPHTHYLENE	UG/L	ND	10	
ACETOPHENONE	UG/L	ND	10	
4-AMINOBIIPHENYL	UG/L	ND	10	
ANILINE	UG/L	ND	10	
ANTHRACENE	UG/L	ND	10	
BENZIDINE	UG/L	ND	10	
BENZO (A) ANTHRACENE	UG/L	ND	10	
BENZO (A) PYRENE	UG/L	ND	10	
BENZO (B) FLUORANTHENE	UG/L	ND	10	
BENZO (G,H,I) PERYLENE	UG/L	ND	10	
BENZO (K) FLUORANTHENE	UG/L	ND	10	
BENZYL ALCOHOL	UG/L	ND	10	
BIS (2-CHLOROETHOXY) METHANE	UG/L	ND	10	
BIS (2-CHLOROETHYL) ETHER	UG/L	ND	10	
BIS (2-CHLOROISOPROPYL) ETHER	UG/L	ND	10	
BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	ND	10	
4-BROMOPHENYL PHENYL ETHER	UG/L	ND	10	
BUTYLBENZYL PHTHALATE	UG/L	ND	10	
4-CHLOROANILINE	UG/L	ND	10	
1-CHLORONAPHTHALENE	UG/L	ND	10	
2-CHLORONAPHTHALENE	UG/L	ND	10	
4-CHLOROPHENYL PHENYL ETHER	UG/L	ND	10	



[0] Page 2  
Date 12-Feb-98

## "FINAL REPORT FORMAT - SINGLE"

Accession: 802033  
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.  
Project Number: 801394  
Project Name: N.M.-OCD  
Project Location: WASH SUMP  
Test: ACID & BASE EXTRACTABLES (8270)  
Analysis Method: 8270/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.  
Extraction Method: 3520/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.  
Matrix: WATER  
QC Level: II

Lab Id: 001  
Client Sample Id: 801394-01

Sample Date/Time: 30-JAN-98 1645  
Received Date: 03-FEB-98

Parameter:	Units:	Results:	Rpt Lmts:	Q:
CHRYSENE	UG/L	ND	10	
DIBENZ (A, J) ACRIDINE	UG/L	ND	10	
DIBENZO (A, H) ANTHRACENE	UG/L	ND	10	
DIBENZOFURAN	UG/L	ND	10	
1,2-DICHLOROBENZENE	UG/L	ND	10	
1,3-DICHLOROBENZENE	UG/L	ND	10	
1,4-DICHLOROBENZENE	UG/L	ND	10	
3,3'-DICHLOROBENZIDINE	UG/L	ND	50	
DIETHYLPHTHALATE	UG/L	ND	10	
P-DIMETHYLAMINOAZOBENZENE	UG/L	ND	10	
7,12-DIMETHYLBENZ (A) ANTHRACENE	UG/L	ND	10	
A-, A-DIMETHYLPHENETHYLAMINE	UG/L	ND	10	
DIMETHYLPHTHALATE	UG/L	ND	10	
DI-N-BUTYLPHTHALATE	UG/L	ND	10	
2,4-DINITROTOLUENE	UG/L	ND	10	
2,6-DINITROTOLUENE	UG/L	ND	10	
DI-N-OCTYLPHTHALATE	UG/L	ND	10	
DIPHENYLAMINE	UG/L	ND	10	
1,2-DIPHENYLHYDRAZINE	UG/L	ND	10	
FLUORANTHENE	UG/L	ND	10	
FLUORENE	UG/L	ND	10	
HEXACHLOROBENZENE	UG/L	ND	10	
HEXACHLOROBUTADIENE	UG/L	ND	10	
HEXACHLOROCYCLOPENTADIENE	UG/L	ND	10	
HEXACHLOROETHANE	UG/L	ND	10	
INDENO (1,2,3-CD) PYRENE	UG/L	ND	10	
ISOPHORONE	UG/L	ND	10	
3-METHYLCHOLANTHRENE	UG/L	ND	10	
2-METHYLNAPHTHALENE	UG/L	ND	10	
NAPHTHALENE	UG/L	ND	10	
1-NAPHTHYLAMINE	UG/L	ND	10	
2-NAPHTHYLAMINE	UG/L	ND	10	
2-NITROANILINE	UG/L	ND	10	
3-NITROANILINE	UG/L	ND	10	
4-NITROANILINE	UG/L	ND	10	
NITROBENZENE	UG/L	ND	10	
N-NITROSODIMETHYLAMINE	UG/L	ND	10	
N-NITROSODI-N-BUTYLAMINE	UG/L	ND	10	
N-NITROSODIPHENYLAMINE	UG/L	ND	10	
N-NITROSO-DI-N-PROPYLAMINE	UG/L	ND	10	
N-NITROSOPIPERIDINE	UG/L	ND	10	
PENTACHLOROBENZENE	UG/L	ND	10	
PENTACHLORONITROBENZENE (PCNB)	UG/L	ND	10	
PHENACETIN	UG/L	ND	10	
PHENANTHRENE	UG/L	ND	10	



[0] Page 3  
Date 12-Feb-98

"FINAL REPORT FORMAT - SINGLE"

Accession: 802033  
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.  
Project Number: 801394  
Project Name: N.M.-OCD  
Project Location: WASH SUMP  
Test: ACID & BASE EXTRACTABLES (8270)  
Analysis Method: 8270/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.  
Extraction Method: 3520/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.  
Matrix: WATER  
QC Level: II

Lab Id: 001 Sample Date/Time: 30-JAN-98 1645  
Client Sample Id: 801394-01 Received Date: 03-FEB-98

Parameter:	Units:	Results:	Rpt Lmts:	Q:
2-PICOLINE	UG/L	ND	10	
PRONAMIDE	UG/L	ND	10	
PYRENE	UG/L	ND	10	
1,2,4,5-TETRACHLOROBENZENE	UG/L	ND	10	
1,2,4 TRICHLOROBENZENE	UG/L	ND	10	
2-FLUOROPHENOL	%REC/SURR	73	21-100	
PHENOL-D6	%REC/SURR	69	10-100	
2,4,6-TRIBROMOPHENOL	%REC/SURR	77	10-123	
2-FLUOROBIPHENYL	%REC/SURR	84	43-116	
NITROBENZENE-D5	%REC/SURR	77	35-114	
TERPHENYL-D14	%REC/SURR	80	33-124	
ANALYST	INITIALS	RW		

Comments:



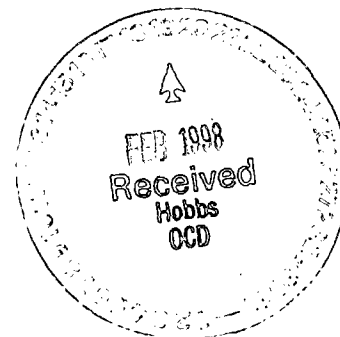
[0] Page 4  
Date 12-Feb-98

## "FINAL REPORT FORMAT - SINGLE"

Accession: 802033  
 Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.  
 Project Number: 801394  
 Project Name: N.M.-OCD  
 Project Location: WASH SUMP  
 Test: ACID & BASE EXTRACTABLES (8270)  
 Analysis Method: 8270/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.  
 Extraction Method: 3520/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.  
 Matrix: WATER  
 QC Level: II

Lab Id: 002 Sample Date/Time: 30-JAN-98 1720  
 Client Sample Id: 801394-02 Received Date: 03-FEB-98  
 Batch: ALW011 Extraction Date: 05-FEB-98  
 Blank: A Dry Weight %: N/A Analysis Date: 12-FEB-98

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZOIC ACID	UG/L	ND	50	
4-CHLORO-3-METHYLPHENOL	UG/L	ND	10	
2-CHLOROPHENOL	UG/L	ND	10	
2,4-DICHLOROPHENOL	UG/L	ND	10	
2,6-DICHLOROPHENOL	UG/L	ND	10	
2,4-DIMETHYLPHENOL	UG/L	ND	10	
4,6-DINITRO-2-METHYLPHENOL	UG/L	ND	50	
2,4-DINITROPHENOL	UG/L	ND	50	
2-METHYLPHENOL	UG/L	ND	10	
4-METHYLPHENOL	UG/L	59	10	
2-NITROPHENOL	UG/L	ND	10	
4-NITROPHENOL	UG/L	ND	50	
PENTACHLOROPHENOL	UG/L	ND	50	
PHENOL	UG/L	ND	10	
2,3,4,6-TETRACHLOROPHENOL	UG/L	ND	10	
2,4,5-TRICHLOROPHENOL	UG/L	ND	50	
2,4,6-TRICHLOROPHENOL	UG/L	ND	10	
ACENAPHTHENE	UG/L	ND	10	
ACENAPHTHYLENE	UG/L	ND	10	
ACETOPHENONE	UG/L	ND	10	
4-AMINOBIIPHENYL	UG/L	ND	10	
ANILINE	UG/L	ND	10	
ANTHRACENE	UG/L	ND	10	
BENZIDINE	UG/L	ND	10	
BENZO (A) ANTHRACENE	UG/L	ND	10	
BENZO (A) PYRENE	UG/L	ND	10	
BENZO (B) FLUORANTHENE	UG/L	ND	10	
BENZO (G,H,I) PERYLENE	UG/L	ND	10	
BENZO (K) FLUORANTHENE	UG/L	ND	10	
BENZYL ALCOHOL	UG/L	21	10	
BIS(2-CHLOROETHOXY)METHANE	UG/L	ND	10	
BIS(2-CHLOROETHYL)ETHER	UG/L	ND	10	
BIS(2-CHLOROISOPROPYL)ETHER	UG/L	ND	10	
BIS(2-ETHYLHEXYL)PHTHALATE	UG/L	12	10	
4-BROMOPHENYL PHENYL ETHER	UG/L	ND	10	
BUTYLBENZYL PHTHALATE	UG/L	ND	10	
4-CHLOROANILINE	UG/L	ND	10	
1-CHLORONAPHTHALENE	UG/L	ND	10	
2-CHLORONAPHTHALENE	UG/L	ND	10	
4-CHLOROPHENYL PHENYL ETHER	UG/L	ND	10	



[0) Page 5

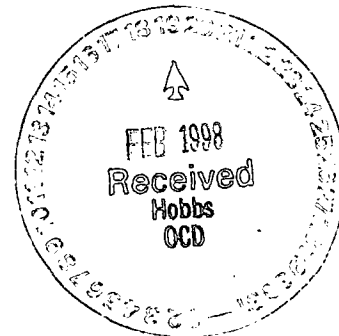
Date 12-Feb-98

"FINAL REPORT FORMAT - SINGLE"

Accession: 802033  
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.  
Project Number: 801394  
Project Name: N.M.-OCD  
Project Location: WASH SUMP  
Test: ACID & BASE EXTRACTABLES (8270)  
Analysis Method: 8270/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.  
Extraction Method: 3520/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.  
Matrix: WATER  
OC Level: II

Lab Id: 002 Sample Date/Time: 30-JAN-98 1720  
Client Sample Id: 801394-02 Received Date: 03-FEB-98

Parameter:	Units:	Results:	Rpt Lmts:	Q:
CHRYSENE	UG/L	ND	10	
DIBENZ (A, J) ACRIDINE	UG/L	ND	10	
DIBENZO (A, H) ANTHRACENE	UG/L	ND	10	
DIBENZOFURAN	UG/L	ND	10	
1,2-DICHLOROBENZENE	UG/L	ND	10	
1,3-DICHLOROBENZENE	UG/L	ND	10	
1,4-DICHLOROBENZENE	UG/L	ND	10	
3,3'-DICHLOROBENZIDINE	UG/L	ND	50	
DIETHYLPHTHALATE	UG/L	ND	10	
P-DIMETHYLAMINOAZOBENZENE	UG/L	ND	10	
7,12-DIMETHYLBENZ (A) ANTHRACENE	UG/L	ND	10	
A-, A-DIMETHYLPHENETHYLAMINE	UG/L	ND	10	
DIMETHYLPHTHALATE	UG/L	ND	10	
DI-N-BUTYLPHTHALATE	UG/L	ND	10	
2,4-DINITROTOLUENE	UG/L	ND	10	
2,6-DINITROTOLUENE	UG/L	ND	10	
DI-N-OCTYLPHTHALATE	UG/L	ND	10	
DIPHENYLAMINE	UG/L	ND	10	
1,2-DIPHENYLHYDRAZINE	UG/L	ND	10	
FLUORANTHENE	UG/L	ND	10	
FLUORENE	UG/L	ND	10	
HEXACHLOROBENZENE	UG/L	ND	10	
HEXACHLOROBUTADIENE	UG/L	ND	10	
HEXACHLOROCYCLOPENTADIENE	UG/L	ND	10	
HEXACHLOROETHANE	UG/L	ND	10	
INDENO (1,2,3-CD) PYRENE	UG/L	ND	10	
ISOPHORONE	UG/L	ND	10	
3-METHYLCHOLANTHRENE	UG/L	ND	10	
2-METHYLNAPHTHALENE	UG/L	ND	10	
NAPHTHALENE	UG/L	ND	10	
1-NAPHTHYLAMINE	UG/L	ND	10	
2-NAPHTHYLAMINE	UG/L	ND	10	
2-NITROANILINE	UG/L	ND	10	
3-NITROANILINE	UG/L	ND	10	
4-NITROANILINE	UG/L	ND	10	
NITROBENZENE	UG/L	ND	10	
N-NITROSODIMETHYLAMINE	UG/L	ND	10	
N-NITROSODI-N-BUTYLAMINE	UG/L	ND	10	
N-NITROSODIPHENYLAMINE	UG/L	ND	10	
N-NITROSO-DI-N-PROPYLAMINE	UG/L	ND	10	
N-NITROSOPIPERIDINE	UG/L	ND	10	
PENTACHLOROBENZENE	UG/L	ND	10	
PENTACHLORONITROBENZENE (PCNB)	UG/L	ND	10	
PHENACETIN	UG/L	ND	10	
PHENANTHRENE	UG/L	ND	10	



[0] Page 6  
Date 12-Feb-98

"FINAL REPORT FORMAT - SINGLE"

Accession: 802033  
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.  
Project Number: 801394  
Project Name: N.M.-OCD  
Project Location: WASH SUMP  
Test: ACID & BASE EXTRACTABLES (8270)  
Analysis Method: 8270/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.  
Extraction Method: 3520/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.  
Matrix: WATER  
QC Level: II

Lab Id: 002 Sample Date/Time: 30-JAN-98 1720  
Client Sample Id: 801394-02 Received Date: 03-FEB-98

Parameter:	Units:	Results:	Rpt Lmts:	Q:
2-PICOLINE	UG/L	ND	10	
PRONAMIDE	UG/L	ND	10	
PYRENE	UG/L	ND	10	
1,2,4,5-TETRACHLOROBENZENE	UG/L	ND	10	
1,2,4 TRICHLOROBENZENE	UG/L	ND	10	
2-FLUOROPHENOL	%REC/SURR	76	21-100	
PHENOL-D6	%REC/SURR	35	10-100	
2,4,6-TRIBROMOPHENOL	%REC/SURR	73	10-123	
2-FLUOROBIPHENYL	%REC/SURR	76	43-116	
NITROBENZENE-D5	%REC/SURR	75	35-114	
TERPHENYL-D14	%REC/SURR	82	33-124	
ANALYST	INITIALS	RW		

Comments:



[0] Page 7  
Date 12-Feb-98

"Method Report Summary"

Accession Number: 802033  
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.  
Project Number: 801394  
Project Name: N.M.-OCD  
Project Location: WASH SUMP  
Test: ACID & BASE EXTRACTABLES (8270)

---

Client Sample Id:	Parameter:	Unit:	Result:
801394-01	2-METHYLPHENOL	UG/L	10
801394-02	4-METHYLPHENOL	UG/L	59
	BENZYL ALCOHOL	UG/L	21
	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	12



## Data Qualifiers for Final Report

AEN-Pensacola Inorganic/Organic

@	Adjusted reporting limit due to sample matrix (dilution prior to digestion and/or analysis)
+	Elevated reporting limit due to dilution into calibration range
*	Elevated reporting limit due to matrix interference (dilution prior to digestion and/or analysis)
#	Elevated reporting limit due to insufficient sample size
D	Diluted out
J5	The reported value is quantitated as a TIC; therefore, it is estimated
ND = Not Detected	N/S = Not Submitted      N/A = Not Applicable

Florida Projects Inorganic/Organic

Y1	Improper preservation, no preservative present in sample upon receipt
Y2	Improper preservation, incorrect preservative present in sample upon receipt
Y3	Improper preservation, sample temperature exceeded EPA temperature limits of 2-6°C upon receipt
Y (FL description)	The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
Q	Sample held beyond the accepted holding time
I	The reported value is < Laboratory RL and > laboratory MDL
U1	The reported value is ≤ Laboratory MDL (value for sample result is reported as the MDL)
U (FL description)	Indicates the compound was analyzed for but not detected.
T	The reported value is < Laboratory MDL (value shall not be used for statistical analysis)
V	The analyte was detected in both the sample and the associated method blank.
J1	Surrogate recovery limits have been exceeded
J2	The sample matrix interfered with the ability to make any accurate determinations
J3	The reported value failed to meet the established quality control criteria for either precision or accuracy
J (FL description)	Estimated value; not accurate.

AFCEE Projects (under QAPP) and All Other (AEN-PN) Projects/Sites for Inorganic/Organic Parameters

J4	(For positive results)      Temperature limits exceeded ( $\leq 2^{\circ}\text{C}$ or $\geq 6^{\circ}\text{C}$ )
J (AFCEE description)	The analyte was positively identified, the quantitation is an estimation
R1	(For nondetects)      Temperature limits exceeded ( $\leq 2^{\circ}\text{C}$ or $\geq 6^{\circ}\text{C}$ )
R2	Improper preservation, no preservative present in sample upon receipt
R3	Improper preservation, incorrect preservative present in sample upon receipt
R4	Holding time exceeded
R5	Collection requirements not met, improper container used for sample
R (AFCEE description)	The data are unusable due to deficiencies in the ability to analyze the sample and meet QC criteria
F	< RL and > laboratory MDL
F (AFCEE description)	The analyte was positively identified but the associated numerical value is below the AFCEE or lab RL
U2	≤ Laboratory MDL (value for result will be the MDL, never below the MDL)
U (AFCEE description)	The analyte was analyzed for but not detected. The associated numerical value is at or below the MDL
B (AFCEE description)	The analyte was found in the associated blank, as well as in the sample

ICR Projects Inorganic/Organic

A	Acceptable
R6	Rejected

Examples: ICR Flags

R6 = Laboratory extracted the sample but the refrigerator malfunctioned so the extract became warm and client was notified

R6 = Sample arrived in laboratory in good condition; however, the laboratory did not analyze it within EPA's established holding time limit.

CLP and CLP-like Projects

Refer to referenced CLP Statement of Work (SOW) for explanation of data qualifiers

IDL = Laboratory Instrument Detection Limit

MDL = Laboratory Method Detection Limit

RL = Reporting Limit (AFCEE RLs are listed in the AFCEE QAPP)

CLP CRDL = CLP Contract Required Detection Limit (these limits are listed in the EPA CLP Statement of Work or SOW)

CLP CRQL = CLP Contract Required Quantitation Limit (these limits are listed in the EPA CLP Statement of Work or SOW)

**Any time** a sample arrives at the laboratory improperly preserved (at improper pH or temperature) or after holding time has expired or prepared or analyzed after holding time, client must be notified in writing (i.e. case narrative).

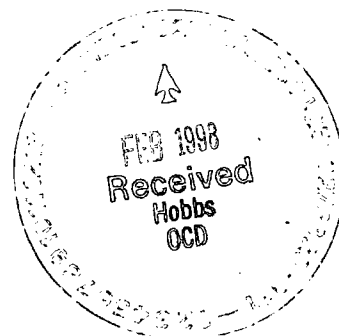
AEN-Pensacola uses the most current promulgated methods contained in the reference manuals.

REC 1998  
Received  
Hobbs  
OCD

Quality Control Report

Analysis: ACID & BASE EXTRACTABLES (8270)

Accession:	802033
Client:	AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number:	801394
Project Name:	N.M.-OCD
Project Location:	WASH SUMP
Department:	ORGANIC/MS



[0] Page 1  
Date 12-Feb-98

## "QC Report"

Title: Water Blank  
 Batch: ALW011  
 Analysis Method: 8270/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.  
 Extraction Method: 3520/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.

Blank Id: A Date Analyzed: 11-FEB-98 Date Extracted: 05-FEB-98

Parameters:	Units:	Results:	Reporting Limits:
P-CHLORO-M-CRESOL	UG/KG	ND	10
2-CHLOROPHENOL	UG/KG	ND	10
O-CRESOL	UG/KG	ND	10
M, P CRESOL	UG/KG	ND	10
2,4-DICHLOROPHENOL	UG/KG	ND	10
2,6-DICHLOROPHENOL	UG/KG	ND	10
2,4-DIMETHYLPHENOL	UG/KG	ND	10
4,6-DINITRO-O-CRESOL	UG/KG	ND	50
2,4-DINITROPHENOL	UG/KG	ND	10
2-NITROPHENOL	UG/KG	ND	10
4-NITROPHENOL	UG/KG	ND	50
PENTACHLOROPHENOL	UG/KG	ND	50
PHENOL	UG/KG	ND	10
2,3,4,6-TETRACHLOROPHENOL	UG/KG	ND	10
2,4,5-TRICHLOROPHENOL	UG/KG	ND	50
2,4,6-TRICHLOROPHENOL	UG/KG	ND	10
ACENAPHTHENE	UG/KG	ND	10
ACENAPHTHYLENE	UG/KG	ND	10
ACETOPHENONE	UG/KG	ND	10
2-ACETYLAMINOFLUORENE	UG/KG	ND	10
4-AMINOBIIPHENYL	UG/KG	ND	10
ANILINE	UG/KG	ND	10
ANTHRACENE	UG/KG	ND	10
ARAMITE	UG/KG	ND	10
BENZO (A) ANTHRACENE	UG/KG	ND	10
BENZO (A) PYRENE	UG/KG	ND	10
BENZO (B) FLUORANTHENE	UG/KG	ND	10
BENZO (G,H,I) PERYLENE	UG/KG	ND	10
BENZO (K) FLUORANTHENE	UG/KG	ND	10
BENZYL ALCOHOL	UG/KG	ND	10
BIS (2-CHLORO-1-METHYLETHYL) ETHER	UG/KG	ND	10
BIS (2-CHLOROETHOXY) METHANE	UG/KG	ND	10
BIS (2-CHLOROETHYL) ETHER	UG/KG	ND	10
BIS (2-ETHYLHEXYL) PHTHALATE	UG/KG	ND	10
4-BROMOPHENYL PHENYL ETHER	UG/KG	ND	10
BUTYLBENZYL PHTHALATE	UG/KG	ND	10
P-CHLOROANILINE	UG/KG	ND	10
CHLOROBENZILATE	UG/KG	ND	10
2-CHLORONAPHTHALENE	UG/KG	ND	10
4-CHLOROPHENYL PHENYL ETHER	UG/KG	ND	10
CHRYSENE	UG/KG	ND	10
DIALATE	UG/KG	ND	10
DIBENZO (A,H) ANTHRACENE	UG/KG	ND	10
DIBENZOFURAN	UG/KG	ND	10
1,2-DICHLOROBENZENE	UG/KG	ND	10
1,3-DICHLOROBENZENE	UG/KG	ND	10

↑  
 FEB 1998  
 Received  
 Hobbs  
 OCD

[0] Page 2  
Date 12-Feb-98

## "QC Report"

Title: Water Blank  
Batch: ALW011  
Analysis Method: 8270/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.  
Extraction Method: 3520/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.

Parameters:	Units:	Results:	Reporting Limits:
1,4-DICHLOROBENZENE	UG/KG	ND	10
3,3'-DICHLOROBENZIDINE	UG/KG	ND	50
DIETHYLPHTHALATE	UG/KG	ND	10
DIMETHOATE	UG/KG	ND	10
P-DIMETHYLAMINOAZOBENZENE	UG/KG	ND	10
7,12-DIMETHYLBENZ (A) ANTHRACENE	UG/KG	ND	10
3,3'-DIMETHYLBENZIDINE	UG/KG	ND	10
A,A-DIMETHYLPHENETHYLAMINE	UG/KG	ND	10
DIMETHYLPHTHALATE	UG/KG	ND	10
DI-N-BUTYLPHTHALATE	UG/KG	ND	10
M-DINITROBENZENE	UG/KG	ND	10
2,4-DINITROTOLUENE	UG/KG	ND	10
2,6-DINITROTOLUENE	UG/KG	ND	10
DI-N-OCTYLPHTHALATE	UG/KG	ND	10
DIPHENYLAMINE	UG/KG	ND	10
ETHYL METHANESULFONATE	UG/KG	ND	10
FAMPHUR	UG/KG	ND	10
FLUORANTHENE	UG/KG	ND	10
FLUORENE	UG/KG	ND	10
HEXACHLOROBENZENE	UG/KG	ND	10
HEXACHLOROBUTADIENE	UG/KG	ND	10
HEXACHLOROCYCLOPENTADIENE	UG/KG	ND	10
HEXACHLOROETHANE	UG/KG	ND	10
HEXACHLOROPHENE	UG/KG	ND	10
HEXACHLOROPROPENE	UG/KG	ND	10
INDENO (1,2,3-CD) PYRENE	UG/KG	ND	10
ISODRIN	UG/KG	ND	10
ISOPHORONE	UG/KG	ND	10
ISOSAFROLE	UG/KG	ND	10
KEPONE	UG/KG	ND	10
METHAPYRILENE	UG/KG	ND	10
3-METHYLCHOLANTHRENE	UG/KG	ND	10
METHYL METHANESULFONATE	UG/KG	ND	10
1-METHYLNAPHTHALENE	UG/KG	ND	10
2-METHYLNAPHTHALENE	UG/KG	ND	10
NAPHTHALENE	UG/KG	ND	10
1,4-NAPHTHOQUINONE	UG/KG	ND	10
1-NAPHTHYLAMINE	UG/KG	ND	10
2-NAPHTHYLAMINE	UG/KG	ND	10
2-NITROANILINE	UG/KG	ND	50
3-NITROANILINE	UG/KG	ND	50
4-NITROANILINE	UG/KG	ND	50
NITROBENZENE	UG/KG	ND	10
5-NITRO-O-TOLUIDINE	UG/KG	ND	10
4-NITROQUINOLINE-1-OXIDE	UG/KG	ND	10
N-NITROSODIETHYLAMINE	UG/KG	ND	10
N-NITROSODIMETHYLAMINE	UG/KG	ND	10



[0] Page 3  
Date 12-Feb-98

## "QC Report"

Title: Water Blank  
 Batch: ALW011  
 Analysis Method: 8270/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.  
 Extraction Method: 3520/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.

Parameters:	Units:	Results:	Reporting Limits:
N-NITROSODI-N-BUTYLAMINE	UG/KG	ND	10
N-NITROSODIPHENYLAMINE	UG/KG	ND	10
N-NITROSOMETHYLETHYLAMINE	UG/KG	ND	10
N-NITROSOMORPHOLINE	UG/KG	ND	10
N-NITROSOPIPERIDINE	UG/KG	ND	10
N-NITROSOPYRROLIDINE	UG/KG	ND	10
PARATHION	UG/KG	ND	10
PENTACHLOROENZENE	UG/KG	ND	10
PENTACHLOROETHANE	UG/KG	ND	10
PENTACHLORONITROBENZENE	UG/KG	ND	10
PHENACETIN	UG/KG	ND	10
PHENANTHRENE	UG/KG	ND	10
2-PICOLINE	UG/KG	ND	10
P-PHENYLENEDIAMINE	UG/KG	ND	10
PRONAMIDE	UG/KG	ND	10
PYRENE	UG/KG	ND	10
PYRIDINE	UG/KG	ND	10
SAFROLE	UG/KG	ND	10
SULFOTEP	UG/KG	ND	10
1,2,4,5-TETRACHLOROENZENE	UG/KG	ND	10
THIONAZIN	UG/KG	ND	10
O-TOLUIDINE	UG/KG	ND	10
1,2,4 TRICHLOROENZENE	UG/KG	ND	10
SYM-TRINITROBENZENE	UG/KG	ND	10
O,O,O-TRIETHYL PHOSPHOROTHIAE	UG/KG	ND	10
BENZIDINE	UG/KG	ND	10
BIS(2-CHLOROISOPROPYL) ETHER	UG/KG	ND	10
2-(SEC BUTYL) 4,6-DINITRO-PHENOL (DINOSEB)	UG/KG	ND	10
N-NITROSO-DI-N-PROPYLAMINE	UG/KG	ND	10
6-METHYL CHRYSENE	UG/KG	ND	20
INDENE	UG/KG	ND	20
QUINOLINE	UG/KG	ND	50
BENZENETHIOL	UG/KG	ND	20
PARATOLIUDINE	UG/KG	ND	50
TOLUENE DIISOCYANATE	UG/KG	ND	50
TOLUENE DIAMINE	UG/KG	ND	50
MONONITROTOLUENE	UG/KG	ND	50
DIETHYLENE GLYCOL MONOBUTYL ETHER	UG/KG	ND	10
2-FLUOROPHENOL	%REC/SURR	54	25-121
PHENOL-D6	%REC/SURR	51	24-113
2,4,6-TRIBROMOPHENOL	%REC/SURR	63	19-122
2-FLUOROBIPHENYL	%REC/SURR	63	30-115
NITROBENZENE-D5	%REC/SURR	57	23-120
TERPHENYL-D14	%REC/SURR	81	18-137
ANALYST	INITIALS	RW	

Comments:



[0] Page 4  
Date 12-Feb-98

## "QC Report"

Title: Water LCS  
Batch: ALW011  
Analysis Method: 8270/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.  
Extraction Method: 3520/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.

RS Date Analyzed: 12-FEB-98

RS Date Extracted: 05-FEB-98

Parameters:	Spike Added	Sample Conc	RS Conc	RS %Rec	Rec Lmts
PHENOL	150	<10	120	80	5-112
2-CHLOROPHENOL	150	<10	120	80	40-120
1,4-DICHLOROBENZENE	100	<10	64	64	32-119
N-NITRO-DI-N-PROPYLAMINE	100	<10	66	66	26-128
1,2,4 TRICHLOROBENZENE	100	<10	68	68	44-142
4-CHLORO-3-METHYLPHENOL	150	<10	126	84	30-128
ACENAPHTHENE	100	<10	84	84	47-145
4-NITROPHENOL	150	<50	130	87	1-132
2,4-DINITROTOLUENE	100	<10	84	84	39-138
PENTACHLOROPHENOL	150	<50	146	97	15-157
PYRENE	100	<10	58	58	52-115
Surrogates:					
NITROBENZENE-D5				58	35-114
2-FLUOROBIPHENYL				67	43-116
TERPHENYL-D14				68	33-124
PHENOL-D6				70	10-100
2-FLUOROPHENOL				71	21-100
2,4,6-TRIBROMOPHENOL				81	10-123

Comments:

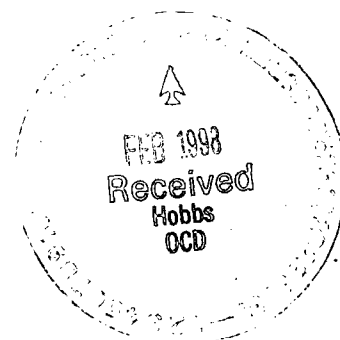
## Notes:

N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT

UG/L = PARTS PER BILLION. &lt; = LESS THAN REPORTING LIMIT.

\* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.

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



[0] Page 5  
Date 12-Feb-98

## "QC Report"

Title: Water Matrix Spike/Matrix Spike Duplicate  
 Batch: ALW011  
 Analysis Method: 8270/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.  
 Extraction Method: 3520/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.

Dry Weight %: N/A  
 Sample Spiked: 802032-7

MS Date Analyzed: 12-FEB-98  
 MSD Date Analyzed: 12-FEB-98

MS Date Extracted: 05-FEB-98  
 MSD Date Extracted: 05-FEB-98

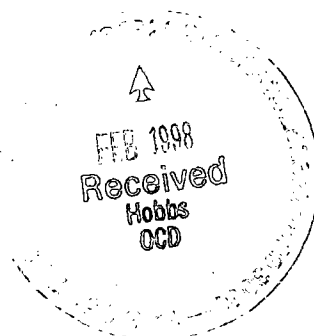
Parameters:	Spike Added	Sample Conc	MS Conc	MS %Rec	MSD Conc	MSD %Rec	RPD	RPD Lmts	Rec Lmts
PHENOL	300	<10	220	73	208	69	6	38	5-112
2-CHLOROPHENOL	300	<10	224	75	216	72	4	25	38-120
1,4-DICHLOROBENZENE	200	<10	164	82	164	82	0	27	39-112
N-NITRO-DI-N-PROPYLAMINE	200	<10	164	82	160	80	2	30	32-125
1,2,4 TRICHLOROBENZENE	200	<10	180	90	172	86	5	30	44-118
4-CHLORO-3-METHYLPHENOL	300	<10	220	73	196	65	12	23	42-131
ACENAPHTHENE	200	<10	184	92	184	92	0	21	47-131
4-NITROPHENOL	300	<50	288	96	284	95	1	36	1-116
2,4-DINITROTOLUENE	200	<10	192	96	188	94	2	22	39-138
PENTACHLOROPHENOL	300	<50	176	59	180	60	2	36	14-164
PYRENE	200	<10	140	70	132	66	6	21	52-115

Surrogates:	MS %Rec	MSD %Rec	Rec Lmts
NITROBENZENE-D5	72	70	35-114
2-FLUOROBIPHENYL	76	78	43-116
TERPHENYL-D14	77	73	33-124
PHENOL-D6	58	58	10-100
2-FLUOROPHENOL	60	56	21-100
2,4,6-TRIBROMOPHENOL	52	49	10-123

Comments:

## Notes:

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



Common notation for Organic reporting

N/S = NOT SUBMITTED  
N/A = NOT APPLICABLE  
UG/L = PARTS PER BILLION.  
UG/KG = PARTS PER BILLION.  
MG/KG = PARTS PER MILLION.  
MG/L = PARTS PER MILLION.  
MG/M3 = MILLIGRAMS PER CUBIC METER.  
NG = NANOGRAMS.  
UG = MICROGRAMS.  
PPBV = PARTS PER BILLION/VOLUME.  
< = LESS THAN.  
ND = NOT DETECTED ABOVE REPORT LIMIT.  
RPT LMTS = REPORTING LIMITS BASED ON METHOD DETECTION LIMIT STUDIES.  
RPD = RELATIVE PERCENT DIFFERENCE (OR DEVIATION)

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

ORGANIC SOILS ARE REPORTED ON A DRY WEIGHT BASIS.

DUE TO THE NATURE OF THE SAMPLE MATRIX, MATRIX SPIKE/MATRIX SPIKE DUPLICATE ANALYSIS CANNOT BE PERFORMED FOR AIR ANALYSIS.

CLP SOW 1991, USEPA CONTRACT LABORATORY PROGRAM, STATEMENT OF WORK FOR ORGANICS ANALYSIS, DOCUMENT NUMBER OLM01.8, AUGUST 1991.

AEN-PN USES THE MOST CURRENT PROMULGATED METHODS CONTAINED IN THE REFERENCE MANUALS.

LP = LEVERNE PETERSON	RW = RITA WINGO
LD = LARRY DILMORE	LL = LANCE LARSON
DWB = DAVID BOWERS	HB = HEATHER E. BLAIR



# American Environmental Network of Florida

## PROJECT SAMPLE INSPECTION FORM

Lab Accession #: 802033

Date Received: 2/03/98

- |   |   |
|---|---|
| <p>1. Was there a Chain of Custody? <u>Yes</u> No*</p> <p>2. Was Chain of Custody properly filled out and relinquished? <u>Yes</u> No*</p> <p>3. Were samples received cold? <u>Yes</u> No* N/A<br/>(Criteria: 2° - 6°C: AEN-SOP 1055)</p> <p>4. Were all samples properly labeled and identified? <u>Yes</u> No*</p> <p>5. Did samples require splitting? Yes* <u>No</u><br/>Req By: PM Client Other*</p> <p>6. Were samples received in proper containers for analysis requested? <u>Yes</u> No*</p> <p>7. Were all sample containers received intact? <u>Yes</u> No*</p> | <p>8. Were samples checked for preservative? (Check pH of all H<sub>2</sub>O requiring preservative except VOA vials that require zero headspace)* Yes No* <u>N/A</u></p> <p>9. Is there sufficient volume for analysis requested? <u>Yes</u> No*</p> <p>10. Were samples received within Holding Time? (REFER TO AEN-SOP 1040) <u>Yes</u> No*</p> <p>11. Is Headspace visible &gt; ¼" in diameter in VOA vials?* If any headspace is evident, comment in out-of-control section. Yes* No <u>N/A</u></p> <p>12. If sent, were matrix spike bottles returned? Yes No* <u>N/A</u></p> <p>13. Was Project Manager notified of problems? (initials: _____) Yes <u>No*</u> N/A</p> |
|---|---|

Airbill Number(s): 348 3316 103

Shipped By: FED EX

Cooler Number(s): Therco

Shipping Charges: N/A

Cooler Weight(s): 28#

Cooler Temp(s) (°C): 06K3 20C

(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

### Out of Control Events and Inspection Comments:

---

---

---

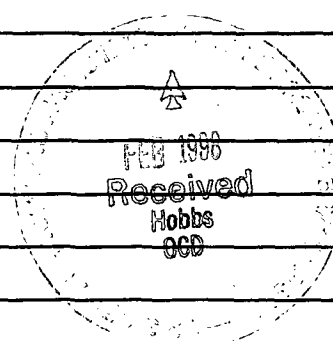
---

---

---

---

---



(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: WS Date: 2/03/98 Logged By: H. Kitt Date: Feb-98 03-FH 2/3/98

- \* Note all Out-of-Control and/or questionable events on Comment Section of this form.
- \* Note who requested the splitting of samples on the Comment Section of this form.
- + All preservatives for the State of North Carolina, the State of New York, and other requested samples are to be recorded on the sheet provided to record pH results (AEN-SOP 938, section 2.2.9).
- \* According to EPA, ¼" of headspace is allowed in 40 ml vials requiring volatile analysis, however, AEN makes it policy to record any headspace as out-of-control (AEN-SOP 938, section 2.2.12).

## Interlab Chain of Custody

DATE: 2-2-98 PAGE: 1 OF 1

[illegible]

# CHAIN OF CUSTODY

DATE: 1/30/98 PAGE: 1 OF 1

AEN-101394

PROJECT MANAGER: WAYNE PRICE

COMPANY: NMOC

ADDRESS: P.O. 1980  
HOBBS N.M. 88241

PHONE: 505-393-6161

FAX: 505-393-0720

BILL TO: S.A.R.

COMPANY:

ADDRESS:

ANALYSIS REQUEST	Petroleum Hydrocarbons (418.1) TRPH (MOD.8015) Diesel/Direct/Inject	(M8015) Gas/Purge & Trap	Gasoline/BTEX & MTBE (M8015/8020)	BTX/MTBE (8020)	BTEX & Chlorinated Aromatics (602/8020)	BTEX/MTBE/EDC & EDB (8020/8010/Short)	Chlorinated Hydrocarbons (601/8010)	504 EDB / DBCP	Polynuclear Aromatics (610/8310)	Volatile Organics (624/8240) GC/MS	Volatile Organics (8260) GC/MS	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	General Chemistry:	Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals:
XL SUMP #5 9801301645										X										
" " "														X						
WYOMING 9801301720										X										
" " "														X						
MONZANA 9801281000										X										
WYOMING 9801281000										X										
PANTHER 9801281000										X										

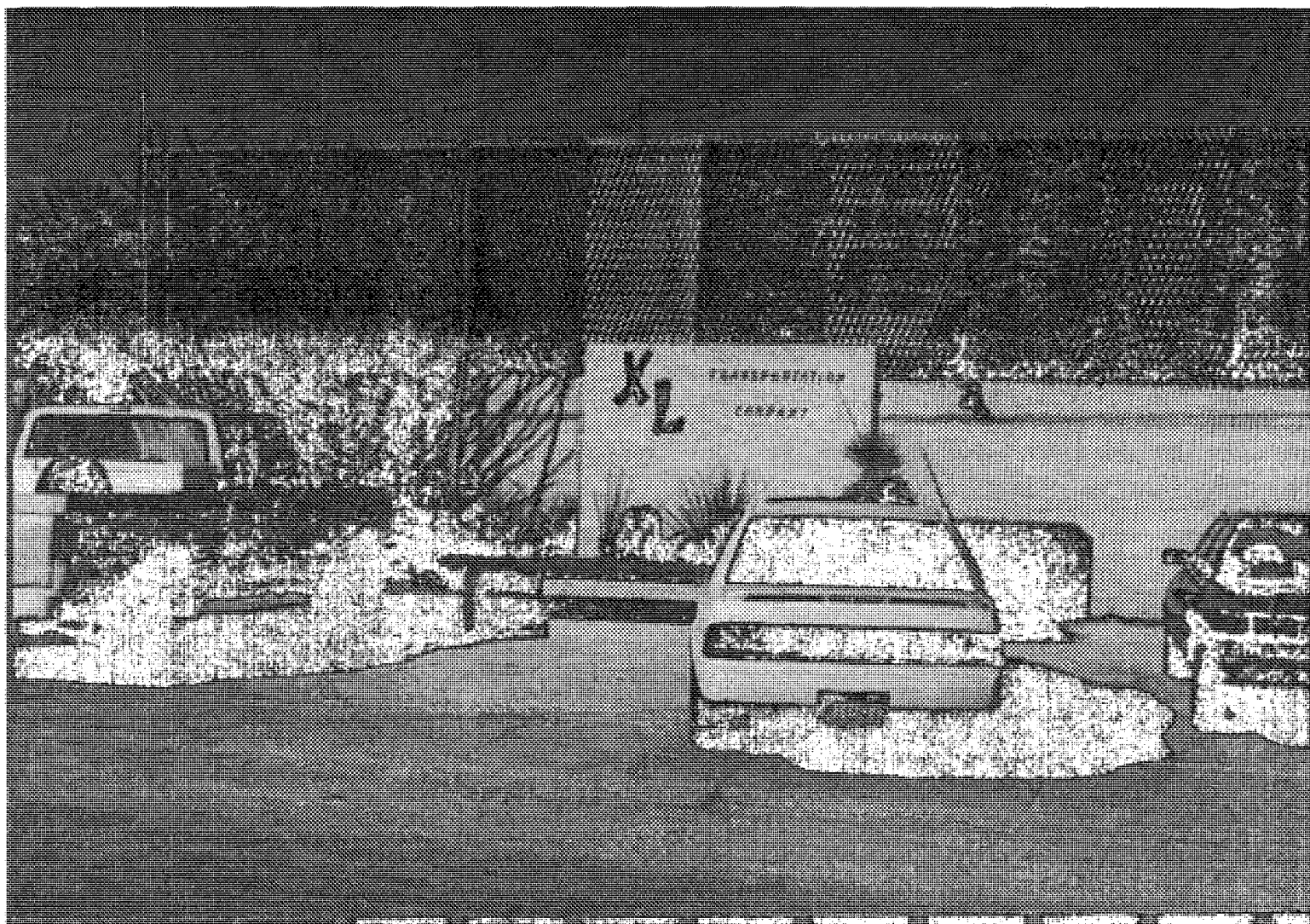
RECEIVED  
1/30/98  
Hobbs  
OCD

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT INFORMATION	PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS	RETURNED BY	RETURNED BY
PROJ. NO.: <u>WASH SUMP</u>	(RUSH) <input type="checkbox"/> 24hr <input type="checkbox"/> 48hr <input type="checkbox"/> 72hr <input type="checkbox"/> 1 WEEK (NORMAL) <input checked="" type="checkbox"/>	Signature: <u>Wayne Price</u> Time: <u>8:00 AM</u>	Signature: _____ Time: _____
PROJ. NAME: <u>XL JAL NM</u>	CERTIFICATION REQUIRED: <input checked="" type="checkbox"/> NM <input type="checkbox"/> SDWA <input type="checkbox"/> OTHER	Printed Name: <u>WAYNE PRICE</u> Date: <u>1/30/98</u>	Printed Name: _____ Date: _____
P.O. NO.:	METHANOL PRESERVATION <input type="checkbox"/>	Company: <u>NMOC</u>	Company: _____
SHIPPED VIA:	COMMENTS: <input type="checkbox"/> FIXED FEE <input type="checkbox"/> <u>SAMPLES ON ICE!</u> <u>XL #5 TAKEN USING CLEAN PE BAILER</u> <u>0-3'</u> <u>9801301720 TAKEN USING CLEAN</u> <u>OT JAR AS DIPPER</u> <u>OUTLASS: FRED SEIFTS - CRY JAL</u>	Signature: _____ Time: _____	Signature: _____ Time: _____
		Printed Name: _____ Date: _____	Printed Name: _____ Date: _____
		Company: _____	Company: _____









# NEW MEXICO ENERGY, MINERALS & NATURAL RESOURCES DEPARTMENT

OFFICE OF THE SECRETARY  
2040 South Pacheco Street  
Santa Fe, New Mexico 87305  
(800) 827-8980

Jennifer A. Salisbury  
CABINET SECRETARY

February 20, 1998

To: Roger Anderson

From: Wayne Price *Wayne Price*

Re: XL Sump Analysis & XL Brine St. (BW-25) inspection.

Dear Roger:

Please find enclosed the analyticals from the sampling event taken on Jan 30, 1998. Also attached is a sketch showing the different locations. Please note the analyticals with the ID 9801281000 were taken from sample containers that were collected by the City of Jal the morning after the incident. The incident occurred the night of Jan 27, 1998. These samples reflect Toluene at high concentrations down stream of the XL sump. The Up-stream manhole (Montana) was "ND" for Toluene.

For clarification the Montana manhole is up-stream of the XL facility. The Wyoming & Panther is down stream.

After reviewing the data, it appears at this time the source of Toluene was the XL sump.

I recommend that we follow through with XL performing an internal investigation so as we can understand how Toluene waste is generated in the sump. This will help classify if this waste water and or the sludge in the bottom of the sump is exempt/non-exempt and thus a possible "Listed Hazardous Waste". Also we need to know how often and where this waste is being disposed of. This can be part of the Discharge Plan. I also recommend that we have XL supply us the analytical data they collected during our sampling event.

Please note XL normally washes out trucks at their Brine Facility wash out pit (BW-25). I recommend we have XL describe how and what type of waste is discharged into this pit. Please note this sludge according to Chris Brininstool, has been going to Sundance (Parabo) facility.

Please note the NMOCD District I office received a complaint about contaminated soil being disposed of from the Brine St. onto a lot located inside city of Jal, NM. My investigation revealed that J.L.N.M. Construction Co. (P.O. Box 566 Jal, NM 88252) hauled the sludge from the brine pit and dumped it at their facility in Jal, NM. According to the owner Mr. Jimmy Hill he did this as a temporary storing area, then he hauled to Sundance Parabo. He supplied me Parabo tickets. Pictures were taken of the staging area.

I inspected the Brine St. (BW-25) with Chris Brininstool and took pictures. They have installed an additional concrete pad with curb next to the wash-out pit to hold the wet sludge until it is dry enough to haul off. I understand there might be some mixing of sludge and soil to help solidify it. The pad & curb is designed to drain back to the pit. They have also installed a new underground drain line and above ground waste tank downhill from the pit. This new tank is on a 30 mil liner and bermed. Also they have added a KCL mixing station.

I ask Chris Brininstool if they have modified their discharge plan, she said no.

I recommend that XL/Salado Brine ST (BW-25) be required to modify their discharge plan to reflect the new changes, plus they should list all types of waste, chemicals, etc that are discharged into the wash-out pit. They should determine if this waste is exempt or non-exempt. Is Toluene being discharged into this pit?

I also recommend that J.L.N.M be notified if they discharged any more contaminated soils at their site they will be required to obtain a Discharge Plan.

cc: Chris Williams-District I Supervisor -  
Jack Ford & Mark Ashley- NMOCD SF

attachments- for XL Transportation. cc of analyticals & sketch.  
- for Brine ST BW025 cc of pictures.

RECEIVED

FEB 09 1998

NMOCD INTER-OFFICE CORRESPONDENCE

TO: File of XL Transportation Co.  
From: Wayne Price-Environmental Engineer *Wayne Price*  
Date: 1-30-98  
Reference: Complaint from NM State Police about possible illegal dumping of chemicals into the City of Jal, NM city sewer system. Report taken by NMOCD Paul Kautz on Wednesday Jan 28, 1998.  
Subject: Field Inspection Trip on 1-30-98 with Chris Williams, NMOCD.

Environmental Bureau  
Oil Conservation Division

Comments:

KBIM local tv coverage has been covering the story and had contacted the NMOCD District I office concerning NMOCD's investigation plans.

Met Fred Seifts, Public Works Director at City Hall. Mr. Seifts gave overview of problem. They began receiving complaints from residents in area of 1st and 2nd streets on Tuesday, January 27. Strong chemical smell, gasoline smell, glue smells and in one case a rotten egg smell. Some residents were evacuated out of their homes.

On Wednesday, January 28, city employees had traced the problem back to the area near the XL Transportation Co., an oilfield service company. The city had collected sewer water samples above (upstream) and below (downstream).

Toured area with Mr. Seifts, and had an interview with Bill Brininstool, owner of XL. Inspected XL's wash pad sump. Discovered sump contained (BTEX) type odors. Ran PID found extremely high values of organic hydrocarbons. Olfactory smells were similar to paint thinner solvent like toluene and/or xylene. Mr. Brininstool indicated his company still uses and sells toluene but does not know how these chemical constituents got into the sump. Chris Williams and I advised Mr. Brininstool to conduct an internal investigation of his employees and operations to determine the cause of this problem. Mr. Brininstool advised us he would.

Conducted PID/TDS sampling of various city of Jal sewer manhole openings and XL wash pad sump. Took pictures of sump area. A recent spill appears to have been covered with fine caliche.

See attached pictures, field sketch and field findings.

Preliminary findings indicate the source appears to be the XL sump. After a telephone conference with Roger Anderson and Bill Olsen of the NMOCD Environmental Bureau, a decision was made to recommend to XL to conduct area sampling to determine if XL's sump is a problem. NMOCD will split samples.

Williams and Price made recommendation to Mr. Brininstool. Mr. Brininstool called Cardinal Lab and set up a sampling appointment.

Met Cardinal Lab personnel at approximately 4PM and XL representative, Rule Gatewood and city of Jal's public works director, Fred Seifts.

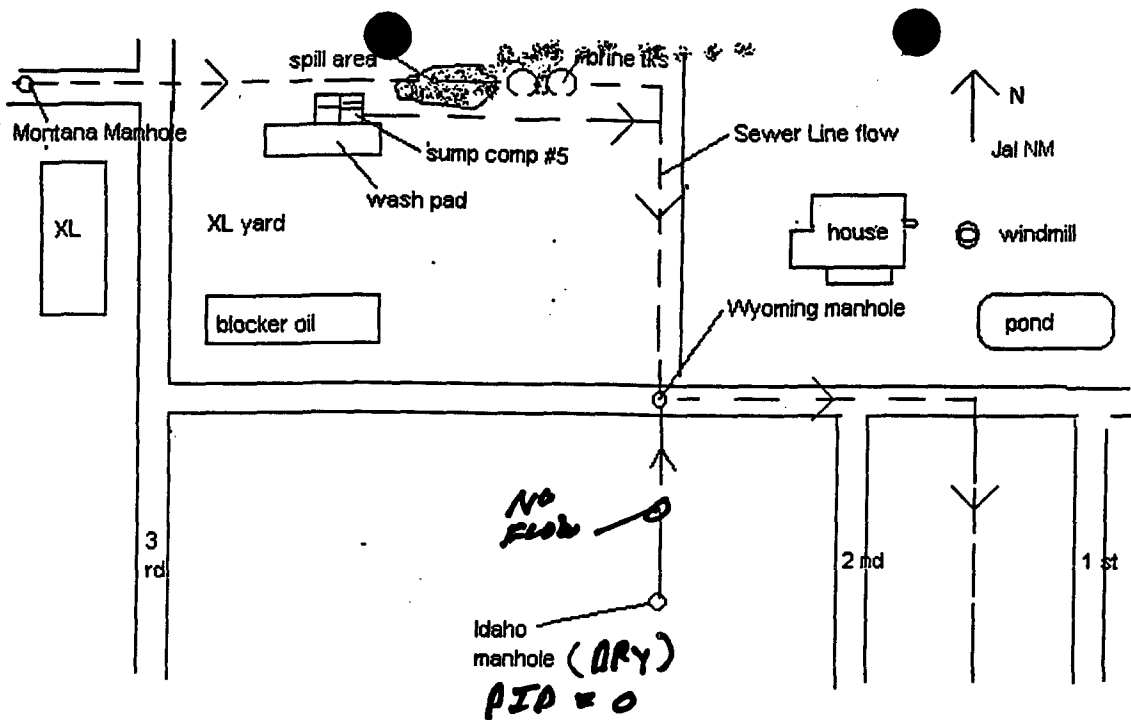
Took samples, see sampling chain of custody and attached photos.

Price and Seifts collected samples for state lab. These samples had previously been collected by city of Jal employees on Wednesday, January 28, at approximately 10 AM. These samples were noted to have the same identical olfactory smell that was experienced and observed at the XL sump.

Price and Seifts met with XL rep Rule Gatewood. Recommended to XL to isolate and contain all water in sump. Mr. Gatewood was going to plug inlet of sump.

cc: Chris Williams-NMOCD District I Supervisor  
Roger Anderson-Environmental Bureau Chief, Santa Fe, NM  
Bill Olson-Environmental Bureau, Santa Fe, NM

attachments- pictures, field sketch & notes, chain of custody.



## FIELD SKETCH

TOOK PICTURES 1/30/98

BY Z. PRICE - NMOC

WITNESS: C WILLIAMS

PID

### PID READINGS

XL SUMP COMP #5  
~ 12 NOON

HELD ABOVE WATER IN SUMP

691 PPM (BLEY)  
PAINT THINNER SMELL

COLLECTED SAMPLE USING  
3' PE BAILER - RAN HEADSPACE  
IN GL JAR

> 2500 PPM (BLEY)  
CLEAR WATER  
TDS 1700 UMMS  
STRONG BENZENE-  
LIKE ODR

XL SUMP COMP #5  
OUTLET TO CITY  
SEWER

TDS SUMP  
UMMS

	#1	#2	#3	#4	#5
CITY	3000	1800	1000	1000	1000
700 UMMS	13,000	13000	5000	5000	5000

MONTANA MANHOLE  
12:20 PM

- HELD ABOVE WATER FLOW
- COLLECTED WATER SAMPLE  
GL JAR - HEADSPACE

PID "ND" (BLEY)

PID

0-5 PPM  
SEWAGE SMELL ONLY  
0-10% TURBID/TDS 750

WYOMING MANHOLE

- HELD ABOVE WATER FLOW
- COLLECTED WATER SAMPLE  
GL JAR - HEADSPACE

PID

45 PPM (BLEY)

161 PPM SAME SMELL  
AS XL SUMP  
0-10% TURBID  
TDS 700 UMMS

# CHAIN OF CUSTODY

DATE: 1/30/98 PAGE: 1 OF 1

AEN LAB I.D.

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: WAYNE PRICE

COMPANY: NMOC  
ADDRESS: P.O. 1980  
HOBBS N.M. 88241  
PHONE: 505-393-6161  
FAX: 505-393-0720  
BILL TO: SAR  
COMPANY:  
ADDRESS:

## ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.
<u>XL SUMP #5 7801301695</u>	<u>1/30/98</u>	<u>445a</u>	<u>WATER</u>	
<u>" " "</u>	<u>1/30/98</u>	<u>415a</u>	<u>"</u>	
<u>WYOMING 7801301720</u>	<u>1/30/98</u>	<u>520a</u>	<u>"</u>	
<u>" " "</u>	<u>"</u>	<u>"</u>	<u>"</u>	
<u>2000</u>				
<u>MONTANA 7801281000</u>	<u>1/30/98</u>	<u>548a</u>	<u>WATER</u>	
<u>WYOMING 7801281000</u>	<u>1/30/98</u>	<u>550a</u>	<u>"</u>	
<u>PANTHER 7801281000</u>	<u>1/30/98</u>	<u>555a</u>	<u>"</u>	

Petroleum Hydrocarbons (418.1) TRPH

(MOD.8015) Diesel/Direct/Inject

(M8015) Gas/Purge & Trap

Gasoline/BTEX & MTBE (M8015/8020)

BTXE/MTBE (8020)

BTEX & Chlorinated Aromatics (602/8020)

BTEX/MTBE/EDC & EDB (8020/8010/Short)

Chlorinated Hydrocarbons (601/8010)

504 EDB ☐ / DBCP ☐

Polynuclear Aromatics (610/8310)

Volatile Organics (624/8240) GC/MS

Volatile Organics (8260) GC/MS

Pesticides/PCB (608/8080)

Herbicides (615/8150)

Base/Neutral/Acid Compounds GC/MS (625/8270)

General Chemistry:

Priority Pollutant Metals (13)

Target Analyte List Metals (23)

RCRA Metals (8)

RCRA Metals by TCLP (Method 1311)

Metals:

NUMBER OF CONTAINERS

## PROJECT INFORMATION

PROJ. NO.: 2000  
PROJ. NAME: XL JAL NM  
P.O. NO.:  
SHIPPED VIA:

## PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒

CERTIFICATION REQUIRED: ☒ NM ☐ SDWA ☐ OTHER

METHANOL PRESERVATION ☐

COMMENTS: FIXED FEE ☐ SAMPLES ON ICE!

XL #5 TAKEN USING CLEAN PE BAILER  
0-3'

7801301720 TAKEN USING CLEAN  
OL JAR AS DIPPER

2000: FRED SEIFTS - CRY JAL

## RELINQUISHED BY:

Signature: Wayne Price Time: 8:00 AM

Printed Name: WAYNE PRICE Date: 1/30/98

Company: NMOC

## RECEIVED BY:

Signature: Time:

Printed Name: Date:

Company:

## RELINQUISHED BY:

Signature: Time:

Printed Name: Date:

Company:

## RECEIVED BY: (LAB)

Signature: Time:

Printed Name: Date:

American Environmental Network (NM), Inc.



NEW MEXICO ENERGY, MINERALS  
& NATURAL RESOURCES DEPARTMENT

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

February 2, 1998

**CERTIFIED MAIL**  
**RETURN RECEIPT NO. Z-357-869-915**

Ms. Chris Brininstool  
XL Transportation Company  
Drawer A  
Jal, New Mexico 88252

**RE: DISCHARGE PLAN REQUIREMENT**  
**XL Transportation Jal Service Facility**  
**Lea County, New Mexico**

Dear Ms. Brininstool:

Under the provisions of the New Mexico Water Quality Control Commission (WQCC) Regulations and based upon the decision reached by the WQCC hearing at its April 9, 1996 meeting, XL Transportation Company (XL) is hereby reminded that the filing of a discharge plan is required for the existing XL facility located at 113 North 3rd Street in Jal, New Mexico.

Section 3106 of the regulations requires a submittal of the discharge plan within 120 days of receipt of notice without an approved extension. Based upon the above referenced ruling by the WQCC, an application for a discharge plan must be received by the Oil Conservation Division (OCD) in Santa Fe, New Mexico within 30 days of receipt of this notification.

XL has previously been notified of this requirement by letter dated November 22, 1995 with appropriate identification of applicable rules and regulations for such requirement. A copy of appropriate rules and regulations have previously been furnished. Although previously furnished, enclosed find an application form and a copy of OCD Guidelines for the Preparation of Discharge Plans at Oil Field Service Facilities. Two copies of your discharge plan application should be submitted to the OCD Santa Fe office and one copy to the Hobbs District Office for review.

Ms. Chris Brininstool  
February 2, 1997  
Page 2

Fee requirements are set forth in the letter from OCD dated November 22, 1995, a copy of which is attached. If there are any questions on this matter, feel free to contact Mr. W. Jack Ford, Environmental Bureau, OCD at (505) 827-7156 as he is assigned responsibility for review of this service facility discharge plan.

Sincerely:



Roger C. Anderson  
Chief, Environmental Bureau  
Oil Conservation Division

Enclosures: (2)  
Attachment (1)

cc: Hobbs OCD District Office

Z 357 869 915

US Postal Service  
**Receipt for Certified Mail**  
No Insurance Coverage Provided.  
Do not use for International Mail (See reverse)

Sent to <i>Chris Brininstool</i>	
Street & Number <i>XL Transport</i>	
Post Office, State, & ZIP Code <i>Fal, NM</i>	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date <i>DP Requirement</i>	

PS Form 3800, April 1995

WMOCD INTER-OFFICE CORRESPONDENCE

TO: File of XL Transportation Co.  
From: Wayne Price-Environmental Engineer *Wayne Price*  
Date: 1-30-98  
Reference: Complaint from NM State Police about possible illegal dumping of chemicals into the City of Jal, NM city sewer system. Report taken by WMOCD Paul Kautz on Wednesday Jan 28, 1998.  
Subject: Field Inspection Trip on 1-30-98 with Chris Williams, WMOCD.

Comments:

KBIM local tv coverage has been covering the story and had contacted the WMOCD District I office concerning WMOCD's investigation plans.

Met Fred Seifts, Public Works Director at City Hall. Mr. Seifts gave overview of problem. They began receiving complaints from residents in area of 1st and 2nd streets on Tuesday, January 27. Strong chemical smell, gasoline smell, glue smells and in one case a rotten egg smell. Some residents were evacuated out of their homes.

On Wednesday, January 28, city employees had traced the problem back to the area near the XL Transportation Co., an oilfield service company. The city had collected sewer water samples above (upstream) and below (downstream).

Toured area with Mr. Seifts, and had an interview with Bill Brininstool, owner of XL. Inspected XL's wash pad sump. Discovered sump contained (BTEX) type odors. Ran PID found extremely high values of organic hydrocarbons. Olfactory smells were similar to paint thinner solvent like toluene and/or xylene. Mr. Brininstool indicated his company still uses and sells toluene but does not know how these chemical constituents got into the sump. Chris Williams and I advised Mr. Brininstool to conduct an internal investigation of his employees and operations to determine the cause of this problem. Mr. Brininstool advised us he would.

Conducted PID/TNS sampling of various city of Jal sewer manhole openings and XL wash pad sump. Took pictures of sump area. A recent spill appears to have been covered with fine caliche.

See attached pictures, field sketch and field findings.

Preliminary findings indicate the source appears to be the XL sump. After a telephone conference with Roger Anderson and Bill Olsen of the WMOCD Environmental Bureau, a decision was made to recommend to XL to conduct area sampling to determine if XL's sump is a problem. WMOCD will split samples.

Williams and Price made recommendation to Mr. Brininstool. Mr. Brininstool called Cardinal Lab and set up a sampling appointment.

Met Cardinal Lab personnel at approximately 4PM and XL representative, Rule Gatewood and city of Jal's public works director, Fred Seifts.

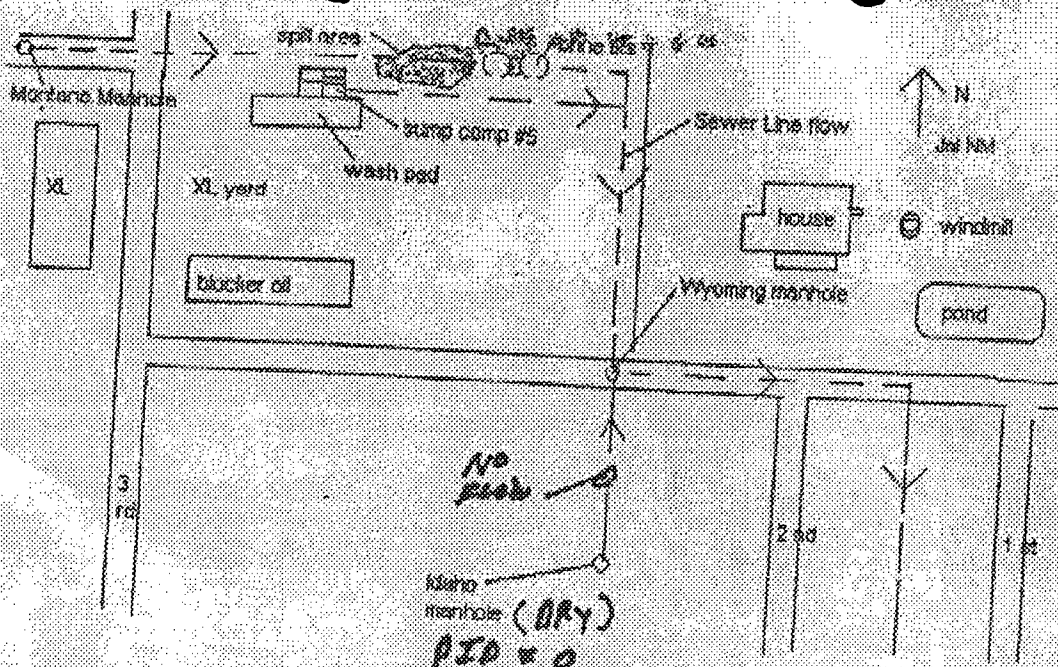
Took samples, see sampling chain of custody and attached photos.

Price and Seifts collected samples for state lab. These samples had previously been collected by city of Jal employees on Wednesday, January 28, at approximately 10 AM. These samples were noted to have the same identical olfactory smell that was experienced and observed at the XL sump.

Price and Seifts met with XL rep Rule Gatewood. Recommended to XL to isolate and contain all water in sump. Mr. Gatewood was going to plug inlet of sump.

cc: Chris Williams-WMOCD District I Supervisor  
Roger Anderson-Environmental Bureau Chief, Santa Fe, NM  
Bill Olsen-Environmental Bureau, Santa Fe, NM

attachments: pictures, field sketch & notes, chain of custody.



## FIELD SKETCH

TOOK PICTURES 1/30/98

BY W. PRICE - NMOC

ADDRESS: CULLMAN

PID

## PID READINGS

XL SUMP COMP #5  
@ 12 NOON

HELD ABOVE WATER IN SUMP

691 PPM (BLEY)

RAVE THINNER SMELL

COLLECTED SAMPLE USING  
3' PE BAILER - RAW HEADSPACE  
IN GL JAR

> 2500 PPM (BLEY)

CLEAR WATER  
TDS 1700 MARG  
STRONG BENZENE-  
LIKE SMELL

XL SUMP COMP #5  
OUTLET TO CITY  
SEWER

TDS SUMP  
MARG

CITY  
900 MARG

TO #1

TAP 8000

RID 1800

BOLE 13,000

#2

1800

15000

#3

1000

5000

#4

1000

5000

#5

1000

3800

5000

ONTANA MANHOLE  
12:20 PM

- HELED ABOVE WATER FLOW
- COLLECTED WATER SAMPLE  
GL JAR - HEADSPACE

PID

"NO" (BLEY)

PID

0-5 PPM

WYOMING MANHOLE

- HELED ABOVE WATER FLOW
- COLLECTED WATER SAMPLE  
GL JAR - HEADSPACE

PID

SEARSE SMELL ONLY  
0-10% EVAP/TDS 750

45 PPM (BLEY)

161 PPM SARE SMELL  
AS XL SUMP  
0-10% EVAP  
TDS 700 MARG

DATE 1/5/77 PAGE 14/17

2023年12月16日 星期日 12:15:38

[illegible]









COPY

STATE OF NEW MEXICO

WATER QUALITY CONTROL COMMISSION **RECEIVED**

IN THE MATTER OF THE PETITION  
FILED BY XL TRANSPORTATION COMPANY

JUN 14 1996

Environmental Bureau  
Oil Conservation Division

ORDER ON PETITION

The Water Quality Control Commission ("Commission"), at its April 9, 1996 meeting, considered the letter filed March 18, 1996 by XL Transportation Company ("petition"), and after deliberating on the matter, reached the following decision:

1. Petitioner seeks an "exemption" from the requirement to obtain a discharge plan. 20 NMAC 6.2.3104. The Water Quality Act does not provide an exemption process; however, the petition is entitled "Variance Petitions". Therefore, the Commission reviewed the petition to determine if a hearing should be granted as either a request for variance under Section 74-6-4(G), or, in the alternative, as a review of a "permitting action" under Section 74-6-5(N).

2. Variance. The Commission Regulations require the Commission to decide within 60 days of receipt of a variance petition whether to hold a hearing on the petition. 20 NMAC 6.2.1210.B. The Water Quality Act and the regulations allow the Commission to deny a variance request without a hearing. Section 74-6-4(G).

3. The Commission is only authorized to grant a variance from a Commission Regulation "for the period of time specified by the commission". Section 74-6-4(G). The Regulations limit the length of a variance to a maximum of 5 years. 20 NMAC 6.2.1210.D.9. Petitioner seeks to exempt its facility from the requirement to obtain a discharge plan for an unlimited time period. The Commission has held that a variance is not appropriate for granting an exemption from the requirement to obtain a discharge plan. In re Permian Treating Chemicals, Inc. (7/14/95).

4. Review of Agency Action. The Commission shall hold a hearing on a request for review of a permitting action "if a timely petition for hearing is made". Section 74-6-5(O). The petition must be filed with the Commission within 30 days after notice is given of the permitting action. The Commission has strictly construed this provision. See In re Discharge Plan 558 (Navajo Nation, Petitioner) (4/26/95) (dismissing petition filed 31 days after notice of agency action). Notice of the action by the Oil Conservation Division requiring a discharge plan was received by the Petitioner on November 27, 1995, and the petition was filed with the Commission on March 18, 1996, some 112 days later.

THE COMMISSION CONCLUDES THAT:


1. The Commission can not issue a variance to provide an unlimited exemption from Commission Regulations; and

2. The petition is not a timely petition for hearing on a permitting action under Section 74-6-5(N).

THE COMMISSION ORDERS THAT the Petition submitted by XL Transportation Company be dismissed.

WATER QUALITY CONTROL COMMISSION

Date: 5/29/96


  
Chairman

CERTIFICATE OF SERVICE

I hereby certify that true and correct copies of the foregoing Order were mailed by first-class mail to the following persons on June 10, 1996.

Christine Brininstool  
XL Transportation  
P.O. Drawer A  
Jal, NM 88252

Rand Carroll  
Energy, Minerals and Natural Resources Department  
Oil Conservation Division  
2040 South Pacheco  
Santa Fe, NM 87505

  
\_\_\_\_\_  
Joyce R. Croker  
Administrative Secretary  
New Mexico Water Quality  
Control Commission



STATE OF NEW MEXICO  
WATER QUALITY CONTROL COMMISSION

1190 St. Francis Drive P.O. Box 26110, Santa Fe, New Mexico 87502  
(505) 827-2824

CONSTITUENT AGENCIES:

Environment Department  
State Engineer & Interstate Stream Commission  
Game and Fish Department  
Oil Conservation Division  
Department of Agriculture  
State Park & Recreation Division  
Soil and Water Conservation Bureau  
Bureau of Mines and Mineral Resources  
Member-at-Large

REVISED PROPOSED AGENDA  
NM WATER QUALITY CONTROL COMMISSION MEETING  
APRIL 9, 1996  
STATE CAPITOL BUILDING, ROOM 317  
CORNER OF OLD SANTA FE TRAIL AND  
PASEO DE PERALTA  
SANTA FE, NEW MEXICO  
9:00 A.M.

1. Roll Call.
2. Approval of the Agenda.
3. Review of the proposed minutes of January 11, 1996.
4. Hearing in the matter of Petition for Variance of Taos Ski Valley, Inc.
5. Deliberation and possible action on Petition for Variance of Taos Ski Valley, Inc.
6. Procedural issues in pending adjudicatory matters - XL Transportation Company and DP-666, Western Star Dairy.
7. Proposed settlement in LAC Minerals (USA) Inc. v. NM WQCC (New Mexico Court of Appeals).
8. Update on legislative items.
9. Other Business

The Commission is not confined to the items listed on the agenda. Other items may be considered that are not listed on the agenda.

XL Transport  
Co. Inc.  
Jal  
AM

11/22/95 → Notice of Dischg Plan Request  
11/27/95 → Received

107 days later → Filed a letter w/ WQCC  
(3/13/96) [3/26/96 Deadline]  
3/13/96

Apparently exemption from filing  
since no particular DP request  
made as requesting variance from

Willing to give extension to XL  
Transportation

Permian Treating Plant

\* Requirement for dischg plan

Shelby Gilmore

10/18

11/22/95 Letter: Btl to Briminstool

XL Transport. Co.  
Jal, NM

Received 11/27/95

12/27	30
1/26	60
2/25	90
3/13	107

3104/3100 Dischg plan reqd  
1101.N.

3100 - w/ 120 days of receipt  
unless extension of time is  
sought/approved

3100 - dischg w/o approved dischg plan  
until 240 days after notice

3114 Fees \$50 plus \$1380

---

3/13/96 Briminstool

- \* Variance Petitions
- \* Exemption

We.

# XL TRANSPORTATION COMPANY

P.O. DRAWER A  
JAL, NEW MEXICO 88252  
505-395-2010 800-748-2265  
FAX 505-395-2914

March 13, 1996

OIL CONSERVATION DIVISION  
RECEIVED  
'96 MAR 15 AM 8 52

New Mexico Water Quality Control Commission  
P. O. Box 26110  
Santa Fe, New Mexico 87502

Re: Variance Petitions

Dear Sir:

William H. Brininstool dba XL Transportation Company is requesting your consideration for an exemption from a discharge plan requirement. XL Transportation Company, located at 113 North 3rd street in Jal, is a small trucking firm that transports liquids for the oil and gas industry. XL Transportation Company yard consists of an office building, a 3 bay shop building, and a caliche yard where trucks are parked.

The Oil Conservation Division inspected XL Transportation buildings and yard. The OCD inspectors made a few suggestions for changes and XL Transportation informed the inspectors that these changes would be made with OCD approval and inspections. XL Transportation Company still received notice that this facility would have to comply with a discharge plan. When asked if there was other changes that needed to be made to comply with the OCD to be exempt from the discharge plan, I was told no, that because I had storage of motor oil, transmission fluid, and grease inside the shop facility that a discharge plan is required.

Reviewing rules and regulations that was sent with letter requiring XL Transportation Company to comply with a discharge plan, I would like to make several comments.

## ARTICLE 6

Water Quality

74-6-2. Definitions.

B. "water pollution" means introducing or permitting the introduction into water, either directly or indirectly, of one or more water contaminants in such quantity and of such duration as may with reasonable probability injure human health, animal or plant life or property, or to unreasonable interfere with the public welfare or the use of property;

XL Transportation Company does have storage containers in the truck shop that contains lubricants for trucks. Storage containers are resting on an above ground rack, which is on a concrete floor. XL employees are in the shop daily. I can assure you if a container leaked, it

would be fixed immediately, lubricants are too expensive to waste on a concrete floor. XL Transportation Company facility is not the type of operation that would do environmental harm. The shop floor, where trucks are repaired and lubricants changed is concrete. The ground around the shop is caliche.

L. "source" means a building, structure, facility or installation from which there is or may be a discharge of water contaminants directly or indirectly into water;

As stated earlier in this letter XL Transportation Company is located in Jal. Jal is in the Southeast corner of the state, 7 miles going South or East to the Texas border. The closest above ground water (good water) is Carlsbad which is 75 miles West. The closest above ground water (contaminated) is the lakes created by the potash industry approximated 55 miles West. There is underground water in Jal, some shallow that is still used for watering plants, but not for drinking. Other water is located approximately 350 feet deep. Within a mile radius of XL Transportation facility there are several oil and gas wells. It seems unlikely if transmission fluid leaked from a storage container onto a concrete floor and found within a day, it would not cause the underground water to be contaminated.

O. "substantial adverse environmental impact" means that an act or omission of the violator causes harm or damage:

- (1) to human beings; or
- (2) that amounts to more than ten thousand dollars (\$10,000) damage or mitigation costs to flora, including agriculture crops; fish or other aquatic life; waterfowl or other birds; livestock or wildlife or damage to their habitats; or ground water or surface water or to the lands of the state;

I do not believe if all storage containers leaked in the shop on the concrete floor that it would cause harm to humans, or the cost would be more than ten thousand dollars. I would like to give you some back ground information about Mr. William H. (Bill) Brininstool, the owner of XL Transportation Company. Bill's parents homesteaded 30 miles Northwest of Jal in 1919 on land that Bill now owns. Bill has been active in the establishment of wildlife, especially quail. He has purchased and raised Bobwhite quail for release and it has resulted in a successful restocking program. Bill's ranch consists of 38 sections of deeded, State leased, and BLM leased land. Bill has 23 water troughs, which consist of 36 miles of water lines, and has built 18 dirt tanks. All watering troughs have ramps for small wildlife to be able to get in and out to drink. Bill has received numerous awards through the years, Outstanding Conservation Rancher of the Lea SWCD, Society for Range Management award for Excellence in Grazing Management, and many more. Bill has and continues to practice range management in deferred grazing to allow the forage to conserve and develop. Bill Brininstool is not a man that would cause environmental harm.

G. may grant an individual variance from any regulation of the commission, whenever it is found that compliance with the regulation will impose an **unreasonable burden** upon any lawful business, occupation or activity. The commission may only grant a variance conditioned upon a person effecting a particular abatement of water pollution within a reasonable period of time. Any variance shall be granted for the period of time specified by the commission. The commission shall adopt regulations specifying the procedure under which variances may be sought, which regulations shall provide for the holding of a public hearing before any variance may be granted;

74-6-5. Permits; certification; appeals to commission.

I. By regulation, the commission may **impose reasonable conditions** upon permits requiring permittees to:

- (1) install, use and maintain effluent monitoring devices;
- (2) sample effluents and receiving waters for any known or suspected water contaminants in accordance with methods and at locations and intervals as may be prescribed by the commission;
- (3) establish and maintain records of the nature and amounts of effluents and the performance of effluent control devices;
- (4) provide any other information relating to the discharge or direct or indirect release of water contaminants; and
- (5) notify a constituent agency of the introduction of new water contaminants from a new source and of a substantial change in volume or character of water contaminants being introduced from sources in existence at the time of the issuance of the permit.

74-6-5.1. Disclosure Statements.

A. The commission by regulation may require every applicant for a permit to dispose or use septage or sludge, or within a source category designated by the commission, to file with the appropriate constituent agency a disclosure statement. The disclosure statement shall be submitted on a form developed by the commission and the department of public safety. The commission in cooperation with the department of public safety shall determine the information to be contained in the disclosure statement. The disclosure statement shall be submitted to the constituent agency at the same time that the applicant files an application for a permit pursuant to Section 74-6-5 NMSA 1978. The commission shall adopt regulations designating additional categories of sources subject to the disclosure requirements of this section as it deems appropriate and necessary to carry out the purposes of this section.

B. Upon a request by the constituent agency, the department of public safety shall prepare and transmit to the constituent agency an investigative report on the applicant within ninety days after the department of public safety receives an administratively complete disclosure statement prepared by the applicant for a permit. The investigative report shall be based in part upon the disclosure

statement. The ninety-day deadline for preparing the investigative report may be extended by the constituent agency for a reasonable period of time for good cause. The department of public safety in preparing the investigative report may request and receive criminal history information from any other law enforcement agency or organization. The constituent agency may also request information regarding a person who will be or could reasonably be expected to be involved in management activities of the permitted facility or a person who has a controlling interest in a permitted facility. The information received from a law enforcement agency shall be kept confidential by the department of public safety to the extent that confidentiality is imposed by the law enforcement agency as a condition for providing the information to the constituent agency or the commission.

I believe requesting the trucking industry to comply with the commission regulations is an unreasonable burden. Last year I started working with Governor Gary Johnson, Secretary of Taxation and Revenue John Chaves, and Secretary of Highways and Transportation Mr. Pete Rahn to find ways to alleviate burdensome regulations and taxes that have been imposed on the trucking industry. In 1995 the trucking industry was deregulated. The tax burden and regulations imposed on the trucking industry before deregulation were reflected in rates that were enforced by the State of New Mexico. Since deregulation, New Mexico trucking companies are not able to compete with Texas companies. As a trucking company in New Mexico I pay 30% more per truck for registration, fuel tax, and highway tax than an identical trucking company located in Texas. Worker's compensation insurance in New Mexico is 40% higher than a Texas trucking company and Texas does not have a State Income Tax. In 1995 I presented this testimony to the Revenue Stabilization and Tax Policy Committee. The trucking industry was charged by this committee to study and find solutions to improve trucking industry growth in the State of New Mexico. Governor Gary Johnson, Secretary John Chaves, and Secretary Pete Rahn were instrumental in this last session to have money appropriated by the State of New Mexico to complete this study. The trucking industry is charged with completing this study and presenting recommendations to the Revenue Stabilization and Tax Policy Committee during their 1996 interim hearings.

74-6-9. Powers of constituent agencies.

D. make every reasonable effort to obtain voluntary cooperation in the prevention or abatement of water pollution;

E. upon presentation of proper credentials, enter at reasonable times upon or through any premises in which a water contaminant source is located or in which are located any records required to be maintained by regulations of the federal government or the commission; provided that entry into any private residence without the permission of the owner shall be only by order of the district court for the county in which the residence is located and that, in connection with any entry provided for in this subsection, the constituent agency may:

(1) have access to and reproduce for their use any copy of the records;

(2) inspect any treatment works, monitoring equipment or methods required to be installed by regulations of the federal government or the commission; and


(3) sample any effluents, water contaminant or receiving waters;

I voluntarily cooperated with the OCD to conduct inspection. I voluntarily committed to make changes that the inspectors suggested. I made every reasonable effort with the OCD to make changes at this facility that they wanted without having the costly, burdensome discharge plan.

The current administration objective is to have fewer regulations with less government. It seems to me you are creating more regulations and more government. I do not believe this discharge plan is constitutional, as you do not require all trucking companies to comply.

I would appreciate your consideration in exempting XL Transportation Company from further burdensome and costly paperwork.

Cordially,

A handwritten signature in cursive script, appearing to read "Christine Brininstool".

Christine Brininstool  
Office Manager

cc: Mr. Mark Weidler  
Mr. William Miller  
Mr. Bill Olson  
Mr. David Johnson  
Mr. Wayne Cunningham  
Mrs. Lynn Brandvold  
Mr. Alberto Gutierrez  
Mr. Paul Gutierrez  
Mr. Robert Castillo  
Mr. Andrew Sandoval  
Mr. Shelby Gilmore  
Mr. William LaMay

**OIL CONSERVATION DIVISION**

2040 S. Pacheco  
Santa Fe, New Mexico 87505

November 22, 1995

**CERTIFIED MAIL**

**RETURN RECEIPT NO. Z-765-962-593**

Ms. Chris Brininstool  
XL Transportation Company  
Drawer A  
Jal, New Mexico 88252

**RE: DISCHARGE PLAN REQUIREMENT**  
**XL Transportation, Jal Service Facility**  
**Lea County, New Mexico**

Dear Ms. Brininstool:

Under the provisions of the New Mexico Water Quality Control Commission (WQCC) Regulations, XL Transportation Company (XL) is *hereby* notified that the filing of a discharge plan is required for the existing XL facility located at 113 North 3rd Street in Jal, New Mexico.

This notification of discharge plan requirement is pursuant to Part 3104 and Part 3106 of the WQCC Regulations. The discharge plan, defined in Part 1101.N. of the WQCC Regulations, should cover all discharges of effluent or leachate at the facility or adjacent to the facility site. Included in the application should be plans for controlling spills and accidental discharges at the facility (including detection of leaks in below grade sumps, buried underground process tanks and/or piping), and closure plans for any pits or ponds whose use will be discontinued.

A copy of the regulations is enclosed for XLs' convenience. Also enclosed is an application and a copy of OCD Guidelines for the Preparation of Discharge Plans at Oil Field Service Facilities. Two copies of your discharge plan application should be submitted to the OCD Santa Fe Office and one copy to the Hobbs District Office for review purposes.

Section 3106 of the regulations requires a submittal of the discharge plan within 120 days of receipt of this notice unless an extension of this time period is sought and approved for good cause. Part 3106 also allows the discharge to continue without an approved discharge plan until

Ms. Chris Brininstool  
November 22, 1995  
Page 2

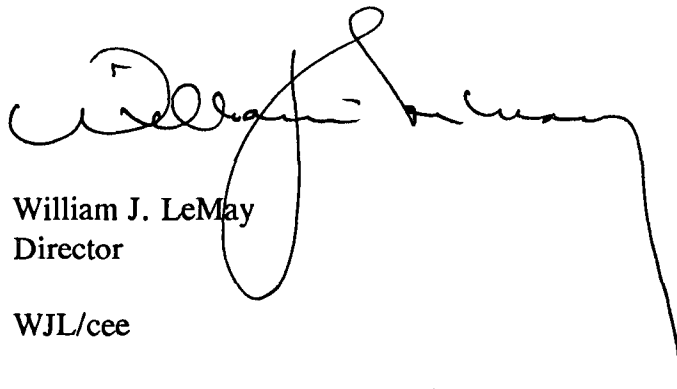
240 days after written notification by the Director of the OCD that a discharge plan is required. An extension of this time may be sought and approved for good cause.

Pursuant to the New Mexico Water Quality Control Commission (WQCC) Regulation 3114 "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". WQCC Rule 3114 became effective as of August 18, 1991, and is found on page 38 of the enclosed WQCC Rules and Regulations.

Every billable facility submitting a new discharge plan will be assessed a fee equal to the filing fee plus either a flat fee or discharge fee. The filing fee is fifty (\$50) dollars and shall be submitted with the discharge plan application (nonrefundable). The remainder of the "total fee" for oil and gas service companies falls under the "flat fee" category and is equal to one-thousand, three-hundred and eighty dollars (\$1380). The flat fee for an approved discharge plan may be paid in a single payment due at the time of approval, or in equal annual installments over the duration of the discharge plan, with the first payment due at the time of approval. Please make all checks out to the **NMED - Water Quality Management**.

If there are any questions on this matter, please feel free to contact Chris Eustice at (505) 827-7153 as he is assigned responsibility for review of service facility discharge plans.

Sincerely,

A handwritten signature in black ink, appearing to read 'William J. LeMay', with a long, sweeping horizontal line extending to the right.

William J. LeMay  
Director

WJL/cee

xc: Jerry Sexton, OCD Hobbs Office



TRANSPORTATION

CHRIS BRININSTOOL  
HOME: (505) 2870

NEW MEXICO & TEXAS  
I.C.C. PERMITS

TANK TRUCKS  
KILL TRUCKS

VACUUM TRUCK

FRAC TANKS  
ACID

—OFFICE—  
(800) 748-2265  
(505) 395-2010

DRAWER A  
JAL, N.M. 88252

113 N. 3rd Street

## INSPECTION CHECKLIST FOR OILFIELD SERVICE COMPANIES

FACILITY NAME: XL Transportation-Jal OPERATOR: XL DATE: 10-18-95  
 LOCATION: \_\_\_\_\_  
 COMPANY REP(S): CHRIS BRININSTOOL  
 NMOCD REP(S): CHRIS EUSTICE & WAYNE PRICE  
 SERVICE COMPANY TYPE: TRUCKING

1. LAB PRESENT ( YES / NO )
2. Below grade sumps or tanks. ( YES / NO ) 3
3. Class IV or V Injection well(s). ( YES / NO )
4. Surface impoundments (pits) of any kind. ( YES / NO )
5. Hazardous shop solvents present. ( YES / NO )
6. All tank/drum/fuel/lube oils stored onsite meet OCD guidelines for service company facilities. (i.e. berming and pad and curb type containments.) ( YES / NO )
7. A written spill contingency plan posted/available and implemented at the facility. ( Can be viewed at the facility by OCD ) ( YES / NO )
8. Wet paint waste stored at the facility-all paint cans dried before disposal. ( YES / NO )
9. All wash facilities for vehicles on a pad and curb type containment. ( YES / NO )
10. Maximum volumes: ( YES / NO )

- A. Chemical type drums < 25 @ 55 gal/drum or an aggregate volume of 1375 gal of chemical product.
- B. Fuel < 660 gal in above grade tank(s)
- C. Used oil < 660 gal in above grade tank(s)
- D. Lube oil < 660 gal in above grade tank(s)
- E. Maximum total volume of A thru D < 3355 gal

11. All wastes such as empty drums, buckets, oil filters, and etc stored/disposed by an OCD approved method. ( YES / NO )
12. All items that contain fluids are properly labelled. ( YES / NO )
13. All stormwater contained within the facility. ( YES / NO )

COMMENTS: - Kcl mixing vat leaks ; leaks go to a sump, on the N side of load pad, then goes to POTW

- Drums are not stored on pad & curb
- Truck wash in maint. shop w/ sump.
- Used lube oil & solvents go to a sump on N side of maint. shop then are used to fuel furnace.
- Active discharges off yard to Arroyo (photos)

XL Transportation - Jal  
10-18-95 Chris Brinius-001

Diesel Storage - above ground & bermed  
berm will not contain  $1\frac{1}{2}$  vol

Chem (packer fluids) drums (5) in berm

KCl storage 2-210 tanks for containing  
unused KCl water

KCl mixing vat & load - Use city fresh  
water + KCl next to a load pad.

Trucks pull onto pad & mix KCl then load

All spillage on pad flows into a below  
grade sump next to pad.

Drum Storage ~~between~~ office & maint  
shop

Wash Bay - trucks brought in and wash  
fluids gather in flood drain and goes  
to POTW. Has a sand trap. They  
clean out w/ vacuum and inject

disposed of at Parabo

Maint. Shop - has heater burning used lube oil  
Used oil gathers in below grade sump  
on N. Side of shop. Ships off site

Evidence of overflow. Single contain.

Junk Yard N. Side of maint barn

Maintenance (Cont) - Varsol is used  
then goes to same sump as lube oil  
they burn this to heat garage

